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Russian Mineralogical Society
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<td>279</td>
<td>T65. Recent Advances in Using Near-Surface Geophysics to Solve Geological Problems</td>
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<td>1:30–5 p.m.</td>
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<td><strong>Geoscience and Public Policy</strong></td>
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<td>125</td>
<td>P2. Women Rising: Removing Barriers and Achieving Parity in the Geosciences</td>
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<td>1:30–5:30 p.m.</td>
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<td>6</td>
<td>T87. Collaborative Partnerships between K–12 Teachers/Informal Educators and Scientists</td>
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<td>30</td>
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<td>31</td>
<td>T73. Beyond Pretty Pictures: The Role of Photography in Promoting Understanding and Learning in the Geosciences (Posters)</td>
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<td>32</td>
<td>T79. Showcase of Undergraduate Research Posters by 2YC and 4YCU Geoscience Students (Posters)</td>
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<td>56</td>
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<td>57</td>
<td>T82. Hands-On Teaching Demonstrations that Combine Geoscience and Societal Issues: Audience Participation Requested!</td>
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<td>82</td>
<td>T74. Declining Enrollments in U.S. Undergraduate Geoscience Programs: How Did We Get Here and How Do We Get Our Groove Back?</td>
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<td>101</td>
<td>T83. Beyond the Numbers: Strategies for Inclusive Education Practices across the Geological Sciences (Posters)</td>
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<td>102</td>
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<td>209</td>
<td>T70. Geoscience Animations and Videos as Tools for Learning: Using Them in the Classroom, Making Them, and Assessing Their Impact</td>
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<td>211</td>
<td>T78. Barriers, Misconceptions, and Progress in Improving Climate Literacy and Strategies for Communicating about Climate Change</td>
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<td>228</td>
<td>T69. Innovations in Using Fossil Collections for Deep Time Education and Outreach</td>
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<td>8–11:45 a.m.</td>
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<td>229</td>
<td>T76. Beyond the Road-Cut: Virtual, Local, and Nontraditional Field Teaching and Learning Experiences</td>
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<td>252</td>
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<td>274</td>
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**Geoscience Information/Communication**

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All Technical Sessions will take place at the Indiana Convention Center (ICC). To browse the entire meeting schedule, download GSA's app at community.geosociety.org/gsa2018/mobilapp.
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<td>America's Geologic Heritage, Active Processes, Geohazards, Energy Development</td>
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<td>and Mineral Resources (Posters)</td>
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<td>178</td>
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**History and Philosophy of Geology**

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<td>103</td>
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<td>200</td>
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**Hydrogeology**

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<td>59</td>
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<td>60</td>
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<td>133</td>
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<td>161</td>
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<td>180</td>
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<td>231</td>
<td>T107. Arsenic, Manganese, Chromium, and Other Geogenic Contaminants, Including Radionuclides in Hydrological Systems—Source, Biogeochemical Cycling, Toxicity, and Removal I</td>
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<td>280</td>
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**Karst**

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**Limonology**

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<td>61</td>
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<td>T111. Human Evolution and Environmental History in Africa: 25 Years of Transformative Research (Posters)</td>
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**Marine/Coastal Science**

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**Mineralogy/Crystallography**

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<td>282</td>
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<td>Exploration, and Geological Significance of Diamonds and Other Gem Minerals</td>
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**Paleoclimatology/Paleoceanography**

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**Paleontology, Biogeography/Biostratigraphy**

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**Paleontology, Diversity, Extinction, Origination**

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<td>273</td>
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<td>236</td>
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**Petrology, Metamorphic**

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**Planetary Geology**

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## Sessions by Category

All Technical Sessions will take place at the Indiana Convention Center (ICC). To browse the entire meeting schedule, download GSA’s app at community.geosociety.org/gsa2018/mobilapp.

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<td>263</td>
<td>T147. Planetary Mantles—Using Samples to Explore Earth, the Moon, and Mars (Posters): Memorial Session in Memory of Lawrence A. Taylor</td>
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<td>9 a.m.–6:30 p.m.</td>
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<td>284</td>
<td>T154. Coordinated Microanalysis as a Tool for Increasing the Scientific Yield of Returned Planetary Materials</td>
<td>Wednesday</td>
<td>1:30–5:15 p.m.</td>
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### Precambrian Geology

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<td>16</td>
<td>T158. Evolution of the Midcontinent Rift: A Window into Proterozoic Environments, a Repository of Minerals, and a Lesson in Rifting I</td>
<td>Sunday</td>
<td>8–11:25 a.m.</td>
<td>Room 242</td>
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<tr>
<td>68</td>
<td>T158. Evolution of the Midcontinent Rift: A Window into Proterozoic Environments, a Repository of Minerals, and a Lesson in Rifting II</td>
<td>Sunday</td>
<td>1:30–5:05 p.m.</td>
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<td>91</td>
<td>T159. Different Roads to Rodinia: Re-Analysis of the Geochronology and Tectonic Evolution of Precambrian Sedimentary and Crystalline Basement Terranes in Southeastern Laurentia</td>
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<td>8–11:20 a.m.</td>
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<td>119</td>
<td>T158. Evolution of the Midcontinent Rift: A Window into Proterozoic Environments, a Repository of Minerals, and a Lesson in Rifting (Posters)</td>
<td>Monday</td>
<td>9 a.m.–6:30 p.m.</td>
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<tr>
<td>192</td>
<td>T157. Evolving Perspectives of the Precambrian World: Using Combined Theoretical and Applied Approaches to Tackle Problems at the Intersection of Geology, Geobiology, and Geochemistry (Posters)</td>
<td>Tuesday</td>
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<td>216</td>
<td>T157. Evolving Perspectives of the Precambrian World: Using Combined Theoretical and Applied Approaches to Tackle Problems at the Intersection of Geology, Geobiology, and Geochemistry</td>
<td>Tuesday</td>
<td>1:30–5:30 p.m.</td>
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<td>264</td>
<td>D31. Precambrian Geology (Posters)</td>
<td>Wednesday</td>
<td>9 a.m.–6:30 p.m.</td>
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### Quaternary Geology

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<tr>
<td>17</td>
<td>T165. Where Does the Wind Blow? Aeolian Systems in Time and Space I</td>
<td>Sunday</td>
<td>8–11:55 a.m.</td>
<td>Room 138-139</td>
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<tr>
<td>69</td>
<td>T165. Where Does the Wind Blow? Aeolian Systems in Time and Space II</td>
<td>Sunday</td>
<td>1:30–5:15 p.m.</td>
<td>Room 138-139</td>
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<td>92</td>
<td>T160. Advances in Understanding the Laurentide Ice Sheet I</td>
<td>Monday</td>
<td>8–11:55 a.m.</td>
<td>Room 138-139</td>
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<td>120</td>
<td>T165. Where Does the Wind Blow? Aeolian Systems in Time and Space (Posters)</td>
<td>Monday</td>
<td>9 a.m.–6:30 p.m.</td>
<td>Halls J-K</td>
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<tr>
<td>140</td>
<td>T160. Advances in Understanding the Laurentide Ice Sheet II</td>
<td>Monday</td>
<td>1:30–5:10 p.m.</td>
<td>Room 138-139</td>
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<td>285</td>
<td>T161. Examining Big Questions or Paradigms with Geochronology</td>
<td>Wednesday</td>
<td>1:30–5:15 p.m.</td>
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### Sediments, Carbonates

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<td>44</td>
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<td>74</td>
<td>D56. Sediments, Carbonates</td>
<td>Monday</td>
<td>8–10:15 a.m.</td>
<td>Room 238-239</td>
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<td>121</td>
<td>T168. Sedimentary Geology Division/SEPM Student Research Competition: Dynamics of Stratigraphy and Sedimentation (Posters)</td>
<td>Monday</td>
<td>9 a.m.–6:30 p.m.</td>
<td>Halls J-K</td>
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<td>265</td>
<td>D33. Sediments, Carbonates (Posters)</td>
<td>Wednesday</td>
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<tr>
<td>Sediments, Clastic</td>
<td>T171. Late Paleozoic Tectonics and Sedimentation along the Allegheny-Ouachita-Marathon Orogenic Belt (Posters)</td>
<td>Sunday</td>
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<td>141</td>
<td>T171. Late Paleozoic Tectonics and Sedimentation along the Allegheny-Ouachita-Marathon Orogenic Belt</td>
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<td>221</td>
<td>D34. Sediments, Clastic</td>
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<td>8–11:15 a.m.</td>
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<td>266</td>
<td>D35. Sediments, Clastic (Posters)</td>
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<td>277</td>
<td>D62. Clastics–Floodplains as Repositories of Information on Climate, Hydrology, Ecology, and Human Activities</td>
<td>Wednesday</td>
<td>1:30–4:05 p.m.</td>
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<td>Soils</td>
<td>T172. Critical Zone Science—Bio-Geo Interactions across Environmental Gradients and Time</td>
<td>Wednesday</td>
<td>8–11:45 a.m.</td>
<td>Room 134</td>
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<tr>
<td>Stratigraphy</td>
<td>T172. Critical Zone Science—Bio-Geo Interactions across Environmental Gradients and Time (Posters)</td>
<td>Wednesday</td>
<td>9 a.m.–6:30 p.m.</td>
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<td>19</td>
<td>T186. Celebrating the Sedimentary Legacy of Dr. Robert H. Dott, Jr., Part I</td>
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<td>71</td>
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<td>Sunday</td>
<td>1:30–5:15 p.m.</td>
<td>Sagamore Ballroom 7</td>
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<td>194</td>
<td>T174. Permian-Triassic Biotic Crisis: New Insights through Integrative Studies of Earth, Ocean, and Atmosphere (Posters)</td>
<td>Tuesday</td>
<td>9 a.m.–6:30 p.m.</td>
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<td>217</td>
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<td>Tuesday</td>
<td>1:30–5:30 p.m.</td>
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<td>241</td>
<td>T175. Late Jurassic through Early Cretaceous Geologic Time Scale</td>
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<td>286</td>
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<td>Wednesday</td>
<td>1:30–4:40 p.m.</td>
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<td>Structural Geology</td>
<td>D38. Structural Geology (Posters)</td>
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<td>142</td>
<td>T178. Geologic Mapping in the Twenty-First Century: Innovative Applications of Technology and Strategies to Aid Field-Based Studies</td>
<td>Monday</td>
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<td>195</td>
<td>D60. Structural Geology (Posters)</td>
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<td>D39. Tectonics/Tectonophysics</td>
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<td>20</td>
<td>T187. Global Tectonics in the Solar System: Connections to the Planetary Interiors: A Tribute to Kevin Burke</td>
<td>Sunday</td>
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<td>49</td>
<td>T184. Geodynamic, Orogenic, and Surface Processes of Flat-Slab Subduction (Posters)</td>
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<td>70</td>
<td>T184. Geodynamic, Orogenic, and Surface Processes of Flat-Slab Subduction</td>
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## Sessions by Category

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<td>T180. Plate Tectonics Paradigm and Future Directions of Research—Discovery in Light of Its 50-Year History I</td>
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<td>T180. Plate Tectonics Paradigm and Future Directions of Research—Discovery in Light of Its 50-Year History II</td>
<td>Monday</td>
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<td>146</td>
<td>P3. Plate Tectonics Paradigm 50 Years after the Seminal Work of Morgan, Mckenzie, and Le Pichon</td>
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<td>218</td>
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<td>269</td>
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<td>287</td>
<td>T182. The Cenozoic Evolution of Tibet—How Do We Unify Seemingly Contradictory Evidence?</td>
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### Volcanology

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<td>18</td>
<td>T185. Features, Processes, and Emplacement of Melted Rock on the Earth and Planets—A Session in Honor of Christopher W. Hamilton, Recipient of the MGPV Early Career Award</td>
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<td>72</td>
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<td>T18. Generating Sustainable Urban Systems: A Convergence of Geology and Society (GSA Geology and Society Division; GSA Geology and Public Policy Committee; GSA Environmental &amp; Engineering Geology Division; GSA International)</td>
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<td>T41. FAIR Data—What Can Geoinformatics Do? (GSA Geoinformatics Division; American Geosciences Institute; American Geophysical Union; Geoscience Information Society)</td>
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<td>T50. Processes and Feedbacks in the Critical Zone (GSA Quaternary Geology and Geomorphology Division; GSA Soils and Soil Processes Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</td>
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<td>5</td>
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<td>T59. Human Alterations to Landscape Connectivity (GSA Quaternary Geology and Geomorphology Division; GSA Soils and Soil Processes Division; GSA Geoarchaeology Division; GSA International)</td>
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<td>6</td>
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<td>T87. Collaborative Partnerships between K–12 Teachers/Informal Educators and Scientists (National Earth Science Teachers Association; National Association of Geoscience Teachers)</td>
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<td>T102. Dye Tracing and Emerging Environmental Tracers in Hydrogeology (GSA Hydrogeology Division; GSA Karst Division)</td>
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<td>T110. Lakes through Space and Time I (GSA Limnogeology Division; GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; AASP - The Palynological Society; American Quaternary Association; Association for the Sciences of Limnology and Oceanography; International Association of Limnogeology; SEPM [Society for Sedimentary Geology]; GSA Continental Scientific Drilling Division)</td>
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<td>8 a.m.</td>
<td>T115. Mineral Evolution and Ecology: Potential Directions for the Next 100 Years with the Mineralogical Society of America (Mineralogical Society of America; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Geochemical Society; Deep Carbon Observatory; Russian Mineralogical Society; International Mineralogical Association)</td>
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<td>T116. New Developments in Geochemical Proxies for Paleoceanographic Research (GSA Sedimentary Geology Division; Geochemical Society; International Association of Sedimentologists; Cushman Foundation)</td>
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<td>T125. EARTHTIMEs and EarthRates: Exploring the Tempo and Mode of Earth-System Processes and Evolution (EARTHTIME; EarthRates; GSA Continental Scientific Drilling Division; GSA Sedimentary Geology Division; Paleontological Society; GSA Geochronology Division)</td>
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<td>T158. Evolution of the Midcontinent Rift: A Window into Proterozoic Environments, a Repository of Minerals, and a Lesson in Rifting I (GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; Society of Economic Geologists; GSA Geobiology &amp; Geomicrobiology Division)</td>
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<td>T165. Where Does the Wind Blow? Aeolian Systems in Time and Space I (GSA Quaternary Geology and Geomorphology Division; International Society of Aeolian Research; GSA Sedimentary Geology Division)</td>
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<td>8 a.m.</td>
<td>T186. Celebrating the Sedimentary Legacy of Dr. Robert H. Dott, Jr., Part I (GSA Sedimentary Geology Division; GSA History and Philosophy of Geology Division)</td>
<td>Sagamore Ballroom 7</td>
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<td>Sagamore Ballroom 6</td>
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<td>23</td>
<td>9 a.m.</td>
<td>T34. Unconventional Energy Resources (Posters) (GSA Energy Geology Division)</td>
<td>Halls J-K</td>
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<td>24</td>
<td>9 a.m.</td>
<td>D6. Geology and Health (Posters)</td>
<td>Halls J-K</td>
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<tr>
<td>25</td>
<td>9 a.m.</td>
<td>T47. Global Drinking Water and Public Health: Conditions, Contaminants, Concerns, and Strategies (Posters) (GSA Hydrogeology Division; GSA Karst Division; GSA Limnogeology Division; GSA International)</td>
<td>Halls J-K</td>
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<tr>
<td>26</td>
<td>9 a.m.</td>
<td>T50. Processes and Feedbacks in the Critical Zone (Posters) (GSA Quaternary Geology and Geomorphology Division; GSA Soils and Soil Processes Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</td>
<td>Halls J-K</td>
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<tr>
<td>27</td>
<td>9 a.m.</td>
<td>T51. Planetary Aeolian Geology from Outcrop to Orbit: Nathan Bridges Memorial Session (Posters) (GSA Planetary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)</td>
<td>Halls J-K</td>
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<tr>
<td>28</td>
<td>9 a.m.</td>
<td>T59. Human Alterations to Landscape Connectivity (Posters) (GSA Quaternary Geology and Geomorphology Division; GSA Soils and Soil Processes Division; GSA Geoarchaeology Division; GSA International)</td>
<td>Halls J-K</td>
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<tr>
<td>29</td>
<td>9 a.m.</td>
<td>D10. Geophysics/Geodynamics (Posters)</td>
<td>Halls J-K</td>
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<td>30</td>
<td>9 a.m.</td>
<td>T71. Recruiting and Retaining K9–16 Students through Field- and Laboratory -Based Geoscience Experiences (Posters) (GSA Geoscience and Society Division; GSA Geoscience Education Division; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Health Division; GSA Environmental &amp; Engineering Geology Division; GSA Sedimentary Geology Division; Council on Undergraduate Research Geosciences Division; GSA Energy Geology Division; National Association of Geoscience Teachers)</td>
<td>Halls J-K</td>
</tr>
<tr>
<td>31</td>
<td>9 a.m.</td>
<td>T73. Beyond Pretty Pictures: The Role of Photography in Promoting Understanding and Learning in the Geosciences (Posters) (GSA Geoscience Education Division; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division)</td>
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<td>32</td>
<td>9 a.m.</td>
<td>T79. Showcase of Undergraduate Research Posters by 2YC and 4YCU Geoscience Students (Posters) <em>(GSA Geoscience Education Division, National Association of Geoscience Teachers, National Association of Geoscience Teachers Geo2YC Division, International Association for Geoscience Diversity)</em></td>
<td>Halls J-K</td>
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<tr>
<td>33</td>
<td>9 a.m.</td>
<td>D12. Hydrogeology (Posters)</td>
<td>Halls J-K</td>
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<tr>
<td>34</td>
<td>9 a.m.</td>
<td>T105. A Showcase of Undergraduate Research in Hydrogeology (Posters) <em>(GSA Hydrogeology Division, Council on Undergraduate Research Geosciences Division, GSA Karst Division)</em></td>
<td>Halls J-K</td>
</tr>
<tr>
<td>36</td>
<td>9 a.m.</td>
<td>T116. New Developments in Geochemical Proxies for Paleoceanographic Research (Posters) <em>(GSA Sedimentary Geology Division, Geochemical Society, International Association of Sedimentologists, Cashman Foundation)</em></td>
<td>Halls J-K</td>
</tr>
<tr>
<td>37</td>
<td>9 a.m.</td>
<td>T118. Paleoenvironmental Reconstructions from Biogenic Carbonates (Posters) <em>(SEPM [Society for Sedimentary Geology], Paleontological Society, Paleontological Research Institution, GSA Sedimentary Geology Division, GSA Karst Division)</em></td>
<td>Halls J-K</td>
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<tr>
<td>38</td>
<td>9 a.m.</td>
<td>D22. Paleontology, Paleoecology and Taphonomy (Posters)</td>
<td>Halls J-K</td>
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<tr>
<td>39</td>
<td>9 a.m.</td>
<td>D25. Paleontology, Systematics and Morphological Patterns (Posters)</td>
<td>Halls J-K</td>
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<tr>
<td>40</td>
<td>9 a.m.</td>
<td>T135. Paleopathology: Incidences of Disease, Trauma, and Infection from Arthropods to Anthropology (Posters) <em>(Paleontological Society)</em></td>
<td>Halls J-K</td>
</tr>
<tr>
<td>41</td>
<td>9 a.m.</td>
<td>T138. Magmas Assemble! Petrologic, Geochemical, Chronologic, and Geophysical Insights into the Architecture and Timescales of Magma Systems (Posters) <em>(GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division, GSA Geophysics and Geodynamics Division)</em></td>
<td>Halls J-K</td>
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<tr>
<td>42</td>
<td>9 a.m.</td>
<td>T140. Frontiers in Mineralogy, Petrology, and Geochronology (Posters): A Session in Honor of Dana Medalist Jörg Hermann <em>(Mineralogical Society of America, GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</em></td>
<td>Halls J-K</td>
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<tr>
<td>43</td>
<td>9 a.m.</td>
<td>T150. Impact Cratering: Geologic, Geochemical, and Geophysical Signatures on the Terrestrial Planets (Posters) <em>(GSA Planetary Geology Division, GSA Structural Geology and Tectonics Division, GSA Geophysics and Geodynamics Division, GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</em></td>
<td>Halls J-K</td>
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<tr>
<td>45</td>
<td>9 a.m.</td>
<td>T171. Late Paleozoic Tectonics and Sedimentation along the Allegheny-Ouachita-Marathon Orogenic Belt (Posters) <em>(GSA Sedimentary Geology Division, GSA Geophysics and Geodynamics Division, GSA Structural Geology and Tectonics Division)</em></td>
<td>Halls J-K</td>
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<tr>
<td>46</td>
<td>9 a.m.</td>
<td>D36. Stratigraphy (Posters)</td>
<td>Halls J-K</td>
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<td>47</td>
<td>9 a.m.</td>
<td>D38. Structural Geology (Posters)</td>
<td>Halls J-K</td>
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<tr>
<td>48</td>
<td>9 a.m.</td>
<td>T177. Folding: Processes, Observations, and Consequences (Posters) <em>(GSA Structural Geology and Tectonics Division)</em></td>
<td>Halls J-K</td>
</tr>
<tr>
<td>49</td>
<td>9 a.m.</td>
<td>T184. Geodynamic, Orogenic, and Surface Processes of Flat-Slab Subduction (Posters) <em>(GSA Structural Geology and Tectonics Division, GSA Geophysics and Geodynamics Division, GSA Sedimentary Geology Division, GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division, GSA Quaternary Geology and Geomorphology Division, GSA International)</em></td>
<td>Halls J-K</td>
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<tr>
<td>50</td>
<td>1:30 p.m.</td>
<td>P1. Earth As a Big Data Puzzle: Advancing Information Frontiers in Geoscience <em>(GSA Geoinformatics Division)</em></td>
<td>Halls J-K</td>
</tr>
<tr>
<td>51</td>
<td>1:30 p.m.</td>
<td>T2. Cave and Karst Research in Indiana and Kentucky: A Tribute to Art Palmer, Peg Palmer, and Dick Powell <em>(GSA Karst Division, GSA Hydrogeology Division, GSA Quaternary Geology and Geomorphology Division, National Cave and Karst Research Institute, Indiana Geological and Water Survey)</em></td>
<td>Room 130-131</td>
</tr>
<tr>
<td>52</td>
<td>1:30 p.m.</td>
<td>T14. Mining Wastes in the Tri-State Mining District of Kansas, Missouri, and Oklahoma: Advances in Characterization and Remediation <em>(GSA Environmental &amp; Engineering Geology Division, GSA Karst Division, GSA Hydrogeology Division, GSA Limnogeology Division)</em></td>
<td>Room 135</td>
</tr>
<tr>
<td>53</td>
<td>1:30 p.m.</td>
<td>T34. Unconventional Energy Resources <em>(GSA Energy Geology Division)</em></td>
<td>Room 145</td>
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<td>54</td>
<td>1:30 p.m.</td>
<td>T51. Planetary Aeolian Geology from Outcrop to Orbit: Nathan Bridges Memorial Session (GSA Planetary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)</td>
<td>Room 136-137</td>
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<td>55</td>
<td>1:30 p.m.</td>
<td>T57. Undergraduate Research Talks: The Next Step in Student Research Projects (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics Division; GSA Limnogeology Division; GSA Structural Geology and Tectonics Division; GSA Geology and Health Division; GSA Hydrogeology Division; GSA Sedimentary Geology Division; GSA Geobiology &amp; Geomicrobiology Division; GSA Environmental &amp; Engineering Geology Division; GSA Energy Geology Division; GSA Geophysics and Geodynamics Division; GSA Planetary Geology Division; GSA Geochronology Division; GSA Geoscience Education Division; GSA History and Philosophy of Geology Division)</td>
<td>Room 141</td>
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<tr>
<td>56</td>
<td>1:30 p.m.</td>
<td>T73. Beyond Pretty Pictures: The Role of Photography in Promoting Understanding and Learning in the Geosciences (GSA Geoscience Education Division; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division)</td>
<td>Room 234</td>
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<tr>
<td>57</td>
<td>1:30 p.m.</td>
<td>T82. Hands-On Teaching Demonstrations that Combine Geoscience and Societal Issues: Audience Participation Requested! (GSA Geoscience Education Division; National Association of Geoscience Teachers)</td>
<td>Room 235</td>
</tr>
<tr>
<td>58</td>
<td>1:30 p.m.</td>
<td>T91. Evolution of Paleontological Art (GSA History and Philosophy of Geology Division; History of Earth Sciences Society; Paleontological Society; Cushman Foundation; Paleontological Research Institution; National Earth Science Teachers Association)</td>
<td>Room 233</td>
</tr>
<tr>
<td>59</td>
<td>1:30 p.m.</td>
<td>T93. Measuring and Modeling Fluxes across the Surface Water/Groundwater Interface II (GSA Hydrogeology Division; GSA Karst Division)</td>
<td>Room 132</td>
</tr>
<tr>
<td>60</td>
<td>1:30 p.m.</td>
<td>T101. Advances in Data Discovery and Analysis for Hydrogeology (GSA Hydrogeology Division; GSA Geoinformatics Division; GSA Karst Division)</td>
<td>Room 133</td>
</tr>
<tr>
<td>61</td>
<td>1:30 p.m.</td>
<td>T110. Lakes through Space and Time II (GSA Limnogeology Division; GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; AASP - The Palynological Society; American Quaternary Association; Association for the Sciences of Limnology and Oceanography; International Association of Limnogeology; SEPM [Society for Sedimentary Geology]; GSA Continental Scientific Drilling Division)</td>
<td>Room 134</td>
</tr>
<tr>
<td>62</td>
<td>1:30 p.m.</td>
<td>T121. Insights from Microfossils, Palynology, and Their Modern Analogs: From Traditional to Emerging Techniques (Cushman Foundation; AASP - The Palynological Society; Geochemical Society; Paleontological Society; Paleontological Research Institution; GSA Limnogeology Division; GSA Sedimentary Geology Division)</td>
<td>Room 140</td>
</tr>
<tr>
<td>63</td>
<td>1:30 p.m.</td>
<td>T128. Recent Advances in Technology: Traces of Modern and Ancient Behavior (Paleontological Society; GSA Limnogeology Division; GSA Sedimentary Geology Division)</td>
<td>Room 143-144</td>
</tr>
<tr>
<td>64</td>
<td>1:30 p.m.</td>
<td>T130. Phylogenetic Paleobiology: Exploring Macroevolutionary Trends with Evolutionary Trees II (Paleontological Society; Paleontological Research Institution; GSA Geobiology &amp; Geomicrobiology Division)</td>
<td>Room 142</td>
</tr>
<tr>
<td>65</td>
<td>1:30 p.m.</td>
<td>T140. Frontiers in Mineralogy, Petrology, and Geochronology: A Session in Honor of Dana Medalist Jörg Hermann (Mineralogical Society of America; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</td>
<td>Sagamore Ballroom 6</td>
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<tr>
<td>66</td>
<td>1:30 p.m.</td>
<td>T141. Different Personalities of Granites and Rhyolites: Silicic Magmas from the Lower Crust to the Surface II—A Session in Honor of Calvin Miller, Recipient of the MGPV Distinguished Geological Career Award (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</td>
<td>Room 240-241</td>
</tr>
<tr>
<td>67</td>
<td>1:30 p.m.</td>
<td>T149. Volcanism and Tectonism on Planetary Bodies (GSA Planetary Geology Division; GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</td>
<td>Room 236-237</td>
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<td>68</td>
<td>1:30 p.m.</td>
<td>T158. Evolution of the Midcontinent Rift: A Window into Proterozoic Environments, a Repository of Minerals, and a Lesson in Rifting II (GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; Society of Economic Geologists; GSA Geobiology &amp; Geomicrobiology Division)</td>
<td>Room 242</td>
</tr>
<tr>
<td>69</td>
<td>1:30 p.m.</td>
<td>T165. Where Does the Wind Blow? Aeolian Systems in Time and Space II (GSA Quaternary Geology and Geomorphology Division; International Society of Aeolian Research; GSA Sedimentary Geology Division)</td>
<td>Room 138-139</td>
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<tr>
<td>70</td>
<td>1:30 p.m.</td>
<td>T184. Geodynamic, Orogenic, and Surface Processes of Flat-Slab Subduction (GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division; GSA Sedimentary Geology Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Quaternary Geology and Geomorphology Division; GSA International)</td>
<td>Room 243</td>
</tr>
<tr>
<td>71</td>
<td>1:30 p.m.</td>
<td>T186. Celebrating the Sedimentary Legacy of Dr. Robert H. Dott, Jr., Part II (GSA Sedimentary Geology Division; GSA History and Philosophy of Geology Division)</td>
<td>Sagamore Ballroom 7</td>
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<tr>
<td>72</td>
<td>8:45 a.m.</td>
<td>Late Breaking Session: Kīlauea 2018: Geoscience and Communication during a High Profile Natural Event (GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division; Mineralogical Society of America; GSA Geology and Society Division)</td>
<td>Sagamore Ballroom 5</td>
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<tr>
<td>73</td>
<td>8 a.m.</td>
<td>D18. Paleontology, Extinctions and Paleoecology</td>
<td>Room 141</td>
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<tr>
<td>74</td>
<td>8 a.m.</td>
<td>D56. Sediments, Carbonates</td>
<td>Room 238-239</td>
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<td>75</td>
<td>8 a.m.</td>
<td>T3. Karst Hydrology and Hydrogeology (GSA Karst Division; GSA Geophysics and Geodynamics Division; GSA Hydrogeology Division)</td>
<td>Room 130-131</td>
</tr>
<tr>
<td>76</td>
<td>8 a.m.</td>
<td>T13. Global Warning: Accelerating Rates of Change Forewarn of Catastrophic Impacts I (GSA Quaternary Geology and Geomorphology Division; GSA Energy Geology Division; GSA Environmental &amp; Engineering Geology Division; GSA Geology and Health Division; GSA Geology and Society Division; GSA Geoscience Education Division; GSA Hydrogeology Division)</td>
<td>Room 134</td>
</tr>
<tr>
<td>77</td>
<td>8 a.m.</td>
<td>T21. Geology and Hydrology of Your Public Lands: Understanding and Managing America’s Geologic Heritage, Active Processes, Geohazards, Energy Development, and Mineral Resources I (National Park Service; U.S. Forest Service; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division; GSA Hydrogeology Division; GSA Geophysics and Geodynamics Division)</td>
<td>Room 233</td>
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<tr>
<td>78</td>
<td>8 a.m.</td>
<td>T27. The Application of Soil Science in Archaeological Research During the 21st Century (GSA Geoarchaeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Soils and Soil Processes Division; GSA International)</td>
<td>Room 135</td>
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<td>79</td>
<td>8 a.m.</td>
<td>T33. Geologic Energy Research I (GSA Energy Geology Division)</td>
<td>Room 145</td>
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<td>80</td>
<td>8 a.m.</td>
<td>T37. Global Change: Evolution and Extinctions in the Triassic (GSA Geobiology &amp; Geomicrobiology Division; Paleontological Research Institution; Paleoclimatology/ Paleoceanography; GSA Sedimentary Geology Division; Paleontological Society)</td>
<td>Room 136-137</td>
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<tr>
<td>81</td>
<td>8 a.m.</td>
<td>T45. Is There a Medical Geologist in the House? A Session Honoring the Contributions of Robert Finkelman to the Field of Medical Geology (GSA Geology and Health Division)</td>
<td>Sagamore Ballroom 6</td>
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<tr>
<td>82</td>
<td>8 a.m.</td>
<td>T74. Declining Enrollments in U.S. Undergraduate Geoscience Programs: How Did We Get Here and How Do We Get Our Groove Back? (GSA Geoscience Education Division; National Association of Geoscience Teachers; GSA Energy Geology Division)</td>
<td>Room 234</td>
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<tr>
<td>83</td>
<td>8 a.m.</td>
<td>T84. Making Sense of Methodologies and Theoretical Frameworks in Geoscience Education Research (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)</td>
<td>Room 235</td>
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<tr>
<td>84</td>
<td>8 a.m.</td>
<td>T95. Climate Variability, Change, and Water Resources (GSA Hydrogeology Division; GSA Karst Division; GSA Limnogeology Division; GSA International)</td>
<td>Room 132</td>
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<td>85</td>
<td>8 a.m.</td>
<td>T109. Hydrogeology and Energy (GSA Hydrogeology Division; GSA Energy Geology Division)</td>
<td>Room 133</td>
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<td>86</td>
<td>8 a.m.</td>
<td>T118. Paleoenvironmental Reconstructions from Biogenic Carbonates I (SEPM [Society for Sedimentary Geology]; Paleontological Society; Paleontological Research Institution; GSA Sedimentary Geology Division; GSA Karst Division)</td>
<td>Room 140</td>
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<td>87</td>
<td>8 a.m.</td>
<td>T126. Earth and Life Co-Evolution in the Early to Middle Neoproterozoic (1000 to ca. 635 Ma) (GSA Geobiology &amp; Geomicrobiology Division; AASP - The Palynological Society; Paleontological Society; Paleontological Research Institution; GSA Sedimentary Geology Division)</td>
<td>Room 143-144</td>
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<tr>
<td>88</td>
<td>8 a.m.</td>
<td>T134. Echinoderm Paleobiology I: In Honor of the Career of James Sprinkle (Paleontological Society)</td>
<td>Room 142</td>
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<tr>
<td>89</td>
<td>8 a.m.</td>
<td>T138. Magmas Assemble! Petrologic, Geochemical, Chronologic, and Geophysical Insights into the Architecture and Timescales of Magmatic Systems (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Geophysics and Geodynamics Division)</td>
<td>Room 240-241</td>
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<tr>
<td>90</td>
<td>8 a.m.</td>
<td>T144. Friends of Hoth: Episode III—Bodies of the Outer Solar System (GSA Planetary Geology Division)</td>
<td>Room 236-237</td>
</tr>
<tr>
<td>91</td>
<td>8 a.m.</td>
<td>T159. Different Roads to Rodinia: Re-Analysis of the Geochronology and Tectonic Evolution of Precambrian Sedimentary and Crystalline Basement Terranes in Southeastern Laurentia (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Geophysics and Geodynamics Division; GSA Sedimentary Geology Division)</td>
<td>Room 242</td>
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<tr>
<td>92</td>
<td>8 a.m.</td>
<td>T160. Advances in Understanding the Laurentide Ice Sheet I (GSA Quaternary Geology and Geomorphology Division)</td>
<td>Room 138-139</td>
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<tr>
<td>93</td>
<td>8 a.m.</td>
<td>T180. Plate Tectonics Paradigm and Future Directions of Research—Discovery in Light of Its 50-Year History I (GSA Structural Geology and Tectonics Division; GSA History and Philosophy of Geology Division; GSA Geophysics and Geodynamics Division; American Geophysical Union)</td>
<td>Room 243</td>
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<tr>
<td>94</td>
<td>9 a.m.</td>
<td>T32. Energy and Mineral Resources of the Illinois Basin (Posters) (GSA Energy Geology Division; GSA Environmental &amp; Engineering Geology Division; GSA Geology and Society Division; GSA Continental Scientific Drilling Division; Society of Economic Geologists)</td>
<td>Halls J-K</td>
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<tr>
<td>95</td>
<td>9 a.m.</td>
<td>T11. Environmental &amp; Engineering Geology Division Student Posters (GSA Environmental &amp; Engineering Geology Division; Association of Environmental &amp; Engineering Geologists)</td>
<td>Halls J-K</td>
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<tr>
<td>96</td>
<td>9 a.m.</td>
<td>T17. Sigma Gamma Epsilon Undergraduate Research (Posters) (Sigma Gamma Epsilon; GSA Environmental &amp; Engineering Geology Division; GSA Limnogeology Division)</td>
<td>Halls J-K</td>
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<tr>
<td>97</td>
<td>9 a.m.</td>
<td>D5. Geochemistry (Posters)</td>
<td>Halls J-K</td>
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<td>98</td>
<td>9 a.m.</td>
<td>T53. High-Resolution Datasets for Fluvial and Hillslope Processes and Landforms: Frontiers of Remotely Sensed Data (Posters) (GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics Division; GSA Sedimentary Geology Division; GSA Environmental &amp; Engineering Geology Division)</td>
<td>Halls J-K</td>
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<td>99</td>
<td>9 a.m.</td>
<td>D27. Geoscience Education (Posters)</td>
<td>Halls J-K</td>
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<td>100</td>
<td>9 a.m.</td>
<td>T72. Integrating Active Learning Strategies into College-Level Geoscience Classrooms: Implementation, Effects, and “Lessons Learned” (Posters) (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)</td>
<td>Halls J-K</td>
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<td>101</td>
<td>9 a.m.</td>
<td>T83. Beyond the Numbers: Strategies for Inclusive Education Practices across the Geological Sciences (Posters) (American Geophysical Union; GSA Diversity in the Geosciences Committee; GSA Geoscience Education Division; National Association of Geoscience Teachers; National Earth Science Teachers Association; NTA [National Technical Association])</td>
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<td>102</td>
<td>9 a.m.</td>
<td>T84. Making Sense of Methodologies and Theoretical Frameworks in Geoscience Education Research (Posters) (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)</td>
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<td>103</td>
<td>9 a.m.</td>
<td>D50. History and Philosophy of Geology (Posters)</td>
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<td>104</td>
<td>9 a.m.</td>
<td>T93. Measuring and Modeling Fluxes across the Surface Water/Groundwater Interface (Posters) (GSA Hydrogeology Division; GSA Karst Division)</td>
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<td>105</td>
<td>9 a.m.</td>
<td>T95. Climate Variability, Change, and Water Resources (Posters) (GSA Hydrogeology Division; GSA Karst Division; GSA Limnogeology Division; GSA International)</td>
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<td>106</td>
<td>9 a.m.</td>
<td>T103. Springs: Groundwater-Influenced Ecosystems, Gaining Streams, and Wetlands (Posters) (GSA Hydrogeology Division; GSA Karst Division; GSA Geobiology &amp; Geomicrobiology Division; GSA Limnogeology Division)</td>
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<td>107</td>
<td>9 a.m.</td>
<td>T109. Hydrogeology and Energy (Posters) (GSA Hydrogeology Division; GSA Energy Geology Division)</td>
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<td>108</td>
<td>9 a.m.</td>
<td>T3. Karst Hydrology and Hydrogeology (Posters) (GSA Karst Division; GSA Geophysics and Geodynamics Division; GSA Hydrogeology Division)</td>
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<td>109</td>
<td>9 a.m.</td>
<td>T110. Lakes through Space and Time (Posters) (GSA Limnogeology Division; GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; AASP - The Palynological Society; American Quaternary Association; Association for the Sciences of Limnology and Oceanography; International Association of Limnogeology; SEPM (Society for Sedimentary Geology; GSA Continental Scientific Drilling Division)</td>
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<td>110</td>
<td>9 a.m.</td>
<td>T113. Gemological Research in the Twenty-First Century—Characterization, Exploration, and Geological Significance of Diamonds and Other Gem Minerals (Posters) (Mineralogical Society of America; Gemological Institute of America; Society of Economic Geologists; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</td>
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<td>111</td>
<td>9 a.m.</td>
<td>T121. Insights from Microfossils, Palynology, and Their Modern Analogs: From Traditional to Emerging Techniques (Posters) (Cushman Foundation; AASP - The Palynological Society; Geochemical Society; Paleontological Society; Paleontological Research Institution; GSA Limnogeology Division; GSA Sedimentary Geology Division)</td>
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<td>112</td>
<td>9 a.m.</td>
<td>T125. EARTHTIMEs and EarthRates: Exploring the Tempo and Mode of Earth-System Processes and Evolution (Posters) (EARTHTIME; EarthRates; GSA Continental Scientific Drilling Division; GSA Sedimentary Geology Division; Paleontological Society; GSA Geochronology Division)</td>
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<td>113</td>
<td>9 a.m.</td>
<td>T128. Recent Advances in Ichnology: Traces of Modern and Ancient Behavior (Posters) (Paleontological Society; GSA Limnogeology Division; GSA Sedimentary Geology Division)</td>
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<td>114</td>
<td>9 a.m.</td>
<td>T130. Phylogenetic Paleobiology: Exploring Macroevolutionary Trends with Evolutionary Trees (Posters) (Paleontological Society; Paleontological Research Institution; GSA Geobiology &amp; Geomicrobiology Division)</td>
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<td>115</td>
<td>9 a.m.</td>
<td>T141. Different Personalities of Granites and Rhyolites: Silicic Magmas from the Lower Crust to the Surface (Posters)—A Session in Honor of Calvin Miller, Recipient of the MGPV Distinguished Geological Career Award (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</td>
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<td>116</td>
<td>9 a.m.</td>
<td>T144. Friends of Hoth: Episode III—Bodies of the Outer Solar System (Posters) (GSA Planetary Geology Division)</td>
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<td>117</td>
<td>9 a.m.</td>
<td>T152. Grain to Global Perspectives of Mars: Evolving Views of the Martian Sedimentary Rock Record (Posters) (GSA Planetary Geology Division; SEPM [Society for Sedimentary Geology; GSA Sedimentary Geology Division; GSA Limnogeology Division)</td>
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<td>118</td>
<td>9 a.m.</td>
<td>T158. Evolution of the Midcontinent Rift: A Window into Proterozoic Environments, a Repository of Minerals, and a Lesson in Rifting (Posters) (GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; Society of Economic Geologists; GSA Geobiology &amp; Geomicrobiology Division)</td>
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| 120 | 9 a.m.   | T165. Where Does the Wind Blow? Aeolian Systems in Time and Space (Posters)  
(GSA Quaternary Geology and Geomorphology Division; International Society of Aeolian Research; GSA Sedimentary Geology Division) | Halls J-K         |
| 121 | 9 a.m.   | T168. Sedimentary Geology Division/SEPM Student Research Competition: Dynamics of Stratigraphy and Sedimentation (Posters)  
(GSA Sedimentary Geology Division; SEPM [Society for Sedimentary Geology]) | Halls J-K         |
| 122 | 1:30 p.m.| D21. Paleontology, Paleoecology I                                                                                                                                                                                  | Room 141          |
| 123 | 1:30 p.m.| D24. Paleontology, Morphology and Systematics                                                                                                                                                                     | Room 143-144      |
| 124 | 1:30 p.m.| D64. Advances in Stable Isotope Geochemistry—Applications to Earth Science Systems                                                                                                                                  | Room 135          |
| 125 | 1:30 p.m.| P2. Women Rising: Removing Barriers and Achieving Parity in the Geosciences  
(GSA Geology and Society Division; GSA Geology and Public Policy Committee; Association for Women Geoscientists; Earth Science Women's Network) | Sagamore Ballroom 5 |
| 126 | 1:30 p.m.| T1. Karst Hazards and Monitoring  
(GSA Karst Division; GSA Geophysics and Geodynamics Division)                                                                                                                                                  | Room 130-131      |
| 127 | 1:30 p.m.| T13. Global Warning: Accelerating Rates of Change Forewarn of Catastrophic Impacts II  
(GSA Quaternary Geology and Geomorphology Division; GSA Energy Geology Division; GSA Environmental & Engineering Geology Division; GSA Geology and Health Division; GSA Geology and Society Division; GSA Geoscience Education Division; GSA Hydrogeology Division) | Room 134          |
(National Park Service; U.S. Forest Service; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division; GSA Hydrogeology Division; GSA Geophysics and Geodynamics Division) | Room 233          |
| 129 | 1:30 p.m.| T33. Geologic Energy Research II, with the Best of the AAPG Papers  
(GSA Energy Geology Division)                                                                                                                                                                                     | Room 145          |
| 130 | 1:30 p.m.| T47. Global Drinking Water and Public Health: Conditions, Contaminants, Concerns, and Strategies  
(GSA Hydrogeology Division; GSA Karst Division; GSA Limnogeology Division; GSA International)                                                                                                                 | Room 238-239      |
| 131 | 1:30 p.m.| T62. Landscapes in the Anthropocene  
(GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division; GSA International; GSA Limnogeology Division)                                                                 | Room 136-137      |
| 132 | 1:30 p.m.| T83. Beyond the Numbers: Strategies for Inclusive Education Practices across the Geological Sciences I  
(American Geophysical Union; GSA Diversity in the Geosciences Committee; GSA Geoscience Education Division; National Association of Geoscience Teachers; National Earth Science Teachers Association; NTA [National Technical Association]) | Room 234          |
| 133 | 1:30 p.m.| T96. Large Watershed to National Scale Data and Science for Water Management  
(GSA Hydrogeology Division; GSA Geoinformatics Division; GSA Karst Division; GSA International)                                                                                                              | Room 132          |
| 134 | 1:30 p.m.| T103. Springs: Groundwater-Influenced Ecosystems, Gaining Streams, and Wetlands  
(GSA Hydrogeology Division; GSA Karst Division; GSA Geobiology & Geomicrobiology Division; GSA Limnogeology Division)                                                                                          | Room 133          |
| 135 | 1:30 p.m.| T118. Paleoenvironmental Reconstructions from Biogenic Carbonates II  
(SEPM [Society for Sedimentary Geology]; Paleontological Society; Paleontological Research Institution; GSA Sedimentary Geology Division; GSA Karst Division)                                                                 | Room 140          |
| 136 | 1:30 p.m.| T134. Echinoderm Paleobiology II: In Honor of the Career of James Sprinkle  
(Paleontological Society)                                                                                                                                                                                       | Room 142          |
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<td>137</td>
<td>1:30 p.m.</td>
<td>T139. Work on the Zircon, Highlight the Apatite: Wielding the Power of Accessory Minerals and Honoring the Contributions of Bruce Watson, 2018 Roebling Medalist (Mineralogical Society of America; Geochemical Society; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Volcanic and Magmatic Studies Group; American Geophysical Union)</td>
<td>Room 240-241</td>
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<tr>
<td>138</td>
<td>1:30 p.m.</td>
<td>T146. Geomorphology and Landscape Evolution of Mars (GSA Planetary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)</td>
<td>Room 236-237</td>
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<td>139</td>
<td>1:30 p.m.</td>
<td>T150. Impact Cratering: Geologic, Geochemical, and Geophysical Signatures on the Terrestrial Planets (GSA Planetary Geology Division; GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</td>
<td>Room 235</td>
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<tr>
<td>140</td>
<td>1:30 p.m.</td>
<td>T160. Advances in Understanding the Laurentide Ice Sheet II (GSA Quaternary Geology and Geomorphology Division)</td>
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<td>141</td>
<td>1:30 p.m.</td>
<td>T171. Late Paleozoic Tectonics and Sedimentation along the Allegheny-Ouachita-Marathon Orogenic Belt (GSA Sedimentary Geology Division; GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)</td>
<td>Sagamore Ballroom 7</td>
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<tr>
<td>142</td>
<td>1:30 p.m.</td>
<td>T178. Geologic Mapping in the Twenty-First Century: Innovative Applications of Technology and Strategies to Aid Field-Based Studies (GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division)</td>
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<td>143</td>
<td>1:30 p.m.</td>
<td>T180. Plate Tectonics Paradigm and Future Directions of Research—Discovery in Light of Its 50-Year History II (GSA Structural Geology and Tectonics Division; GSA History and Philosophy of Geology Division; GSA Geophysics and Geodynamics Division; American Geophysical Union)</td>
<td>Room 243</td>
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<td>144</td>
<td>4 p.m.</td>
<td>GSA Hydrogeology Division: Henry Darcy Distinguished Lecture</td>
<td>Sagamore Ballroom 6</td>
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**Tuesday, 6 November**

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<td>145</td>
<td>8 a.m.</td>
<td>D63. Geoscience Education II</td>
<td>Room 235</td>
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<td>146</td>
<td>8 a.m.</td>
<td>P3. Plate Tectonics Paradigm 50 Years after the Seminal Work of Morgan, Mckenzie, and Le Pichon (GSA Structural Geology and Tectonics Division; GSA History and Philosophy of Geology Division; GSA Geophysics and Geodynamics Division; American Geophysical Union)</td>
<td>Sagamore Ballroom 5</td>
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<td>147</td>
<td>8 a.m.</td>
<td>T5. Karst Processes and Speleology (GSA Karst Division)</td>
<td>Room 130-131</td>
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<td>148</td>
<td>8 a.m.</td>
<td>T12. Communicating Geologic Hazard and Risk: Sharing Successes, Failures, and Lessons Learned (GSA Environmental &amp; Engineering Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division; GSA Geophysics and Geodynamics Division; American Geophysical Union)</td>
<td>Room 134</td>
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<td>149</td>
<td>8 a.m.</td>
<td>T15. Urban Geochemistry (International Association of GeoChemistry; GSA Environmental &amp; Engineering Geology Division; GSA Limnogeology Division; GSA International)</td>
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<td>150</td>
<td>8 a.m.</td>
<td>T29. New Voices in Geobiology I (GSA Geobiology &amp; Geomicrobiology Division)</td>
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<td>151</td>
<td>8 a.m.</td>
<td>T30. Geology and Fluid Dynamics of Cr, Ni-Cu-PGE, and PGE Mineralized Magmatic Plumbing Systems (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Society of Economic Geologists)</td>
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<td>152</td>
<td>8 a.m.</td>
<td>T32. Energy and Mineral Resources of the Illinois Basin I (GSA Energy Geology Division; GSA Environmental &amp; Engineering Geology Division; GSA Geology and Society Division; GSA Continental Scientific Drilling Division; Society of Economic Geologists)</td>
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<td>153</td>
<td>8 a.m.</td>
<td>T38. Interdisciplinary Investigations of Mantle-Crustal Mass Transfer (GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</td>
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<td>154</td>
<td>8 a.m.</td>
<td>T46. From Local to Global—Why Geology Matters for Human Health (GSA Geology and Health Division)</td>
<td>Sagamore Ballroom 6</td>
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<td>155</td>
<td>8 a.m.</td>
<td>T53. High-Resolution Datasets for Fluvial and Hillslope Processes and Landforms: Frontiers of Remotely Sensed Data (GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics Division; GSA Sedimentary Geology Division; GSA Environmental &amp; Engineering Geology Division)</td>
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<td>156</td>
<td>8 a.m.</td>
<td>T54. Quantifying Geomorphic Processes and Rates of Landscape Evolution I (GSA Quaternary Geology and Geomorphology Division)</td>
<td>Room 136-137</td>
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<td>157</td>
<td>8 a.m.</td>
<td>T61. Fluvial Geomorphology of Post-Glacial Rivers (GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)</td>
<td>Room 138-139</td>
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<td>158</td>
<td>8 a.m.</td>
<td>T64. Beyond EarthScope in the Eastern U.S.—What We’ve Learned and What Needs Doing Next (GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)</td>
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<td>159</td>
<td>8 a.m.</td>
<td>T83. Beyond the Numbers: Strategies for Inclusive Education Practices across the Geological Sciences II (American Geophysical Union; GSA Diversity in the Geosciences Committee; GSA Geoscience Education Division; National Association of Geoscience Teachers; National Earth Science Teachers Association; NTA [National Technical Association])</td>
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<td>160</td>
<td>8 a.m.</td>
<td>T94. Water Temperatures in Surface and Subsurface Hydrologic Systems: Controls, Applications, and Implications (GSA Continental Scientific Drilling Division; GSA Karst Division; GSA Hydrogeology Division; GSA Energy Geology Division)</td>
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<td>161</td>
<td>8 a.m.</td>
<td>T98. Satellite Remote Sensing Applications in Hydrology and Geology (GSA Hydrogeology Division; GSA Geophysics and Geodynamics Division; GSA Environmental &amp; Engineering Geology Division; GSA Geology and Society Division; GSA Limnogeology Division; GSA International)</td>
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<td>162</td>
<td>8 a.m.</td>
<td>T119. Extinction and Survival across the Triassic-Jurassic Boundary (GSA Sedimentary Geology Division; Paleontological Research Institution; Paleontological Society)</td>
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<td>163</td>
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<td>T123. Cephalopods through Time (Paleontological Society; EarthRates; Paleontological Research Institution)</td>
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<td>164</td>
<td>8 a.m.</td>
<td>T129. Evolution of Terrestrial Ecosystems: Community Assembly through Time I (Paleontological Society; Paleontological Research Institution)</td>
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<td>165</td>
<td>8 a.m.</td>
<td>T142. Metamorphic Petrology Past, Present, and Future: Preparing for the Next 100 Years with the Mineralogical Society of America (Mineralogical Society of America; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</td>
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<td>166</td>
<td>8 a.m.</td>
<td>T145. Apollo 17 Forty-Five Years on: Reanalysis of the Geochemistry, Geophysics, and Field Geology in Light of Data from the Lunar Reconnaissance Orbiter and Other Recent Missions (GSA Planetary Geology Division; GSA Geophysics and Geodynamics Division; GSA Geoinformatics Division)</td>
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<td>167</td>
<td>8 a.m.</td>
<td>T169. The Evolution of Continental Weathering through Geologic Time: Paleoclimate, Biogeochemistry, Diagenesis, and Clay Minerals (GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Energy Geology Division; GSA Geoinformatics Division)</td>
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<td>168</td>
<td>9 a.m.</td>
<td>T33. Geologic Energy Research (Posters) (GSA Energy Geology Division)</td>
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<td>169</td>
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<td>T15. Urban Geochemistry (Posters) (International Association of GeoChemistry; GSA Environmental &amp; Engineering Geology Division; GSA Limnogeology Division; GSA International)</td>
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<td>170</td>
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<td>T29. New Voices in Geobiology (Posters) (GSA Geobiology &amp; Geomicrobiology Division)</td>
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<td>171</td>
<td>9 a.m.</td>
<td>T49. Cascading Geohazards: Frequency, Impacts, and Topographic Signatures (Posters) (GSA Quaternary Geology and Geomorphology Division; GSA Geophysics and Geodynamics Division; GSA Environmental &amp; Engineering Geology Division)</td>
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All Technical Sessions will take place at the Indiana Convention Center (ICC). To browse the entire meeting schedule, download GSA’s app at community.geosociety.org/gsa2018/mobilapp.
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<td>172</td>
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<td>T54. Quantifying Geomorphic Processes and Rates of Landscape Evolution (Posters) (GSA Quaternary Geology and Geomorphology Division)</td>
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<td>173</td>
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<td>T60. Revolutions in Remote Sensing: Applications of UAVs to Field Mapping and Surface Analytics (Posters) (GSA Quaternary Geology and Geomorphology Division; GSA Structural Geology and Tectonics Division; GSA Environmental &amp; Engineering Geology Division; GSA Geoarchaeology Division; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division)</td>
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<td>9 a.m.</td>
<td>T63. Earthquakes and Deformation in Eastern North America and Other Continental Interiors: What We Know, What We Don't, What We Think, and Which Is Which? (Posters) (GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)</td>
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<td>D48. Geoscience Information/Communication (Posters)</td>
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<td>9 a.m.</td>
<td>T19. Geologic Maps and Their Derivatives (Posters) (Association of American State Geologists; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division)</td>
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<td>177</td>
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<td>T21. Geology and Hydrology of Your Public Lands: Understanding and Managing America’s Geologic Heritage, Active Processes, Geohazards, Energy Development, and Mineral Resources (Posters) (National Park Service; U.S. Forest Service; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division; GSA Hydrogeology Division; GSA Energy Geology Division; GSA Geophysics and Geodynamics Division)</td>
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<td>T25. Geoscience Information Needs in Education and Research (Posters) (Geoscience Information Society; GSA Geoinformatics Division)</td>
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<td>T26. Geoscience Apps on the Web and in Your Hand (Posters) (GSA Geoinformatics Division)</td>
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<td>T94. Water Temperatures in Surface and Subsurface Hydrologic Systems: Controls, Applications, and Implications (Posters) (GSA Continental Scientific Drilling Division; GSA Karst Division; GSA Hydrogeology Division; GSA Energy Geology Division)</td>
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<td>T98. Satellite Remote Sensing Applications in Hydrology and Geology (Posters) (GSA Hydrogeology Division; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division; GSA Environmental &amp; Engineering Geology Division; GSA Geology and Society Division; GSA Limnogeology Division; GSA International)</td>
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<td>182</td>
<td>9 a.m.</td>
<td>D44. Karst Landforms and Processes (Posters)</td>
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<td>183</td>
<td>9 a.m.</td>
<td>T5. Karst Processes and Speleology (Posters) (GSA Karst Division)</td>
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<td>184</td>
<td>9 a.m.</td>
<td>T111. Human Evolution and Environmental History in Africa: 25 Years of Transformative Research (Posters) (GSA Limnogeology Division; GSA Geoarchaeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Continental Scientific Drilling Division; EarthRates)</td>
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<td>185</td>
<td>9 a.m.</td>
<td>T117. Greenhouse to Icehouse Transition: Global Events of the Devonian, Carboniferous, and Early Permian (Posters) (GSA Sedimentary Geology Division; International Association of Sedimentologists; Geochemical Society; GSA International; Paleontological Society)</td>
<td>Halls J-K</td>
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<td>186</td>
<td>9 a.m.</td>
<td>T123. Cephalopods through Time (Posters) (Paleontological Society; EarthRates; Paleontological Research Institution)</td>
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<td>187</td>
<td>9 a.m.</td>
<td>T124. Integrated Biostratigraphy (Posters) (North American Commission on Stratigraphic Nomenclature (NACSN); SEPM (Society for Sedimentary Geology); Paleontological Society; Cushman Foundation; International Subcommission on Stratigraphic Classification (ISSC); GSA Sedimentary Geology Division)</td>
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<td>188</td>
<td>9 a.m.</td>
<td>T134. Echinoderm Paleobiology (Posters): In Honor of the Career of James Sprinkle (Paleontological Society)</td>
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<td>189</td>
<td>9 a.m.</td>
<td>D28. Petrology, Igneous (Posters)</td>
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<td>190</td>
<td>9 a.m.</td>
<td>T139. Work on the Zircon, Highlight the Apatite (Posters): Wielding the Power of Accessory Minerals and Honoring the Contributions of Bruce Watson, 2018 Roebling Medalist (Mineralogical Society of America; Geochemical Society; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Volcanic and Magmatic Studies Group; American Geophysical Union)</td>
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<td>191</td>
<td>9 a.m.</td>
<td>T142. Metamorphic Petrology Past, Present, and Future: Preparing for the Next 100 Years with the Mineralogical Society of America (Posters) <em>(Mineralogical Society of America; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)</em></td>
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<td>192</td>
<td>9 a.m.</td>
<td>T157. Evolving Perspectives of the Precambrian World: Using Combined Theoretical and Applied Approaches to Tackle Problems at the Intersection of Geology, Geobiology, and Geochemistry (Posters) <em>(Paleontological Society; GSA Geobiology &amp; Geomicrobiology Division)</em></td>
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<td>193</td>
<td>9 a.m.</td>
<td>T169. The Evolution of Continental Weathering through Geologic Time: Paleoclimate, Biogeochemistry, Diagenesis, and Clay Minerals (Posters) <em>(GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Energy Geology Division; GSA Geoinformatics Division)</em></td>
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<td>194</td>
<td>9 a.m.</td>
<td>T174. Permian-Triassic Biotic Crisis: New Insights through Integrative Studies of Earth, Ocean, and Atmosphere (Posters) <em>(GSA Sedimentary Geology Division; GSA Geobiology &amp; Geomicrobiology Division; International Association of Sedimentologists; SEPM [Society for Sedimentary Geology]; Paleontological Research Institution; GSA International; Paleontological Society)</em></td>
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<td>195</td>
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<td>D60. Structural Geology (Posters)</td>
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<td>196</td>
<td>9 a.m.</td>
<td>T179. Best Student Geologic Mapping Competition (Posters) <em>(U.S. Geological Survey National Cooperative Geologic Mapping Program; Geological Society of America; Association of American State Geologists; GSA Foundation; American Geosciences Institute; American Institute of Professional Geologists; Journal of Maps; GSA Structural Geology and Tectonics Division; GSA Quaternary Geology and Geomorphology Division)</em></td>
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<td>197</td>
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<td>D40. Tectonics/Tectonophysics (Posters)</td>
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<td>198</td>
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<td>T181. Recent Advances and Future Directions in Paleoaltimetry and Paleoclimate (Posters) <em>(GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA International)</em></td>
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<td>199</td>
<td>1:30 p.m.</td>
<td>D23. Palaeontology, Evolution and Development</td>
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<td>200</td>
<td>1:30 p.m.</td>
<td>D43. History and Philosophy of Geology: Women in Geology and Geology in the Heartland</td>
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<td>201</td>
<td>1:30 p.m.</td>
<td>T9. Cultural Geology and Heritage Stone: Use, Petrology, Quarrying, Engineering Properties, and Other Aspects of Stone Used for Buildings, Monuments, Sculpture, or Otherwise Relating to the Interface of Stone with Human Culture Past and Present (GSA Environmental &amp; Engineering Geology Division; GSA Geoarchaeology Division; Heritage Stone Subcommission of the International Union of Geological Sciences; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division)</td>
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<td>202</td>
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<td>T10. Environmental &amp; Engineering Geology Division <em>(GSA Environmental &amp; Engineering Geology Division)</em></td>
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<td>203</td>
<td>1:30 p.m.</td>
<td>T16. Advances in Agrohydrology: A Multidisciplinary Approach to Water Resources, Land Management, and Food Systems <em>(GSA Geology and Society Division; GSA Hydrogeology Division; GSA Soils and Soil Processes Division; GSA Limnogeology Division; GSA Environmental &amp; Engineering Geology Division)</em></td>
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<td>204</td>
<td>1:30 p.m.</td>
<td>T29. New Voices in Geobiology II <em>(GSA Geobiology &amp; Geomicrobiology Division)</em></td>
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<td>205</td>
<td>1:30 p.m.</td>
<td>T32. Energy and Mineral Resources of the Illinois Basin II <em>(GSA Energy Geology Division; GSA Environmental &amp; Engineering Geology Division; GSA Geology and Society Division; GSA Continental Scientific Drilling Division; Society of Economic Geologists)</em></td>
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<td>206</td>
<td>1:30 p.m.</td>
<td>T48. Fluvial Processes from Catchments to Coastlines <em>(GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)</em></td>
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<td>207</td>
<td>1:30 p.m.</td>
<td>T54. Quantifying Geomorphic Processes and Rates of Landscape Evolution II <em>(GSA Quaternary Geology and Geomorphology Division)</em></td>
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<td>208</td>
<td>1:30 p.m.</td>
<td>T63. Earthquakes and Deformation in Eastern North America and Other Continental Interiors: What We Know, What We Don’t, What We Think, and Which Is Which? (GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)</td>
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<td>209</td>
<td>1:30 p.m.</td>
<td>T70. Geoscience Animations and Videos As Tools for Learning: Using Them in the Classroom, Making Them, and Assessing Their Impact (National Association of Geoscience Teachers)</td>
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<td>210</td>
<td>1:30 p.m.</td>
<td>T72. Integrating Active Learning Strategies into College-Level Geoscience Classrooms: Implementation, Effects, and “Lessons Learned” (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)</td>
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<td>211</td>
<td>1:30 p.m.</td>
<td>T78. Barriers, Misconceptions, and Progress in Improving Climate Literacy and Strategies for Communicating about Climate Change (GSA Geoscience Education Division; National Association of Geoscience Teachers Geoscience Education Research Division; GSA Geology and Society Division; GSA Energy Geology Division; Climate Literacy and Energy Awareness Network (CLEAN); GSA Quaternary Geology and Geomorphology Division)</td>
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<td>212</td>
<td>1:30 p.m.</td>
<td>T120. Cushman Foundation Symposium: Hothouse to Coldhouse Transitions at Southern High Paleolatitudes during the Cretaceous and Cenozoic (Cushman Foundation; Geochemical Society; Paleontological Society; GSA Sedimentary Geology Division; GSA International)</td>
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<td>213</td>
<td>1:30 p.m.</td>
<td>T129. Evolution of Terrestrial Ecosystems: Community Assembly through Time II (Paleontological Society; Paleontological Research Institution)</td>
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<td>214</td>
<td>1:30 p.m.</td>
<td>T131. Phylogenetic Paleoecology; Macroecology within an Evolutionary Framework (Paleontological Society; Paleontological Research Institution)</td>
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<td>215</td>
<td>1:30 p.m.</td>
<td>T151. The G.K. Gilbert Award Session: Planetary Surface Processes from Mars to the Outer Solar System (GSA Planetary Geology Division)</td>
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<td>T157. Evolving Perspectives of the Precambrian World: Using Combined Theoretical and Applied Approaches to Tackle Problems at the Intersection of Geology, Geobiology, and Geochemistry (Paleontological Society; GSA Geobiology &amp; Geomicrobiology Division)</td>
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<td>T174. Permian-Triassic Biotic Crisis: New Insights through Integrative Studies of Earth, Ocean, and Atmosphere (GSA Sedimentary Geology Division; GSA Geobiology &amp; Geomicrobiology Division; International Association of Sedimentologists; SEPM [Society for Sedimentary Geology]; Paleontological Research Institution; GSA International; Paleontological Society)</td>
<td>Sagamore Ballroom 7</td>
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<td>218</td>
<td>1:30 p.m.</td>
<td>T181. Recent Advances and Future Directions in Paleoaltimetry and Paleoclimate (GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA International)</td>
<td>Room 240-241</td>
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<td>219</td>
<td>3 p.m.</td>
<td>Mineralogical Society of America (MSA) Awards Lectures, Presidential Address, and Annual Business Meeting</td>
<td>Sagamore Ballroom 5</td>
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<td>220</td>
<td>4:30 p.m.</td>
<td>GSA Hydrogeology Division: Birdsall-Dreiss Distinguished Lecture</td>
<td>Sagamore Ballroom 6</td>
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**Wednesday, 7 November**

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<td>D34. Sediments, Clastic</td>
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<td>222</td>
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<td>D58. Recent Advances in Paleoclimatology and Paleoenvironment</td>
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<td>223</td>
<td>8 a.m.</td>
<td>P4. Human Evolution and Environmental History in Africa: 25 Years of Transformative Research (GSA Limnogeology Division; GSA Geochronology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Continental Scientific Drilling Division; EarthRates)</td>
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<td>224</td>
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<td>T31. Environmental Impacts Studies for Energy Resources (GSA Energy Geology Division; GSA Environmental &amp; Engineering Geology Division)</td>
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<td>225</td>
<td>8 a.m.</td>
<td>T56. From Alpine Glaciers to Ice Sheets: Understanding Glacial Dynamics, Landscapes, and Environmental Change (GSA Quaternary Geology and Geomorphology Division; Paleoclimatology/Paleoceanography)</td>
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### Sessions Calendar

All Technical Sessions will take place at the Indiana Convention Center (ICC). To browse the entire meeting schedule, download GSA’s app at community.geosociety.org/gsa2018/mobilapp.

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<td>8 a.m.</td>
<td>T60. Revolutions in Remote Sensing: Applications of UAVs to Field Mapping and Surface Analytics (GSA Quaternary Geology and Geomorphology Division; GSA Structural Geology and Tectonics Division; GSA Environmental &amp; Engineering Geology Division; GSA Geochronology Division; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division)</td>
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<td>227</td>
<td>8 a.m.</td>
<td>T66. The Twenty-First–Century Geoscience Workforce: What Is It? Who Is In It? Who is Missing? (GSA Geology and Society Division; GSA Diversity in the Geosciences Committee; International Association for Geoscience Diversity; GSA Geoinformatics Division; GSA Environmental &amp; Engineering Geology Division)</td>
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<td>228</td>
<td>8 a.m.</td>
<td>T69. Innovations in Using Fossil Collections for Deep Time Education and Outreach (GSA Geoscience Education Division; Paleontological Society; Paleontological Research Institution)</td>
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<td>229</td>
<td>8 a.m.</td>
<td>T76. Beyond the Road-Cut: Virtual, Local, and Nontraditional Field Teaching and Learning Experiences (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)</td>
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<td>230</td>
<td>8 a.m.</td>
<td>T99. Five Decades of Impactful Ideas in Hydrogeology: Recognizing the Contributions of Frank Schwartz (GSA Hydrogeology Division; National Ground Water Association)</td>
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<td>T107. Arsenic, Manganese, Chromium, and Other Geogenic Contaminants, Including Radionuclides in Hydrological Systems—Source, Biogeochemical Cycling, Toxicity, and Removal I (GSA Hydrogeology Division; GSA Geology and Health Division; GSA International; International Society of Groundwater for Sustainable Development (ISGSD); International Water Association [IWA]; Specialist Group Metals and Related Substances in Drinking Water [METRELS])</td>
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<td>232</td>
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<td>T112. Coastal Wetland Feedbacks: Interconnecting Processes That Lead to Wetland Building and Sustainment (GSA Quaternary Geology and Geomorphology Division)</td>
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<td>233</td>
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<td>T114. Apatite, from Magma to Medicine: In Honor of John M. Hughes (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Mineralogical Society of America; GSA Geobiology &amp; Geomicrobiology Division)</td>
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<td>235</td>
<td>8 a.m.</td>
<td>T127. Earth-Life Transitions: Critical Information from Deep Time to Manage Future Environmental Change (Paleontological Society; SEPM [Society for Sedimentary Geology]; GSA Limnogeology Division; EarthRates; GSA Sedimentary Geology Division)</td>
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<td>T132. Applications of 3D Printing and Other 3D Methods to Experimental Paleontology (Paleontological Research Institution; Cushman Foundation; Paleontological Society)</td>
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<td>237</td>
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<td>T136. Tick Tock in the Rock: Elucidating the Time Scales of Geologic Processes and Honoring the Contributions of Bruce Watson, 2018 Roebling Medalist (Mineralogical Society of America; Geochemical Society; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Volcanic and Magmaic Studies Group; American Geophysical Union)</td>
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<td>238</td>
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<td>T143. The Age of Small World Exploration: Major Results from Minor Planets and Other Small Solar System Bodies (GSA Planetary Geology Division; GSA Geophysics and Geodynamics Division)</td>
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<td>239</td>
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<td>T147. Planetary Mantles—Using Samples to Explore Earth, the Moon, and Mars: Memorial Session in Memory of Lawrence A. Taylor (GSA Planetary Geology Division; GSA Geophysics and Geodynamics Division)</td>
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<td>T172. Critical Zone Science—Bio-Geo Interactions across Environmental Gradients and</td>
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<td>Time (GSA Soils and Soil Processes Division; GSA Geobiology &amp; Geomicrobiology Divi-</td>
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<td>sion; GSA Hydrogeology Division; GSA Quaternary Geology and Geomorphology Division)</td>
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<td>T175. Late Jurassic through Early Cretaceous Geologic Time Scale (Cushman Foundation;</td>
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<td>Paleontological Research Institution; Paleontological Society)</td>
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<td>T183. The Geology of Colombia (GSA International; GSA Sedimentary Geology Division)</td>
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<td>D2. Economic Geology (Posters)</td>
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<td>D3. Environmental and Engineering Geology (Posters)</td>
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<td>D46. Advances in Geoscience Data Discovery, Delivery, and Use—Geoinformatics (Posters)</td>
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<td>T40. Machine-Learning and Artificial-Intelligence Applications in the Geosciences (Posters) (GSA Geoinformatics Division; GSA Energy Geology Division; GSA Sedimentary Geology Division; GSA Hydrogeology Division; GSA Geophysics and Geodynamics Division)</td>
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<td>T58. Advances in Understanding Pleistocene Landscape Evolution through the Window of Bedrock Topography (Posters) (GSA Quaternary Geology and Geomorphology Division)</td>
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<td>T65. Recent Advances in Using Near-Surface Geophysics to Solve Geological Problems (Posters) (GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division; GSA Environmental &amp; Engineering Geology Division; GSA Hydrogeology Division; GSA Soils and Soil Processes Division; GSA Karst Division; GSA Geoarchaeology Division)</td>
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<td>T122. Oceans and Climates through Earth History: From Proxy Reconstructions to Model Assessments (Posters) (Cushman Foundation; Paleontological Research Institution; Geochemical Society; Paleontological Society; GSA Limnogeology Division; GSA Sedimentary Geology Division; GSA International)</td>
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<td>D16. Paleontology, Macroevolution and Biogeography (Posters)</td>
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SUNDAY, 4 NOVEMBER 2018

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 1
D39. Tectonics/Tectonophysics
8:00 AM, Indiana Convention Center, Room 238-239
John I. Garver and Mary Hubbard, Presiding

1-1 8:00 AM  Baird, Graham B.*; Grover, Timothy W.; Regan, Sean P.: DECIPHERING TIMING AND KINEMATICS OF DEFORMATION IN THE EASTERN ADIRONDACKS, NEW YORK STATE: WHEN DID THE ANORTHOSITE-MANGERITE-CHARNOKITE-GRANITE SUITE EXPERIENCE PENETRATIVE DEFORMATION?

1-2 8:15 AM  Levine, Jamie S.F .*; Powell, Nicholas E.; Casale, Gabriele; Martin, Claire P.: A PHENGITE + DUMORTIERITE – BEARING VEIN IN THE NORTHERN GoochLAND TERRANE, VA: EVIDENCE FOR RAPID TERRANE EXHUMATION

1-3 8:30 AM  Farrar, Stewart S.*: A PHENGITE + DUMORTIERITE – BEARING VEIN IN THE NORTHERN GoochLAND TERRANE, VA: EVIDENCE FOR RAPID TERRANE EXHUMATION

1-4 8:45 AM  Bailey, Christopher M.*; Simonds, Mark H.K.; Owens, Brent E.; Carter, Mark W.; Holm-Denoma, Christopher S.: AGE AND PROVENANCE OF CLASTS IN THE EARLY CRETACEOUS POTOMAC GROUP AT PUDDLEDOCK, VIRGINIA: IMPLICATIONS FOR PASSIVE MARGIN DEVELOPMENT IN EASTERN NORTH AMERICA

1-5 9:00 AM  Harry, Dennis L.*; Jha, Sumant: GEODYNAMIC MODELS FAVOR PASSIVE RIFTING OF THE WEST ANTARCTIC RIFT SYSTEM

1-6 9:15 AM  Jha, Sumant*; Harry, Dennis L.; Wennman, Christopher P.: LITHOSPHERIC STRENGTH AND PARTITIONING OF THE LOAD DURING FLEXURE AROUND ROSS ISLAND, WEST ANTARCTICA

1-7 9:30 AM  Herrera, Sebastián*; Brandon, Mark T.; Farias, Marcelo; Ma, Keith: WESTWARD EXPANSION AND COALESCE OF THE CORDILLERAN WEDGE WITH THE COASTAL WEDGE, SOUTHERN CENTRAL ANDES

1-8 9:45 AM  Huang, Chujiao*; Dashtgard, Shahin Exton; Gibson, Dan; Matthews, William A.: MID- TO LATE-MESOZOIC TECTONIC EVOLUTION OF THE GEORGIA BASIN – EVIDENCE FROM DETRITAL ZIRCON ANALYSIS

1-9 10:00 AM  Garver, John I.*; Davidson, Cameron: PALEOGENE RESTORATION OF THE YAKUTAT GROUP IN ALASKA TO THE NANAIMO GROUP AND WESTERN MÉLANGE BELT IN THE PACIFIC NORTHWEST

1-10 10:15 AM  Allen, Wai K.*; Ridgway, Kenneth D.; Benowitz, Jeffrey A.; Fasulo, Cooper; Keough, Brandon; Warfel, Thomas S.; Fitzgerald, Paul; Gillis, Robert J.; Trop, Jeffrey M.: CENOZOIC BASIN DEVELOPMENT AND STRIKE-SLIP DISPLACEMENT ALONG THE DENALI FAULT SYSTEM, EASTERN ALASKA RANGE, ALASKA: A PROVENANCE APPROACH

1-11 10:30 AM  Phillips, Fred M.*; Lutz, Brandon M.; Axen, Gary A.: NOVEL MODES OF SLIP PARTITIONING IN TRANSTENSIONAL SETTINGS INFERRED FROM DATA ON THE WHITE MOUNTAIN FAULT ZONE, CALIFORNIA
Sunday, 4 November 2018

1-12 10:45 AM Hubbard, Mary*; Gajurel, Ananta Prasad; Mukul, Malay; Seifert, Neil J.: CROSS-FAULTS AND THEIR ROLE IN HIMALAYAN STRUCTURAL EVOLUTION

1-13 11:00 AM Munir, Mustuque A.; Rasmussen, Cornelia; Ross, Catherine; Stockli, Lisa D.; Gulick, Sean P.S.; Chatterjee, Rudra; Christeson, Gail L.; Wittmann, Axel; Schmieder, Martin; Kring, David A.; Xiao, Long; Morgan, Joanna; Expedition 364 science party, IODP-ICDP: ZIRCON AND APATITE U-PB AND (U-TH)/HE GEO- AND THERMOCHRONOMETRY OF THE CRYSTALLINE BASEMENT IN THE CHICKUXULUB'S PEAK RING STRUCTURE (IODP EXP. 364)

1-14 11:15 AM Stockli, Daniel F.*; Rasmussen, Cornelia; Ross, Catherine; Stockli, Lisa D.; Gulick, Sean P.S.; Chatterjee, Rudra; Christeson, Gail L.; Wittmann, Axel; Schmieder, Martin; Kring, David A.; Xiao, Long; Morgan, Joanna; Expedition 364 science party, IODP-ICDP: ZIRCON AND APATITE U-PB AND (U-TH)/HE GEO- AND THERMOCHRONOMETRY OF THE CRYSTALLINE BASEMENT IN THE CHICKUXULUB'S PEAK RING STRUCTURE (IODP EXP. 364)

1-15 11:30 AM Bowden, Shelby*; Gani, Nahid D.; Van Soest, M.C.; Gani, M. Royhan; O'Sullivan, Paul: UNROOFING HISTORY OF THE WESTERN ETHIOPIAN PLATEAU: INSIGHTS FROM APATITE (U-TH)/HE AND FISSION TRACK THERMOCHRONOLOGY

1-16 11:45 AM O’Neal, Donald W.*: AEROSPACE STRUCTURAL ANALYSIS TO UNDERSTAND EARTHQUAKES

SESSION NO. 2 🌈 § ☮

T18. Generating Sustainable Urban Systems: A Convergence of Geology and Society (GSA Geology and Society Division; GSA Geology and Public Policy Committee; GSA Environmental & Engineering Geology Division; GSA International Interdisciplinary Interest Group)

8:00 AM, Indiana Convention Center, Room 135

Richard Berg, Kathy Goetz Troost and Marilyn J. Suiter, Presiding

8:00 AM INTRODUCTORY REMARKS

2-1 8:15 AM Troost, Kathy Goetz*; Suiter, Marilyn J.; Berg, Richard: HOW CAN GEOSCIENTISTS ENGAGE THE NON-SCIENTIFIC COMMUNITY TO ENSURE SUSTAINABLE OUTCOMES?

2-2 8:30 AM Burdsall, Stephanie L. ; Courtland, Leah M.: ENCOURAGEMENT OF HUMAN INTERACTION WITH THE ENVIRONMENT OF THE UNIVERSITY OF INDIANAPOLIS’ CAMPUS

2-3 8:45 AM Schultenbrandt Gragg, Richard D.*: VERTICAL INTEGRATION OF UNIVERSITY AND COMMUNITY

2-4 9:00 AM Unsworth, Emma*; Seiby, David; Ottley, Christopher; Unsworth, Emily; Raab, Andre; Feldmann, Joerg; Sproson, Adam: TRACING THE NATURAL AND ANTHROPOGENIC INFLUENCE ON THE CHEMISTRY OF ESTUARINE MACROALGAE, AND THE IMPLICATIONS IN RESPECT TO HUMAN CONSUMPTION: INSIGHTS FROM THE FIRTH OF FORTH AND FORTH ESTUARY, SCOTLAND (Invited Presentation)

2-5 9:15 AM Karim, Mir F.*; Khandaker, Nazrul I.; Hassan, Muhammad Qumrul; Hossain, A.T.M. Shakhhawat: THE CHALLENGES OF GEOTECHNICAL EXPLORATION IN BANGLADESH FOR SUSTAINABLE URBAN DEVELOPMENT AND RISK REDUCTIONS IN ENGINEERING GEOLGY

2-6 9:30 AM Glickson, Deborah*; Ozkan-Haller, H. Tuba; Carter, Gregory A.; Cebrian, Just; Dalrymple, Robert A.; Fischbach, Jordan R.; Irish, Jennifer L.; Kolker, Alexander; Misra, Shubhra; Moore, Laura J.; Smith, Martin D.; Tornqvist, Torbjörn E.; Wong-Parodi, Gabrielle; Kreidler, Heather; DeVane, Courtney; Eide, Elizabeth: UNDERSTANDING THE LONG-TERM EVOLUTION OF THE COUPLED NATURAL-HUMAN COASTAL SYSTEM: THE FUTURE OF THE U.S. GULF COAST

9:45 AM DISCUSSION

2-7 10:00 AM Soller, David R.*: APPLICATIONS FOR A REGIONAL MAP OF GLACIAL SEDIMENTS

2-8 10:15 AM Harrison, William B.; Voice, Peter J.*; Rose, Katharine; Trout, Jennifer: REVISED BEDROCK MAP OF WAYNE COUNTY, MICHIGAN: AN OPPORTUNITY TO REASSESS THE NATURAL RESOURCES OF WAYNE COUNTY

2-9 10:30 AM Delano, Helen L.*: DISASTER RELIEF APPLICATION AND GEOLOGIC DATA FOR RECORD PRECIPITATION AND LANDSLIDE ACTIVITY IN PITTSBURGH, PA., FEBRUARY TO APRIL 2018

2-10 10:45 AM Andrews, William*: APPLICATIONS OF NEW SEISMIC SOIL MAPS IN KENTUCKY

2-11 11:00 AM Hills, Denise*; Bearden, Bennet L.: WHY YOU SHOULD CARE ABOUT ENERGY RESEARCH

2-12 11:15 AM Heath, Victoria E.*; Jenicek, Elisabeth M.; Garfinkle, Noah W.; Hur, Andy Y.: MINIMIZING WATER LOSS FROM HYDRANT FLUSHING ACROSS ARMY INSTALLATIONS

11:30 AM CONCLUDING REMARKS

SESSION NO. 3

T41. FAIR Data—What Can Geoinformatics Do? (GSA Geoinformatics Division; American Geosciences Institute; American Geophysical Union; Geoscience Information Society)

8:00 AM, Indiana Convention Center, Room 130-131

Denise J. Hills, Christopher Keane and Shelley Stall, Presiding

8:00 AM INTRODUCTORY REMARKS

3-1 8:05 AM Marsh, Allison*: SCIENCE, TECHNOLOGY, AND SOCIETY: BREAKING DOWN DISCIPLINARY SILOS

3-2 8:20 AM Robinson, Erin*: THE EARTH SCIENCE INFORMATION PARTNERS: MAKING DATA MATTER TOGETHER BY ORIENTING AROUND THE SHARED AGENDA OF FAIR

3-3 8:35 AM Russell, Kevin P.: PROMOTING FAIR DATA PRACTICES FOR THE GEOSCIENCES WITH JUPYTER NOTEBOOKS

3-4 8:50 AM Fils, Douglas*; Shepherd, Adam; Lingerfelt, Eric: APPLICATION OF WEB ARCHITECTURE TO FAIR DATA PATTERNS

3-5 9:05 AM Kong, Nicole*: GEOPORTAL AS A WAY TO SHARE AND DISCOVER RESEARCH DATA IN GEOSCIENCE (Invited Presentation)

9:20 AM DISCUSSION PART 1

9:35 AM BREAK

3-6 9:50 AM Park Boush, Lisa E.*; Williams, John W.; Bowen, Gabriel; Goring, Simon; Lehnhert, Kerstin; Noren, Anders J.; Peters, Shani E.; Sessa, Jocelyn A.; Stigali, Alycia L.; Uhen, Mark: BIG DATA IN PALEONTOLOGY—CREATING A ROADMAP FOR BUILDING A DATA SYNTHESIS CENTER FOR THE PALEOGEOSCIENCES

3-7 10:05 AM Goring, Simon*: FAIR DATA IN THE PALEOGEOSCIENCES: TALKING THE TALK, WALKING THE WALK

3-8 10:20 AM Vayda, Prescott J.*; Babcock, Loren E.; Oli, Emma A.: APPLICATION OF X-RAY COMPUTED TOMOGRAPHY REVEALS A (FOOL’S) GOLD MINE OF EXCEPTIONALLY PRESERVED FOSSILS IN THE SILICA SHALE (DEVONIAN) OF OHIO

3-9 10:35 AM Rose, Kelly*: Bauer, Jennifer; Baker, D.V.; Rowan, Chad; Jones, Timothy: UNEARTHING SUBSURFACE DATA USING INTELLIGENT GEOINFORMATICS (Invited Presentation)

3-10 10:50 AM Cracknell, Dustin*; Brown, Sarah R.; Moore, Johnathan; Mackey, Paige; Paronis, Thomas: DATA MANAGEMENT OF RAPIDLY OBTAINED CORE CHARACTERIZATIONS

3-11 11:05 AM Brock, David C.*: PROSPECTOR: ECONOMIC GEOLOGY AND THE RISE OF EXPERT SYSTEMS
SESSION NO. 4

T50. Processes and Feedbacks in the Critical Zone (GSA Quaternary Geology and Geomorphology Division; GSA Soils and Soil Processes Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)

8:00 AM, Indiana Convention Center, Room 136-137

Alison Anders and Martha C. Eppes, Presiding

8:00 AM MEET AND GREET

4-1 8:15 AM Dere, Ashlee Laura Denton*; Miller, Andrew; Hemje, Amy; Parcher, Sara; Bettis, E. Arthur: AGRICULTURAL IMPACTS ON GEOCHEMICAL AND HYDROLOGIC FLUXES IN THE CRITICAL ZONE (Invited Presentation)

4-2 8:30 AM White, Alissa*; Moravek, Bryan G.; Olshtansky, Yaniv; Sanchez, Andres; Ferre, Paul A.; Meixner, Thomas; McIntosh, Jennifer C.; Horover, Jon: THE INFLUENCE OF CRITICAL ZONE STRUCTURE ON ITS HYDROLOGIC FUNCTION: INSIGHTS INTO THE STORAGE AND ROUTING OF WATER THROUGH THE CRITICAL ZONE

4-3 8:45 AM Druhan, Jennifer*; Wang, Jia J.; Tune, Alison K.; Lawrence, Corey; Rempe, Daniella M.: SIGNATURES OF SOIL CARBON IN DEEP CRITICAL ZONE STRUCTURE AND FUNCTION (Invited Presentation)

4-4 9:00 AM Gallagher, Timothy M.*; Caldwell, Todd G.; Breecker, Daniel O.: TRACKING SOIL CARBONATE DISSOLUTION AND PRECIPITATION THROUGH HIGH-PRECISION MONITORING OF SOIL PORE SPACE O2 AND CO2

4-5 9:15 AM Nelson, Michelle S.*; Rittenour, Tammy: LUMINESCENCE IN A DIFFERENT LIGHT: AN EXPLORATION OF THE BENEFITS AND CHALLENGES TO LUMINESCENCE DATING IN THE CRITICAL ZONE

4-6 9:30 AM Oldroyd, Holly Jayne*; Pardyjak, Eric R.; Higgins, Chad W.; Parlane, Marc B.: LAND- ATMOSPHERE COUPLING MECHANISMS OVER STEEP TERRAIN: TURBULENT TRANSPORT AND MODELING CHALLENGES (Invited Presentation)

9:45 AM BREAK

4-7 10:00 AM Willenbring, Jane*; Ferdowsi, Behroz; Harrison, Emma J.: SOIL PRODUCTION FROM ABOVE AND BELOW: A UNIFICATION THEORY FROM A GRANULAR PHYSICS PERSPECTIVE

4-8 10:15 AM Clow, Travis*; Willenbring, Jane K.; Schaller, Mirjam; Blum, Joel D.; von Blanckenburg, Friedhelm: COMPARISON OF METEORIC AND IN SITU-PRODUCED 10BE DEPTH PROFILES: EVALUATING EROSION RATES, METEORIC 10BE FLUX, SOIL MIXING, AND STEADY STATE

4-9 10:30 AM Eppes, Martha Cary*; Hancock, Gregory S.; Chen, Xiaofeng: LONG TERM ROCK WEATHERING AND EROSION DRIVEN BY SUBCRITICAL CRACKING

4-10 10:45 AM Shepard, Christopher*; Pelletier, Jon D.; Schaap, Marcel G.; Rasmussen, Craig: OBLIQUITY AND ECCENTRICITY SIGNALS FOUND IN A META-ANALYSIS OF SOIL CHRONOSEQUENCES

4-11 11:00 AM Harrison, J.B.*; Hendrickx, J.M; Ogden, F.L.: TROPICAL SOIL AND REGOLITH PROPERTIES AND THEIR INFLUENCE ON RAINFALL RUNOFF PROCESSES IN A LOWLAND WATERSHED, AGUA SALUDA, PANAMA

4-12 11:15 AM Jungers, Matthew Cross*; Van Horn, Bennett; O'Bryan, Spencer; Das-Toke, Shyam; Granke, Sarah B.; Persico, Lyman P.: THE IMPACT OF BEAVER ON WATERSHED-SCALE SEDIMENT AND CARBON BUDGETS IN THE ADIRONDACK MOUNTAINS, NEW YORK

SESSION NO. 5

T59. Human Alterations to Landscape Connectivity (GSA Quaternary Geology and Geomorphology Division; GSA Soils and Soil Processes Division; GSA Geoarchaeology Division; GSA International Interdisciplinary Interest Group)

8:00 AM, Indiana Convention Center, Room 141

Anne J. Jefferson, Stephanie S. Day, Robert B. Jacobson, Rónadh Cox and José Antonio Constantine, Presiding

8:00 AM INTRODUCTORY REMARKS

5-1 8:15 AM Lutz, Tim*: A HEALTHY MIND ON A HEALTHY PLANET: MAKING THE CONNECTION BETWEEN SYSTEMS THINKING AND EARTHS SYSTEMS

5-2 8:30 AM Rathburn, Sara L.*: SHEDDING SEDIMENT: POST- DISTURBANCE SEDIMENT RECOVERY AND RESILIENCE (Invited Presentation)

5-3 8:50 AM Reed, Miles Mark Langly*; Kite, James Steven: THE MOST EXTREME ANTHROPOGENIC LANDSCAPE ON EARTH: INSIGHTS ON THE GEOMORPHOLOGY OF MOUNTAINTOP REMOVAL COAL MINING IN CENTRAL APPALACHIA

5-4 9:05 AM James, L. Allan*: LONG-TERM SEDIMENT CONNECTIVITY IN A SMALL, EPISODICALLY AGGRADED MOUNTAINOUS CATCHMENT

5-5 9:20 AM Johnson, Bradley G.*; Spell, Rosalind L.: GULLIES, ALLUVIUM, AND SOIL: A SWIFT GEOMORPHIC RESPONSE TO EARLY AGRICULTURE IN THE NORTH CAROLINA PIEDMONT

5-6 9:35 AM Peterman, Cara*; Fryar, Alan; Edwards, Dwayne; Gorman-Sanisaca, Lillian; Gellis, Allen C.: SENSITIVITY OF FLUVIAL SOURCE CONTRIBUTIONS IN A MIXED LAND- USE ENVIRONMENT: OTTER CREEK, FORT KNOX, KENTUCKY

9:50 AM BREAK

5-7 10:05 AM Czuba, Jonathan A.*; Sumaiya, Sumaiya; Schubert, John T.; David, Scott R.; Johnston, Graham H.; Edmonds, Douglas A.: HUMAN INFLUENCES ON FLUVIAL GEOMORPHIC PROCESSES IN A CHANNELIZED, AGRICULTURAL FLOODPLAIN ALONG THE EAST FORK WHITE RIVER, INDIANA (Invited Presentation)

5-8 10:25 AM Herrmann, Dustin L.*; Schifman, Laura A.; Shuster, William D.: SOIL PROPERTY PROFILES IN URBANIZED LANDSCAPES AND THEIR CONVERGENCE ACROSS CITIES

5-9 10:40 AM Gellis, Allen C.; Fuller, Christopher C.; Van Metre, Peter; Mahler, Barbara J.; Nibert, Lucas A.; Clifton, Zachary J.; Malen, Jeremy; Gryzwacz, Zachary; Welty, Claire; Miller, Andrew J.: SEDIMENT DYNAMICS IN AN URBAN WATERSHED USING SHORT-LIVED RADIONUCLIDES, DEAD RUN, BALTIMORE, MARYLAND, USA

5-10 10:55 AM Jefferson, Anne J.*; Blauch, Garrett A.: WOOD IN URBAN STREAMS IS A FUNCTION OF WATERSHED IMPERVIOUS AREA AND RIPARIAN BUFFERS

5-11 11:10 AM Johnston, John W.*: ELUCIDATING NATURAL TRENDS AND PATTERNS IN WATER AND SEDIMENT CONVEYANCE BETWEEN LAKES HURON AND ERIE IN THE LAURENTIAN GREAT LAKES DURING THE LATE HOLOCENE
SESSION NO. 6

**T87. Collaborative Partnerships between K–12 Teachers/Informal Educators and Scientists (National Earth Science Teachers Association; National Association of Geoscience Teachers Teacher Education Division)**

8:00 AM, Indiana Convention Center, Room 234

Susan Meabh Kelly, Carla McAluffffe, Suzanne T. Metlay, Peggy M. McNeal and Michael J. Passow, Presiding

**8:00 AM**
**INTRODUCTORY REMARKS**

6-1 **8:05 AM**
Brigham-Grette, Julie*: SHARED BENEFITS FOR INVOLVING TEACHERS IN FEDERALLY FUNDED SCIENCE: WE ALL WIN! (Invited Presentation)

6-2 **8:20 AM**
Kelly, Susan Meabh*: TEACHER-SCIENTIST PARTNERSHIPS: AN EFFICIENT MECHANISM TO DEVELOP A MORE INCLUSIVE, DIVERSE, AND EQUITABLE GEOSCIENCE COMMUNITY

6-3 **8:35 AM**
Kwiatkowski, Chad Joseph*: GETTING TEACHERS IN THE FIELD: A STUDENT PERSPECTIVE OF THE 2018 GSA GEOLOGY OF ARIZONA GEOTEACHERS WORKSHOP

6-4 **8:50 AM**
Moosavi, Sadrelin Cyrus*: BUILDING A SUSTAINABLE PROFESSIONAL DEVELOPMENT SYSTEM FOR GEO SCIENCE EDUCATORS: IT TAKES A VILLAGE – THE GSA GEOTEACHERS PROGRAM (Invited Presentation)

6-5 **9:05 AM**
Richardson, Eliza*: White, Timothy S.: TEACHERS ENGAGED IN AUTHENTIC RESEARCH IN AN ONLINE MASTER OF EDUCATION PROGRAM: CHALLENGES AND SUCCESSES

6-6 **9:20 AM**
Passow, Michael*: COLLABORATIVE PARTNERSHIPS ON LAND AND SEA (Invited Presentation)

6-7 **9:35 AM**
Abshire, Wendy*: Kaufman, Chad M.; Passow, Michael J.; Nugnes, Kira A.; Mills, Elizabeth W.; Stimach, Abigail E.: NEW APPROACHES TO RAISING SCIENTIFIC LITERACY THROUGH THE AMS DATASTREAM PROJECT

6-8 **9:50 AM**
Kurtz, Nicole*: ONBOARD OUTREACH OFFICERS: CONNECTING SHIPBOARD SCIENTISTS AND EDUCATORS TO DEVELOP SUCCESSFUL GEO SCIENCE BROADER IMPACT PROJECTS

**10:05 AM**
**DISCUSSION**

6-9 **10:20 AM**
Carrigan, James H.*; Anastasio, David; Bodzin, Alec; Popejoy, Kate; Hammond, Tom; Salter Burghard, Shannon; Hanson, Ian; Rutzmoser, Scott; Farina, William; Holland, Brenna; Sahagian, Dork: LOCAL MENTOR PARTNERSHIP IN AN URBAN HIGH SCHOOL TO PROMOTE POST-SECONDARY STEM CAREER PATHS

6-10 **10:35 AM**
Powers, Mark J.*; Clary, Renee M.; Walker, Ryan; Smith, Cade: EVALUATION OF THE EFFECTIVENESS OF A 5-DAY UNIVERSITY BASED STEM ACADEMIC LEADERSHIP SUMMER CAMP FOR UNDERREPRESENTED HIGH SCHOOL JROTC STUDENTS USING THE TOSRA SURVEY INSTRUMENT

6-11 **10:50 AM**
Bauer, Jennifer E.*; Lam, Adriane R.; Fraass, Susanna; Fraass, Andrew Jeffrey; Hartshorn, Kyle R.; Borden, Rose M.; Muskelty, Cameron O.; Sheffield, Sarah L.; Thompson-Munson, Megan; Hils, J. Mike; Limbeck, Maggie R.: TIME SCAVENGERS: A COLLABORATIVE ENDEAVOR TO DISSEMINATE COMPLEX SCIENCE TO INCREASE PUBLIC LITERACY ON CLIMATE CHANGE AND EVOLUTION

**SESSION NO. 7**

**T93. Measuring and Modeling Fluxes across the Surface Water/Groundwater Interface I (GSA Hydrogeology Division; GSA Karst Division)**

8:00 AM, Indiana Convention Center, Room 132

Andrea E. Brookfield, G. L. Macpherson, Adam S. Ward and Mark B. Hausner, Presiding

**8:00 AM**
**INTRODUCTORY REMARKS**

7-1 **8:05 AM**
Michael, Holly A.*: VULNERABILITY OF COASTAL AQUIFERS TO SALINIZATION BY SEA WATER: INFLUENCE OF SEA-LEVEL RISE, STORM SURGES, AND GEOLOGIC STRUCTURE

7-2 **8:20 AM**

7-3 **8:35 AM**
Tilahun, Tewodros*: Seyoum, Wondwosen Mekonnen; O'Reilly, Catherine M.; Perry, Bill: THE EFFECT OF COVER CROPPING AND AGRICULTURAL MANAGEMENT ON SURFACE WATER QUALITY IN A SMALL-SCALE WATERSHED IN CENTRAL ILLINOIS

7-4 **8:50 AM**
Young, Nathan L.*; Simpkins, William W.; Schilling, Oliver S.; Therrien, René: SIMULATING NITRATE TRANSPORT IN FRACTURED TILL INCLUDING TILE DRAINAGE: PRELIMINARY RESULTS (Invited Presentation)

7-5 **9:10 AM**
Redder, Brian W.*; Boyer, Elizabeth W.; Buda, Tony; Kennedy, Casey D.; DeWalle, David R.; Folmar, Gordon: GROUNDWATER-SURFACE WATER INTERACTIONS AFFECTING WATER AND NITROGEN FLUXES IN AN AGRICULTURAL WATERSHED

7-6 **9:25 AM**
Pickert, Joseph*: Sullivan, Pamela L.; Macpherson, G. L.: LEGACY EFFECTS OF NITRATE CONTAMINATION IN A PRAIRIE RIPARIAN ECOSYSTEM

**9:40 AM**
**BREAK**

7-7 **9:55 AM**
Reeve, Andrew S.*; Chen, Xi; Slater, Lee; Comas, Xavier; Glaser, Paul H.: HYDRAULIC HEAD DATA IN A CENTRAL MAINE PEATLAND INDICATE METHANE EMBOLITION EVENTS

7-8 **10:10 AM**
Vesper, Dorothy J.; Mitchell, Jonney*: A NOVEL METHOD FOR CREATING CO2 DISSOLVED-GAS STANDARDS USING COMMERCIAL COLA BOTTLES AS ACID REACTORS

7-9 **10:25 AM**
Erhardt, Andrea M.*; Ford, William I.: GEOCHEMICAL CHARACTERIZATION OF HYPERHEIC ZONE GEOCHEMISTRY IN A BACKWATER SYSTEM: A CASE STUDY FROM FOURPOLE CREEK, HUNTINGTON, WV

7-10 **10:40 AM**
Lorah, Michelle M.*; Majcher, Emily H.: QUANTIFYING BIOREMEDIATION EFFICIENCY OF CHLOROBENZENES IN REACTIVE BARRIERS AT THE WETLAND-SURFACE WATER INTERFACE USING MASS DISCHARGE AND SEDIMENT MASS

7-11 **10:55 AM**
Hixon, Jase*: Ward, Adam S.: PREDICTING THE ENVIRONMENTAL FATE OF PHOTOLYTIC COMPOUNDS THROUGH SITE-SPECIFIC CHARACTERIZATION
SESSION NO. 8

**T102. Dye Tracing and Emerging Environmental Tracers in Hydrogeology (GSA Hydrogeology Division; GSA Karst Division)**

**SESSION NO. 9**

**T110. Lakes through Space and Time I (GSA Limnogeology Division; GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; AASP - The Palynological Society; American Quaternary Association; Association for the Sciences of Limnology and Oceanography; International Association of Limnogeology; SEPM (Society for Sedimentary Geology); GSA Continental Scientific Drilling Division)**

**SESSION NO. 10**

9-1 8:00 AM Addala, Samuel A.; Nick, Kevin E.; Buchheim, H. Paul: STRATIGRAPHY AND PETROGRAPHY OF HETANGIAN TO SINEMURIAN LACUSTRIAN CARBONATES OF THE GLEN CANYON GROUP, WASHINGTON COUNTY (SW UT)

9-2 8:20 AM Gipson, Lindsey A.; Smith, M. Elliot: RESOLVING THE EFFECTS OF CLIMATE, TECTONICS, AND GEOMORPHIC PROCESSES ON A CLOSED LACUSTRIAN SYSTEM, GREEN RIVER FORMATION, WYOMING

9-3 8:35 AM Feltt, Melina*: A MULTI-PROXY RECONSTRUCTION OF A MIO-PLOICEONE PALEO-LAKE OUTCROP FROM THE LAUCA BASIN, NORTHERN CHILE

9-4 8:50 AM Obrist-Farner, Jonathan*: Eckert, Andreas; Lodolo, Roberto: STRATIGRAPHIC ARCHITECTURE AND STRUCTURAL AND SEDIMENTOLOGICAL EVOLUTION OF AN ASYMMETRIC PULL-APART BASIN, LAKE IZABAL, GUATEMALA

9-5 9:05 AM Ma, Pengfei*: Wang, Chenguhan; Li, Yalin: DRAINAGE PATTERNS CONTROL ON SOURCE ROCK DEVELOPMENT IN CENTRAL TIBET (LATE OLIGOCENE)

9-6 9:20 AM Knott, Jeffrey R.*; Wan, Elmina; Deino, Alan; Casteel, Mitch; Reheis, Marith C.; Phillips, Fred M.; Walkup, Laura C.; McCarty, Kyle R.; Manoukian, David; Nunez, Ernest: LAKE ANDREI: A PLOICEONE PLUVIAL LAKE IN EUREKA VALLEY, EASTERN CALIFORNIA

9-7 9:35 AM Larsen, Daniel*: Olson, Kristian J.: PALEOENVIRONMENTAL AND PALEOCLIMATE RECORD OF THE PLEISTOCENE LAKE TECOPA BEDS, SOUTHEASTERN CALIFORNIA


9-10 10:35 AM Zimmerman, Susan Herrgesell*: THE IMPORTANCE OF CHRONOLOGY IN DISCERNING PATTERNS AND DRIVERS OF PAST CLIMATE CHANGE IN THE WESTERN US

9-11 10:55 AM Collins, Joe D.*; Bowen, Mark W.; Langford, Richard; Gill, Thomas E.: USING THE LITHOSTRATIGRAPHIC RECORD PRESERVED WITHIN TWO PLAYA WETLANDS TO RECONSTRUCT PALEOENVIRONMENTAL CHANGE AND GEOMORPHIC RESPONSE, HARNEY BASIN, OREGON (USA)

9-12 11:10 AM Yang, Hong*: Leng, Qin; Prete, Joseph D.: AQUATIC MACROPHYTES IN LAKES: AN OVERLOOKED
SESSION NO. 10

T115. Mineral Evolution and Ecology: Potential Directions for the Next 100 Years with the Mineralogical Society of America (Mineralogical Society of America; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Geochemical Society; Deep Carbon Observatory; Russian Mineralogical Society; International Mineralogical Association)

Edward S. Grew and Robert M. Hazen, Presiding

10-1  8:00 AM McNamee, Britanni D.*; Celestian, Aaron J.: INTEGRATED OPTICAL, MICRO-ROMAN, AND COMPOSITIONAL ANALYSIS OF ROCK SAMPLES FROM FORMER TALC MINES IN THE GOUVENIER MINING DISTRICT, NEW YORK

10-2  8:15 AM Ruffledt, Carson J.*; Marshall, Craig P.: A NOVEL APPROACH OF USING RAMAN SPECTROSCOPY TO DETERMINE SOLID SOLUTION SERIES

10-3  8:30 AM Denny, Max*; Baskaran, Mark; Brownlee, Sarah J.: RAMAN SPECTROSCOPIC STUDY OF THE EFFECT OF RADIATION DAMAGE ON RADON EMANATION FROM ZIRCON

10-4  9:00 AM Hazen, Robert M.: NATURAL KIND CLUSTERING OF PLANETARY MATERIALS: A NEW DATA-DRIVEN APPROACH TO MINERAL CLASSIFICATION

10-5  9:15 AM Morrison, Shauna M.*; Prabhu, Anirudh; Eleish, Ahmed; Pan, Feifei; Zhong, Hao; Fox, Peter; Perry, Samuel N.; Liu, Chao; Runyon, Simone E.; Krivovichev, Sergey V.; Ralph, Jolyon; Golden, Joshua J.; Downs, Robert T.; Hazen, Robert M.: ADVANCED ANALYTICAL AND VISUALIZATION TECHNIQUES APPLIED TO MINERAL EVOLUTION AND ECOLOGY (Invited Presentation)

10-6  9:35 AM Hummer, Daniel R.*; Hazen, Robert M.; Eleish, Ahmed; Liu, Chao; Morrison, Shauna M.; Downs, Robert T.; Golden, Joshua J.; Pires, Alexander J.; Hystad, Grethe; Meyer, Michael: ECOLOGY AND EVOLUTION OF MANGANESE MINERALS: IMPLICATIONS FOR THE REDOX HISTORY OF EARTH AND LIFE

10-7  9:50 AM Perry, Samuel N.*; Burns, Peter C.: THERMODYNAMICS AND CRYSTALLOGRAPHIC COMPLEXITY OF SODIUM URANYL SULFATE MINERALS WITH UNIQUE TOPOLOGIES

10-8  10:05 AM Krivovichev, Sergey V.*: MINERAL EVOLUTION AS A JOURNEY THROUGH CONFIGURATION SPACE: THE ROLE OF COMPLEXITY (Invited Presentation)

10-9  10:25 AM Hystad, Grethe*; Eleish, Ahmed; Hazen, Robert M.; Morrison, Shauna M.; Downs, Robert T.: FUTURE AND CURRENT APPROACHES FOR MODELING THE DISTRIBUTION OF MINERALS ON EARTH AND OTHER PLANETS (Invited Presentation)

10-10 11:00 AM Changoluisa Toapanta, Myriam Paola*: MINERAL SPECIES FREQUENCY DISTRIBUTION AND WORD FREQUENCY DISTRIBUTION COMPARISON

10-11 11:15 AM Dymek, Robert F.; Boak, Jeremy; Grew, Edward S.*: LITHIUM, BERYLLIUM AND BORON CONCENTRATIONS OF 3.6-3.8 GA METASEDIMENTARY AND METAVOLCANOGENIC ROCKS IN THE ISUA SUPRACRUSTAL BELT, WEST GREENLAND

10-12 11:30 AM Chakoumakos, Bryan C.*; Pracheil, Brenda M.; Wood, R. Seth; Loepky, Alison; Anderson, W. Gary: CALCIUM CARBONATE POLYMORPHS IN FISH OTOLITHS: TOWARDS UNDERSTANDING ONTOGENETIC, ENVIRONMENTAL, AND PHYLOGENETIC CONTROLS

SESSION NO. 11

T116. New Developments in Geochemical Proxies for Paleoenvironmental Reconstructions (GSA Sedimentary Geology Division; Geochemical Society; International Association of Sedimentologists; Cushman Foundation)

Thomas J. Algeo, Jeremy D. Owens and Jennifer Morford, Presiding

11-1  8:00 AM Drummond, Carly: THE FIDELITY OF BENTHIC MARINE OXYGEN ISOTOPE PALEOCLIMATE PROXY RECORDS

11-2  8:15 AM Lombardo, Alexander J.*; Montañez, Isabel P.; Gaines, Robert R.: MINERAL EVOLUTION AS A POTENTIAL REFERENCE COMMUNITY FOR DETERMINING THE PRECISION OF PATTERNS IN ORGANIC CARBON ISOTOPE CURVES (Invited Presentation)

11-3  8:30 AM Conwell, Christopher T.*; Saltzman, Matthew R.; Griffith, Elizabeth M.: TACONIC WEATHERING AND ORDOVICIAN COOLING: TESTING THE LINK USING PAIRED SR AND ND ISOTOPES, ANTELope VALLEY, CENTRAL NV

11-4  8:45 AM Washington, Kirstin E.*; West, A. Joshua; Planavsky, Noah J.; Kuchnioff, Joachim A.; Kalderon-Massuil, Borlans; Stevenson, Emily I.; Porteili, Roger W.: LITHIUM ISOPOE COMPOSITIONS OF MODERN AND FOSSIL CENOZOIC BRACHIPODS

11-5  9:00 AM Battenburg, Sietse J.*; Dickson, Alex J.; Kelsey, Benjamin S.; Eldritt, James; O'Connor, Lauren K.; Percival, Lawrence M.E.; Robinson, Stuart; Jenkyns, Hugh C.: OCEANOGRAPHY OF THE WESTERN INTERIOR SEAWAY DURING OAE 2 USING ND ISOTOPES

11-6  9:15 AM Lu, Zunli*: DEVELOPING IODINE PROXY FOR PALEOECEANOGRAPHIC RECONSTRUCTIONS OF REDOX CONDITIONS IN DEEP TIME (Invited Presentation)

11-7  9:30 AM Hardisty, Dalton*: A NOVEL TRACER METHOD TO PROVIDE PRINCIPAL CONSTRAINTS ON SEAWATER IODINE REDOX CHEMISTRY

11-8  9:45 AM Kozik, Nevin P.*; Young, Seth A.; Gill, Benjamin C.; Owens, Jeremy D.: INVESTIGATING REDOX CONDITIONS AND MECHANISMS FOR THE END ORDOVICIAN (HIRNANTIAN) MASS EXTINCTION: A WESTERN LAURENTIA PERSPECTIVE

11-9  10:00 AM Young, Seth A.*; Kleinberg, Andrew; Owens, Jeremy D.: DYNAMIC LOCAL AND GLOBAL MARINE REDOX CONDITIONS DURING AN EARLY SILURIAN EXTINCTION (IREVIKEN EVENT): GEOCHEMICAL EVIDENCE FROM LAURENTIA

11-10 10:15 AM Zhang, Feifei*; Cui, Ying; Zhang, Hua; Kainer, Karl; Chen, Shuzhong; Anbar, Ariel D.: TWO EPISODES OF EXTENSIVE MARINE ANOXIA DURING THE PERMIAN-TRIASSIC BOUNDARY RECORDED BY URANIUM ISOPOE OF MARINE DOLOMITE

11-11 10:30 AM Zhao, He*; Zhang, Feifei; Algeo, Thomas J.; Chen, ZhongQiang; Liu, Yongsheng; Hu, Zhaochu; Li, Zhiheng; Romanillo, Stephen J.; Anbar, Ariel D.: LOWER TRIASSIC CARBONATE ZIRCON RECORD DEMONSTRATES EXPANDED OCEAN ANOXIA DURING SMITHIAN THERMAL MAXIMUM AND IMPROVED VENTILATION DURING SMITHIAN-SPATHIAN BOUNDARY COOLING EVENT

11-12 10:45 AM Horner, Tristan J.*: BARIUM-ISOTOPE PROXIES IN PALEOECEANOGRAPHY: PROGRESS, POTENTIAL, AND PITFALLS (Invited Presentation)

ANOXIA THROUGH THE EYES OF A NOVEL METAL ISOTOPE

11-14 11:15 AM He, Ran*; Ning, Meng; Huang, Kang-Jun; Shen, Bing: MG ISOTOPE SYSTEMATICS DURING EARLY DIAGENETIC ARAGONITE-CALCITE TRANSITION


11-16 11:45 AM Dahl, Tais W.*; Rasmussen, Bo Wilhelm; Schovroe, Niels; Siggaard-Andersen, Marie-Louise; Kjaer, Kurt H.; Persson, Daniel Olof; Husted, Søren; Nielsen, Arne: SHORT OXYGENATION EVENTS IN A TOXIC CAMBRIAN OCEAN ALLOWED FOR EARLY ANIMAL INVASIONS

SESSION NO. 12
T125. EARTHTIMES and EarthRates: Exploring the Tempo and Mode of Earth-System Processes and Evolution

8:00 AM, Indiana Convention Center, Room 143-144
Daniel Condon, Leah Morgan and Shanan E. Peters, Presiding

12-1 8:00 AM Guenther, William R.*; Huber, Christian; Karani, Hamid: A NEW METRIC FOR ASSESSING ALPHA EJECTION CORRECTIONS IN MINERAL PHASES WITH COMPLEX TOPOLOGIES: APPLICATION TO THE FE-OXIDE (U-Th)/He CHRONOMETER

12-2 8:15 AM Crowley, James L.*: LASER CUTTING OF ZIRCON FOR CA-TIMS GEOCHRONOLOGY: ADDING SPATIAL RESOLUTION TO HIGH-PRECISION DATES

12-3 8:30 AM Coutts, Daniel S.*; Matthews, William A.; Hubbard, Steve M.: EVALUATION OF COMMONLY USED METHODS FOR CALCULATING DETRITAL ZIRCON MAXIMUM DEPOSITIONAL AGES

12-4 8:45 AM Trayler, Robin B.*; Schmitz, Mark D.; Kohn, Matthew J.: USING VARIED DATA TYPES TO ASSIGN REALISTIC AGE UNCERTAINTIES TO STRATIGRAPHIC SEQUENCES AND PROXY RECORDS

12-5 9:00 AM Creveling, Jessica R.*; Hay, Carling C.; Hagen, Cedric J.; Maloof, Adam C.; Huybers, Peter: A LIBRARY OF EARLY CAMBRIAN CHEMOSTRATIGRAPHIC CORRELATIONS FROM A REPRODUCIBLE ALGORITHM

12-6 9:15 AM Kopperud, Bjørn Tore*; Liow, Lee Hsiang: TEXT-MINING THE BRYOZOAN FOSSIL RECORD

12-7 9:30 AM Muscente, Drew*; Prabhu, Anirudh; Zhong, Hao; Eileen, Ahmed; Meyer, Michael; Fox, Peter; Hazen, Robert M.; Knoll, Andrew: QUANTIFYING ECOLOGICAL IMPACTS OF MASS EXTINCTIONS WITH NETWORK ANALYSIS OF FOSSIL COMMUNITIES

12-8 9:45 AM Yang, Chuan*; Condon, Daniel; Zhu, Maoyan; Li, Xian-Hua; Hu, Chunlin: NEW ZIRCON U-Pb GEOCHRONOLOGY ON THE STURTIAN DEGLACIATION IN SOUTH CHINA

12-9 10:00 AM Karlstrom, Kari E.*; Schmitz, Mark D.; Hagadorn, James W.; Dehler, Carol M.; Crossey, Laura J.: TANDEM U-Pb DETRITAL ZIRCON DATING TO CALIBRATE THE TEMPO AND DYNAMICS OF THE CAMBRIAN TONTO GROUP TRANSGRESSION IN WESTERN LAURENTIA

12-10 10:15 AM Griffis, Neil*; Mundil, Roland; Montañez, Isabel P.; Linol, Bastien; de Wit, Maarten J.; Isbell, John L.; Fedorchuk, Nick; Keller, C. Brenhin; Iannuzzi, Roberto; Vesely, Fernando; Mottin, Thammy; da Rosa, Eduardo L.M.; Richen, Jon D.; Yin, Qing-zhu: HIGH-RESOLUTION AGE CONTROL FOR THE LATE PALEOZOIC ICE AGE SUCCESIONS ACROSS SW AND SC GONDWANA – IMPLICATIONS FOR CLIMATIC FORCING FOR THE END OF THE LPIA

12-11 10:30 AM Sorman, Melanie G.*; Dineen, Ashley A.; Tyler, Carrie L.; Roopnarine, Peter D.: MESOZOIC PALEOCOMMUNITY STRUCTURE AND DYNAMICS IN THE WESTERN TETHYS

12-12 10:45 AM Renne, Paul R.*; Black, Benjamin A.; Fendley, Isabel; Mittal, Tushar; Self, Stephen; Sprain, Courtney J.: THE ROLE OF GEOCHRONOLOGY IN LINKING FLOOD BASALTALTS TO MASS EXTINCTIONS

12-13 11:00 AM Turtu, Antonio*; Noorbergen, Lars; Abels, Hemmo; Hilgen, Frits; Kuiper, Klaudia: HIGH-PRECISION ⁴⁰Ar/³⁹Ar GEOCHRONOLOGY IN THE LOWER FART UNION FORMATION (MONTANA, USA): INSIGHTS INTO FLUVIAL RESPONSES TO ORBITAL CLIMATING AND GEOLOGIC TIME SCALE CALIBRATION OF THE EARLY PALEOCENE

12-14 11:15 AM Niespolo, Elizabeth*; Renne, Paul; Hart, William K.; White, Tim D.; Woldegabriel, Giday: TOWARD A CHRONOSTRATIGRAPHIC FRAMEWORK FOR THE LAST MILLION YEARS OF ENVIRONMENTAL AND HUMAN EVOLUTION IN THE MIDDLE AWASH, ETHIOPIA: ⁴⁰Ar/³⁹Ar GEOCHRONOLOGY AND TEPHRA CHEMISTRY

12-15 11:30 AM Cramer, Bradley D.*: EARTHTIME AND THE INTERNATIONAL COMMISSION ON STRATIGRAPHY: INTEGRATING GEOCHRONOLOGY AND CHRONOSTRATIGRAPHY TO ACHIEVE EARTHRATES OBJECTIVES

11:45 AM DISCUSSION

SESSION NO. 13
T130. Phylogenetic Paleobiology: Exploring Macroevolutionary Trends with Evolutionary Trees I (Paleontological Society; Paleontological Research Institution; OSA Geobiology & Geomicrobiology Division)

8:00 AM, Indiana Convention Center, Room 142
Selina R. Cole, David F. Wright, Laura C. Soul and William Gearty, Presiding

13-1 8:00 AM Sallan, Lauren*; Friedman, Matt; Sansom, Robert; Bird, Charlotte; Sansom, Ivan J.: THE NEARSHORE CRADLE OF EARLY VERTEBRATE DIVERSIFICATION


13-3 8:30 AM Warnock, Rachel C.M.*: A PHYLOGENETIC PERSPECTIVE TO ESTIMATING SPECIATION AND EXTINCTION RATES FROM STRATIGRAPHIC RANGES (Invited Presentation)

8:50 AM BREAK

13-4 9:05 AM Wright, David F.*; Cole, Selina R.; Ausich, William I.: FOSSIL PHYLOGENIES REVEAL SPECIES-LEVEL DIVERSIFICATION DYNAMICS DURING THE ORDOVICIAN RADIATION OF MARINE LIFE

13-5 9:20 AM Grossnickle, David M.*: JAW CORRELATES OF DIET PROVIDE NOVEL INSIGHT ON THE ADAPTIVE RADIATION OF EARLY THERIAN MAMMALS

13-6 9:35 AM Witte, Matthew K.*: ON THE PHYLOGENETICS OF THE TRILOBITE FAMILY PHACOPIDAE WITH SYSTEMATIC IMPLICATIONS FOR ELDREDGEOPS (GREEN, 1832)

13-7 9:50 AM Gearty, William*; Payne, Jonathan L.: DYNAMICS OF THE BODY SIZE EVOLUTION OF CROCODILIFORMES

13-8 10:05 AM Doughty, Evan M.*; Marcot, Jonathan D.: VARIABLE EVOLUTIONARY DYNAMICS UNDERLIE THE TREND OF INCREASING BODY MASS OF NORTH AMERICAN Ungulates

10:20 AM BREAK
SESSION NO. 14

T141. Different Personalities of Granites and Rhyolites: Silicic Magmas from the Lower Crust to the Surface — A Session in Honor of Calvin Miller, Recipient of the MGPV Distinguished Geological Career Award (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)

8:00 AM, Indiana Convention Center, Room 240-241

Guilherme A.R. Gualda, Lily L. Claiborne, Jonathan S. Miller and Delores Robinson, Presiding

14-1 8:00 AM Cooper, Kari M.*; Schrengost, Kevin L.; Schlieder, Tyler; Bradshaw, Richard W.; Kent, Adam J.R.; Huber, Christian: TIME SCALES AND TEMPERATURES OF CRYSTAL STORAGE IN MAGMA RESERVOIRS: IMPLICATIONS FOR MAGMA RESERVOIR DYNAMICS (Invited Presentation)

14-2 8:20 AM Schaen, Allen*; Schoene, Blair; Singer, Brad S.; Jicha, Brian R.; Cottle, John M.; Samperton, Kyle Michael: TIMESCALES OF PLUTON EMBLACEMENT AND RHYOLITE MELT EXTRACTION FROM U-PB TIMS DATING OF ZIRCON AND **AR**TIMS THERMOCRONOLOGY WITHIN THE RISCO BAYO-HUEMUL PLUTONIC COMPLEX

14-3 8:35 AM Leigh, Matthew J.; Miller, Jonathan S.*; Blackburn, Terrence; Kylander-Clark, Andrew; Miller, Calvin F.: TIMESCALE FOR THE CONSTRUCTION OF AZTEC WASH PLUTON, SOUTHERN NEVADA

14-4 8:50 AM Eddy, Michael P.*; Pamukcu, Ayla S.; Schoene, Blair; Miller, Calvin: TEMPORAL RECORD OF VOLCANISM AND PLUTONISM IN THE MIOCENE LIGHTMAGNIFICENT MAGMA SYSTEM (NEVADA, USA)

14-5 9:05 AM Lidzbarski, Marsha; Mundil, Roland*; Miller, Jonathan S.; Keller, C. Brenhin: NEW U-PB ZIRCON AGES FOR THE MIOCENE PEACH SPRINGS TUFF (SOUTHWESTERN US)

14-6 9:20 AM Chambers, Melissa*; Memeti, Vali; Eddy, Michael Patterson; Schoene, Blair; Paterson, Scott: MAGMA MUSH BODIES AND CRYSTAL RECYCLING CONSTRAINED BY ZIRCON DATES FROM CORES AND RIMS OF K-FELDSPAR MEGACRYSTALS FROM THE TOLUUMAME INTRUSIVE COMPLEX


SESSION NO. 15

T152. Grain to Global Perspectives of Mars: Evolving Views of the Martian Sedimentary Record Rock (GSA Planetary Geology Division; SEPAM (Society for Sedimentary Geology); GSA Sedimentary Geology Division; GSA Limnogeology Division)

8:00 AM, Indiana Convention Center, Room 236-237

Briony Horgan, Samantha Gwizd, Rachel E. Kronyak and Vivian Sun, Presiding

15-1 8:00 AM Edgett, Kenneth S.*: A TWO-DECADE JOURNEY, LEARNING TO RECOGNIZE THAT MARS HAS A VAST AND ACCESSIBLE SEDIMENTARY ROCK RECORD (Invited Presentation)

15-2 8:20 AM Rogers, A.D.*; Cowart, Justin; Edwards, Christopher S.; Pan, C.: WIDESPREAD CLASTIC ROCK EXPOSURES IN THE MARTIAN SOUTHERN HIGHLANDS: CHARACTERISTICS AND CANDIDATE ORIGINS (Invited Presentation)

15-3 8:40 AM Kremer, Christopher Henry*; Mustard, John F.; Bramble, Michael S.: A WIDESPREAD ULTRAMAFIC SANDSTONE ON MARS

15-4 8:55 AM Horgan, Briony*; Howl, Bryan A.; Sinha, Prakhari; McBride, Marie J.: IMPACT SPHERULES AS A SOURCE OF SAND ON AMAZONIAN MARS

15-5 9:10 AM Fackrell, Laura E.*: DEVELOPMENT OF MARTIAN REGOLITH SIMULANTS: IN SITU RESOURCE AVAILABILITY AND POTENTIAL

15-6 9:25 AM Seeger, Christina H.*; Stack, Kathryn M.; Grotzinger, John P.; Lamb, Michael P.; Williams, Rebecca M.E.: CONGLOMERATES IN CONTEXT: NEW OBSERVATIONS OF MARTIAN FLUVIAL DEPOSITS IN THE FOOTHILLS OF MOUNT SHARP, GALE CRATER

15-7 9:40 AM Heydari, Ezat*; Schroeder, Jeffrey F.; Van Beek, Jason; Calef, Fred J.; Rowland, Scott K.; Fairén, Alberto; Parker, Timothy; Jacob, Samantha R.: SIGNIFICANCE OF FLOOD DEPOSITS IN GALE CRATER, MARS

15-8 9:55 AM Tu, Valerie M.*; Rampe, Elizabeth B.; Bristow, Thomas F.; Blake, David F.; Yanimam, D.T.; Morris, R.V.; Ming, Doug; Yen, Albert S.; Achilles, Cherie N.; Castle, Nicholas; Morrison, Shannua M.; Downs, Robert T.; Hazen, Robert M.; Craig, Patricia I.; Des Marais, David J.; Treiman, Allan H.; Chipera, Steve; Downs, Gordon W.: AN OVERVIEW OF
SESSION NO. 16 $ Ø

T158. Evolution of the Midcontinent Rift: A Window into Proterozoic Environments, a Repository of Minerals, and a Lesson in Rifting I (GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; Society of Economic Geologists; GSA Geobiology & Geomicrobiology Division)

8:00 AM, Indiana Convention Center, Room 242
Nicholas L. Swanson-Hysell, Seth Stein and Tyrone O. Rooney, Presiding


15-10 10:25 AM Leask, Ellen†; Ehlmann, Bethany L.: DISTINCT ALTERATION ENVIRONMENTS IN TERRA SIRENUM, MARS

15-11 10:40 AM Kremer, Christopher Henry†; Bramble, Michael S.; Mustard, John F.: A HEMISPHERICALLY INTEGRATED SEDIMENTARY GEOLOGICAL SYSTEM AT NILI FOSSAE, MARS

15-12 10:55 AM Adams, Madison M.; Bartley, Julie K.; Yingst, R. Aileen; Kah, Linda C.; Lotto, Michael; Minitti, Michelle E.; Williams, Rebecca M.E.: LABORATORY ANALYSIS OF ROCK SAMPLE SUITES FROM A MARS ROVER SIMULATION CONDUCTED ON GREEN RIVER FORMATION SPECIMENS, UINTAH BASIN, UTAH

15-13 11:10 AM Hogancamp, Joanna V.; Lapen, Thomas J.; Chafetz, Henry S.: THE EFFECT OF SOLUTION CHEMISTRY AND FREEZING TEMPERATURE ON THE MORPHOLOGY OF CRYOGENIC OPAL-A (COA): IMPLICATIONS FOR MICROBE PRESERVATION AND PAST CLIMATES ON MARS

SESSION NO. 17 ☀

T165. Where Does the Wind Blow? Aeolian Systems in Time and Space I (GSA Quaternary Geology and Geomorphology Division; International Society of Aeolian Research; GSA Sedimentary Geology Division)

8:00 AM, Indiana Convention Center, Room 138-139
Nicholas Lancaster, Mark R. Sweeney, Jessica L. Conroy and David A. Grimley, Presiding

16-1 8:15 AM Keller, G. Randy†; Stein, Seth A.; Stein, Carol A.; Elling, Reece P.: PRECAMBRIAN RIFT SYSTEMS IN NORTH AMERICA COMPARED TO OTHER CONTINENTAL RIFTS AROUND THE WORLD

16-2 8:30 AM Emishaw, Luelsgørd†; Abdelsalam, Mohamed: DEPTH AND TIME DEPENDENCE OF STRAIN PARTITIONING IN THE DEVELOPMENT OF MESOZOIC AND CENOZOIC EXTENSIONAL STRUCTURES WITHIN THE TURKANA DEPRESSION, EAST AFRICA

16-3 8:45 AM Artemieva, Irina M.†; Shulgin, Alexey: PROTEROZOIC RIFTING IN THE BALTIC SHIELD REVISED: LADOGA IS NOT A RIFT

16-4 9:00 AM Stewart, Esther K.; Grauch, V.J.S.; Woodruff, Laurel G.; Heller, Samuel: SEISMIC STRATIGRAPHY OF THE 1.1 GA MIDCONTINENT RIFT BENEATH WESTERN LAKE SUPERIOR PART I: SUBSIDENCE AS A MAJOR DRIVER ON BASIN DEVELOPMENT (Invited Presentation)

16-5 9:20 AM Anderson, Eric D.; Grauch, V.J.S.: AEROMAGNETIC DATA ESTIMATE MAGNETIC SOURCE DEPTHS BELOW LAKE SUPERIOR

16-6 9:35 AM Grauch, V.J.S.; Woodruff, Laurel G.; Stewart, Esther K.: REVERSE FAULT OR COMPLEX FEEDER ZONE?: EVALUATING GEOPHYSICAL OBSERVATIONS OF THE 1.1 GA MIDCONTINENT RIFT FROM ISLE ROYALE TO SUPERIOR SHOAL AND BROADER GEOLOGIC IMPLICATIONS FOR NORTHERN LAKE SUPERIOR

16-7 9:50 AM Woodruff, Laurel G.; Grauch, V.J.S.; Stewart, Esther K.; Schulz, Klaus J.; Nicholson, Suzanne W.: DIVERSE FEEDER SOURCES FOR THE PORTAGE LAKE

16-8 10:25 AM Rooney, Tyrone O.; LaVigne, Andrew; Konter, Jasper; Brown, Eric; Stein, Seth; Moucha, Robert; Stein, Carol: CONSTRaining THE GEOCHEMICAL RESERVOIRS CONTRIBUTING TO VOLCANISM IN THE KEWEENAW LIP

16-9 10:40 AM Hudgins, Thomas R.; Rooney, Tyrone O.: MAGMATIC PLUMBING EVOLUTION DURING THE LATE PHASE OF THE MIDCONTINENT RIFT

16-10 10:55 AM Svoboda, Christopher†; Rooney, Tyrone O.; LaVigne, Andrew; Brown, Eric; Stein, Seth A.; Stein, Carol A.; Moucha, Robert; Konter, Jasper: CRUSTAL CONTAMINATION IN THE TERMINAL STAGES OF THE KEWEENAWAN LARGE IGNEOUS PROVINCE: GEOCHEMICAL EVIDENCE FROM THE PORCUPINE MOUNTAINS

16-11 11:10 AM LaVigne, Andrew†; Rooney, Tyrone O.; Konter, Jasper; Moucha, Robert; Brown, Eric; Stein, Seth A.; Stein, Carol: TERMINAL STAGES OF A DYING RIFT

4–7 November • Indianapolis, Indiana, USA
CONTROLS ON LATE HOLOCENE AEOLIAN REACTIVATION, WHITE RIVER BADLANDS, SOUTH DAKOTA

17-10 10:55 AM Gontz, Allen*; Ellerton, Daniel; Santini, Talitha; McCallum, Adrian; Shulmeister, James: GPR SIGNATURES OF THE GIANT PODZOL SEQUENCES ON THE SAND DUNES OF GREAT SANDY NATIONAL PARK, QUEENSLAND, AUSTRALIA

17-11 11:10 AM Higley, Melinda C.; Conroy, Jessica L.: SEDIMENT CHARACTERISTICS AND CHRONOLOGY OF AEOLIAN SEDIMENTS ON A TROPICAL PACIFIC CORAL ATOLL

17-12 11:25 AM Stine, Jonathan*; Geissman, John W.; Sweet, Dustin E.; Ferguson, John F.: PALEOCeLIMATIC VARIATION REVEALED BY ROCK MAGNETIC DATA FROM Plio-Pleistocene SEDIMENTS OF THE FISHER VALLEY BASIN, UTAH: A HIGH-FIDELITY RECORD OF PALEOClimATIC CONDITIONS FOR THE COLORADO PLATEAU?

11:40 AM DISCUSSION

SESSION NO. 44

T167. Mixed Siliciclastic-Carbonate Depositional Systems (SEPM (Society for Sedimentary Geology); GSA Sedimentary Geology Division; GSA Energy Geology Division)

8:00 AM, Indiana Convention Center, Room 235

John-Paul Zonneveld and Murray K. Gingras, Presiding

8:00 AM INTRODUCTORY REMARKS

44-1 8:05 AM Cho, Se Hyun*; Choh, Suk-Joo: EXTRA MUDDY GREENHOUSE CARBONATE PLATFORM DOMINATED BY SUBTIDAL METER-SCALE CYCLE

44-2 8:20 AM Quinn, Daven P.; Grotzinger, John P.; Present, Theodore M.: A SEQUENCE-STRATIGRAPHIC FRAMEWORK FOR THE ZEBRA NAPPE, SOUTHERN NAKLUFT MOUNTAINS, NAMIBIA

44-3 8:35 AM Botterill, Scott E.; Chen, Qi; Duvall, Michael; Gingrich, Murray K.; Kugler, Jared C.; Zhang, Wenbo; Zonneveld, John-Paul: MIXED SILICICLASTIC-CARBONATE DEPOSITION ON A LOWER CAMBRIAN COASTLINE: HOTIA / PEYTO FORMATION, GOG GROUP, ALBERTA, CANADA

44-4 8:45 AM Rendall, Benjamin*; Bachtel, Steven L.; Kerans, Charles: MIXED CARBONATE-SILICICLASTIC SEDIMENTATION AND ACCOMMODATION TRENDS IN THE BUG SCUFFLE LIMESTONE, SACRAMENTO MOUNTAINS, NM

44-5 9:05 AM Johnson, Elizabeth A.*; Smith, M. Elliot; Umhoefer, Paul J.; Gianniny, Gary L.: PHOTOGRAMMETRY OF BIOHERM EXPRESSION AND ITS INFLUENCE ON PENNSYLVANIAN CYCLOSTRATIGRAPHY, PARADOX BASIN, UTAH

44-6 9:20 AM Zonneveld, John-Paul*; Zaim, Yahdi; Aswan, Aswan; Rizal, Yan; Hascaryo, Agus Tri; Fortuin, Anne R.; Ciochon, Russell; Larick, Roy; Gunnell, Gregg F.: EVOLUTION OF THE PLEISTOCENE PALAEO-KAMBINARU DELTA; EASTERN SUMBA, EAST NUSA TENGGARA, INDONESIA

44-7 9:35 AM BREAK

44-8 9:50 AM Li, Wenjie*; Chen, Jitao; Zhang, Yuandong; Yuan, Wenwei: UPPER ORDOVICIAN SLUMP STRUCTURES IN WESTERN ZHEJIANG PROVINCE, SOUTH CHINA AND THEIR GEOLOGICAL IMPLICATIONS

44-9 10:05 AM Dong, Lin*; Ma, Haoran; Peng, Yongbo; Sun, Yuanlin; Shen, Bing: CARBONATE ASSOCIATED SULFATE (CAS) COMPOSITION OF CAMBRIAN RIBBON ROCKS AND RETHINKING THE VACiCITY OF CAS METHOD

44-10 10:20 AM Lasemi, Yaghoub*: HIGHSTAND STORM DOMINATED MIXED SILICICLASTIC-CARBONATE SYSTEM ACROSS A RAMP PLATFORM, THE CAMBRIAN GALESVILLE-IRONTON SUCCESSION IN THE ILLINOIS BASIN

11:20 AM CONCLUDING REMARKS

SESSION NO. 18

T185. Features, Processes, and Emplacement of Melted Rock on the Earth and Planets—A Session in Honor of Christopher W. Hamilton, Recipient of the MGPV Early Career Award (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Planetary Geology Division; Mineralogical Society of America; GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division)

8:00 AM, Indiana Convention Center, Room 243

Jacob E. Bleacher, Marie J. McBride, Andrew P. de Wet and Sarah A. Fagents, Presiding

8:00 AM OPENING REMARKS AND AWARD PRESENTATION

18-1 8:10 AM Hamilton, Christopher W.*: TERRESTRIAL ANALOGS TO PLANETARY VOLCANISM: IMPLICATIONS FOR THE ORIGINS OF FLOOD BASALT LAVA FLOWS ON MARS

18-2 8:30 AM Neish, Catherine D.*; Cannon, Kevin M.; Tornabene, Livio L.; Zanetti, Michael; Pilles, Eric; Young, Kelsey E.: EVIDENCE FOR GLASS-RICH SURFACES ON LUNAR IMPACT MELT DEPOSITS (Invited Presentation)

18-3 8:50 AM Williams, David A.*: KOMATIITES AS AN ANALOG TO UNDERSTAND LARGE VOLCANIC FLOW FIELDS IN THE SOLAR SYSTEM

18-4 9:05 AM Hurwitz Needham, Debra*; Bleacher, Jacob E.; Parcheta, Carolyn: TRACKING AN ACTIVE ERUPTION FOR INSIGHT INTO THE DYNAMICS BEHIND PLANETARY VOLCANIC FEATURES

18-5 9:20 AM Bleacher, Jacob E.*; Hurwitz Needham, Debra; Parcheta, Carolyn; Hamilton, Christopher W.; Scheidt, Stephen P.; Gany, W. Brent; Whelley, Patrick: THE CONSTRUCTION OF LAVA CHANNEL ISLANDS WITHIN BASALTIC FLOWS

18-6 9:35 AM Crown, David A.*; Scheidt, Stephen P.; Berman, Daniel C.: VOLCANIC GEOLOGY OF THE WESTERN FLANK OF ALBA MONS, MARS

18-7 9:50 AM McBride, Marie J.*; Horgan, Briony; Lawrence, Samuel J.: SPECTRAL ANALYSIS OF EXPLOSIVE AND EFFUSIVE VOLCANISM IN THE MARIUS HILLS VOLCANIC COMPLEX

18-8 10:05 AM Bennis, Kadie*: Graettinger, Alison: RECONSTRUCTING THE SUBAQUEOUS PHREATOMAGMATIC ERUPTION AT THE 71 GULCH VOLCANO, WESTERN SNAKE RIVER PLAIN, IDAHO


18-10 10:35 AM Sakimoto, Susan E.H.*; Gregg, Tracy K.P.: LAVA FLOWS AND INTRUSION EFFECTS ON THE THERMAL VIABILITY OF VOLATILE LAYERS

18-11 10:50 AM Mattsson, Tobias*: Burchardt, Steffi; Almovist, Bjarne S.G.; Galland, Olivier; Ronchin, Erika; Palma, Octavio J.: MAGMA

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SESSION NO. 19

**T186. Celebrating the Sedimentary Legacy of Dr. Robert H. Dott, Jr., Part I (GSA Sedimentary Geology Division; GSA History and Philosophy of Geology Division)**

8:00 AM, Indiana Convention Center, Sagamore Ballroom 7

Marjorie A. Chan, Joanne Bourgeois and Steven G. Drieses, Presiding

08:00 AM INTRODUCTION

19-1  8:15 AM  Clary, Renee M.; Bourgeois, Joanne; Rosenberg, Gary D.: WE ARE MADE BY HISTORY: ROBERT H. DOTT, JR. (1929-2018) AND THE IMPORTANCE OF LOOKING BACKWARDS (Invited Presentation)

19-2  8:30 AM  Rosenberg, Gary D.: LESSONS LEARNED: BOB DOTT AND THE ETHICS OF DEEP TIME

19-3  8:45 AM  Blakey, R.C.; Blodgett, Robert H.; Parrish, Judith Totman*: NORTH AMERICAN PHANEROZOIC PALEOGEOGRAPHY: BOB DOTT INFLUENCES ON RECONSTRUCTING ANCIENT LANDSCAPES (Invited Presentation)

19-4  9:05 AM  Dalziel, Ian W.D.; Bourgeois, Joanne: CONTRIBUTIONS OF ROBERT H. DOTT JR. TO UNDERSTANDING OF THE SOUTHERN ANDES AND THE SCOTIA ARC


9:50 AM BREAK

19-7  10:05 AM  Chan, Marjorie A.; Bourgeois, Joanne; Aalto, Kenneth R.; Niem, Alan: BOB DOTT’S CONTRIBUTIONS TO TECTONIC HISTORY AND SEDIMENTARY GEOLOGY IN SOUTHWESTERN OREGON

19-8  10:20 AM  Tikoff, Basil*; Housen, Bernard; Kahn, Maureen: DETRITAL ZIRCON AND PALEOMAGNETIC DATA FROM THE GOLD BEACH TERRANE SUPPORT BAJA BC HYPOTHESIS

19-9  10:35 AM  Gianniny, Gary L.*: SEDIMENTARY STRUCTURES- A LOVE AFFAIR WITH MOVING SAND; INSIGHTS FROM THE WORK OF ROBERT H. DOTT JR

19-10  10:50 AM  Leithold, Elana L.; Wegmann, Karl W.: EPIodic SEDIMENTATION AND THE STRATIGRAPHIC RECORD—A LEGACY OF BOB DOTT’S MUSINGS, AND AN EXAMPLE FROM HOLOCENE LACUSTRINE SEDIMENTS IN WESTERN WASHINGTON

19-11  11:05 AM  Fastovsky, David E.; Montellano-Ballesteros, Marisol; Wilson, Gregory P.; Fricke, Henry: DEPOSITIONAL SETTING OF THE DINOSAUR-BEARING EL DISECADO MBR., EL GALLO FM., LATE CRETACEOUS, BAJA CALIFORNIA, MEXICO: EPIodic CLASTIC SEDIMENTATION IN THE DOTT TRADITION

11:20 AM Farrell, James*; Karson, Jeffrey: 4D MORPHOMETRY OF TRANSIENT TUMULI IN BASALTIC LAVA FLOW EXPERIMENTS

11:20 AM Whelley, Patrick*; Garry, W. Brent; Young, Kelsey E.; Kruse, Sarah; Esmaeili, Sanaz; Jazayeri, Sajad; Bell, Ernest R.; Richardson, Jacob: LIDAR SURVEYS OF LAVA TUBES IN LAVA BEDS NATIONAL MONUMENT

SESSION NO. 20

**T187. Global Tectonics in the Solar System: Connections to the Planetary Interiors: A Tribute to Kevin Burke**

8:00 AM, Indiana Convention Center, Sagamore Ballroom 6

A.M. Celâl Şengör, John F. Dewey, Leigh H. Royden and Sean C. Solomon, Presiding

08:00 AM INTRODUCTORY REMARKS

20-1  8:15 AM  Şengör, A.M. Celâl*; Lom, Nalan; Zabò, Cengiz; Sunal, Gürsel; Sançar, Taylan: PALAEOTETHYAN MARGIN OF GONDWANA-LAND WAS AN EXTENSIONAL ARC

20-2  8:30 AM  Liu, Yiduo*: Suppe, John: 3-D MAPPING OF THE REMNANT SLABS THE “PALEO-PACIFIC PLATE” IN THE LOWER MANTLE UNDER EAST ASIA AND IMPLICATIONS FOR PLATE RECONSTRUCTION OF THE MESOZOIC EAST ASIA

20-3  8:45 AM  Chatterjee, Sankar*; Scotese, Christopher; Sharma, Mukund: THE DANCE OF INDIA IN THE SUPERCONTINENT CYCLES: ACCRETION, ASSEMBLY, DISPERSAL, AND REASSEMBLY OF PENINSULAR INDIA DURING THE PRECAMBRIAN, AND THE EVOLUTION OF LIFE

20-4  9:00 AM  Jewell, Nicole*; Yin, An: INVERTED METAMORPHISM ALONG THE WEST-DIRECTED AND ISOCLINALLY FOLDED BASAL THRUST SHEAR ZONE OF THE PALEOPROTEZOIC (~2.0 GA) LIMPOPO OROGENIC BELT, SOUTHERN AFRICA

20-5  9:15 AM  Lom, Nalan*; Şengör, A.M. Celâl; Polat, A.: CRATON FORMATION DOES NOT REQUIRE TOTAL REMOVAL OF UPPER CRUST

20-6  9:30 AM  O’Farrell, Keely*; Trim, Sean; Butler, S.L.: EFFECT OF COMPOSITION DEPENDENT PROPERTIES ON SURFACE MOBILITY IN THE EARLY EARTH

20-7  9:45 AM  Artemieva, Irina M.*; Thybo, Hans; Cherepanova, Yulia: THE CRATONIC MANTLE, ISOPYCNICITY, AND KIMBERLITE PROVINCES

20-8  10:00 AM  Byrne, Paul K.*; Ghail, Richard C.; Şengör, A.M. Celâl; James, Peter B.; Klimczak, Christian; Solomon, Sean C.: THE GLOBALLY FRAGMENTED, MOBILE LITHOSPHERE OF VENUS MAY RESEMBLE THE PERMOBILE TECTONIC REGIME OF ARCHEAN EARTH

20-9  10:15 AM  Karson, Jeffrey*; Brandsdöttir, Bryndís; Einarsson, Pàll; Farrell, James; Horst, Andrew J.: TRANSFORM FAULTS IN THICK, ANISOTROPIC OCEANIC CRUST OF ICELAND: EVOLUTION OF STRUCTURES ASSOCIATED WITH OBLIQUE TO PARALLEL PLATE MOVEMENT

20-10  10:30 AM  Thybo, Hans*; Shulgin, Alexey; Kraft, Helene; Vinik, Lev: TOPOGREENLAND: LITHOSPHERIC STRUCTURE AND TOPOGRAPHY IN CENTRAL-EASTERN GREENLAND


4–7 November • Indianapolis, Indiana, USA
SESSION NO. 21
D1. Advances in Geoarchaeology (Posters)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM

Booth #

21-1 1 Fadem, Cynthia; Fishback, Andrew*; Egeland, Charles; Byerly, Ryan: TAPHONOMIC INVESTIGATIONS AT OLDUVAI GORGE, TANZANIA: CURRENT PROGRESS & DIRECTIONS

21-2 2 Portenga, Eric W.*; Murray, Kendra E.; Bhattachar, Saroj; Bird, Michael I.; Corbett, Lee B.; Bierman, Paul R.; Caffee, Marc W.; Thomson, Stuart N.; Fu, Xiao; Li, Bo: INVESTIGATING LANDSCAPE RESPONSE TO HUMAN ARRIVAL TO AUSTRALIA AND ANTHROPOGENIC FIRE USING COSMOGENIC ISOTOPES AND LOW-TEMPERATURE THERMOCRONOMETERS

21-3 3 Thompson Jobe, Jessica A.*; Clark, Julia K.; Taylor, William T.T.; Bayarsaikhan, Jamswanj; Putnam, David E.: LATE-PLEISTOCENE AND HOLOCENE GEOARCHAEOLOGY OF THE DARKHAD BASIN, MONGOLIA: IMPLICATIONS FOR HUMAN SETTLEMENT PATTERNS

21-4 4 Riddick, Nicholas L.*; Boyce, Joseph I.; Sahoglug, Vasif; Erkanal, Hayat: MICRO-XRF GEOCHEMICAL RECORD OF CHANGING COASTAL ENVIRONMENTS AT PREHISTORY CHINESE TEPE, TURKEY

21-5 5 Parker, Wesley G.*; Yanes, Yurena; Mesa-Hernández, Eduardo; Hernández-Marrero, Juan Carlos; Pais, Jorge; Surge, Donna: SCALE OF AGE-MIXING IN PREHISTORIC SHELL MIDDENS IN THE CANARY ISLANDS, SPAIN

21-6 6 Schneider, Samuel Grant*; Jol, Harry M.; Zabiela, Gintautas; Daubaras, Mantas; Beck, Joseph D.; Fuerstenberg, Madeline Mae; Kofman, Chloe Copeland: SUBSURFACE IMAGING OF BILIONIAI HILFORT, LITHUANIA

21-7 7 Beck, Joseph D.*; Schneider, Samuel Grant; Fuerstenberg, Madeline Mae; Kofman, Chloe Copeland: Jol, Harry M.; Freund, Richard A.; Reeder, Philip P.; Jarockis, Romas; Kujelis, Gedrius: GROUND PENETRATING RADAR SURVEY AT KROŠIŠKIAI MANOR IN ROKŠIŠKIŲ, LITHUANIA

21-8 8 Fuerstenberg, Madeline Mae*; Jol, Harry M.; Freund, Richard A.; Jarockis, Romas; Kujelis, Gedrius; Reeder, Philip P.; Beck; Joseph D.; Kofman, Chloe Copeland; Schneider, Samuel Grant: GROUND PENETRATING RADAR IMAGING OF THE TRAKAS HOLOCAUST MASS GRAVE, LITHUANIA

21-9 9 Geiger, Cijetan Gregor Felix*: 3D-DOCUMENTATION OF GEOLOGICAL STRUCTURES IN SUBTERRANEAN ARCHAEOLOGY

21-10 10 Fadem, Cynthia; Johnson, Cora B.*; Srethna, Nishchal; Ryan, Susan: GEOARCHAEOLOGY & PALEOHYDROLOGY OF THE NORTHERN CHACO OUTLiERS PROJECT: PRELIMINARY RESULTS

21-11 11 Schott, Amy M.*; Luna Golya, Gregory: ALLUVIAL TERRACE DEPOSITION AND SOIL FORMATION IN KEET SEEL CANYON, NAJAYO NATIONAL MONUMENT

21-12 12 Edwards, Alexandra R.; Dvoracek, Doug; Hunt, Alice; Semon, Anna; Thomas, David Hurst; Spevakman, Robert J.: LEAD ISOTOPE AND XRF ANALYSES OF SPANISH COLONIAL BRONZE BELLS

21-13 13 Bradley-Lewis, Neeshell*; Cowan, Ellen A.; Seramur, Keith C.; Costa, January W.: RECONSTRUCTION OF HISTORIC INFRASTRUCTURE AT INGLESIDE PLANTATION, LINCOLN COUNTY, NC USING GPR AND ARCHIVAL RESEARCH

21-14 14 Brooks, William E.*: LOCATIONS OF CINNABAR-MERCURY OCCURRENCES IN PERU

SESSION NO. 22

T31. Environmental Impacts Studies for Energy Resources (Posters) (GSA Energy Geology Division; GSA Environmental & Engineering Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM

Booth #

22-1 15 Brum, Jared*; Schlegel, Christopher; Burke, Michelle; Krekel, Mark P.S.: A REFLECTIVE SPECTROSCOPY INVESTIGATION OF GASOLINE, DIESEL, AND JET FUEL-A IN LABORATORY AND COLD WEATHER ENVIRONMENTS: IMPLICATIONS FOR AGE MODELS, DETECTION AND QUANTIFICATION

22-2 16 Lebovitz, Natalie R.*; Bitner, Joshua; Shriner, Jason; Coats, Sean: GROUNDWATER TREATMENT METHODS: THE EFFECTIVENESS OF REMEDIATION SYSTEMS ON PETROLEUM IMPACTS

22-3 17 Xu, Xingyu*: EVALUATION METHOD AND PRACTICE OF ENVIRONMENTAL CARRYING CAPACITY OF OIL AND GAS DEVELOPMENT IN CHINA

22-4 18 Mundell, Hailey Nicole*; Shuller-Nickles, Lindsay: EVALUATION OF SPIN ORDERING IN FE-DOPED HOLLANDITE: IMPLICATIONS FOR NUCLEAR WASTE FORMS

22-5 19 Wigger, Natalie E.*; Faulds, James E.; Hampton, Samuel J.; Borella, Josh W.; Chamberfort, Isabelle: FAVORABLE STRUCTURAL SETTINGS FOR POTENTIAL GEOTHERMAL UPWELLINGS IN THE CENTRAL TAPO VOLCANIC ZONE, NEW ZEALAND

22-6 20 Pilewski, John D.; Sharma, Shikha*; Agrawal, Vikas; Hakala, J. Alexandra; Stuckman, Mengling: UNDERSTANDING IN-SITU FLUID-ROCK REACTIONS IN SHALES USING HIGH TEMPERATURE-PRESSURE REACTORS

22-7 21 Kee, M. Tyler*; Ruhl, Laura S.; Ronza, Jason; Jewell, Robert D.; Poilock, Erik D.: LANDFILLING COAL COMBUSTION RESIDUALS: GEOCHEMICAL MOBILITY AND FATE

22-8 22 Petela, Valerie*: Varadharajan, Charulak; Jordan, Preston D.: ANALYSIS OF TDS CONCENTRATION IN RELATION TO OIL AND GAS PRODUCED WATER DISPOSAL PONDS IN KERN COUNTY, CALIFORNIA

SESSION NO. 23

T34. Unconventional Energy Resources (Posters) (GSA Energy Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM

Booth #

23-1 23 Williams, Spencer*: UNDERSTANDING THE C-S-FE SYSTEMATICS OF THE MARCELLUS FORMATION

23-2 24 Shabani, Babak*; Vilcaez, Javier: A NEW TOUGHRACET MODULE TO SIMULATE GEOLOGICAL CARBON STORAGE UNDER BIOTIC CONDITIONS


23-4 26 Stone, Grace L.*; Gottardi, Raphael: A GEOCHEMICAL ANALYSIS OF THE TUSCALOOSA MARINE SHALE (UPPER CRETACEOUS) CORE RECOVERED FROM EADS POITEVENT ET AL. #1

23-5 27 Tao, Xiaowan*; Li, Jianzhong; Hou, Lianhua: CARBON ISOTOPIC REVERSALS OF COAL-DERIVED GASES DUE TO MIXING OF PRIMARY AND SECONDARY PRODUCTS

23-6 28 Zhang, Kun*: Song, Yan; Jia, Chengzao; Jiang, Shu; Jiang, Zhenxue; Huang, Yizhou; Liu, Weiwei; Wen, Ming; Liu, Tianlin; Xie, Xuelian: SEQUENCE STRATIGRAPHIC DIVISION METHOD OF HYDROTHERMAL SHALE: AN EXAMPLE OF THE LOWER CAMBRIAN SHALE OF YANGTZE REGION IN XIWU BASIN
<table>
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<th>Authors</th>
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<td>Liu, Yuyang*; Pan, Mao</td>
<td><strong>SUNDA NO. 24</strong>&lt;br&gt;D. Geology and Health (Posters)</td>
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| **STUDY OF THE DIFFERENCES BETWEEN UPPER DEVONIAN NEW ALBANY SHALE, ILLINOIS BASIN**
Liu, Xiaoxue*; Jiang, Zhenxue; Zhang, Kun; Wei, Lin; Huang, Yizhou; Liu, Tianlin; Liu, Xiaoxue; Wang, Xing | 23-21 |
| **DOES PORE SPACE WITHIN BAKKEN SHALE CHANGE WITH MATURITY?**
Teng, Juan | 23-10 |
| **ROCK MECHANICAL PROPERTIES VARIATION IN THE SEQUENCE STRATIGRAPHIC CONTEXT OF THE UPPER DEVONIAN NEW ALBANY SHALE, ILLINOIS B**
AIrowae, Mohammad A.; Mastalerz, Maria; Brassell, Simon C.; Pratt, Lisa M. | 23-11 |
| **COMPARING SOURCE ROCK MATURITY WITH PORE SIZE DISTRIBUTION AND FLUID SATURATION IN THE BAKKEN-THREE FORKS PETROLEUM SYSTEM OF THE DIVIDE COUNTY, WILListon B**
Adeyilola, Adedoyin*; Nordeng, Stephan | 23-12 |
| **ENRICHMENT MECHANISM OF MARINE SHALE GAS IN ANTICLINES: A CASE STUDY OF THE SOUTHERN SICHUAN BASIN AND XIWU BASIN IN THE YANGTZE REGION**
Wen, Ming* | 23-13 |
| **ANALYSIS OF NITROGEN SOURCES FOR LOWER CAMBRIAN SHALES WITH COMPLEX TECTONIC BACKGROUNDS**
Zhang, Kuns; Song, Yan; Jia, Chengzao; Jiang, Zhenxue; Jiang, Shu; Huang, Yizhou; Wen, Ming; Liu, Tianlin; Liu, Xiaoxue; Wang, Xing | 23-14 |
| **MECHANISMS OF ORGANIC MATTER ENRICHMENT AND SOURCE OF SILICEOUS MINERALS IN UPPER ORDOVICIAN-LOWER SILURIAN SHALES FROM THE UPPER AND LOWER YANGTZE REGION OF SOUTHERN CHINA**
Ren, Dazhong* | 23-15 |
| **STUDY OF THE DIFFERENCES BETWEEN THE DYNAMIC AND STATIC ELASTIC MECHANICS OF TERRESTRIAL SHALE OIL RESERVOIRS AS WELL AS THEIR RESPONSE CHARACTERISTICS**
Edgin, Matthew*; Kaszuba, John; Dewey, Janet; Longman, Mark | 23-16 |
| **WATER-ROCK INTERACTION IN A GAS SHALE: EFFECTS OF STIMULATION FLUID ON MINERALOGY AND POROSITY IN THE PRESENCE OF FORMATION WATER**
Han, Guolei*; Castro, M. Clara; Larson, Tol; Nicot, Jean-Philippe; Hall, Chris M.; Mickler, Patrick | 23-17 |
| **COMPARTMENTALIZATION OF THE EAGLE FORD SHALE, SOUTH TEXAS – A NOBLE GAS INVESTIGATION**
Agrawal, Vikas*; Sharma, Shikha | 23-18 |
| **SHOULD THE PHYSICO-CHEMICAL PROPERTIES OF SHALE AND KEROGEN BE MODELLING USING KEROGEN “TYPE”?**
Wang, Xing; Jiang, Zhenxue; Zhang, Kun; Wei, Lin; Wen, Ming; Huang, Yizhou; Liu, Xiaoxue; Fan, Shichao | 23-19 |
| **VERTICAL SEALING MECHANISM OF SHALES AND ITS EFFECT ON SHALE GAS ENRICHMENT: A CASE STUDY OF MARINE SHALES FROM SICHUAN BASIN IN THE UPPER YANGTZE AREA IN SOUTH CHINA**
Liu, Xiaoxue*; Jiang, Zhenxue; Zhang, Kun; Wei, Lin; Huang, Yizhou; Wen, Ming; Wang, Xin; Xuan, Qixiang; Liu, Tianlin; Xie, Xuelian | 23-20 |
| **ORIGIN OF THE URANIUM ELEMENT IN THE EARLY CAMBRIAN AND ITS GEOLOGICAL SIGNIFICANCE IN SHALE GAS EXPLORATION: A CASE STUDY OF THE LOWER CAMBRIAN SHALES IN THE YANGTZE AREA IN SOUTH CHINA**
Liu, Yuyang*; Pan, Mao | 23-21 |
| **PETREL2ANSYS: ACCESSIBLE SOFTWARE FOR SIMULATION OF CRUSTAL STRESS FIELDS USING CONSTRAINTS PROVIDED BY MULTIPLE 3D MODELS THAT EMPLOY DIFFERENT TYPES OF GRIDS**
Liu, Xiaoxue*; Jiang, Zhenxue; Zhang, Kun; Wei, Lin; Huang, Yizhou; Wen, Ming; Wang, Xin; Xuan, Qixiang; Liu, Tianlin; Xie, Xuelian | 23-22 |
| **QUARTZ CEMENT ORIGINS AND ITS IMPACTS ON STORAGE PERFORMANCE IN TIGHT SANDSTONES RESERVOIR**
Liu, Dengke* | 23-23 |
| **ESTIMATES OF UNDOCUMENTED AND ABANDONED WATER WELLS IN MCDONOUGH COUNTY, ILLINOIS**
Bennett, Steve* | 24-1 |
| **REFLECTIVE SPECTROCOPY OF HUMAN MATERIALS, GEOLOGIC MATERIALS, AND A REVIEW OF GEOLOGIC SETTINGS: A NEW INVESTIGATIVE APPROACH TO INVESTIGATE VIOLENT TERRORIST ACTIVITIES**
Ryan, Lydia*; Krekeler, Mark P.S.; Burke, Michelle; Sparks, Joseph | 24-3 |
| **DIRT, BLOOD, AND CLOTHING: REFLECTIVE SPECTROCOPY INVESTIGATIONS OF HUMAN BLOOD ON GEOLOGIC AND OTHER SUBSTRATES TO SUPPORT FORENSIC INVESTIGATIONS**
Dalawala, Mohammad A.*; Mastalerz, Maria; Brassell, Simon C.; Pratt, Lisa M. | 24-4 |
| **PRELIMINARY REFLECTIVE SPECTROSCOPY RESULTS FOR RAPID IDENTIFICATION OF MINERAL-BASED MAKEUP PRODUCTS AND ASSOCIATED PERSONAL CARE PRODUCTS IN THE CONTEXT OF FORENSIC AND HEALTH INVESTIGATIONS**
Huang, Yizhou; Liu, Xiaoxue; Wang, Xin | 24-5 |
| **MORPHOLOGY OF RECRYSTALLIZED VS NEOCRYSTALLIZED FIBROUS AMPHIBOLE: IMPLICATIONS FOR POTENTIAL HEALTH RISK**
Renkes, Natalie*; Buck, Brenda J.; Metcalf, Rodney V. | 24-6 |
| **IMPROVEMENT OR DEGRADATION OF WATER QUALITY? A FIELD SITE VISIT TO FOREST RESERVES NEAR KAMPALA, UGANDA, FIVE-YEARS AFTER INITIAL INVESTIGATION**
Jovanelly, Tamie J.* | 25-1 |
| **ESTABLISHING A PRIVATE HYDROGEOLOGY-HEALTH MAP IN COLOMBIA: FAR FROM RHETORIC, CLOSER TO REALITY**
Martinez-Sacristan, Hernando*; Martinez-Mojica, Liza C. | 25-2 |
| **RECORDING THE SEQUENCE STRATIGRAPHIC CONTEXT OF THE UPPER CAMBRIAN SHALE BULGE IN THE SOUSSE AREA IN THE SOUTH OF TUNISIA**
Rippin, Jacob | 25-3 |
| **NITRATE CONCENTRATIONS IN DIFFERENT SOIL COMPOSITIONS IN A SATURATED RIPARIAN BUFFER ZONE**
Maloney, Thomas | 25-4 |
| **MODELLING DIFFUSION OF NITROGEN SOURCES IN DIFFERENT TYPES OF SOILS**
Cullen, Cecilia*; Anders, Alison; Druhan, Jennifer | 26-1 |
DRAINAGE NETWORK EVOLUTION IN THE CENTRAL LOWLANDS

26-2 56 Sak, Peter B.; Miller, Scott R.; Ma, Lin; Gaillardet, Jerome: FLUVIAL KINCKPINTS AND TRANSIENT EROSION ON BASSE-TERRE, GUADALOUPE, WITH IMPLICATIONS FOR ESTIMATES OF CHEMICAL WEATHERING

26-3 57 Feldman, Anthony D.: SOIL CHRONOSEQUENCE STUDY OF LONG VALLEY, NEW MEXICO: INSIGHTS INTO THE DEVELOPMENT OF SOILS ON PLEISTOCENE AND HOLOCENE MORAINIC CATENAS

26-4 58 Ellwein, Amy L.; McFadden, Leslie D.; McAuliffe, Joseph R.; Mahan, Shannon A.: LATE QUATERNARY SOIL DEVELOPMENT ENHANCES EOLIAN LANDFORM STABILITY, MOENKOPPI PLATEAU, SOUTHERN COLORADO PLATEAU, USA

26-5 59 Lord, Mark*; Miller, Jerry; Chambers, Jeanne; Board, David; Knight, Anna: CONTROLS ON GEOMORPHIC RESPONSES TO WILDFIRE IN RIPARIAN CORRIDORS OF MONTANE WATERSHEDS IN THE GREAT BASIN

26-6 60 Sheehan, Christopher E.*; Ward, Dylan: A CUESTA STORY: DECIPHERING THE ROLE OF A MIGRATING TRANSVERSE ESCARPMENT USING GEochRONOLOGICAL DATING AND REMOTE MONITORING SENSORS

26-7 61 Berberich, Samantha; Griffing, David H.*; Eppes, Martha Cary: MARBLE CORESTONE AND GRUS WEATHERING IN HUMID AND ARID CLIMATES

26-8 62 Balogun, Fatai O.*; Decampo, Daniel M.; Kabengi, Nadine: INVESTIGATING THE EFFECT OF AGING ON THE FATE AND TRANSPORT OF LEAD IN ARTIFICIALLY CONTAMINATED TROPICAL SOILS

26-9 63 Percy, Madelyn S.*; Gaynor, Sean; Benninger, Larry: THE EFFECT OF DUST DEPOSITION ON SOIL FERTILITY ON A TROPICAL OCEAN ISLAND, SAN CRISTOBAL, GALAPAGOS

SESSION NO. 27

T51. Planetary Aeolian Geology from Outcrop to Orbit: Nathan Bridges Memorial Session (Posters) (GSA Planetary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 3:30 to 5:30 PM

Booth #

27-1 64 Butkewius, John*; de Silva, Shanaka L.; Perkins, Jonathan: WIND SCULPTING OF PLANETARY SURFACES: CONSTRAINTS FROM SIMULATIONS AND PHYSICAL EXPERIMENTS ON AEOLIAN LANDSCAPES OF THE ARGENTINIAN PUNA

27-2 65 Craddock, Robert A.; Kling, Corbin L.; Tooth, Stephen; Morgan, Alexander M.; Roz, Rachel R.; Mielseki, Adam: TEMPORAL CHANGES IN LINEAR DUNES LOCATED IN THE SIMPSON DESERT, CENTRAL AUSTRALIA

27-3 66 Chojnacki, Matthew*; Silvestro, Simone; Vaz, David: BRIGHT-TONED MEGARIPPLE MIGRATION ON MARS

SESSION NO. 28

T59. Human Alterations to Landscape Connectivity (Posters) (GSA Quaternary Geology and Geomorphology Division; GSA Soils and Soil Processes Division; GSA Geoarchaeology Division; GSA International Interdisciplinary Interest Group)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 3:30 to 5:30 PM

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28-2 68 Lanier, Alexis A.*; Devereux, Kendra R.; Shabazz, Juwan; Race, Victoria; Chariton, Joshua; Wiesenberg, N.; Wiles, Gregory: USING TREE RING DATA AS A PROXY FOR SUMMER PRECIPITATION AND THE TIMING OF LAND USE CHANGES IN NORTHEAST OHIO

28-3 69 Dix, Monica*; Lewis, Amelia; Hill, Marcus; Maffe, Sophia; Sussman, Franklin; Schmidt, Amanda H.: SHORT-TERM STUDY OF THE IMPACT OF LAND USE ON CREEK DEVELOPMENT IN PLUM CREEK, OBERLIN OH

28-4 70 Galster, Joshua C.*; Lemanski, Carolina: DAM REMOVAL OF THE COLUMBIA DAM IN WESTERN NJ AND ITS EFFECTS ON DOWNSTREAM CHANNEL MORPHOLOGY

28-5 71 Jaffe, Micah*; Hampton, Samuel J.: CHANGES IN SEDIMENT SOURCES SINCE EUROPEAN COLONIZATION IN PORT LEVY, BANKS PENINSULA, NEW ZEALAND

28-6 72 Bhattacharjee, Suryendu*: Sarkar, Soumendu: GEOCHEMICAL AND SEDIMENTOLOGICAL INVESTIGATION OF UNUSUAL HEAVY MINERAL LAMINATION IN TIDAL FLAT OF CHANDIPUR, ODISHA, INDIA: PROBABLE INFLUENCE OF ANTHROPOLOGICAL ACTIVITY

28-7 73 Lohse, Molly*; Constantine, José Antonio; Thomas, Summer-Solstice: PATTERNS AND IMPACTS OF DEFORESTATION WITHINLOWLAND RIVER VALLEYS OF BORNEO
SESSION NO. 30

T71. Recruiting and Retaining K-16 Students through Field- and Laboratory-Based Geoscience Experiences (Posters) (GSA Geology and Society Division; GSA Geoscience Education Division; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Health Division; GSA Environmental & Engineering Geology Division; GSA Sedimentary Geology Division; Council on Undergraduate Research Geosciences Division; GSA Energy Geology Division; National Association of Geoscience Teachers)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM
Booth #

30-1 85 Gibson, Kate*; Bursztyn, Natalie; Carlin, Joseph: THE IMPLEMENTATION AND USE OF NEXT GENERATION SCIENCE STANDARDS-BASED TACTILE MODELS IN THE K-12 EDUCATIONAL SYSTEM

30-2 86 Petcovic, Heather L.*; Bertman, Steven B.; Ellis, Todd D.; Kaczmarek, Stephen; Koch, Kevin; Long, Valerie; Ruhi, Robert J.; Tinigin, Laura; Vellom, Paul: PATHWAYS TO SCIENCE TEACHING: INTEGRATING RESEARCH AND TEACHING EXPERIENCE FOR FUTURE K-12 SCIENCE TEACHERS

30-3 87 Khandaker, Nazrul I.*; Schleifer, Stanley; Sikder, Arif M.; Mahabir, Krishna; Aghedo, Ality; Cabyaro, Charen; Selby, Mildred M.; Ginindza, Gugu; Sanchez, Leonardo: RECRUITING AND RETAINING K-16 STUDENTS THROUGH FIELD- AND LABORATORY-BASED GEOSCIENCE EXPERIENCES

30-4 88 Khandaker, Nazrul I.*; Siddique, Shuayb; Dhanraj, Brandon; Sanichar, Zachary A.; Selby, Mildred M.; Ramnauth, Chabena; Deepan, Theresa; Singh, Yogeeta; Mahabir, Krishna; Singh, Sashi; Singh, Omadevi: NASA MAA (MUREP AEROSPACE ACADEMY) STEM PROJECT AT YORK COLLEGE: ENSURING FUTURE STEM PIPELINE

30-5 89 Heim, Noel A.*; Saltzman, Jennifer; Payne, Jonathan L.: SUMMER PALEOBIOLOGY RESEARCH EXPERIENCE FOR HIGH SCHOOL STUDENTS

30-6 90 Moore, Isabelle*; Hampton, Samuel J.; Kennedy, Ben: MAKING GEOLOGY ENGAGING: INTEGRATING A SAND VOLCANO MODEL INTO THE NEW ZEALAND EARTH AND SPACE SCIENCES CURRICULUM

30-7 91 Van Boening, Angela*; Riggs, Eric M.: GESTURES IN SITU: A COMPARISON OF GESTURES USED IN GEOLOGIC FIELD AND NON-FIELD SETTINGS

30-8 92 Budhan, Jasmin*; Khandaker, Nazrul I.; Schleifer, Stanley: WATER FLOW NET CHARACTERIZATION BY USING A TANK MODEL: PRELIMINARY OUTCOME

30-9 93 Stoffel, Jennifer L.; Schmidt, Rebecca L.; McCarville, Katherine*: UNEARTHING THE POTENTIAL GEOECOSCIENTIST: ENGAGING STUDENTS BIOGEOCHEMICAL FIELD BASED RESEARCH AND SERVICE IN THE CRITICAL ZONE

30-10 94 Tierney Cramer, Kate*; Kosloski, Mary Elizabeth; Neal, Ted; Tassier-Surine, Stephanie A.; Witzke, Brian J.; Cramer, Bradley D.: FILLING THE GEOSCIENCE STUDENT PIPELINE: UTILIZING NON-FIELD CAMP FIELD COURSES FOR RECRUITMENT AND RETENTION OF UNDERGRADUATE STUDENTS IN THE GEO SCIENCES

30-11 95 Allen, Ariyanna; Borja, Cindy; Brau, Timothy; Deanda, Cole; Doorlag, Megan; Older, Bradley; Passmore, Emily; Wolschlag, Kaitlyn; Ellis, Todd D.; Koch, Kevin; Long, Valerie; Petrovic, Heather L.; Vellom, Paul; Tinigin, Laura*: TEACHING NGSS-ALIGNED AUTHENTIC SCIENCE TO ELEMENTARY AND MIDDLE SCHOOL STUDENTS

30-12 96 Foster, Ashley Nicole*; Gibson, Sahra; Jiron, Stephanie; Moroz, Gabriela; Rodriguez Padilla, Alba M.: MATCHING SKILL TO NEED: A MULTI-INSTITUTIONAL APPROACH TO FIELD-BASED ENVIRONMENTAL SCIENCE

30-13 97 Fryar, Alan E.*; Hanley, Carol; Freeman, Rebecca L.; Sherman, Amanda R.: WIKKY (WATER IN INDIA AND KENTUCKY): INTEGRATING FIELD EXPERIENCES WITH AN ONLINE PLATFORM FOR HIGH SCHOOL CLASSES

30-14 98 Shami, Malek*; Ali, Zarnine; Abdurabu, Wedad; Khandaker, Nazrul I.; Schleifer, Stanley: LITHOLOGIC CONSTRAINTS ON THE HYDROLOGICAL PARAMETERS OF REGIONAL AQUIFERS IN THE IBB PROVINCE, WEST-CENTRAL REGION OF YEMEN (MIDDLE EAST)

30-15 99 Edge, Kenneth Brock*; Harris, J. Patrick; Cooper, Brian J.: IDENTIFICATION OF RARE EARTH ELEMENTS IN A NEPHELINE SYENITE WEATHERING PROFILE, SALINE COUNTY, ARKANSAS

30-16 100 Hassan, Muhammad Qumrul*; Karim, Mir F.; Khandaker, Nazrul I.: Raza, Jawoher: AN OVERVIEW OF SMARTWATER MANAGEMENT SYSTEM: STRATEGIC POTENTIAL IN BANGLADESH

30-17 101 Karim, Mir Fazul*; Hassan, Muhammad Qumrul; Khandaker, Nazrul I.: AHMED, Masud; Sayeed, Belal A.: THE STATUS OF ENGINEERING GEOLOGY: CONSTRAINTS ON INFRASTRUCTURE DEVELOPMENT IN BANGLADESH

30-18 102 Aghedo, Ality*; Tawde, Mangala; Khandaker, Nazrul I.: MICROBIAL DIVERSITY IN URBAN ENVIRONMENTS: CONCERN FOR ANTIBIOTIC RESISTANCE

30-19 103 Rohrbaugh, Rob*; Doser, Diane; Villalobos, Joshua: 2YC REU PROFILE OF THE 2019 UTEP ROCCS PROGRAM: A LEAPFROG RESEARCH EXPERIENCE FOR 2YC UNDERGRADUATE DEVELOPMENT … REAL RESEARCH, REAL CHALLENGES, REAL EXPERIENCE, REAL GROWTH

30-20 104 Maas, Benjamin J.*: UTILIZING YOUR SURROUNDINGS TO TEACH STUDENTS HYDROLOGY

SESSION NO. 31

T73. Beyond Pretty Pictures: The Role of Photography in Promoting Understanding and Learning in the Geosciences (Posters) (GSA Geoscience Education Division; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM
Booth #

31-1 105 Meado, Andrea L.*; Stefanov, William L.; Higgins, Melissa D.; Vandenbloemen, Lisa A.: EARTH SCIENCE ENGAGEMENT THROUGH ART AND ASTRONAUT PHOTOGRAPHY

31-2 106 Molnia, Bruce F.: GLACIER PHOTOGRAPHER TO DYNAMIC PROCESS INTERPRETER: COMBINING GROUND-, AERIAL-, AND SPACE-BASED IMAGERY TO DOCUMENT, VISUALIZE, AND COMMUNICATE MULTI-TEMPORAL GLACIER CHANGE

31-3 107 Sheffield, Sarah L.*; Lam, Adrianne R.; Bauer, Jennifer E.: MAKING GEOLOGY ACCESSIBLE THROUGH ENGAGING BLOGS: USING PHOTOS TO BRING THE OUTDOORS IN

31-4 108 Kivistowski, Chad Joseph*: GIGAMACRO ANNOTATED GIGAPANS FOR USE IN GEOSCIENCE EDUCATION: AN EXAMPLE FROM PINNACLE PEAK PARK, SCOTTSDALE, ARIZONA

31-5 109 Garcia, Pablo Ortega*: CREATIVE DESIGN IN VISUAL COMMUNICATION FOR VOCATIONAL SCIENCE EDUCATION

31-6 110 George, Sarah W.M.*; Ellins, Katherine K.; Eriksson, Susan C.: PHOTOGRAPHS AND SKETCHES IN TANDEM: A MULTIFACETED APPROACH TO FOCUSING THE UNTRAINED EYE (Invited Presentation)

31-7 111 Piatek, Jennifer L*: DOES 3-D MAKE IT BETTER? USING 3-D PRINTED TERRAIN MODELS TO ENHANCE UNDERSTANDING OF TERRAIN SHAPE AND FORMATION
SESSION NO. 32

T79. Showcase of Undergraduate Research Posters by 2YC
and 4YC Geoscience Students (Posters) (GSA Geoscience
Education Division; National Association of Geoscience Teachers;
National Association of Geoscience Teachers Geo2YC Division;
International Association for Geoscience Diversity)

9:00 AM, Indiana Convention Center, Halls J-K

Booth #

32-1 112 Cuevas, Santiago; Gallagher, Katie*; Stevens, Jenny; Van Cleave, Keith: THE MODERN LIBRARY: DIGITIZING HISTORIC PHOTOGRAPHS AND FIELD RECORDS OF THE UNITED STATES GEOLOGICAL SURVEY

32-2 113 Donovan, Grace C.; Hurtado, Alexandra M.*; Wieserich, Daniel J.: USING NATIONAL HYDROGRAPHY LINKED DATA TO BETTER UNDERSTAND WILDCARD AND SCENIC RIVER PROTECTIONS

32-3 114 Congo, Keira*; Hertzler, Hanna; Nelson, Greta; Schneiderman, Jill S.: A PROCEDURE FOR ISOLATING MICROPLASTIC PARTICLES BASED ON EVALUATION OF COASTAL DUNE SANDS FROM SANDY BEACH, BARNSTABLE, MASSACHUSETTS

32-4 115 Selzinger, Zenja*: ANALYZING THE GEOMAGNETISM OF THE THREE SOUTHERN SOUTHWESTERNS LOCATED ON EL PASO, TEXAS

32-5 116 Barkett, Sebastian D.*; Davis Todd, Carrie: BIOSTRATIGRAPHIC CORRELATION OF THE MEADVILLE SHALE IN SUMMIT COUNTY, OHIO

32-6 117 So, Rachel T.*: CARBONATE QUANTIFICATION BY DIFFUSE REFLECTANCE INFRARED FOURIER TRANSFORM (DRIFT) SPECTROSCOPY

32-7 118 Culley, Alexa*; Cadieux, Sarah Beth: CONTROLLED MONITORING OF HYDRILLA IN LOWER LAKE, SWEET BRIAR COLLEGE VA

32-8 119 Jones, Natalie E.*; O’Halloran, Thomas L.; Enrak, Pragnya L.; Cadieux, Sarah Beth; Thomas, R. Quinn: TEMPORAL AND SPATIAL VARIABILITY OF SOIL CO2 FLUXES IN A RECENT CLEARCUT OF LOBLOLLY PINE IN CENTRAL VIRGINIA

32-9 120 Fellmy, Austin*: TRACE ELEMENT ANALYSIS OF QUARTZITE CLASTS FROM SESPE FORMATION AND SOURCE ROCKS FROM SOUTHEAST CALIFORNIA AND CENTRAL ARIZONA

32-10 121 Lentz, Marten J.*; Martin, Madeline M.; Guane, Steve: BATHYMETRIC MAPPING OF GLACIO-VOLCANIC LAKES IN GARIBALDI PROVINCIAL PARK, BRITISH COLUMBIA

32-11 122 Johnson, Nick*: Barnhart, William D.: STRAIN PATTERNS IN THE MAKAR ANCRETIONARY Prism, PAKISTAN FROM SURFACE FAULTING

32-12 123 Shepherd, Ashton*: Johnson, Christopher: HEAVY METALS ON TRAILS AND MINE DUMPS, JACOB CITY, TOOELE, UT, UTAH

32-13 124 Lamborn, Gage Richardson*: MAPPING OF EOCENE INTRUSIONS WITHIN CRETACEOUS STRATA SUGGESTS LATERAL EMBLACEMENT

32-14 125 Mancini, Gregory J.*; Johnson, Christopher: THE YEARLY EFFECT OF SALTY STORM WATER ON A KEY WETLANDS HABITAT

32-15 126 Clifford, Thomas*; Arthurs, Leilani: A CAMPUS WALK TO PROMOTE A DEEPER UNDERSTANDING OF GEOLOGIC TIME

32-16 127 Cunico, Emmy Jo*: DETERMINING STRAIN AXIS DIRECTION FROM RECENT TECTONIC EPISODES IN THE EL PASO TEXAS REGION BY COMPARING THE FRACTURE ORIENTATION OF MULTIPLE EOCENE INTRUSIONS

32-17 128 McNeely, Cameron Jean*; Kuehn, Stephen C.; Frye, James K.; Rose, Jared W.: USING VOLCANIC ASH TO CONSTRAINT THE HISTORY OF GLACIAL-INTERGLACIAL LAKE LEVEL CHANGES AT SUMMER LAKE, PLUVIAL LAKE CHEWAWACAN, OREGON

32-18 129 Frangos, Sean*; Rodrigues, Lisa J.: MORE THAN 15 YEARS OF CHANGE IN HEAVY METAL CONTAMINATION IN OYSTER AND CORAL TISSUE FROM KANEOHE BAY, HI

32-19 130 Brooks, Ty C.*; Yavuzoguz, Ozgur; Jacobs, Peter M.; Ejnik, John W.; Manley, Michael; Bhattacharyya, Prajukti: SHAPE, SIZE, AND CHEMICAL PROPERTIES OF TEPHRAS FROM 2010 EYJAFJALLJÖKULL AND 2014-15 BÄRDVARDBUNGA ERUPTION

32-20 131 Bell, Austin*: Zanno, Lindsay: NEW TURTLE SPECIMENS FROM THE MORENO HILL AND MENEEFEE FORMATIONS (TURONIAN-CAMPANIAN) OF NORTHWESTERN NEW MEXICO

32-21 132 Giraldo, Daniel F.*; King, M. Ryan; Smith, Joshua A.; Zanno, Lindsay: A PROBABLE DEINOSUCHUS TRACK: A FIRST RECORD FROM THE UPPER CRETACEOUS MENEEFEE FORMATION, SAN JUAN BASIN, NORTHERN NEW MEXICO

32-22 133 Larson, Megan M*.; Becker, Sophia; Randolph, Quincy: SOURCES OF NUTRIENT POLLUTION IN FALLS LAKE

32-23 134 Crouch, Megan*: URBAN WATER SUPPLY VULNERABILITY

32-24 135 Ahumada, David*: Hartwig, Emily; Kosugi, Yoko; Page, Nicolina; Perna, Chris; Leonard, Karl W.: A PRESENT FROM THE PAST: SEDIMENTOLOGICAL INTERPRETATIONS OF LANDSCAPE DEVELOPMENT IN THE BUFFALO RIVER VALLEY

32-25 136 Lopez, Jamin*; Gani, M. Rojihen; Gani, Nahid D.: GEOLOGY AND HYDROCARBON EXPLORATION POTENTIAL OF BELIZE

32-26 137 Rickey, Ethan Taylor*: GEOLOGICAL ANALYSIS ON THE FLUCTUATION OF RADIATION WITHIN THE TOM MAYS MINE, EL PASO, TEXAS


32-28 139 Gilman, Sarah Kathleen*: SEISMIC STUDIES OF THE DEPTH EXTENT OF THE NORTH SISTER ANDESITE INTRUSION, WEST EL PASO, TEXAS

32-29 140 Karagiannis, Marianna M.*; Weber, J.C.; Conte, Maureen: ORIGINS OF DEEP SEA POLYSATURATED FATTY ACIDS ASSESSED USING COMPOUND SPECIFIC STABLE ISOTOPEs


32-31 142 Tomioka, A.*; Che, M.; Maselli, V.; Moore, A.; Mulaya, E.; Oppo, D.: SFM SEDIMENT FLUX ESTIMATION ON A TIDAL DELTA NEAR MBWENI, TANZANIA

32-32 143 Che, M.*; Maselli, V.; Moore, A.; Mulaya, E.; Oppo, D.; Tomioka, A.: STRATIGRAPHY OF A TIDAL DELTA NEAR MBWENI, TANZANIA

32-33 144 Frommer, Greg T.*; Sturmer, Daniel M.: SILICA SOURCING IN CHERT NODULES FROM THE LOWER PENNSYLVANIAN PORTION OF THE BIRD SPRING FORMATION, MOUNTAIN SPRINGS PASS, SPRING MOUNTAINS, NEVADA

32-34 145 Borello, Kathryn F.*; Nagel-Myers, Judith; Frank, Jeffery: SMILING DINOSAURS – GENDER BIASES IN THE PERCEPTION OF DINOSAURS AMONGST STUDENTS FROM K-12 TO COLLEGE UNDERGRADUATES

32-35 146 Olowoshile, Aishat*; Kukla, Tyler; Ibarra, Daniel E.; Mullins, Casey E.; Caves Rugenstein, Jeremy K.; Chamberlain, C. Page: RECONSTRUCTING LINKS BETWEEN CENOZOIC HYDROCLIMATE, AND ECOSYSTEM PARAMETERS IN THE JOHN DAY REGION, CENTRAL OREGON

32-36 147 McClain, Brandon*: Dahl, Robyn Mieko: MICROFOSSIL ANALYSIS OF LATE PLEISTOCENE PUGET LOWLANDS, WHATCOM COUNTY, WASHINGTON

32-37 148 Morin, Ashlynn*: Nowakowski, Samantha; Wehner, Karl; Huysken, Kristin T.: TEXTURAL AND MINERALOGICAL VARIATION OF THE NORTHBROOK PLUTON, ONTARIO, CANADA
D12. Hydrogeology (Posters)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 3:30 to 5:30 PM

Booth #

SESSION NO. 33

T105. A Showcase of Undergraduate Research in Hydrogeology (Posters) (GSA Hydrogeology Division; Council on Undergraduate Research Geosciences Division; GSA Karst Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 3:30 to 5:30 PM

Booth #

32-38 149 Mroz, Nathan*; Malone, Andrew G.O.: QUANTIFYING GLACIAL-CLIMATE INTERACTIONS AT HINTERISFERNER (AUSTRIAN ALPS) USING WIDELY AVAILABLE GLACIOLOGICAL DATA

32-39 150 Frye, James K.*; Kuehn, Stephen C.; Arrington, Eric S.; McNeely, Cameron Jean; Rose, Jared W.; Hostetler, Savannah JoAnne; Hostetler, Addison Jacob: DECIPHERING THE PYROCLASTIC ERUPTIVE HISTORY OF THE THREE SISTERS VOLCANIC CLUSTER, CASCADE ARC, OREGON, USA

32-40 151 Lewis, Charles T.*; Otenburg, Opal; Hutton, Simon; Hayden, Lorelei M.; Russo, Chris; Haley, Brian A.; de Silva, Shanaka; Carter, Deron T.: A TEAM-REU TO DEVELOP LABORATORY PROTOCOLS TO ENABLE THE U-SERIES DISEQUILIBRIA DATING OF GEOLOGICAL AND BIOLOGICAL SAMPLES USING PLASMA SPECTROMETRY

32-41 152 Hibberts, Stephanie J.*; Lazar, Kelly Best; Moysey, Stephen M.: IMMERSIVE TECHNOLOGY AND PLACE-BASED LEARNING TO PROMOTE CLIMATE CHANGE LITERACY IN THE MARSHALL ISLANDS

32-42 153 Gomez, Karla*; Myczek, Lauren; Salgado, Mariela; Stenberg, Nicholas; Person, Jeff J.; Boyd, Clint A.; Guenther, Merrilee F.: RECONSTRUCTION OF THE PALEOCENE ECOSYSTEM OF THE MEDORA SITE, BILLINGS COUNTY, NORTH DAKOTA, USING MICROFOSSILS

32-43 154 Bellamy, Timothy J.*; Young, Allison L.; Brett, Carlton E.: INTEGRATIVE CARBON ISOTOPE ANALYSIS OF THE LATE ORDOVICIAN, EDENIAN STAGE, KOPE FORMATION STRATOTYPE

32-44 155 Nordin, Alexandra*; van der Hoeven Kraft, Katrien J.: EXAMINING THE CORRELATION BETWEEN NATURE INTERACTION IN YOUTH AND UNDERSTANDING OF EARTH PROCESSES LATER IN LIFE


32-46 157 Miller, Leah Zeppelin*: A STUDENT’S PERSPECTIVE OF BEING DISABLED IN THE FIELD

32-47 158 Robbins, Mahinaokalani O.*: DETERMINING THE CHEMICAL AND PHYSICAL PROPERTIES OF LATE CRETACEOUS SHALE FORMATIONS IN THE EL PASO, TX AREA FOR CORRELATION WITH EOCENE INTRUSIONS

33-1 159 Vitale, Sarah A.*; Robbins, Gary A.; Romanowicz, Edwin: IDENTIFYING CROSS-WELL FRACTURE CONNECTIONS USING THE DISSOLVED OXYGEN ALTERATION METHOD

33-2 160 McKay, Jessica*; Lenczewski, Melissa; Leal-Bautista, Rosa: STRONTIUM ISOTOPE AND MAJOR ION GEOCHEMISTRY OF YALAHAU FRACURE ZONE WATERS, YUCATAN PENINSULA, MEXICO

33-3 161 Maher; Anna-Turi*; Smpkins, William W.; Trost, Jared J.; Witt, Alyssa; Berg, Andrew; Stark, James: GROUNDWATER FLOW AND GEOCHEMISTRY OF TILL CONFINING UNITS OVERLYING BURIED GLACIAL AQUIFERS: EXAMPLES FROM THE DES MOINES AND WADENA LOBES IN MINNESOTA

33-4 162 Timmons, Jeffrey S.*; Jefferson, Anne J.: SMALL SCALE (<10,000 KM²) ISOSCAPES REVEAL SPATIALLY VARIABLE WATER SOURCES FOR NORTHEASTERN OHIO PRECIPITATION, SURFACE WATER, AND GROUNDWATER

33-5 163 Yang, Jing*: Ye, Ming; Tang, Zhonghua; Jiao, Tian; Song, Xiaoyu; Pei, Yongzhen: A CLUSTER-BASED METHOD FOR UNDERSTANDING SPATIAL AND TEMPORAL PATTERNS AND CONTROLLING FACTORS OF GROUNDWATER GEOCHEMISTRY IN A REGIONAL AQUIFER

33-6 164 Ren, Wanli*; Dai, Zhenxue; Ma, Ziqi; Cao, Yang; Soltanian, Mohamad Reza: UPSCALING SOLUTE TRANSPORT IN SATURATED POROUS MEDIA FROM THE EXPERIMENT SCALE TO FIELD SCALE

33-7 165 Kuchta, Matthew*: BEDROCK INFLUENCE ON SOLUBLE PHOSPHORUS IN WEST-CENTRAL WISCONSIN SURFACE WATERS

33-8 166 Buszka, Tantent T.*; Reeves, Donald M.; Paulino, Andreia: CHARACTERIZATION OF SURFICIAL AQUIFER PROPERTIES FOR INVESTIGATION OF NITRATE LOADING FROM SEPTIC SYSTEMS INTO CHARLOTTE HARBOR, FLORIDA

33-9 167 Jackson, Leaht*: Lemka, Lawrence D.: EVIDENCE FOR 1,4-DIOXANE NATURAL ATTENUATION IN A GLACIAL AQUIFER SYSTEM

33-10 168 Kaunda, Rennie B.*; Mower, Ross: HYDROGEOLOGICAL CHARACTERIZATION OF AN ABANDONED MINE POOL USING FEFLOW-3D TO MITIGATE AGAINST BREACH AND POTENTIAL ACID MINE DRAINAGE

33-11 169 Becker, Paige Sheridan*: POTENTIAL FOR METAL REMOVAL IN LOW PH WATER USING BIOCHAR GEOMEDIA

33-12 170 Oberhelman, Andrew H.*; Peterson, Eric W.; Twatt, Richard: CHLORIDE SIGNATURE AND TRANSPORT IN AN URBAN-AGRICULTURAL STREAM

33-13 171 Smith, Spencer*: RECHARGE OF THE MEMPHIS AQUIFER IN AN URBAN WATERSHED: IMPLICATIONS OF IMPERVIOUS SURFACES AND STREAM INCISION

33-14 172 Nelson, Daren T.*; Kussman, Alexis D.; Barnes, Samuel L.; Prutzman, William J.: SOUTHEASTERN NORTH CAROLINA GROUNDWATER DATABASE AND MONITORING NETWORK

33-15 173 Cordoba, Nicole*: ANALYZING HURRICANE IRMA’S STORM SURGE IMPACT IN COASTAL EVERGLADES USING HYDROLOGICAL DATA

33-16 174 Conrad, Lily*: Ijagb, Mohammad: A HYDROLOGIC COMPARISON OF THE CEDAR RIVER AND WEST OKOBOJI LAKE IN IOWA

33-17 175 Cepeda, Joseph C.*: THE MAY1978 CANYON (TX) FLOOD - CALCULATION OF PEAK DISCHARGE IN PALO DURO CANYON STATE PARK

SESSION NO. 34

34-1 176 Ricketts, Jeremy S.*; Ogura, Larissa V.; Bell, Elizabeth Wilhelmina; Ryan, Sarah; Smolinski, Rachel A.; Silko, Jennifer L.; Clark, Shirley: STREAM RESTORATION EFFECTIVENESS IN REDUCING EXCESSIVE NUTRIENTS

34-2 177 Clemons, Trevor*: Malzone, Jonathan M.; Buskirk, Reid E.; Borowski, Walter S.: THE ROLE OF DROUGHT AND RAINFALL INTENSITY ON THE GENERATION OF RUNOFF AND PHOSPHOROUS EXPORT IN AN EPHEMERAL AGRICULTURAL WATERSHED

34-3 178 Dai, Zhenxue; Ma, Ziqi; Ren, Wanli; Cao, Yang; Soltanian, Mohamad Reza: SCALE-DEPENDENT DISPERSION OF SOLUTE TRANSPORT IN MULTI-SCALE EXPERIMENTS

34-4 179 Allen, Ariyanna; Borja, Cindy; Brau, Timothy; Deanda, Cole; Doorlag, Megan; Older, Bradley*; Passmore, Emily; Wolschlagler, Kaitlyn; Ellis, Todd D.; Kaczmarek, Stephen; Petcovc, Heather L.; Tingin, Laura: THE EFFECTS OF LAND USE AND PRECIPITATION ON ROAD SALT RUNOFF IN PORTAGE CREEK, KALAMAZOO, MICHIGAN, USA

34-5 180 Cunningham, Jade*: Maas, Benjamin J.; Meulemans, Matthew; Jones, Christopher S.: CHANGES IN SURFACE WATER QUALITY IN THE STORM LAKE WATERSHED
SESSION NO. 36

T116. New Developments in Geochemical Proxies for Paleoclimatic Reconstruction (Posters) (GSA Sedimentary Geology Division; Geochemical Society; International Association of Sedimentologists; Cushman Foundation)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 3:30 to 5:30 PM

Booth #

36-1 201 Fouskas, Fotios*; Gilhooly, William; O’Beirne, Molly D.; Werne, Josef P.; Bosco-Santos, Alice; Kurek, Martin; Druschel, Gregory: SULFURIZATION PATHWAYS IN MODERN EUXINIC LAKES: EXPLORING THE KEY CONSTRAINTS FOR ORGANO-SULFUR AND PYRITE FORMATION

36-2 202 Becerra, Evelyn S.*; Gilhooly, William; Dattilo, Benjamin; Orazi, Daniel L.: A HIGH RESOLUTION STUDY OF NUTRIENT AND REDOX CYCLING IN THE KOPE FORMATION OF THE LATE ORDOVICIAN

36-3 203 Ratnayake, K.M.*; Ortz, J.D.; Saylor, Beverly Z.; Wells, Neil A.; Smith, Alison J.: HOLOCENE PALEOCLIMATIC EVIDENCE FROM A CORE IN THE EASTERN BASIN OF LAKE ERIE: A MULTIPROXY APPROACH

36-4 204 Wynn, Peter D.*; Yager, Joyce A.; West, A. Joshua; Rollins, Nick; Berelson, William M.: VARIABLE LIQUID DECARBONATION METHODS FOR Δ13CORG ANALYSES IN SEDIMENTARY SECTIONS AND ON MODERN SOILS AND RIVER SEDIMENTS

36-5 205 Wei, Wei*: Algeo, Thomas J.: GEOCHEMICAL PROXIES FOR PALEOSALINITY ANALYSIS: A REVIEW

36-6 206 O’Hara, Heidi*; Gillikin, David P.; Goodwin, David; Bennett, Hayley I.; Carrigan, Emily; Cilia, Elizabeth; Fratian, Mihai; Wanamaker, Alan D.: BIOGEOCHEMICAL CYCLING IN A SALT MARSH ESTUARINE ECOSYSTEM IN COASTAL NORTH CAROLINA

36-7 207 Bennett, Hayley I.*; Gillikin, David P.; Goodwin, David H.; Cilia, Elizabeth; Carrigan, Emily; Fratian, Mihai; O’Hara, Heidi; Wanamaker, Alan D.: NITROGEN ISOTOPES IN MARINE MOLLUSKS AS INDICATORS OF NITROGEN LOADING IN COASTAL NORTH CAROLINA

36-8 208 Cilia, Elizabeth*: Gillikin, David P.; Goodwin, David H.; Bennett, Hayley I.; Carrigan, Emily; Fratian, Mihai; O’Hara, Heidi; Wanamaker, Alan D.: DETECTING SOURCES OF EUTORPHICATION IN COASTAL NORTH CAROLINA USING δ15N VALUES OF SEA GRASSES AND ALGAE

36-9 209 Ding, Weiming*; Dong, Lin; Li, Tong; Liu, Hui: RECONSTRUCTION OF REDOX AND PRIMARY PRODUCTIVITY OF THE EARLY CAMBRIAN OCEAN DURING THE DEPOSITION OF THE YURTUS BLACK SHALE IN THE TARIM BASIN, NORTHWESTERN CHINA: IMPLICATION ON ORGANIC MATTER ACCUMULATION

36-10 210 Kendall, Brian*: Wang, Jieying; Xing, Liyan; Zheng, Wang; Liu, Jian: COUPLED URANIUM AND MOLYBDENUM ISOTOPE INSIGHTS ON LOCAL AND GLOBAL OCEAN REDOX CONDITIONS DURING DEPOSITION OF THE FRASNIAN-FAMENNIAN KETTLE POINT FORMATION, ONTARIO, CANADA

36-11 211 Bowman, Chelsie N.*; Young, Seth A.; Richbourg, Claudia Gall; Kozik, Nevin P.; Owens, Jeremy D.: EVIDENCE OF OCEANIC EUXINIA ASSOCIATED WITH THE LATE SILURIAN
SESSION NO. 37

T118. Paleoenvironmental Reconstructions from Biogenic Carbonates (Posters) (SEPM (Society for Sedimentary Geology); Paleontological Society; Paleontological Research Institution; GSA Sedimentary Geology Division; GSA Karst Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 3:30 to 5:30 PM

Booth #

37-1 215 Arnold, Alexandra J. *; Mering, John; Santi, Lauren; Petryshyn, Victoria; Mitsuhashi, Bruce A.; Wilson, John; Ibarra, Daniel E.; Kaufman, Darrell; Cohen, Andrew; Dunbar, Robert; Russell, James M.; Lalonde, Stefan; Oviatt, Charles G.; Roy, Priyadarsi D.; Eagle, Robert; Tripati, Aradhna: HOW DO CARBONATES RECORD SEAWATER CHEMISTRY? THE RHENUS BAY (BAYERN, GERMANY) AS A MODERN ANALOGUE FOR CLIMATE RECORDS PRESERVED IN ANCIENT SHALLOW-WATER CARBONATES

37-2 216 Geyman, Emily C.; Maloof, Adam C.: HOW DO CARBONATES RECORD SEALIFE CHEMISTRY? THE BAHAMAS AS A MODERN ANALOGUE FOR CLIMATE RECORDS PRESERVED IN ANCIENT SHALLOW-WATER CARBONATES

37-3 217 Beckham, Abigail; Mannucci, Agnese; Glumac, Bosiljka; Curran, H. Allen; Griffith, David H.: ENCRUSTERS ON CORALS FROM PLEISTOCENE REEFS IN THE BAHAMAS: EXAMPLES FROM SAN SALVADOR AND GREAT INAGUA

37-4 218 Mannucci, Agnese; Beckham, Abigail; Glumac, Bosiljka; Curran, H. Allen; Griffith, David H.: ENCRUSTING FORAMINIFERA FROM PLEISTOCENE CORAL REEFS IN THE BAHAMAS

37-5 219 Leclerc, Natasha*; Haltar, Jochen; van der Linden, Annet, Hietzinger, Steffen; Yin, Ywei, Zajac, Zoltan: TESTING THE SUITABILITY OF THE CORALLINE ALGA CLATHROMORPHUS COMPACTUM AS A PROXY FOR PAST SEA ICE COVER IN THE ARCTIC

37-6 220 Howes, Bolton*; Mehra, Akshay; Maloof, Adam: THREE-DIMENSIONAL RECONSTRUCTIONS OF HOLOCENE AND NEOPROTEROZOIC OOLITES TO MEASURE POROSITY, PERMEABILITY, AND VOLUME-SHAPE EVOLUTION OF Ooids


37-9 223 Palmer, Kyle*; Surge, Donna; Moss, David K.: IMPACTS OF WARM VS. COLD CLIMATE CONDITIONS ON THE LIFE HISTORY OF MODERN AND FOSSIL MERCENARIA SHELLS FROM THE US MID ATLANTIC COASTAL PLAIN OF NORTH CAROLINA

37-10 224 Fratian, Miha; Goodwin, David H.; Gillikin, David P.; Bennett, Hayley I.; Carrigan, Emily; Cilia, Elizabeth; O'Hora, Heidi; Wanamaker, Alan D.: SALINITY AND WATER OXYGEN ISOTOPE RECORDS OF HYDROLOGIC VARIABILITY IN JARRETT BAY, NORTH CAROLINA, USA

SESSION NO. 38

D22. Paleontology, Paleocology and Taphonomy (Posters)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 3:30 to 5:30 PM

Booth #

38-1 233 Tyler, Carrie L.: A CONCEPTUAL MAP OF CONSERVATION PALEOBIOLOGY: VISUALIZING A DISCIPLINE

38-2 234 Fancher, Abigail*; Moss, David K.; Surge, Donna: LATITUDINAL PATTERNS IN LIFESPAN AND GROWTH RATE OF Pliocene GLYC EMERIS SUBOVATA


38-4 236 Cronin, Kelly E.; Walker, Sally E.; Bowser, Samuel S.: HIGH VARIABILITY OF SUBANNUAL GROWTH BANDS IN THE ANTARCTIC SCALLOP ADAMUSIUM COLBECKI

38-5 237 Kelly, Bridget T.; Hernandez, Gwyneth N.; Bautista, Sophia; Droser, Mary L.: PALEOCOLOGICAL STUDY OF RELICT BIVALVE SCLEROCHRONOLOGY TO ASSESS BENTHIC PHytISSA HYOTIS OYSTER SHELLS FROM THE CALIFORNIA MIocene

38-6 238 Schwartzberg, Galen B.; Wilson, Mark A.; Kilian, Ethan G.: SCLEROBIONT PALEOECOLOGY OF THE CARMEL FORMATION (MIDDLE JURASSIC, BAJOCIAN) OF SOUTHWESTERN UTAH, USA

38-7 239 Smith, Jansen A.; Handlew, John C.; Dietl, Gregory P.: DUROPHAGY BIAS: THE EFFECT OF SHELL DESTRUCTION BY CRUSHING PREDATORS ON DRILLING FREQUENCY
SESSION NO. 39
D25. Paleontology, Systematics and Morphological Patterns (Posters)
9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM
Booth #

39-1 257 Barry, Rachael M.; Mulligan, Maura A.; Kendrick, David C.; MICROFOSILLS PRESERVED IN CHERT FROM THE LOWER MIDDLE DEVONIAN ONONDAGA LIMESTONE, FINGER LAKES REGION OF NEW YORK, USA

39-2 258 Loveall, Jordyn*; Stone, Jeffery R.; Loope, Henry: FOSSIL DIATOM RECORD FROM A PROGLACIAL LAKE IN INDIANA

39-3 259 Schweitzer, Carrie E.; Feldmann, Rodney M.; Hoffman, Sara K.; Phillipi, Daniel; Reuter, Katherine; Shinsky, Jenna: CLASSIFICATION OF SHRIMP FOSSILS (DECAPODA: DENDROBRANCHIATA, CARIDEA): PROBLEMS AND PROGRESS

39-4 260 Stebing, Joanna*; Le, Minh; Mikulic, Donald G.; Dattilo, Benjamin; Havens, Jonathan J.; A NEW SILURIAN (LUDLOW, GORSTIAN) TRILOBITE FAUNA FROM PIPE CREEK JUNIOR QUARRY, SWAYZEE, GRANT COUNTY, INDIANA

39-5 261 Criscione, Julia*; Grimaldi, David: THE OLDEST PREDAECOUS WATER BUGS (INSECTA, HETEROPTERA, BELOSTOMATIDAE), WITH IMPLICATIONS FOR PALEOLIMNOLOGY OF THE TRIASSIC COW BRANCH FORMATION

39-6 262 Stokes, Jacob R.*; Law, Nicole M.; McKenzie, Scott C.: THE JELLYFISH OF SOLNHOVEN AND THEIR IMPOSTORS

39-7 263 Maxeiner, Philip-Peter*; Baer, Jane McWaters; Rosas, Silvia; Ritterbush, Kathleen A.: EARLY JURASSIC SPICULITES: PARAGENETIC SEQUENCES FOR THE GLASS RAMP DEPOSITS OF PERU

39-8 264 Yost, Elizabeth V.*; Marenco, Katherine N.; Marenco, Pedro J.: PETROGRAPHIC INVESTIGATION OF INVERTEBRATE FOSSIL DIVERSITY IN THE CAMBRO-ORDOVICIAN NOTCH PEAK FORMATION, LAKESIDE MOUNTAINS, UTAH

39-9 265 Killian, Ethan G.*; Wilson, Mark A.; Schwartzberg, Galen B.: CLASSIC OSTERLITHS REVISITED: THE ORIGIN AND DEVELOPMENT OF OYSTER BALLS FROM THE MIDDLE JURASSIC CARMEL FORMATION OF SOUTHWESTERN UTAH, USA


39-11 267 Moore, John L.*; Porter, Susannah M.; Webster, Mark: SMALL SHELLY FOSSILS FROM A SECTION OF THE MONTEZUMA-DYERAN (CAMBRIAN STAGES 3–4) POLETA FORMATION, ESMERALDA COUNTY, NEVADA

39-12 268 DeMott, Alyssa*; Over, D. Jeffrey; Wittmer, Jacalyn M.: TENTACULITIDS FROM THE UPPER SODUS SHALE, SILURIAN, WESTERN NEW YORK

39-13 269 McMenamin, Mark A.S.; Rabinow, Sophie A.*; Curtis-Hill, Sara K.; Phillipi, Daniel; Treloar, Destiny: FIRST FUNGUS: ASCOMYCETE CONIDIUM FROM THE GUNFLINT IRON FORMATION

39-14 270 Forsythe, Ian J.*; Stigall, Alycia L.: DELINEATING SPECIES OF RAFINESQUINA IN THE TYPE CINCINNATIAN (ORDOVICIAN): A MORPHOMETRIC APPROACH


39-16 272 Kokesh, Broc S.*; Anderson, Laurie C.: PHENOTYPIC TRAJECTORY ANALYSIS REVEALS TEMPORAL DIVERGENCE OF SHELL SHAPE IN BIVALVES FROM ADJACENT MARINE LAKES

38-8 240 Shadbolt, Evan L.*; Kelley, Patricia H.: EFFECTS OF ENVIRONMENTAL VARIATION AND SAMPLING METHODS ON THE RECORD OF DRILLING PREDATION ON THE GASTROPOD CREPODIA FORNICATA FROM LONG ISLAND, NEW YORK

38-9 241 Thompson, Carmi Milagros*; Lockwood, Rowan; Worthington, E.N.; Ramsey, Kelvin W.: TAXON DIVERSITY AND COMMUNITY STRUCTURE OF FOSSIL MOLLUSCAN ASSEMBLAGES FROM THE MID-ATLANTIC CONTINENTAL SHELF (USA)

38-10 242 Hughes, Emily S.*; Lamsdell, James C.: DISCERNING THE DIETS OF SWEEP-FEEDING EUPHYTROPIDS THROUGH ANALYSIS OF MESH-MODIFIED APPENDAGE ARMATURE

38-11 243 Eubanks, Eric M.*; Lewis, Ronald D.: ENCRUSTING FORAMINIFERA AT MAYAGUANA, BAHAMAS: DISTRIBUTION AND RELATIONSHIP TO FOOD AVAILABILITY

38-12 244 Clement, Anannya M.*; Tackett, Lydia S.; Marston, Haley: ASSESSING THE PALEOCOLOGICAL IMPACT OF DIAGENETIC OVERPRINTS ON SHALLOW MARINE MACRO- AND MICROFOSIL ASSEMBLAGES: A CASE STUDY THE LATE TRIASSIC LUNING AND GABBS FORMATIONS (WESTERN NEVADA, USA)

38-13 245 Juntunen, Kristopher Lee*; Morgan, Ryan; Butler, Dava K.; Scott, Ashley Brooke: A PALEOCOLOGIC ASSESSMENT OF THE FREEDICKSBURG GROUP EXPOSURE IN OGLESBY, TEXAS

38-14 246 Wilcox, Alma*; Bulinski, Katherine V.: IDENTIFYING ENVIRONMENTAL CONDITIONS OF THE MIDDLE DEVONIAN BIOSTROME AT THE FALLS OF THE OHIO (CLARKSVILLE, INDIANA) THROUGH EXAMINATION OF CORALLUM CURVATURE IN RUGOSE CORALS

38-15 247 Brown, Garet M.*: ENVIRONMENTAL CONTROLS ON THE EARLY MISSISSIPPIAN (TOURNAISIAN) FAUNA OF THE LODGEPOLE FORMATION, THREE FORKS QUADRANGLE, MONTANA

38-16 248 Baer, Jane McWaters*; Maxeiner, Philip-Peter; Rosas, Silvia; Ritterbush, Kathleen A.: EARLY JURASSIC SPICULITES: REGIONAL MODELS FOR THE GLASS RAMP DEPOSITS OF PERU

38-17 249 Surprenant, Rachel L.*; Droser, Mary L.; Gehling, James G.: PUTTING THE FUN IN TAPHONOMY: THE MULTIFACETED ROLE OF FUNISIA DOROTHEA IN THE PRESERVATION OF EDIACARA ECOSYSTEMS

38-18 250 Lee, Rowan*; Parsons-Hubbard, Karla: EVALUATING THE ENVIRONMENTAL HISTORY OF A CARBONATE LAGOON USING TAPHOFACIES ANALYSIS (ST. CROIX, US VIRGIN ISLANDS)


38-20 252 Landreth, Marion*; Morgan, Ryan: DEFORMATION OF MOLLUSK SHELL CASTS IN THE GLEN ROSE FORMATION IN MILLS COUNTY, TEXAS

38-21 253 Fraunhiger, Mason J.*; Dattilo, Benjamin; Freeman, Rebecca L.; Peters, Winfried S.: UPPER MIDDLE TRIASSIC “SMALL SHELLIES” FROM THE KLEINE TERREBRATELBANK OF THE MUSCHELKALK, BAVARIA, GERMANY: THE ROLE OF “ATTENTION BIAS” IN UNDERESTIMATING THE DISTRIBUTION OF PHOSPHATIC MICROSTEINKERNS

38-22 254 Korneisel, Dana*; Liao, ChunCh; Xiao, Shuhai; Nesbitt, Sterling J.: WHAT MAKES FOR AN EXCEPTIONAL FOSSIL? THE PRESERVATION OF THE THERIZINOSAUR BEPIAOSAURUS INEXPECTUS FROM THE XIYAN FORMATION OF CHINA

38-23 255 Laughlin, Zoe*; Bulinski, Katherine V.: EXPLORING THE INFLUENCE OF WATER ENERGY ON THE TAPHONOMIC CONDITION OF RUGOSE CORALS AT THE FALLS OF OHIO, CLARKSVILLE, INDIANA

38-24 256 Hill, Christopher L.*: SEDIMENTARY GEOLOGY AND TAPHONOMY OF A PLEISTOCENE FOSSIL ASSEMBLAGE FROM A DEBRIS FLOW
SESSION NO. 40
T135. Paleopathology: Incidences of Disease, Trauma, and Infection from Arthropods to Anthropology (Posters) (Paleontological Society)
9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM
Booth #

40-1 276 Huntley, John Warren*; Scarponi, Daniele; De Baets, Kenneth: STOWAWAYS ON SHIPS THAT MIGHT PASS IN THE NIGHT: PHANEROZOIC TRENDS IN PARASITISM OF BIVALVES AND BRACHIPODS


40-3 278 Huntley, John Warren; Jacobs, Gabriel*: CLAMS ON ICE: GLIMPSES OF PARASITE-HOST INTERACTIONS FROM PLEISTOCENE SHELL BEDS OF COASTAL COAST, USA

40-4 279 Babcock, Loren E.*; PATHOLOGIES IN PALEOZOIC TRILOBITES


40-6 281 Whitney, Megan; Tse, Yuen Ting*; Sidor, Christian A.: HISTOLOGICAL EVIDENCE OF TRAUMA IN A TUSK OF LYSTROSARUS (SYNAPSIDA: ANOMODONTIA)

40-7 282 Tumarkin-Deratzian, Allison R.*; Langheinrich, R. Allan; Stokes, Jacob R.: THE WORLD’S LARGEST FossilIZED SEX ORGAN

SESSION NO. 41
T138. Magmas Assemble! Petrologic, Geochemical, Chronologic, and Geophysical Insights into the Architecture and Timescales of Magmatic Systems (Posters) (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Geophysics and Geodynamics Division)
9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM
Booth #

41-1 283 Kempton, Pamela D.*; Downes, Hilary; Spence, E. Ann; Blichter-Toft, Janne; Bryce, Julia; Hegner, Ernst; Vroon, Peter: PREHISTORIC LAVAS ON MT ETNA SHOW ISOTOPIC EVIDENCE FOR SUBDUCTION COMPONENT

41-2 284 Richards, Rebecca*; Williams, Timothy; Hacker, David B.; Giorgis, Scott: ANISOTROPY OF MAGNETIC SUSCEPTIBILITY ANALYSIS SAMPLES FROM THE PINE VALLEY MOUNTAIN LACCOLITH, SOUTHWESTERN UTAH

41-3 285 Williams, Timothy*; Richards, Rebecca; Hacker, David B.; Giorgis, Scott: PALEOMAGNETIC CONSTRAINTS ON THE RATE OF EMLACEMENT OF THE PINE VALLEY MOUNTAINS LACCOLITH, SOUTHWESTERN UTAH

41-4 286 Lapinski, Sarah Grace*; de Silva, Shanaka L.; Burns, Dale H.: CONSTRAINING THE ORIGIN AND INFLUENCE OF ANDESITE IN THE ZONED PURICO IGNIMBRITE, N. CHILE

41-5 287 O’Dowd, Conor Lee*; Michelfelder, Gary S.: PETROLOGY AND GEOCHEMISTRY OF THE BEARWALL MOUNTAIN ANDESITE, MOGOLLON-DATIL VOLCANIC FIELD, NEW MEXICO

41-6 288 Herrold, Emily N.*; Klemetti, Erik W.; Kent, Adam J.R.; Coble, Matthew: AGE AND COMPOSITION OF ZIRCON FROM THE MOST ERUPTIVE PERIODS AT OREGON’S MT. HOOD

41-7 289 Salchert, Nicole*; Wenner, Jennifer M.; Teasdale, Rachel: GEOMORPHOLOGIES: EXTINCTION IN AND DISPARITY IN THE CAMBRIAN SERIES 3) TRILOBITE JUULONGSHANIA ACALLA

41-8 290 Rogers, KayLeigh*; Adam, Claudia; Kempton, Pamela D.: CONSTRANING THE ORIGIN AND EMPLACEMENT OF OFF-CRATON KIMBERLITES IN RILEY COUNTY, KANSAS, WITH GRAVITY DATA

41-9 291 Wall, Corey J.*; Schmitz, Mark; Hanson, Richard; Price, Jonathan D.; Donovan, Nowell: PRECISE U-PB ZIRCON GEOCHRONOLOGICAL CONSTRAINTS ON VOLUMINOUS CAMBRIAN MAGMATISM IN THE SOUTHERN OKLAHOMA AULACOGEN

41-10 292 Grohn, Lisa J.*; Ibanez-Mejia, Mauricio: FINGERPRINTING CRUSTAL FOUNDERING IN THE NORTHERN ANDEAN VOLCANIC ZONE USING BASALT GEOCHEMISTRY

41-11 293 Davis, Evan*; Plascencia, Natalio; Teasdale, Rachel; Wenner, Jennifer M.: GEOTHERMOBAROMETRY OF SOURCE MANTLE MELTS OF PRIMITIVE MAGMAS AT POISON LAKE CHAIN, LASSEN REGION

41-12 294 Benz, Brooke E.*; Michelfelder, Gary S.: PETROLOGY, MINERAL CHEMISTRY, AND GEOTHERMOBAROMETRY OF ANDESITES FROM THE LAZUFRE COMPLEX, CENTRAL ANDES, CHILE: INSIGHTS INTO THE PRE-ERUPTIVE MAGMA PLUMBING SYSTEM

41-13 295 White, John Charles*; Liszewska, Katarzyna M.; Macdonald, Ray; Bagirski, Boguslaw: COMPOSITIONAL AND THERMODYNAMIC VARIABILITY IN A STRATIFIED MAGMA CHAMBER: EVIDENCE FROM THE GREEN TUFF IGNIMBRITE (PANTELLERIA, ITALY)

41-14 296 Binyam, David Bekas*; Childers, Clara; McLeod, Claire; Wolfe, Amy: MAFIC ENCLAVES FROM THE GUILLACAS VOLCANIC CENTRE IN THE BOLIVIAN ANDES: INSIGHTS INTO ARC MAGMATIC SYSTEMS

41-15 297 Angulo, Alejandra*; Scheland, Cullen L.; Memeti, Vali: INVESTIGATING COMPOSITIONAL CHARACTERISTICS OF MAFIC RECHARGE WITH ENCLAVES IN THE JACK MAIN INTRUSIVE COMPLEX, CENTRAL SIERRA NEVADA, CALIFORNIA

41-16 298 Angi-O’Brien, Elizabeth*; Haley, Maureen Y.; McLeod, Claire; Shaulis, Barry; Brydon, R.J.: UNRAVELLING THE INTERACTIONS OF SYNPLUTONIC MAGMAS DURING GRANITOID CRYSTALLIZATION

41-17 299 Grabiec, Justine G.*; Glazner, Allen F.; Law, Bryan S.: NON-SYMMETRIC ZONING AND LACK OF CORRELATION AMONG NEIGHBORING K-FELDSPAR MEGACRYSTALS IN GRANODIORITE

41-18 300 Haley, Maureen Y.*; McLeod, Claire; Brydon, R.J.; Shaulis, Barry; Moecher, D.P.; Tronnes, Reidar: UNRAVELLING THE MAGMATIC ARCHITECTURE OF RIFT-RELATED GRANITIC BATHOLITHS: PERSPECTIVES FROM AMPHIBOLE AND FELDSPAR

41-19 301 Johnson, Sofia J.*; Bertolet, Elisabeth; Guala, Guilherme; Davidson, Jonathan; Hampton, Samuel J.: INVESTIGATING THE ORIGIN OF AN ORBICULAR GRANITE: KARAMEA, NEW ZEALAND

41-20 302 Hone, Samuel V.*; Zieg, Michael J.: CRYSTAL SIZE DISTRIBUTION OF OLIVINE IN THE BLACK STURGEON SILL, ONTARIO
SESSION NO. 42 $  

**T140. Frontiers in Mineralogy, Petrology, and Geochronology (Posters): A Session in Honor of Dana Medalist Jörg Hermann (Mineralogical Society of America; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)**

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 9:30 to 11:30 AM

Booth #

42-1 304 Robinson, Katherine H.; Flowers, Rebecca M.; Metcaif, James R.; RUTILE (U-Th)/He THERMOCRONOLOGY

42-2 305 Ogasawara, Yoshishige; Aoki, Kazumasa: THREE DISTINCT METAMORPHIC UNITS IN THE CRETACEOUS SANBAGAWA HP BELT INFERRED FROM LA-ICP-MS ZIRCON U-PB DATING

42-3 306 Gutierrez-Aguilar, Fabian; Schaaf, Peter; Solis-Pluchardo, Gabriela; Arrieta-Garcia, Gerardo Fernando; Hernandez-Treviño, Teodoro: GEOCHEMISTRY, SR-Nd ISOTOPES AND PHASE EQUILIBRIA MODELING: INSIGHTS INTO PETROGENESIS OF CHIMO-YELAPA METAMORPHIC COMPLEX, MEXICO

42-4 307 Bollen, Elizabeth M.; Stowell, Harold H.: COMPARISON OF SM-Nd AND LU-HF GARNET AGES II: AMPHIBOLITE FACES ROKKS, PICURIS-TUSAS MOUNTAINS, NEW MEXICO

42-5 308 Johnstone, Samuel; Schwartz, Theresa M.; Holm-Denoma, Christopher S.: A STRATIGRAPHIC APPROACH TO INFERRING DEPOSATIONAL AGES FROM DETRITAL GEOCHRONOLOGY

42-6 309 Ogasawara, Yoshishige; Suzuki, Hiroshi: GARNETS FROM THE GARNET RIDGE: A WINDOW TO THE CHEMICAL HETEROGENEITY OF THE MANTLE UNDERNEATH THE COLORADO PLATEAU

42-7 310 Ogasawara, Yoshishige; Suzuki, Hiroshi: SIGNIFICANCE OF GRS, PRP GARNET IN PYROPE-RICH GARNET FROM THE GARNET RIDGE, COLORADO PLATEAU

42-8 311 Anderson, James A.; Mattinson, Christopher G.: ASSESSING WHOLE ROCK GEOCHEMISTRY TO CONSTRAIN HIGH TEMPERATURE CONDITIONS USING ZR-IN-RUTILE THERMOMETRY FROM HP GRANULITES OF THE DULAN AREA, WESTERN CHINA

42-9 312 Nanzad, Bolorchimeg; Boldbaatar, Enkhjargal; Sereen-Erdene; Jargalan; Batsaikhan, Naavaa; Dashseren, Khashbat; Zorigbatbat, Arinbat; Lomelí, Mirek: GEOCHEMISTRY AND GEOCHEMISTRY OF THE KHATSAVCH PORPHYRY CU-AU (MO) DEPOSIT

42-10 313 Sullivan, Brandon James; Lomelí, Mirek: UNDERSTANDING MISSOURI'S RARE EARTH ELEMENT AND COBALT POTENTIAL

42-11 314 Drivenes, Kristian; Sorensen, Bjorn Ekte; Brownscombe, William; Raires, Morten Peder; Saltmann, Reimar; Spratt, John: ZONED CASSITERITE FROM SW ENGLAND – AN EXAMPLE OF ORTHOROMBIC OR MONOCLINIC SNO?

42-12 315 Chen, Ying; Xu, Keli2; Zhang, Jason J.; Xu, Xinyuan; Liu, Jin: GEOCHEMICAL AND GEOCHRONOLOGICAL STUDY ON THE TAIHAN NEORANGARNEAN GRANITOIDS AND IMPLICATIONS ON THE CRUSTAL GROWTH OF THE EASTERN NORTH CHINA CRATON

42-13 316 Benowitz, Jeffrey A.; Miggins, Daniel P.; Koppers, Anthony A.P.; Layer, Paul W.: WHY ARE SOME YOUNG VOLCANIC ROCKS UNDATEABLE: CHEMISTRY, ENVIRONMENT, OR INSTRUMENTATION?

SESSION NO. 43

**T150. Impact Cratering: Geologic, Geochemical, and Geophysical Signatures on the Terrestrial Planets (Posters) (GSA Planetary Geology Division; GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)**

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 9:30 to 11:30 AM

Booth #

43-1 317 Burney, D.; Neal, C.R.; King, David A.; Gulick, Sean P.S.; Morgan, Joanna V.; Sato, Honami: QUANTIFYING PGES IN THE CHICKXULUB IMPACT BASIN

43-2 318 Weisz, David G.; Jacobsen, Benjamin; Weber, Peter; Koeberl, Christian: SEARCH FOR REMNANT IMPACTOR SIGNATURES IN MICRO-SCALE DEPOSITION LAYERS IN AUSTRALASIAN MICROTEKTITES

43-3 319 Parisi, Andrew F.; Catlos, Elizabeth J.; Brookfield, Michael; Miggins, Daniel P.: THERMOCRONOLOGICAL INSIGHTS ON THE TIMING OF THE SATEL ISLANDS IMPACT STRUCTURE, LAKE SUPERIOR, CANADA

43-4 320 Simpson, Emily N.; Milam, Keith A.: DEFORMING DOLOMITE: HOW SIMPLE PROCESSING CAN AFFECT OUR INTERPRETATIONS OF SHOCK METAMORPHISM IN CARBONATE TARGETS

43-5 321 Montalvo, Pedro E.; Cavosie, Aaron J.; Kirkland, Christopher L.; Evans, Noreen J.; McDonald, Bradley J.; Talavera, Cristina; Erickson, Timmons M.; Lugo Centeno, Cristiina: DETRITAL SHOCKED ZIRCON PROVIDES FIRST RADIOMETRIC AGE CONSTRAINT OF <1472 MA FOR THE SANTA FE IMPACT DEPOSITION, NEW MEXICO, USA

43-6 322 Chen, Guo; Marshall, Stephen; Monson, Charles C.; Sweet, Dustin E.; Segvic, Branimir; Lundstrom, Craig C.: MESOSCOPIC AND MICROSCOPIC DEFORMATION IN THE GLASFORD METEORITE IMPACT STRUCTURE, ILLINOIS: IMPACT FRACKING IN CARBONATE BEDROCK

43-7 323 Peate, David W.; Cukierski, Daniel C.; Ustinsk, Ingrid; Foster, C. Tom: TEXTURAL AND COMPOSITIONAL CHARACTERISTICS OF METALLIC SPHERULES IN IMPACT MELT FROM MONTURAGUI CRATER, CHILE

43-8 324 King, David T.; Petruny, Lucille W.: IMPACTIC SANDS OF WETUMPKA IMPACT CRATER, ALABAMA

43-9 325 Adams, Alexandria L.; Palmore, C. Dianne; Haywick, Douglas W.; King, David T.: SPHERULITE ALTERATION IN TERMINAL CRETACEOUS CALCARENITES IN ALABAMA

43-10 326 Chinchalkar, Neeraja S.; King, David T.; WETUMPKA IMPACT STRUCTURE, ALABAMA: LARGE ORIENTED Boulders in an Interior DIAMICTON

43-11 327 Harris, R. Scott; Schultz, Peter H.; Perroud, Sebastián; Blanco, Nicolás; Tomlinson, Andrew J.; Valenzuela, Millarca: METEORITIC MICROCLASTS AND ULTRA-HIGH TEMPERATURE DECOMPOSITION OF REFRACTORY PHASES: CONFIRMATION OF AN IMPACT PETROGENESIS FOR PICA GLASSES, ATACAMA DESERT, CHILE

43-12 328 Connelly, Daniel P.; Sikker, Alf M.: SHOCK FEATURES IN MINERAL GRAINS FROM PSEUDOTACHYLITE BRECCIA OF THE MUSGRAVE PROVINCE AUSTRALIA

43-13 329 Klussendorf, Joanne; Mikulic, Donald G.: SHATTER CONES AND FOSSILS: EVIDENCE ON THE FORMATION AND AGE OF THE BRUSSELS HILL WISCONSIN IMPACT SITE

43-14 330 Wu, Simin; McKay, Matthew P.; Evans, Kevin R.: METEORITE IMPACT STRUCTURES AS OUTCROP-SCALE ANALOGUES FOR MOUNTAIN BUILDING EVENTS: DECaturVILLE, MO
SESSION NO. 45 $S$

T171. Late Paleozoic Tectonics and Sedimentation along the Allegheny-Ouachita-Marathon Orogenic Belt (Posters)
(GSA Sedimentary Geology Division; GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM
Booth #

45-1 331 Monami, Shifat*; Uddin, Ashraf: A COMPARATIVE SANDSTONE PETROGRAPHIC AND HEAVY MINERAL STUDY OF THE LOWER PENNSYLVANIAN POTTSVILLE FORMATION FROM THE BITUMINOUS AND ANTHRACITE FIELDS IN PENNSYLVANIA

45-2 332 Spurgeon, Derek L.; McKay, Matthew P.; Fosdick, Julie C.; Jackson, William T.: U-PB AND (U-Th)/He ZIRCON DOUBLE DATING OF PALEOZOIC APPALACHIAN VALLEY AND RIDGE STRATA: SEDIMENT ROUTING AND OROGENIC UPLIFT


45-5 335 Xie, Xiaying*; Malone, David H.; Fan, Majie; Manger, Walter L.: DETRITAL-ZIRCON SIGNATURES OF MISSISSIPPIAN SUCCESIONS IN SOUTHERN MIDSOUTHEAST AND ITS IMPLICATIONS

45-6 336 Alsalem, Owodh*; Fan, Majie; Basu, Asish: SANDSTONE PETROGRAPHY, RHEE AND NEODYMIUM ISOTOPE CONSTRAINTS ON PALEOZOIC SEDIMENT DISPERSAL TO THE FORT WORTH BASIN

SESSION NO. 46

D36. Stratigraphy (Posters)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM
Booth #

46-1 337 Memesh, Abdullah M.*; Nabhan, Abdullah I.; Dini, Saleh M.: LITHOSTRATIGRAPHY AND ENVIRONMENT OF DEPOSITION OF THE MIDDLE CAMBRIAN CHERNOBBIA ROCKS IN NORTHWESTERN SAUDI ARABIA

46-2 338 Haque, Ziaul*; Geissman, John W.; DeCelles, Peter G.: PALEOMAGNETIC AND ROCK MAGNETIC DATA FROM MID-CRETACEOUS COARSE-GRAINED STRATA FROM THE CORDILLERAN FORELAND BASIN: A MEANS TO TEST THE TWO-PHASE TECTONOSTRATIGRAPHIC MODEL

46-3 339 Bergström, Stig M.*; Kleffner, Mark A.; Eriksson, Mats E.: TRANS-ATLANTIC KATIAN (UPPER ORDOVICIAN) δ13C CHEMOSTRATIGRAPHY AND ITS RELATIONS TO GRAPTOLITE AND CONODONT ZONES

46-4 340 Clotthier, Cristian*; Marenco, Pedro J.; Marenco, Katherine N.: CARBON ISOTOPIC CHEMOSTRATIGRAPHY OF THE MICRAVIALITE-BEARING CAMBRO-ORDOVICIAN NOTCH PEAK FORMATION, LAKESIDE MOUNTAINS, UTAH

46-5 341 Huisa, Allison Alexandra*: PLANKTONIC VS. BENTHIC FORAMINIFERA RATIOS IN RELATION TO SEGMENT C5 IN EL PUJAL Section of the ORGANÝA BASIN, SPAIN

46-6 342 Kleffner, Mark A.*; Bergström, Stig M.; Gebhart, Parrish B.; Bantel, Thomas E.; Bissett, Donald L.: GOLDEN BRASSFIELD OF THE NORTH AMERICA MIDWESTERN BASINS AND ARCHES (NAMBA) REGION (INDIANA AND KENTUCKY): ALL IS NOT GOLDEN ACCORDING TO CONODONT BIOSTRATIGRAPHY AND δ13C CHEMOSTRATIGRAPHY

SESSION NO. 47

D38. Structural Geology (Posters)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM
Booth #

47-1 354 Szwiatkowski, Jerzy L.; Moore, Diane E.*; Lockner, David A.: COMPOSITION AND STRENGTH OF ULTRAMAFIC-RICH GOUGE FROM THE BARTLETT SPRINGS FAULT, CALIFORNIA COMPARED TO SAFOD GOUGES: IMPLICATIONS FOR FAULT CREEP

47-2 355 Bandeian, Alice*; Mitra, Gautam: MICROSTRUCTURAL STUDY OF MECHANISMS OF DEFORMATION IN DOLOSTONE
47-3 356 Rodríguez González, Georgina*; Ricketts, Jason W.: FAULT KINETICS AND PALEOSTRAIN ANALYSIS OF THE SOUTHERN RIO GRANDE RIFT

47-4 357 Barineau, Clinton I.; Lowery, Sara; Do, Ivy: COMPARISON OF DEFORMED FELDSPAR AT AMPHIBOLITE FACIES USING RF-PHI ANALYSIS: SIGNIFICANCE FOR REGIONAL STRAIN STUDIES

47-5 358 Kindred, Thane*; Keith, Jeffrey; Stearns, Michael A.; Harris, Ron; Biek, Robert F.; Martin, Samuel G.; Jordan, Lars; Chadburn, Ryan; Martin, Alec J.; Hacker, David B.: PSEUDOTACHYLITE-CATACLASITE IN THE DAMAGE ZONE LOCATED NORTH OF BOX ELDER PEAK, WASATCH MOUNTAINS, UTAH, ASSOCIATED WITH THE 57 KM² TRAVERSE MOUNTAIN LANDSLIDE

47-6 359 Thigpen, J. Ryan*; Roberts, Daniel T.; Walker, Christopher David; Bere, Adam; Betka, Paul: NO MOHR! MODELING DEFORMATION AND DIAPIRISM IN RELATIVELY YOUNG SALT TECTONIC SYSTEMS USING CRITICAL STATE THEORY

47-7 360 Austin, Sarah*; Mitra, Gautam: KINETIC ANALYSIS OF MID-CRUSTAL ROCKS IN CONTINENT-CONTINENT COLLISION ZONES: KOREAN COLLISION BELT, SOUTH KOREA

47-8 361 Skelton, Tyler*; Bailey, Christopher M.: STRUCTURAL AND STRAIN ANALYSIS OF CRYOGENIAN STRATA, GHUBRAH BOWL, NORTHERN OMAN

47-9 362 Fugitt, Franklin L.: GEOLOGIC MAPPING LOWER MISSISSIPPIAN LITHOSTRATIGRAPHY OF SCIOTO, PIKE, JACKSON AND VINTON COUNTIES OF OHIO AIDED BY LIDAR-DERIVED MICROTOPOGRAPHY

47-10 363 Giorgis, Scott*; Burmeister, Curtis C.; Bladis, Marley; Havener, Paige; Perpall, Brandon A.; Herbert, Lauren A.; Deahn, Margaret; Kaehler, Lauren: PALEOMAGNETIC ANALYSIS OF MIDDLE JURASSIC SIERRA NEVADAN Dikes in the SOUTHERNMOST MOUNT TALLAC ROOF PENDANT, DESOLATION WILDERNESS AREA, ELDORADO COUNTY, CALIFORNIA

47-11 364 Burmeister, Kurtis C.; Giorgis, Scott D.; Jones, Allison D.: A SURPRISINGLY UNDEFORMED REMNANT OF THE JURASSIC VOLCANIC ARC IN THE NORTHERN SIERRA NEVADA: MOUNT TALLAC ROOF PENDANT, DESOLATION WILDERNESS AREA, EL DORADO COUNTY, CALIFORNIA

47-12 365 Lang, Nicholas P.*; Harris, Kiana T.; Nypaver, Cole; Wood, Trevor; McCarthy, Joseph: DEFORMED DEVONIAN-AGED BEDROCK EXPOSED IN STRUCTURALLY-CONTROLLED BEDROCK STREAM CHANNELS IN NORTHWESTERN PENNSYLVANIA: POSSIBLE EVIDENCE FOR GLACIALLY-INDUCED TECTONISM DURING THE QUATERNARY

47-13 366 Loope, David*: Burberry, Caroline M.; Sears, Mindi: POLYGONAL FRACTURE PATTERNS DEVELOPED BETWEEN CROSSBED- PARALLEL JOINTS IN THE NAVAJO SANDSTONE OF SW UTAH: COOLING AFTER BURIAL BY A BASALTIC LAVA FLOW?

47-14 367 Hoyer, Lauren*: CHARACTERISTICS, TIMING AND GENESIS OF KAROO HYDROTHERMAL VENT COMPLEXES, SOUTH AFRICA

47-15 368 van der Pluijm, Ben*: Lynch, Erin; Pana, Dinu: THE FLUIDS OF OROGENY: O-H ISOTOPIC ANALYSIS OF REGIONAL, DATED CLAY-RICH FAULT GOUGE IN THE ALBERTA ROCKIES, CANADA

47-16 369 Brink-Roby, David*: Mitra, Gautam; Yoonkee, Adolph; Evans, Mark A.: METEORIC INFILTRATION ALONG THRUST FAULTS WITHIN THE WYOMING SALIENT OF THE SEVERE FOLD-THRUST BELT

47-17 370 Jenkins, William T.*; Klimeczak, Christian; Crowe, Douglas E.: EFFECTS OF A BLIND STRIKE-SLIP FAULT SYSTEM ON HYDROTHERMAL ACTIVITY AND STRUCTURE IN THE BISHOP TUFF, CA

47-18 371 Milliner, Christopher*: HIGH RESOLUTION GEODETIC MEASUREMENTS OF CO-SEISMIC FAULT-ZONE DEFORMATION FOR PROBABILISTIC FAULT DISPLACEMENT HAZARD ASSESSMENT AND CONFIDENCE INTERVALS ON GEOLOGIC SLIP RATES

SESSION NO. 48

T177. Folding: Processes, Observations, and Consequences (Posters) (GSA Structural Geology and Tectonics Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 3:30 to 5:30 PM
Booth #

48-1 372 Uyaroglu, Dilan Gizem*; Çemen, Ibrahim: STRUCTURAL EVOLUTION OF THE CENTRAL TUYZOLU BASIN, CENTRAL ANATOLIA, TURKEY

48-2 373 Wang, Deliang*: Mei, Lianfu; Yang, Han; Su, Jiayi: STRUCTURAL STYLES OF AURE COMPLEX FOLD-THRUST BELT, PAPUA NEW GUINEA

48-3 374 Ahmed, Farzan; Bhattacharyya, Kathakali*: STRUCTURAL GEOMETRY AND KINETIC EVOLUTION OF FAR-EASTERN LESSER HIMALAYAN FOLD THRUST BELT: INSIGHTS FROM SIANG WINDOW, ARUNACHAL PRADESH, INDIA

48-4 375 Trexler, Charles C.; Cowgill, Eric; Niemi, Nathan A.: BALANCED CROSS SECTIONS RECORD MARINE BASIN CLOSURE AND GROWTH OF A CONTINENTAL COLLISION ZONE: GREATER CAUCASUS MOUNTAINS, REPUBLIC OF GEORGIA


48-6 377 Magnin, Benjamin P.*; Wilkerson, M. Scott: 2D AND 3D STRUCTURAL ANALYSIS OF A MESOSCOPIC FAULT-RELATED FOLD: IMPLICATIONS FOR USING CROSS-SECTION BALANCING TO UNDERSTAND LATERAL VARIATIONS IN FOLD GEOMETRY

48-7 378 Yarbuh, Ismael; Contreras, Juan*: FOLD DEVELOPMENT IN THE MEXICAN RIDGES FOLDBELT, WESTERN GULF OF MEXICO BASIN: INSIGHTS FROM AREA-DEPTH-STRAIN VARIATIONS AND FOURIER ANALYSIS

48-8 379 Eckert, Andreas*; Wu, Yuxing: NUMERICAL SIMULATION OF BOX FOLDS IN MULTILAYERS

48-9 380 Nso, Peter*: Eckert, Andreas: DYNAMICS OF INTRASALT MECHANICAL STRATIFICATION DURING ACTIVE DIAPIRISM: INSIGHTS FROM NUMERICAL MODELING

48-10 381 Betka, Paul*: Oryan, Bar; Thigpen, J. Ryan; Grall, Céline; Buck, W. Roger; Steckler, Michael: COMBINING KINEMATIC AND NUMERICAL MODELING TO UNDERSTAND THE PROGRESSION FROM DETACHMENT FOLDING TO FAULT-CORED FOLDING: A CASE STUDY FROM THE INDO-BURMAN FOLD-THRUST BELT

48-11 382 Chauvin, Benjamin P.*; Pleisch, Andreas; Shaw, John H.; Lovely, Peter J.: COUPLING FORWARD MODELING AND STRUCTURAL RESTORATION TO BETTER UNDERSTAND DEFORMATION MECHANISMS OF FAULT-RELATED FOLDS

48-12 383 Burberry, Caroline M.*: VARIATION IN PENETRATIVE STRAIN DISTRIBUTION WITH FOLDING ALGORITHM: A CASE STUDY FROM RATTLESNAKE MOUNTAIN, WY

48-13 384 Parui, Chirantan*; Bhattacharyya, Kathakali; Ghosh, Pritam; J.K., Ammu: STRAIN PARTITIONING ACROSS SCALES IN THE SIKKIM HIMALAYAN OROGENIC WEDGE

48-14 385 Oakley, David O.S.: Cardozo, Nestor: COMPARISON OF TRISHEAR AND ELASTIC DISLOCATION FAULT-PROPAGATION FOLD MODELS AND CHARACTERIZATION OF UNCERTAINTY IN MODEL PARAMETERS

48-15 386 Needle, Mattathias D.*; Crider, Juliet G.: FLEXIBLE, QUANTITATIVE, 3D CURVE FITTING FOR FOLDS: FROM POINT CLOUD TO NURBS
SESSION NO. 49

**T184. Geodynamic, Orogenic, and Surface Processes of Flat-Slab Subduction (Posters)** (GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division; GSA Sedimentary Geology Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Quaternary Geology and Geomorphology Division; GSA International Interdisciplinary Interest Group)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 3:30 to 5:30 PM

**Booth #
**

**49-1**
389 Manselle, Patrick*; Brueseke, Matthew E.; Trop, Jeffrey M.; Benowitz, Jeffrey A.; Snyder, Darin C.; Hart, William K.: MID-CRETACEOUS VOLCANISM AND FLUVIAL-Deltaic SEDIMENTATION ASSOCIATED WITH ACCRETION OF THE WRANGELLIA COMPOSITE TERRANE, CHISANA ARC, GRAVINA-NUTZOTIN BELT, ALASKA

**49-2**
390 Trop, Jeffrey M.; Benowitz, Jeffrey A.; Brueseke, Matthew E.; Layer, Paul W.; Kirby, Carl S.; Davis, Kaiyn N.; Berkelhammer, Samuel E.; Morter, Bethany K.: GEOCHEMICAL CONSTRAINTS ON ~30 MILLION YEARS OF DIACHRONOUS MAGMATISM ALONG AN ARC-TRANSFORM JUNCTION, WRANGELL ARC, SOUTHERN ALASKA AND CANADA

**49-3**
391 Brueseke, Matthew E.; Trop, Jeffrey M.; Benowitz, Jeffrey A.; Layer, Paul W.; Davis, Kaiyn N.; Berkelhammer, Samuel E.; Weber, Maridea A.; Morter, Bethany K.: GEOCHEMICAL CONSTRAINTS ON ~30 MILLION YEARS OF DIACHRONOUS MAGMATISM ALONG AN ARC-TRANSFORM JUNCTION, WRANGELL ARC, SOUTHERN ALASKA

**49-4**
392 Hirtz, Jaime A.; Capaldi, Tomas N.; George, Sarah W.M.: Stockli, Daniel F.; Horton, Brian K.; Mohrig, David: TRACKING DETRITAL ZIRCONS AND SEDIMENT MIXING IN MODERN EOLIAN SYSTEMS: EXAMPLE FROM THE ANDEAN BICALARE FORELAND BASIN OF ARGENTINA

**49-5**
393 Butler, Kristina Lynn*; Horton, Brian K.; Flagg, Peter P.; Echaurren, Andres; Folguera, Andres: PARTITIONING OF THE ANDEAN RETROARC FORELAND BASIN DURING CRETACEOUS-PALEOGENE FLAT-SLAB SUBDUCTION IN NORTHERN PATAGONIA, ARGENTINA: STRATIGRAPHIC ARCHITECTURE, PROVENANCE, AND SEDIMENT ROUTING

**49-6**
394 LoBianco, Samuel J.C.*; Hodgin, Eben B.; Macdonald, Francis A.: WESTWARD JURASSIC BACK-ARC BASIN MIGRATION IN THE CENTRAL ANDEAN CORDILLERA

**49-7**
395 Prior, Michael G.*; Singleton, John S.; Williams, Stewart; Mavor, Sklyer: TIMING OF THICK-SKINNED EXHUMATION IN THE POTOSI UPLIFT, SIERRA MADRE ORIENTAL, NORTHEASTERN MEXICO

**49-8**
396 van Hinsbergen, Douwe J.*; Boschman, Lydian M.; Spakman, Wim: FLAT SUBDURATION DYNAMICS IN A MANTLE REFERENCE FRAME: EXAMPLES FROM THE ANDES, MEXICO, AND TIBET

**49-9**
397 Wang, Liangshu*; Cao, Xu; Mi, Ning; Yu, Dayong; Xu, Mingjie; Huang, Zhouchuan; Li, Hua: CRUSTAL STRUCTURE OF SE TIBET FROM RECEIVER FUNCTION METHOD

**49-10**
398 Song, Ying*; Slepeashko, Andrei: POST-RIFT TECTONIC HISTORY OF THE SONGLIAO BASIN, NE CHINA: COOLING EVENTS AND POST-RIFT UNCONFORMITIES DRIVEN BY OROCENIC PULSES FROM PLATE BOUNDARIES

**49-11**
399 Park, Seung-ik*; Kwon, Sanghoon; Song, Yungoo; Kim, Sung Won: INVERSION OF TRIASSIC TO JURASSIC TWO-PHASE EXTENSIONAL BASIN SYSTEMS IN THE SW KOREAN PENINSULA: IMPLICATION FOR MESOZOIC LARAMIDE-
SESSION NO. 51

T2. Cave and Karst Research in Indiana and Kentucky: A Tribute to Art Palmer, Peg Palmer, and Dick Powell (GSA Karst Division; GSA Hydrogeology Division; GSA Karst Research Institute; Indiana Geological and Water Survey)

Lee J. Florea and Patricia N. Kambesis, Presiding

1:30 PM INTRODUCTORY REMARKS

51-1 1:35 PM Florea, Lee*: ORIGIN AND MORPHOLOGY OF LIMESTONE CAVES: A RETROSPECTIVE 27 YEARS LATER

51-2 1:50 PM Palmer, Arthur N.*: MAMMOTH CAVE AS A RECORD OF REGIONAL GEOMORPHIC EVOLUTION

51-3 2:10 PM Granger, Darryl E.*; Odom, William E.; Fabel, Derek: A RE-EVALUATION OF THE TIMING OF MAMMOTH CAVE DEVELOPMENT AND FORMATION OF THE OHIO RIVER (Invited Presentation)

51-4 2:30 PM Groves, Chris*: Webb, Cathleen J.; Turner, Autumn B.; Bledsoe, Lee Anne; Toomey, Rickard S.; Carson, Bobby; Algeo, Keith: HOW IS MAMMOTH CAVE NATIONAL PARK DOING? THE 2018 MACA NATURAL RESOURCE CONDITION ASSESSMENT

51-5 2:45 PM Kipper, Chelsey*: Kambesis, Patricia N.; Polk, Jason: A GEOCHEMICAL COMPARISON OF TWO TEOGENETIC KARST SPRINGS DURING REVERSE FLOW, MAMMOTH CAVE, KENTUCKY

51-6 3:00 PM North, Leslie A.*; Ballard, Chelsea; Toomey, Rickard S.; Kambesis, Patricia N.: ENGAGING STUDENTS IN KARST GEOLOGY IN THE MAMMOTH CAVE REGION THROUGH THE WESTERN KENTUCKY UNIVERSITY KARST FIELD STUDIES PROGRAM

3:15 PM BREAK

51-7 3:30 PM Mylroie, Joan R.; Mylroie, John E.*: SPELEOGENESIS IN THE QUATERNARY: THE PRESENT IS NOT THE KEY TO THE PAST (Invited Presentation)

51-8 3:50 PM Li, Yunxia*: Gao, Yongli; Rowe, Harold D.; Cheng, Hai; Edwards, R. Lawrence: CHANGES OF MOISTURE AVAILABILITY DURING MARINE ISOTOPIC STAGES 5-6 BASED ON TWO SPELEOTHEM RECORDS FROM KENTUCKY, NORTH AMERICA

51-9 4:05 PM Paces, James B.*; Palmer, Margaret V.; Palmer, Arthur N.; Long, Andrew J.; Emmons, Matthew P.: EVIDENCE FOR SUBGLACIAL RECHARGE TO THE CONFINED MADISON AQUIFER AS A DRIVER FOR PLEISTOCENE WATER-TABLE FLUCTUATIONS AT WIND CAVE NATIONAL PARK, SOUTH DAKOTA, USA

51-10 4:20 PM Veni, George*: HYPOGENE PROCESSES IN THE EVOLUTION OF THE KARSTIC EDWARDS PLATEAU AQUIFER, TEXAS

51-11 4:35 PM Kambesis, Patricia N.*; Despain, Joel: THE IMPACT OF ARTHUR AND MARGARET PALMER ON THE UNDERSTANDING AND STUDY OF FLUVIAL CAVES IN CALIFORNIA

4:50 PM DISCUSSION

5:05 PM CONCLUDING REMARKS

SESSION NO. 52

T14. Mining Wastes in the Tri-State Mining District of Kansas, Missouri, and Oklahoma: Advances in Characterization and Remediation (GSA Environmental & Engineering Geology Division; GSA Karst Division; GSA Hydrogeology Division; GSA Limnogeology Division)

1:30 PM, Indiana Convention Center, Room 130-131

Melida Gutierrez, Presiding

52-1 1:30 PM McClanahan, Anastasia Marie Cox*: Gutierrez, Melida: THE LEGACY OF MINING IN SOUTHWEST MISSOURI: PAST AND PRESENT CONDITIONS OF THE TRI-STATE MINING DISTRICT

52-2 1:45 PM Johnson, Aaron W.*: AN OVERVIEW OF THE GEOLOGY AND GEOCHEMISTRY OF THE TRI-STATES (KS-MO-OK) MINING DISTRICT

52-3 2:00 PM Pawlowsky, Robert T.*: HISTORY AND ENVIRONMENTAL IMPACTS OF THE PIERSON CREEK SUB-DISTRICT, TRI-STATE MINING DISTRICT, SW MISSOURI

52-4 2:15 PM Collette, Zach*: Gutierrez, Melida: CHARACTERIZATION OF LEAD, ZINC, AND CADMIUM IN JOPLIN, MISSOURI, USING SEQUENTIAL EXTRACTIONS

52-5 2:30 PM Pawlowsky, Robert*: Owen, Marc; Martin, Derek J.; Lecce, Scott A.: SEDIMENT BUDGET APPROACH TO ASSESS TAILINGS AND LEAD STORAGE IN CHANNEL AND FLOODPLAIN DEPOSITS IN BIG RIVER, OLD LEAD BELT, SOUTHEAST MISSOURI

52-6 2:45 PM Branam, Tracy D.*; Sloan, Hanah; Wright, Nathaniel T.: IN SEARCH OF A SULFATE MINERAL SOURCE FOR NATURALLY-OCcurring, ELEVATED LEAD IN SOUTHERN IOWA LIMESTONE AQUIFERS

3:00 PM BREAK

52-7 3:15 PM Nairn, Robert W.*: REVERSING THE IRREVERSIBLE: ECOTOXIC METAL RETENTION IN ECologically ENGINEERED PASSIVE TREATMENT SYSTEMS CONTRIBUTES TO STREAM RECOVERY IN A MINING-DISTURBED WATERSHED

52-8 3:30 PM Gouzie, Douglas*: POTENTIAL REMEDIATION METHODS AND THEIR APPLICABILITY TO THE TRI-STATE MINING DISTRICT, USA (Invited Presentation)

52-9 3:45 PM Bailey, Amy; Swindle, Andrew L.*: THE USE OF SANDSTONE TO AMELIORATE LIMESTONE ARMORING IN PASsIVE AMD REMEDIATION

52-10 4:00 PM Ambruso, Kelly N.*; Fretz, Nathan T.; Herman, Ellen K.; McGuire, Molly M.: SUBSTRATE EFFECTS ON SEDIMENT DEPOSITION IN ABANDONED MINE DRAINAGE

52-11 4:15 PM Fretz, Nathan T.*; Ambruso, Kelly N.; Herman, Ellen K.; McGuire, Molly M.: RAMAN SPECTROSCOPY OF COLLOIDS FROM SITES AFFECTED BY ABANDONED MINE DRAINAGE (AMD)
SESSION NO. 53
T34. Unconventional Energy Resources (GSA Energy Geology Division)

1:30 PM, Indiana Convention Center, Room 145
Travis L. McLing, Marc L. Buursink, Laura S. Ruhl and J. Fred McLaughlin, Presiding

53-1 1:30 PM Wang, Qianyou*; Yang, Wei; Jiang, Zhenxue; Song, Yan; Zuo, Rusi: HOW DO THE DEPOSITIONAL MICROFACIES CONTROL THE PORE CHARACTERISTICS OF TIGHT RESERVOIRS? THE CASE OF THE UPPER TRIASSIC YANCHANG FORMATION IN THE SOUTHWESTERN ORDO BASIN, CHINA

53-2 1:45 PM MacRitchie, Colin J.; Zobaa, Mohamed K.: PALYNOFACIES AND ORGANIC GEOCHEMICAL ANALYSES OF THE UPPER WOLF CAMP FORMATION IN THE COLLIER-1201 WELL, SOUTHEASTERN DELAWARE BASIN, TEXAS

53-3 2:00 PM Yoo, Jong H.; Jain, Jinesh C.*; McIntyre, Dustin L.: ELEMENTAL MAPPING OF SHALE ROCKS USING LASER INDUCED BREAKDOWN SPECTROSCOPY (LIBS)

53-4 2:15 PM Whyte, Colin*; Moore, Myles T.; Darrah, Thomas H.: THE UTILITY OF NOBLE GASES IN UNDERSTANDING HYDROCARBON STABLE ISOTOPE REVERSALS

53-5 2:30 PM Walsh, Talor B.*; Sakowski, Timothy A.; Ditzler, Lindsey P.: COMPARING THE SPATIAL DISTRIBUTION AND CHARACTERISTICS OF FRACTURES IN OUTCROP AND CORE IN THE APPALACHIAN BASIN

53-6 2:45 PM Jiang,Lint*: PHYSICAL SIMULATION EXPERIMENT ON ACCUMULATION OF TIGHT OIL AND GAS

53-7 3:00 PM Zhiyuan, Chen*: Yan, Song: STUDY ON SHALE GAS ACCUMULATION MODEL IN YANGTZE REGION OF CHINA

3:15 PM BREAK

53-8 3:30 PM Liu, Bei*: Schieber, Juergen; Mastalerz, Maria; Lazar, Remus; Teng, Juan: ORGANIC MATTER CONTENT AND TYPE VARIATION IN THE SEQUENCE STRATIGRAPHIC CONTEXT OF THE UPPER DEVONIAN NEW ALBANY SHALE, ILLINOIS BASIN

53-9 3:45 PM Lary, Brent A.*; Grove, Benjamin S.; Darrah, Thomas H.: USING RADIOGENIC NOBLE GASES TO EVALUATE BASIN SCALE CRUSTAL FLUID MIGRATION OF THE APPALACHIAN BASIN

53-10 4:00 PM Hannon, Michael J.*; Tucker, Yael Tarlovsky; Soeder, Daniel J.: ASCERTAINING THE EFFECTS OF GASEOUS PORE PRESSURE AND NET CONFINING STRESS ON PERMEABILITY OF TIGHT CORES USING A NEW STEADY-STATE APPROACH

53-11 4:15 PM Soeder, Daniel J.*: THE GEOLOGY OF SHALE GAS AND TIGHT OIL RESOURCES IN THE UNITED STATES

53-12 4:30 PM Liu, Dengke*: FRACTAL CHARACTERIZATION OF PORE-THROAT STRUCTURE OF TIGHT SANDSTONES

53-13 4:45 PM Huang, Yizhou*; Jiang, Zhenxue; Song, Yan; Zhang, Kun; Jiang, Shu; Jia, Chengzao; Liu, Weiwei; Wen, Ming; Xie, Xueling; Liu, Tianlin: THE CAUSES OF HIGH-CONTENT NITROGEN IN SHALE GAS: A CASE STUDY OF THE LOWER CAMBRIAN OF THE XIUWU BASIN, CHINA

53-14 5:00 PM Zhao, Chengjing*: GENESIS OF UPPER TRIASSIC XUXIAHE FORMATION TIGHT SANDSTONE GAS

SESSION NO. 54
T51. Planetary Aeolian Geology from Outcrop to Orbit: Nathan Bridges Memorial Session (GSA Planetary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)

1:30 PM, Indiana Convention Center, Room 136-137
Kirby D. Runyon and Bradley J. Thomson, Presiding

54-1 1:30 PM Golombek, M.P.*; Charalambous, Constantinos; Pike, W.T.; Sullivan, R.: EOLIAN GEOLOGY: THE ORIGIN OF SAND AND DUST ON MARS (Invited Presentation)

54-2 1:50 PM Rampe, Elizabeth B.*; Lapotre, Mathieu G.A.; Bristow, Thomas F.; Arvidson, Raymond; Morris, Richard V.; Achilles, Cherie N.; Weitz, Catherine M.; Blake, D.F.; Ming, Douglas W.; Morrison, Shaunna M.; Valian, David; Chipera, Steve; Downs, Robert T.; Edgett, K.S.; Grotzinger, John P.; Hazen, Robert M.; Peretyazhko, Tanya; Sutter, Brad; Tu, Valerie M.; Yen, Albert S.; Horgan, Briony; Castle, Nicholas; Craig, Patricia I.; Czarnecki, Sean M.; Des Marais, David J.; Farmer, Jack D.; Gabriel, Travis S.J.; Gellert, Ralf; Hardgrove, Craig J.; McAdam, Amy; Morookian, John Michael M.; Sarrazin, Philippe; Treiman, A.H.: USING MINERALOGY OF THE BAGNOLD DUNE FIELD IN GALE CRATER TO INTERPRET EOLIEN SEDIMENT SORTING ON THE MARTIAN SURFACE

54-3 2:05 PM Lapotre, Mathieu G.A.*; Rampe, Elizabeth B.: CURIOSITY’S INVESTIGATION OF THE BAGNOLD DUNES, GALE CRATER: OVERVIEW OF A TWO-PHASE SCIENTIFIC CAMPAIGN

54-4 2:20 PM Johnson, Jeffrey R.*; Bell, James F.; Bender, Steve; Cloutis, Edward A.; Ehlmann, Bethany L.; Freiman, Abigail A.; Gasnault, Olivier; Maurice, Sylvestre; Pinet, Patrick; Thompson, Lucy M.; Wellington, Danika F.; Wiens, Roger C.: VISIBLE/NEAR-INFRARED RELECTANCE SPECTROSCOPY OF LONGITUDINAL RIPPLE SANDS OBSERVED DURING PHASE 2 OF THE BAGNOLD DUNE CAMPAIGN, GALE CRATER, MARS

54-5 2:35 PM Laity, Julie E.*: ENHANCED SOUTHWESTERLY WIND FLOW AND DISPLACEMENT OF THE POLAR JET STREAM DURING THE LATE PLEISTOCENE IN CALIFORNIA: VENTIFACT AND BEACH RIDGE EVIDENCE AT OWENS LAKE (Invited Presentation)

54-6 2:55 PM Thomson, Bradley J.*: THE ROLE OF ROCK STRENGTH IN VENTIFACT FORMATION ON EARTH AND MARS

54-7 3:10 PM de Silva, Shanaka L.*; Spagnuolo, Mauro; Zimbelman, James R.; Perkins, Jonathan Patrick; Runyon, Kirby D.; Lorenz, Ralph; Butkevicius, John: THE ARGENTINEAN PUNA: AN AEOLIAN WONDERLAND AND PREMIER MARS ANALOG TERRAIN


54-9 3:40 PM Chojnacki, Matthew*; Fenton, Lori; Edgar, Lauren A.; Edwards, Christopher S.: MORPHOLOGY OF ANCIENT BEDFORMS ON MARS FROM THE HIGH RESOLUTION IMAGING SCIENCE EXPERIMENT

54-10 3:55 PM Ewing, Ryan C.*; Swann, Christy; Siereman, Douglas J.: THRESHOLDS AND FLUXES: NATHAN BRIDGES’ LEGACY AND RECENT MARSWIT AND HIRISE AEOLIAN SCIENCE

54-11 4:10 PM Sullivan, Robert J.*; Kok, Jasper F.: AEOlian FLUID THRESHOLD ON MARS: IS CLOSURE POSSIBLE BETWEEN WIND TUNNEL RESULTS AND OBSERVED SURFACE CHANGES? (Invited Presentation)

54-12 4:30 PM Roback, Kevin*: Avouac, Jean-Philippe; Runyon, Kirby D.; Ayoub, Francois: MEASUREMENT OF MULTIVERSE RIPPLE AND WHOLE-DUNE SAND FLUXES AT ACTIVE DUNES AT NILI PATERA, MARS
SESSION NO. 55

T57. Undergraduate Research Talks: The Next Step in Student Research Projects (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics Division; GSA Limnogeology Division; GSA Structural Geology and Tectonics Division; GSA Geology and Health Division; GSA Hydrogeology Division; GSA Sedimentary Geology Division; GSA Geobiology & Geomicrobiology Division; GSA Environmental & Engineering Geology Division; GSA Energy Geology Division; GSA Geophysics and Geodynamics Division; GSA Planetary Geology Division; GSA Geooarchaeology Division; GSA Geoscience Education Division; GSA History and Philosophy of Geology Division)

1:30 PM, Indiana Convention Center, Room 141

Jacqueline A. Smith and Bradley G. Johnson, Presiding

1:30 PM INTRODUCTORY REMARKS

55-1 1:35 PM White, James*; Mark, Bryan G.: WILDFIRE AS AN EARTH SYSTEM: PERSPECTIVES ON INTERDISCIPLINARY RESEARCH METHODS FROM ALASKA AND NEVADA (Invited Presentation)

55-2 1:50 PM Fordham, Edward M.*; Burnett, Benjamin N.: SUMMER TIME RESPONSE OF STREAMFLOW TO VARIATION IN LITHOLOGY AND SNOWPACK IN THE GREATER YELLOWSTONE REGION

55-3 2:05 PM Steele, Julia*; Mayfield, Marissa Louise; Rasmussen, Morgan; Mutti, Samuel; Manoylov, Kalina: SPATIAL DISTRIBUTION OF SURFACE WATER SALINITY, NUTRIENTS, CHLOROPHYLL A AND ALGAE ON SAPELO ISLAND

55-4 2:20 PM Maracek, Casey*; Bartholomew, Alex: TRACE FOSSILS OF THE MIDDLE DEVONIAN STONY HOLLOW FAUNA, HURLEY & CHERRY VALLEY MEMBERS, KINGSTON, NY (Invited Presentation)

2:35 PM BREAK

55-5 2:50 PM Dufresne, William B.*; Rufledd, Carson J.; Marshall, Craig P.: RAMAN SPECTROSCOPY OF CALCITE-GROUP MINERALS

55-6 3:05 PM Shapley, Sarah*; Ehlich, Joshua J.; Frank, Mark R.; Bodnar, R.J.: GOLD AND COPPER IN MAGMATIC VOLATILE PHASES: IMPLICATIONS FOR PORPHYRY AND EPITHERMAL ORE DEPOSITS

55-7 3:20 PM Gutierrez, Pedro E.*; Mayo, Dave P.: ENIGMATIC NODULES IN THE MID-PENNSYLVANIAN MCALESTER FORMATION OF WESTERN ARKANSAS

55-8 3:35 PM Rasiai, Sophia*; Lobins, Sydney; McClellan, Elizabeth: MAPPING THE VIRGINIAN JUNGLE: FIELD EDUCATION AMONGST RIFT-TO-DRIFT DEPOSITS OF THE CHILHOWEE GROUP, SW VA

55-9 3:50 PM Nichols-O’Neill, Shane*; Ciron, Ashley; Brachfeld, Stefanie A.: DEVELOPING IRON OXIDE PROVENANCE TRACERS FOR ICE STREAMS IN THE WEDDELL SEA SECTOR OF ANTARCTICA

SESSION NO. 56

T73. Beyond Pretty Pictures: The Role of Photography in Promoting Understanding and Learning in the Geosciences (GSA Geoscience Education Division; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division)

1:30 PM, Indiana Convention Center, Room 234

Jacquelyn E. Hams, Anita M. Marshall, Susan C. Eriksson, LeAnne Teruya, Mark Boryta, Joseph Petsche, Michael Passow, Belinda E. Jacobs and Carla McAuliffe, Presiding

56-1 1:30 PM Passow, Michael*: TEACHING EARTH SCIENCE USING 70,000 YEARS OF ART


56-3 2:00 PM Mogk, D.W.*: E(ART)H SCIENCE: EXPLORING EARTH THROUGH THE LENS OF ARTS AND HUMANITIES

56-4 2:15 PM Mickle, Katherine*; Burkhardt, Patrick A.; Badaulf, Paul: ART AND GEOLOGY COLLABORATIONS: BADLANDS WORKING GROUP

56-5 2:30 PM Bentley, Callan*: PRINCIPLES OF BETTER GEO-IMAGERY (Invited Presentation)

56-6 2:50 PM Reese, Joseph F.*; Dickerson, Patricia W.; Coppel, Guy-Christophe: ILLUMINATING THE POWER OF THE OVERVIEW EFFECT: ASTRONAUTS’ PHOTOGRAPHS OF EARTH FROM SPACE EXPAND UNDERSTANDING OF GLOBAL PROCESSES, INTERLINKED SYSTEMS, ENVIRONMENTAL CHANGES AND HUMAN IMPACTS

56-7 3:05 PM Marshall, Anita M.*; Atchison, Christopher L.; Collins, Trevor; Whitmeyer, Steven; Pyle, Eric J.; Crompton, Helen; Piatek, Jennifer; Carabajal, Ivan G.: ACADEMIC AND SOCIAL ENGAGEMENT THROUGH STUDENT-LED PHOTO AND VIDEO DOCUMENTATION IN COLLABORATIVE GEOSCIENCE FIELD LEARNING

3:20 PM BREAK

56-8 3:35 PM Hawkins, John F.*: USING STUDENT IMAGES TO EXPAND AND SHARE LEARNING OUTCOMES

56-9 3:50 PM Carrigan, Charles W.*: DEVELOPING IMAGES AT THE INTERSECTION OF GEOLOGY, EDUCATION, AND PHOTOGRAPHY

56-10 4:05 PM Manning, Cheryl L.B.*, #BATHROOMGEOLOGY: USING SOCIAL MEDIA AND BEAUTIFUL STONEWORK AND VIDEO DOCUMENTATION IN COLLABORATIVE GEOSCIENCE FIELD LEARNING

4:20 PM INTRODUCTORY REMARKS

56-11 4:25 PM Kimball, Mindy A.*; Panner, Matthew; Sheehan, Nathaniel; Fuhriman, Christopher; Quell, Kimberly: INTRODUCING GEOPHYSICS AND REMOTE SENSING METHODS WITH SURPRISING RESULTS

56-12 4:40 PM Teruya, LeAnne*: INNOCENTS ABROAD: USING HAWAIIAN VACATIONS AND GOOGLE’S TOUR CREATOR TO TEACH GEOLOGY

56-13 4:55 PM Rice-Snow, Scott*: GEOMORPHOLOGY INSTRUCTION FOCUSED FOR CREATIVE APPLICATIONS

56-14 5:10 PM Boryta, Mark*: FINDING GEOLOGY WHERE YOU LIVE

SESSION NO. 57

T82. Hands-On Teaching Demonstrations that Combine Geoscience and Societal Issues: Audience Participation Requested! (GSA Geoscience Education Division; National Association of Geoscience Teachers)

1:30 PM, Indiana Convention Center, Room 235

Elizabeth A. Nagy-Shadman and Tiffany A. Rivera, Presiding

1:30 PM INTRODUCTORY REMARKS

57-1 1:45 PM Jaret, Steven J.*; Moes, Nancee; Bojaza, Elizabeth; Ganesan, Radha: JARGON POLICE: AN INTERACTIVE TOOL FOR TEACHING SCIENCE COMMUNICATION

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SESSION NO. 58

T91. Evolution of Paleontological Art (GSA History and Philosophy of Geology Division; History of Earth Sciences Society; Paleontological Society; Cushman Foundation; Paleontological Research Institution; National Earth Science Teachers Association)

1:30 PM, Indiana Convention Center, Room 233

Renee M. Clary, Dallas Evans and Gary D. Rosenberg, Presiding

1:30 PM INTRODUCTORY REMARKS

58-1 1:35 PM Torrens, Hugh*: A DOUBLE ANNIVERSARY: THE PLANNED 2019 PUBLICATION OF WILLIAM SMITH’S FOSSILS REUNITED (INVITED PRESENTATION)


SESSION NO. 59

T93. Measuring and Modeling Fluxes across the Surface Water/Groundwater Interface II (GSA Hydrogeology Division; GSA Karst Division)

1:30 PM, Indiana Convention Center, Room 132

Andrea E. Brookfield, G.L. Macpherson, Adam S. Ward and Mark B. Hausner, Presiding

1:30 PM INTRODUCTORY REMARKS

59-1 1:35 PM Ward, Adam S.*; Herzog, Skyuler; Wondzell, Steven M.; Schmadel, Noah; Blaen, Phillip; Drummond, J.; Hannah, David M.; Harman, Ciaran J.; Knapp, Julia; Krause, Stefan; Kurz, Marie J.; Li, Angang; Marti, Eugenia; Miller, Melinda; Milner, Alexander; Neil, Kerry; Plont, Stephen; Roche, Kevin; Packman, A.I.; Wistoski, Nathan; Zarnetske, Jay: HOW DO HYDROLOGIC FORCING AND GEOLOGIC SETTING CONTROL RIVER CORRIDOR EXCHANGE IN A 5TH ORDER MOUNTAIN STREAM NETWORK?

59-2 1:50 PM Sawyers, Audrey H.*; Singha, Kamini: INFORMATION LOSS IN ELECTRICAL INVERSIONS: NUMERICAL STUDY OF SOLUTE TRACER TESTS IN THE HYPOBHEIC ZONE

59-3 2:05 PM Doughty, Megan J.*; Ader, Ethan; Randell, Jackie; Wohl, Ellen; Singha, Kamini: ROBERT K. FAHNESTOCK AWARD: ELECTRICAL IMAGING OF THE CHANGES IN THE HYPOBHEIC EXCHANGE FROM CHANNEL-SPANNING LOGJAMS
SESSION NO. 61

T110. Lakes through Space and Time II (GSA Limnogeology Division; GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; AASP - The Palynological Society; American Quaternary Association; Association for the Sciences of Limnology and Oceanography; International Association of Limnogeology; SEPM (Society for Sedimentary Geology); GSA Continental Scientific Drilling Division)

1:30 PM, Indiana Convention Center, Room 134
Scott W. Starratt and Michelle F. Goman, Presiding

1:30 PM INTRODUCTORY REMARKS

Finkelstein, David B.; VanHoesen, Stephen: CHEMICAL EVOLUTION OF LAKES IN TERRAINS DOMINATED BY UNCONSOLIDATED SEDIMENTS: GEOCHEMICAL INFLUENCE OF PRECIPITATION AND BIOLOGY IN TILL-HOSTED SURFACE WATERS IN WESTERN NY
Michelson, Andrew V.; Kidwell, Susan M.; Park Boush, Lisa E.; Leonard-Pingel, Jill S.: TRACKING POLLUTION AND SUBSEQUENT REMEDIATION OF LAKES USING AGREEMENT BETWEEN LIVING COMMUNITIES AND DEATH ASSEMBLAGES OF OSTRACODES
Rico, Kathryn; Sheldon, Nathan D.: SPATIAL AND TEMPORAL VARIABILITY OF SEDIMENT BIOGEOCHEMISTRY IN A LOW-OXYGEN GREAT LAKES ENVIRONMENT

61-1 1:35 PM
61-2 1:50 PM
61-3 2:05 PM
61-4 2:20 PM
61-5 2:35 PM

61-1 1:35 PM Finkelstein, David B.; VanHoesen, Stephen: CHEMICAL EVOLUTION OF LAKES IN TERRAINS DOMINATED BY UNCONSOLIDATED SEDIMENTS: GEOCHEMICAL INFLUENCE OF PRECIPITATION AND BIOLOGY IN TILL-HOSTED SURFACE WATERS IN WESTERN NY

61-2 1:50 PM Michelson, Andrew V.; Kidwell, Susan M.; Park Boush, Lisa E.; Leonard-Pingel, Jill S.: TRACKING POLLUTION AND SUBSEQUENT REMEDIATION OF LAKES USING AGREEMENT BETWEEN LIVING COMMUNITIES AND DEATH ASSEMBLAGES OF OSTRACODES

61-3 2:05 PM Rico, Kathryn; Sheldon, Nathan D.: SPATIAL AND TEMPORAL VARIABILITY OF SEDIMENT BIOGEOCHEMISTRY IN A LOW-OXYGEN GREAT LAKES ENVIRONMENT

61-4 2:20 PM Carling, Gregory T.; Randall, Matthew C.; Nelson, Stephen T.; Aanderud, Zachary T.; Miller, Theron: PHOSPHORUS MOBILITY IN LEGACY SEDIMENTS OF SHALLOW, EUTROPHIC UTAH LAKE

61-5 2:35 PM Price, Jason R.; Szymanski, David W.: THE IMPORTANCE OF FROST CRACKING ON LITHOGENIC PHOSPHORIC INPUTS INTO THE LOW, ROCKY MOUNTAIN NATIONAL PARK, COLORADO, USA.
SESSION NO. 62

T121. Insights from Microfossils, Palynology, and Their Modern Analogs: From Traditional to Emerging Techniques (Cushman Foundation; AASP - The Palynological Society; Geochemical Society; Paleontological Society; Paleontological Research Institution; GSA Limnogeology Division; GSA Sedimentary Geology Division)

1:30 PM, Indiana Convention Center, Room 140
Miriam E. Katz, Peter P. McLaughlin, Caitlin Keating-Bitonti, Ingrid Romero and David K. Watkins, Presiding

61-6 2:50 PM  McGlue, Michael M.*; Lucas, Joseph S.; Yeager, Kevin M.; Soreghan, Michael J.; Kimirei, Ismael A.; Mbondo, Athanasio S.; Apse, Colin; Limbu, Peter: CONSERVATION LIMNOGEOLOGY AT LAKE TANGANYIKA: NEW RESULTS FROM THE TUUNGANE PROJECT CO-MANAGEMENT AREA AT NORTHERN MAHALE (TANZANIA) 3:05 PM BREAK

61-7 3:20 PM  Fawcett, Peter J.*; Anderson, R. Scott; Brown, Erik T.; Werne, Josef P.; Contreras, Sergio: CENTENNIAL AND MILLENNIAL-SCALE CLIMATE CHANGE DURING A MID-PLEISTOCENE GLACIAL (MIS 12): A LACUSTRINE RECORD FROM THE VALLES CALDERA, NEW MEXICO 3:35 PM|PERELLO, Melanie*: Bird, Brotxon W.; Lei, Yanbin; Polissar, Pratigya J.; Thompson, Lonnie G.; Yao, Tandong: HOLOCENE MONSOON RAINFALL AND LAKE LEVELS IN GALANG KO, SOUTHEASTERN TIBET

61-9 3:50 PM  Streib, Laura C.*; Stone, Jeffery R.; Lyon, Eva; Zimmerman, Susan H.; McGlue, Michael M.: A PRELIMINARY HIGH-RESOLUTION LATE HOLOCENE DIATOM STRATIGRAPHY AND HYDROCLIMATIC RECONSTRUCTION FROM JUNE LAKE (EASTERN SIERRA NEVADA)

61-10 4:05 PM  Starratt, Scott W.*; Rhode, David E.; Louderback, Lisbeth A.; Addison, Jason: PRELIMINARY ANALYSIS OF LATE PLEISTOCENE AND HOLOCENE DIATOM ASSEMBLAGES IN THE BONNEVILLE BASIN, WESTERN UTAH, USA: BLUE LAKE WARM SPRING

61-11 4:20 PM  Goman, Michelle F.*; Joyce, Arthur: Hedgpeth Balkin, Jessica; Salazar, Victor: RECONSTRUCTING PREHISTORIC LAND USE FROM THE SEDIMENTS OF LAGUNA ESPEJO, OAXACA, MEXICO

61-12 4:35 PM  Brown, Sabrina R.*; Schiller, Christopher M.; Fritz, Sherilyn C.; Whitlock, Cathy; Morgan, Lisa A.: ECOLOGICAL IMPACT OF POSTGLACIAL HYDROTHERMAL EXPLOSION EVENTS IN YELLOWSTONE NATIONAL PARK INFERRED FROM YELLOWSTONE LAKE SEDIMENTS

61-13 4:50 PM  Fox-Dobbs, Kena*; Sevier, Emma; Gavel, James; Shineman, Avery L.C.; Davis, Jeremy: THE ROLE OF LOG MAT BIOFILM IN THE SPIRIT LAKE ECOSYSTEM AFTER THE ERUPTION OF MOUNT ST. HELENS

5:05 PM CONCLUDING REMARKS


62-5 2:30 PM  Clark, William B.; Watkins, David K.: A QUANTITATIVE ANALYSIS OF CALCAREOUS NANNOFOSILS ACROSS A LATE OLGICEAN PALEOLATITUDE TRANSIENT OF THE NORTH ATLANTIC OCEAN 2:45 PM Hall, Christine M.S.*; Kirtland Turner, Sandra; Droser, Mary L.: CHANGING NORTH ATLANTIC OSTRACODE ABUNDANCE AND DIVERSITY IN RESPONSE TO AN EOCENE HYPERTHERMAL EVENT

62-7 3:00 PM  Hallock, Pamela*; Barnes, Kwasi H.; Martin, Makenna M.; Kellogg, Christina A.: TWO MICROBIOME STUDIES PROVIDE INSIGHTS INTO EVOLUTIONARY HISTORIES OF HOST FORAMINIFERAL TAXA

62-8 3:15 PM  Belanger, Christina; Sharon, Sharon; Payne, Calie; Du, Jiahgii; Mix, Alan: BENTHIC FORAMINIFERA RECORD THE REPEATED EXPANSION AND INTENSIFICATION OF THE OXYGEN MINIMUM ZONE IN THE GULF OF ALASKA AND ASSOCIATED INCREASES IN PHYTODIETRIUS (Invited Presentation)

62-9 3:30 PM  Buzas-Stephens, Pamela*; Marchitto, Thomas M.: HEAVY METAL FORAMS: LIVING WITH TRACE METALS IN TEXAS COASTAL DAKS

62-10 3:45 PM  Lobegeier, Melissa K.*; Robinson, Christopher G.: TAXONOMIC AND MINERALOGICAL ANALYSES OF AGGLUTINATED TESTATE AMOEBAE AND FORAMINIFERA AND THE APPLICATION OF TESTATE AMOEBAE IN ASSESSING THE SPREAD OF ATMOSPHERIC PARTICULATE MATTER

62-11 4:00 PM  Walker, Jennifer*; Horton, Benjamin P.; Khan, Nicole S.; Shaw, Timothy A.; Barber, Donald C.; Cahill, Niamh: INCORPORATING SPATIAL AND TEMPORAL VARIABILITY OF SALT-MARSH FORAMINIFERA INTO SEA-LEVEL RECONSTRUCTIONS

62-12 4:15 PM  Urban, Michael A.*; Nelson, David M.; Clegg, Benjamin; Romero, Ingrid; Zhao, Yongtao; Punyasena, Surangi W.; Hu, Feng Sheng: SWIM-IRMS: METHODS IN EXPLORING ISOTOPE COMPOSITION IN MICROFOSILS, AND ITS APPLICATION IN PALEOECOLOGY (Invited Presentation)

62-13 4:30 PM  De Weirdt, Julie*; Emsbo, Pou; McLaughlin, Patrick I.; De Backer, Tim; De Boordt, Charlotte; Desrochers, André; Delabroye, Aurélien; Munnecke, Axel; Vandenvroucke, Thijs R.A.: GEOCHEMISTRY AND PALYNOLOGY: GO HAND IN HAND: TESTING THE TOXIC EFFECT OF REDOX-SENSITIVE METALS ON PALEOZOIC PALYNOMORPHS

62-14 4:45 PM  Tunno, Irene*; Zimmerman, Susan H.; Brown, Tom; Hassel, Christiane A.: BUILDING A CHRONOLOGY BASED ON POLLEN CONCENTRATES: AMS MEASUREMENTS AND FLOW CYTOMETRY SORTING

62-15 5:00 PM  Demchuk, Thomas D.*; Denison, Christopher N.; O’Keefe, Jen; Gardner, Kristina F.; Stephenson, Maggie: PALEONOLICAL CHARACTERIZATION OF THE PETM HYPERTHERMAL EVENT IN CENTRAL TEXAS

62-16 5:15 PM  Over, Jin-Si R.*; Pospelova, Vera: LAST INTERGLACIAL (MIS 5E) HYDROGRAPHIC AND PRIMARY PRODUCTIVITY CONDITIONS IN COASTAL SOUTHERN CALIFORNIA BASED ON DINOFLAGELLATE CYSTS
SESSION NO. 63
T128. Recent Advances in Ichnology: Traces of Modern and Ancient Behavior (Paleontological Society; GSA Limnogeology Division; GSA Sedimentary Geology Division)
1:30 PM, Indiana Convention Center, Room 143-144

Daniel I. Hembree, Jon J. Smith and Brian F. Platt, Presiding

63-1  1:30 PM  McMenamin, Mark A.; Lapic, Whitney A.; Rabinow, Sophie A.; Curtis-Hill, Aurora B.; Rivers, Haley Lynn; Lapic, Stephen M.: SHELL STACKS AT CALVERT CLIFFS: EVIDENCE FOR CEPHALOPOD MIDDLE CONSTRUCTION

63-2  1:45 PM  Grun, Tobias B.: FEAR THE CRAWLING DEAD: CASSID PREDATION ON CLYPEASTEROID ECHINODINS

63-3  2:00 PM  Kowalewski, Michal*; Nawrot, Rafal: INTERPRETING TRACE FOSSILS PRODUCED BY PREDATORS: THE EFFECT OF BIOLOGICAL FILTERS ON ESTIMATES OF DRILLING PREDATION FREQUENCY

63-4  2:15 PM  Getty, Patrick*: TO BE (EATEN) OR NOT TO BE (EATEN)? THAT IS THE QUESTION. FOSSILIZED FISH TRAILS FROM THE NEWARK SUPERGROUP OF EASTERN NORTH AMERICA

63-5  2:30 PM  Martin, Anthony J.; Kirkland, James I.; DeBlieux, Donald D.; Santucci, Vincent L.; Milner, Andrew R.C.; Suarez, Celina; Suarez, Marina B.*: PROBABLE AVIAN FEEDING TRACE FOSSILS FROM THE CEDAR MOUNTAIN FORMATION (LOWER CRETACEOUS), UTAH USA

63-6  2:45 PM  Hsieh, Shannon*; Schassburger, Alec; Plotnick, Roy E.: SAY IT AIN’T SOW? -- A CRITICAL RE-EXAMINATION OF AGRICINIA

63-7  3:00 PM  Maccracken, S. Augustus*; Miller, Ian M.; Labandeira, Conrad C.: NOVEL INSECT HERBIVORY FROM THE LATE CRETACEOUS OF WESTERN NORTH AMERICA

63-8  3:15 PM  BREAK

63-9  3:30 PM  Hembree, Daniel I.*: ICHNOFABRIC PRODUCED BY CENTIPEDES: MODERN AND ANCIENT EXAMPLES

63-10  3:45 PM  Curran, H. Allen*; Beckham, Abigail; Glumac, Bosiljka: OPHIOMORPHA IN PLEISTOCENE CARBONATES OF THE WIDER CARIBBEAN: DISTRIBUTION, CHARACTERISTICS, AND EFFECTS

63-11  4:00 PM  Smith, Jon J.*; Jocelk, R.M.; Otto, Rick E.; Tucker, Shane T.: LIFE IN THE DEAD ZONE: A DIVERSE MICOCENE ICHNOFAUNA PRESERVED IN VOLCANIC ASH, ASHFALL FOSSIL BEDS STATE HISTORICAL PARK, NEBRASKA, USA

63-12  4:15 PM  Savrda, Charles E.*: REVISITING THE ICHNOLOGY OF K-PG BOUNDARY EVENT BEDS AT MOSCOW LANDING, WESTERN ALABAMA: DID TRACEMAKERS SURVIVE TRANSPORT VIA MEGAWAVE BACKWASH?

63-13  4:30 PM  Noffke, Nora*: Hagadorn, James W.; Bartlett, Samuel: MICROBIAL MATS IN SILICICLASTIC TIDAL FLATS OF THE CRETACEOUS DAKOTA GROUP AT DINOUSAUR RIDGE, COLORADO, USA (Invited Presentation)

63-14  4:45 PM  Zachos, Louis*: Platt, Brian F.: Meso-Tidal Interpretation of Hartselle Sandstone (Lower Carboniferous, Alabama) by Analogy with Bay of Fundy Macro-Tidal Ichnofacies

63-15  5:00 PM  Breithaupt, Brent*: Matthews, Neffra A.: NEW VISUALIZATIONS OF THE THREE-DIMENSIONAL, TERRESTRIAL WORLD OF THE “DRAGON REPTILES”: PTEROSAUR TRACKS AND PHOTOGRAMMETRIC ICHNOLOGY

63-16  5:15 PM  Fiorillo, Anthony R.*; Kobayashi, Yoshitsugu; McCarthy, Paul J.; Tanaka, Tomonori; Tykoski, Ronald S.: Dinosaur Ichnology and Paleoenvvironments from the Chignik Formation (Aniakchak National Monument, Late Cretaceous, Southwestern Alaska)

SESSION NO. 64
T130. Phylogenetic Paleobiology: Exploring Macroevolutionary Trends with Evolutionary Trees II (Paleontological Society; Paleontological Research Institution; GSA Geobiology & Geomicrobiology Division)
1:30 PM, Indiana Convention Center, Room 142

Selina R. Cole, David F. Wright, Laura C. Soul and William Gearty, Presiding

64-1  1:30 PM  Whalen, Christopher D.; Briggs, Derek E.G.: AN EARLY ORDOVICIAN VERTEBRATE FROM THE FEZOUATA LAGERSTÄTTE OF MOROCCO

64-2  1:45 PM  Carlson, Sandra J.; Lopez-Carranza, Natalia; Butler, Aodhán D.; Bapst, David W.; Sperling, Erik A.: COMPLEXITY IN INTERPRETING BODY SIZE EVOLUTION IN LONG-LONG BRACHIOPODS (TEREBRATELLIDINA)

64-3  2:00 PM  Slater, Graham J.*; Lloyd, Graeme T.: IS PHYLOGENETIC PALEOBIOLOGY SCALABLE? A META-ANALYTIC PHYLOGENY OF CETACEANS AND IMPLICATIONS FOR MODELS OF BODY SIZE EVOLUTION (Invited Presentation)

2:20 PM BREAK

64-4  2:30 PM  Voje, Kjell Lysne*; Di Martino, Emanuela; Porter, Arthur: REVISING THE EVIDENCE FOR A PUNCTUATED MODE OF EVOLUTION IN METRARABDOTOS

64-5  2:45 PM  Friend, Dana S.*; Allmon, Warren D.: ANALYSES WITHIN A PHYLOGENETIC FRAMEWORK REVEALS MACROEVOLUTIONARY CONSEQUENCES OF LARVAL MODES WITHIN SPECIES OF ATHLETA (VOLUTOSPINA) (NEOGASTROPODA) FROM EOCENE DEPOSITS IN THE U.S. GULF COAST AND WESTERN EUROPE

64-6  3:00 PM  Cole, Selina R.*; Wright, David F.; Ausich, William I.: PHYLOGENETIC STRUCTURE OF COMMUNITY ASSEMBLY AND Niche PARTITIONING: A CASE STUDY USING CRINOIDS FROM THE BRECHIN LAGERSTÄTTE (UPPER ORDOVICIAN, ONTARIO)

64-7  3:15 PM  Collins, Katie S.*; Edie, Stewart M.; Gao, Tingran; Bieler, Rudiger; Jablonski, David: DIGGING IN: DIVERSITY, DISPARITY, AND THE REPEATED EVOLUTION OF THE BORING HABIT IN THE MARINE BIVALVIA

64-8  3:30 PM  Parins-Fukuchi, Caroline*: IDENTIFYING THE PHYLOGENETIC STRUCTURE UNDERLYING LARGE DATASETS OF QUANTITATIVE PHENOTYPIC TRAITS

3:45 PM BREAK

64-9  4:00 PM  Cughey, Michael B.*; Rudkin, David M.; Young, Graham A.: UPPER ORDOVICIAN Eurypterids from the William Lake Lagerstätte, Manitoba, Canada – PHYLOGENETIC AND PALEOBIOLOGICAL IMPLICATIONS

64-10  4:15 PM  Klokman, Adiel A.; Kettman, Kayla M.; Sirison, Nannaphat; Lopez, Giselle; Camargo, Alyssa; Schweitzer, Carrie E.; Feldmann, Rodney M.; Finnegan, Seth: OPPOSITE TRENDS IN BODY SIZE VERSUS LENGTH-WIDTH RATIOS OF CRABS THROUGHOUT THE MESOZOIC

64-11  4:30 PM  Edie, Stewart M.*; Collins, Katie S.; Jablonski, David: ALL HAPPY FAMILIES ARE ALIKE: FUNCTIONAL VS PHYLOGENETIC COMMONALITIES IN MARINE BIVALVE DIVERSIFICATION FOLLOWING THE END-CRETACEOUS MASS EXTINCTION

64-12  4:45 PM  Franck, Franziska*: ORDOVICIAN DIVERSIFICATION DYNAMICS OF TRIPLOC AND TAXONOMIC GROUPS
SESSION NO. 65

T140. Frontiers in Mineralogy, Petrology, and Geochronology: A Session in Honor of Dana Medalist Jörg Hermann (Mineralogical Society of America; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)

1:30 PM, Indiana Convention Center, Sagamore Ballroom 6

Bradley Hacker, Marc M. Hirschmann and Hugh St.C. O’Neill, Presiding

1:30 PM INTRODUCTORY REMARKS

65-1 1:35 PM Spandler, Carol*; Hammerli, Johannes; Kemp, Tony I.S.: PRESERVATION OF ND ISOTOPE HETEROGENEITY DURING METAMORPHISM, AND SOME IMPLICATIONS FOR TRACKING MASS TRANSFER IN THE CRUST AND MANTEL (Invited Presentation)

65-2 1:55 PM Clark, Chris*; Reddy, Steven M.; Hand, Martin; Fougerouse, Denis; Saxey, David W.; Rickard, William D.A.; Taylor, Rich: MICRO-TO NANOSCALE CONSTRAINTS ON THE TIMING AND CONDITIONS ASSOCIATED WITH THE FORMATION LITHOSPHERIC-SCALE CONDUCTIVITY ANOMALIES IN ANHYDROUS CRUSTAL ROCKS

65-3 2:10 PM Kempf, Elias Domnik*; Hermann, Jörg: HYDROGEN INCORPORATION AND RETENTION IN METAMORPHIC OLIVINE FROM THE ELOCIGOTE FACIES ZERMATT-SAAS SERPENTINITES (WESTERN ALPS)

65-4 2:25 PM Reynes, Julien*; Hermann, Jörg; Vitale Brovarone, Alberto: A NOVEL APPROACH TO INVESTIGATE WATER INCORPORATION IN GARNET

65-5 2:40 PM Scambelluri, Marco*; Penacchioni, Giorgio; Plümper, Oliver; Gilio, Mattia; Notini, Luca; Bestmann, Michel; Nestola, Fabrizio: PSEUDOTACHYLYTE IN THE SUBDUCTING SLAB MANTLE FROM ALPINE OPHIOLITES REVEAL FOSSIL INTERMEDIATE-DEPTH EARTHQUAKES LINKED TO DIFFERENTIAL STRESS RELEASE (Invited Presentation)

65-6 3:00 PM Sørensen, Bjørn Eske*; Hielscher, Ralf; Mainprice, David: EBSD AND OPTICAL MICROSCOPE LINKED THROUGH OPTICAL MODELLING OF CRYSTALLOGRAPHICAL DATA FROM EBSD AND 3D VISUALIZATION OF OPTICAL PROPERTIES

3:15 PM BREAK

65-7 3:30 PM Keller, Duncan S.*; Ague, Jay J.: A PRECIPITATION ORIGIN FOR DIVERSE CRYSTALLOGRAPHICALLY-ORIENTED LAMELLAE IN GARNET

65-8 3:45 PM Müntener, Othmar*; Ulmer, Peter: GRANITE FORMATION CONTROLLED BY PHASE EQUILIBRIA IN THE CRUSTAL COLUMN. EXPERIMENTAL PERSPECTIVES FROM EQUILIBRIUM AND FRACTIONAL CRYSTALLISATION (Invited Presentation)

65-9 4:05 PM Stowell, Harold*; Bollen, Elizabeth M.: COMPARISON OF SM-ND AND LU-HF GARNET AGES I: GRANULITE METAMORPHISM, FJORDLAND NEW ZEALAND

65-10 4:20 PM Widmann, Philipp*; Davies, Joshua H.F.L.; Schaltegger, Urs: ATTEMPTS TO CALIBRATE CHEMICAL ABRASION: EFFECTS ON ZIRCON CRYSTAL STRUCTURE, CHEMICAL COMPOSITION, AND U/PB AGE

65-11 4:35 PM Teyssier, Christian*; Whitney, Donna L.; Hamelin, Clémentine; Raia, Natalie H.; Roger, François; Rey, Patrice F.: ZIRCON IN ELOCIGOTE TRACKS DEEP CRUST EXHUMATION IN A MIGMATITE DOME

4:50 PM DISCUSSION

SESSION NO. 66

T141. Different Personalities of Granites and Rhyolites: Silicic Magmas from the Lower Crust to the Surface II—A Session in Honor of Calvin Miller, Recipient of the MGPV Distinguished Geological Career Award (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)

1:30 PM, Indiana Convention Center, Room 240-241

Guilherme A.R. Gualda, Lily L. Claiborne, Jonathan S. Miller and Delores Robinson, Presiding

66-1 1:30 PM Watson, E. Bruce*: Trail, Dustin; Hayden, Leslie A.: MAGNESIUM THERMOMETRY OF APATITE: PRELIMINARY CALIBRATION AND FUTURE PROMISE (Invited Presentation)

66-2 1:50 PM Barnes, Calvin G.*; Babu, Tania; Werts, Kevin; Memeti, Vali; Mundil, Roland: APATITE TRACE ELEMENT VARIATION AND INSIGHTS INTO MAGMATISM IN THE TULUMINE INTRUSIVE COMPLEX (TIC)

66-3 2:05 PM Gammel, Elizabeth M.*; Nabelek, Peter I.: AMPHIBOLE, CLINOPYROXENE AND TITANITE AS PETROGENETIC TRACERS IN THE EJB PLUTON, WHITE-INYO RANGE, EAST-CENTRAL CALIFORNIA, USA

66-4 2:20 PM Drivenes, Kristian*; Browncombe, William; Larsen, Rune Berg; Seltmann, Reimar; Spratt, John; Sørensen, Bjørn Eske: COMBINING OPTICAL PROPERTIES, MINERAL CHEMISTRY, MICROTEXTURES, AND FIELD RELATIONS OF TOURMALINE TO TRACK THE MAGMATIC-HYDROTHERMAL TRANSITION


66-6 2:50 PM Miller, Elizabeth L.*; Gottlieb, E.S.; Konstantinou, Alex; Strickland, Ariel: SILICIC MAGMAS AND TECTONICS: ZIRCON XENOCRYSTS HELP REVEAL THERMAL HISTORY AND RHEOLOGY OF THE CRUST ACROSS THE NORTHERN GREAT BASIN FROM THE CRETACEOUS TO THE MIocene


3:20 PM BREAK

3:35 PM AWARD PRESENTATION


66-9 4:10 PM Bennett, Vickie C.; Carr, Patrick; Laker, Darren; Norman, Marc D.*: SOURCES AND TIMING OF THE MINIMUM-MELT MOLE GRANITE, NEW ENGLAND DROGEN, NSW AUSTRALIA

66-10 4:25 PM Koleas, G. Christopher*; Eddy, Christopher: BIMODAL MAGMATISM AND COUNTRY ROCK ANATEXIS ASSOCIATED WITH STRAIN LOCALIZATION IN CENTRAL VERNOM

66-11 4:40 PM Makovski, Kyle A.*; Samson, Scott; Meoche, Dave: GRENVILLE GRANITOIDS IN THE SOUTHERN APPALACHIANS – FURTHER EVIDENCE OF THE “HOT” GRANITE HYPOTHESIS

### SESSION NO. 67

**T149. Volcanism and Tectonism on Planetary Bodies (GSA Planetary Geology Division; GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)**

1:30 PM, Indiana Convention Center, Room 236-237

Paul K. Byrne and Christian Klimczak, Presiding

| 2:00 PM | Scudder, Noel A.*; Horgan, Briony; Rutledge, Alicia M.: INSIDE A WRINKLE VENUSIAN FIELD: A MARTIAN APPROACH |
| 2:15 PM | Drenth, Benjamin J.; Anderson, Raymond R.; Schulz, Klaus J.; Clark, Ryan J.; Feinberg, Joshua M.; Chandler, Val W.; Cannon, William F.: THE MANCHESTER AND VINTON PLUTONS: KEY COMPONENTS OF A MIDCONTINENT RIFT-RELATED INTRUSIVE COMPLEX IN THE IOWA BASEMENT? |
| 2:30 PM | DeGraff, James M.*; Carter, Brad T.; Tyrrell, Colin W.: BREAK |
| 2:45 PM | Liikane, Dustin A.*; Bleeker, Wouter; Hamilton, Michael A.; Kamo, Sandra L.; Smith, Jennifer; Hollings, Peter; Cundari, Robert; Easton, R.M.: CONTROLS ON THE LOCALIZATION AND TIMING OF MINERALIZED INTRUSIONS WITHIN THE CA. 1.1 GA MIDCONTINENT RIFT SYSTEM |
| 3:00 PM | Vriese, Noah A.*; Rooney, Tyrone O.; Girard, Guillaume: THE NONESUCH FORMATION: PALEOENVIRONMENTAL AND BIOLOGICAL RECORD OF T158. EVOLUTION OF THE MIDCONTINENT RIFT: A WINDOW INTO PROTEROZOIC ENVIRONMENTS, A REPOSITORY OF MINERALS, AND A LESSON IN RIFTING II (GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; Society of Economic Geologists; GSA Geobiology & Geomicrobiology Division) |

1:30 PM, Indiana Convention Center, Room 242

Nicholas L. Swanson-Hysell, Seth Stein and Tyrone O. Rooney, Presiding

| 1:30 PM | Woodruff, Laurel G.*; Nicholson, Suzanne W.; Dicken, Connie L.; Schulz, Klaus J.: MINERAL DEPOSITS OF THE MIDCONTINENT RIFT SYSTEM - A NEW TIME/SPACE CLASSIFICATION |
| 1:45 PM | Coyan, Joshua A.*; Zientek, Michael L.; Parks, Heather L.: PROBABILISTIC ESTIMATE OF UNDISCOVERED RESOURCES OF THE SOUTH KAWISHIWI INTRUSION, DULUTH COMPLEX, MINNESOTA USA |
| 2:00 PM | Friese, Noah A.*; Rooney, Tyrone O.; Giraud, Guillaume: GEOCHEMICAL ANALYSIS OF DEEP CARBON TRANSPORT AT THE 1.1 GA SEABROOK LAKE ONTARIO CARBONATITE COMPLEX |
| 2:15 PM | Drenth, Benjamin J.; Anderson, Raymond R.; Schulz, Klaus J.; Clark, Ryan J.; Feinberg, Joshua M.; Chandler, Val W.; Cannon, William F.: THE MANCHESTER AND VINTON PLUTONS: KEY COMPONENTS OF A MIDCONTINENT RIFT-RELATED INTRUSIVE COMPLEX IN THE IOWA BASEMENT? |
| 2:30 PM | Liikane, Dustin A.*; Bleeker, Wouter; Hamilton, Michael A.; Kamo, Sandra L.; Smith, Jennifer; Hollings, Peter; Cundari, Robert; Easton, R.M.: CONTROLS ON THE LOCALIZATION AND TIMING OF MINERALIZED INTRUSIONS WITHIN THE CA. 1.1 GA MIDCONTINENT RIFT SYSTEM |
| 3:00 PM | DeGraff, James M.*; Carter, Brad T.; Tyrrell, Colin W.: KEWEEWAH FAULT GEOMETRY AND KINEMATICS NORTH OF PORTAGE LAKE, MICHIGAN |
| 3:30 PM | Piispa, Elisa J.*; Slimov, Aleksey V.; Pesonen, Lauri J.; Mitchell, Roger: PALEOMAGNETISM AND GEOCHEMISTRY OF ~1144-MA LAMPROPHYRE DIKES, NORTHERN ONTARIO: IMPLICATIONS FOR THE NORTH AMERICAN POLAR WANDER PATH AND PLATE VELOCITIES |
| 4:00 PM | Sheldon, Nathan D.*; Mitchell, Ria L.: TERRESTRIAL GEOLoGY AND BIOSPHERE-ATMOSPHERE INTERACTIONS IN THE LATE MESOPROTEROZOIC |
| 4:30 PM | Gallagher, Timothy M.*; Sheldon, Nathan D.; Chappaz, Anthony; Hren, Michael T.: THE NONESUCH FORMATION: "FINISHING THE STORY" |
SESSION NO. 69

T165. Where Does the Wind Blow? Aeolian Systems in Time and Space II (GSA Quaternary Geology and Geomorphology Division; International Society of Aeolian Research; GSA Sedimentary Geology Division)

1:30 PM, Indiana Convention Center, Room 138-139
Nicholas Lancaster, Mark R. Sweeney, David A. Grimley and Jessica L. Conroy, Presiding

1:30 PM INTRODUCTORY REMARKS

69-1 1:35 PM Conroy, Jessica L.*; Karamperidou, Christina; Grimley, Dave A.; Guenthner, William R.: WESTERLY WINDS ACROSS THE NORTH AMERICAN MID-CONTINENT DURING THE LAST GLACIAL MAXIMUM: A NEW DATA-MODEL ASSESSMENT (Invited Presentation)

69-2 1:55 PM Schaetzl, Randall*: REDISTRIBUTION OF LOESS DUE TO THAWING OF MIS-2 PERMAFROST?

69-3 2:10 PM Grimley, David A.;*; Dendy, Sarah; Conroy, Jessica L.; Pigati, Jeffrey S.: LAST GLACIAL CLIMATIC AND ECOLOGICAL GRADIENTS IN THE CENTRAL USA (GLACIATED MIDWEST TO GULF COAST) BASED ON FOSSIL TERRESTRIAL GASTROPOD ASSEMBLAGES

69-4 2:25 PM Rovey, Charles*; Siemens, Mike: PRE-ILLINOIAN LOESS IN CENTRAL MISSOURI

69-5 2:40 PM Adams, Steven*; Soreghan, Genlyn: RESULTS OF EXPERIMENTAL AEOELIAN SALTATION AND IMPLICATIONS FOR THE INTERPRETATION OF LOESS DEPOSITS

69-6 2:55 PM Koffman, Bess*; Goldstein, Steven L.; Kaplan, Michael R.; Winckler, Gisela; Bory, Aloya; Biscegy, Pierre E.: ABRUPT LATE HOLOCENE SHIFT IN ATMOSPHERIC CIRCULATION RECORDED BY MINERAL DUST IN THE SIPEL DOME ICE CORE, ANTARCTICA (Invited Presentation)

3:15 PM BREAK

69-7 3:30 PM Eagle, Robert*; Mitsunaga, Bryce A.; Bricker, Hayley; Bateham, Jesse B.; Mering, John; Mitchell, Jonathan L.; Seibt, Unrike; Neelin, David; Ris, Camille; Li, Gaojun; Tripati, Aradhna: CLUMPED ISOTOPE ANALYSES OF CARBONATE CONTAINED IN LOESS DEPOSITS TO CONTRAST TERRESTRIAL TEMPERATURE AND HYDROLOGICAL CHANGE THROUGH TIME

69-8 3:45 PM Serach, Lily; Zhang, Hanzhi; Lu, Huayu; Wang, Hanlin; Ji, Shunchuan; Heitman, Emma O.; Gallagher, Timothy M.; Xi, Chang; Breecker, Daniel O.*: SOIL CARBONATE RECORD OF LATE MIocene AND PLIOCENE ENVIRONMENTAL CHANGE FROM THE JIAXIAN RED CLAY SECTION, NORTHERN LOESS PLATEAU, CHINA

69-9 4:00 PM McDonald, Eric V.*; Sweeney, Mark R.; Hanson, Paul R.: WHEN DID VESICULAR A (AV) FORMATIONS IN THE DESERT SW U.S.: ELUCIDATING BETWEEN SOIL PROCESSES AND LUMINESCENCE AGES

69-10 4:15 PM Pensico, Lyman P.*; McFadden, Leslie D.; McAuliffe, Joseph R.: OSL DATES RECORD ASPECT-RELATED DIFFERENCES IN SOURCE AND TIMING OF SEDIMENTS IN SOILS OF MOJAVE DESERT HILLSLOPES

69-11 4:30 PM Munroe, Jeffrey S.: PROPERTIES OF MODERN DUST ACCUMULATING IN THE ALPINE ZONE OF THE UINTA MOUNTAINS, UTAH

69-12 4:45 PM Fenerty, Brendan*; Pelletier, Jon D.: MODELING CONTROLS ON LUNETTE FORMATION: IMPLICATIONS FOR INFERRING LATE QUATERNARY PALEOClimATE

4:50 PM DISCUSSION

SESSION NO. 70

T184. Geodynamic, Orogenic, and Surface Processes of Flat-Slab Subduction (GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division; GSA Sedimentary Geology Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Quaternary Geology and Geomorphology Division; GSA International Interdisciplinary Interest Group)

1:30 PM, Indiana Convention Center, Room 243
Tomas N. Capaldi, Emily S. Finzel and Majie Fan, Presiding

70-1 1:30 PM Liu, Lijun*; Hu, Jiashun: NEW INSIGHTS ON THE FORMATION AND CONSEQUENCE OF FLAT-SLAB SUBDUCTION (Invited Presentation)

70-2 1:50 PM Schellart, Wouter P.*: GEODYNAMIC MODELS OF SHORT-LIVED, LONG-LIVED AND PERIODIC FLAT SLAB SUBDUCTION

70-3 2:05 PM van Wijk, Jolante W.*; Currie, Claire A.; Axen, Gary: WHAT IS THE MECHANISM OF UPPER-PLATE DEFORMATION AS A RESULT OF FLAT-SLAB SUBDUCTION?

70-4 2:20 PM Willis, David*; Betts, Peter; Moreisi, Louis; Ailleres, Laurent; O’Farrell, Keely: THE EVOLUTION OF CONTINENTAL COLLISION CONTROLLED BY THE WIDTH OF ADJACENT SUBDUCTION ZONE

70-5 2:35 PM Wagner, Lara S.*; Beck, Susan L.; Long, Maureen D.: TIME VARIANT FLAT SLAB GEOMETRIES AND THEIR EFFECTS ON THE OVERRIDING CONTINENTAL LITHOSPHERE (Invited Presentation)

70-6 2:55 PM Brocher, Thomas M.*: MODULATION OF CRUSTAL FAULTING IN THE CRESCENT TERRANE BY THE VOLUME OF UNDERTHrust ACCRETIONARY COMPLEX ALONG THE WASHINGTON CASCADIA FERARC

70-7 3:10 PM Dvorak, Katherine*; Kominz, Michelle; Fulthorpe, Craig; Crundwell, Martin P.: APPLYING AN EPIEROGENIC TYPE UPLIFT TO SUPPOSED PASSIVE MARGINS: GEOMETRY AND TECTONIC HISTORY OF THE CANTERBURY BASIN, SOUTH ISLAND, NEW ZEALAND


70-9 4:00 PM Capaldi, Tomas N.*; Horton, Brian K.; McKenzie, N. Ryan; Mackaman-Lofland, Chelsea; Stockli, Daniel F.; Ortiz, Gustavo; Alvarado, Patricia A.: STRATIGRAPHIC RESPONSE TO NEogene FLAT-SLAB SUBDUCTION, ARGENTINA

70-10 4:15 PM Well, Arlo Brandon*; Yonke, Adolph: DEFORMATION PATTERNS ACROSS THE LARAMIDE AND SIERRA PAMPEANAS THICK-SKINNED FORELAND SYSTEMS; RELATIONS TO PLATE DYNAMICS, LITHOSPHERIC STRESS TRANSMISSION, AND CRUSTAL ARCHITECTURE

70-11 4:30 PM Bishop, Brandon T.*; Beck, Susan L.; Wagner, Lara S.; Long, Maureen D.: OROGEN-WIDE RESPONSE OF THE PERUVIAN ANDES TO ASEISMIC RIDGE INDUCED FLAT SUBDUCTION

70-12 4:45 PM Chang, Ching*: Liu, Lijun: INVESTIGATING THE DRIVING MECHANISMS FOR THE SEDIMENTATION HISTORY OF THE CRETACEOUS WESTERN INTERIOR SEAWAY USING LANDSCAPE EVOLUTION MODELS
SESSION NO. 71
T186. Celebrating the Sedimentary Legacy of Dr. Robert H. Dott, Jr., Part II (GSA Sedimentary Geology Division; GSA History and Philosophy of Geology Division)
1:30 PM, Indiana Convention Center, Sagamore Ballroom 7
Marjorie A. Chan, Joanne Bourgeois and Steven G. Driese, Presiding

71-2 1:45 PM Byers, Charles W.: R. H. DOTT, JR. – PROTEAN GEOLOGIST
71-3 2:00 PM Runkel, Anthony C.: LOWER PALEOZOIC SHEET SANDSTONES IN THE CRATONIC INTERIOR OF NORTH AMERICA: SOLVING THE SHEET GEOMETRY PUZZLE
71-4 2:15 PM Driese, Steven G.: ROBERT H. DOTT, JR., AND HIS CONTRIBUTIONS TO PROCESS-SEDIMENTOLOGICAL INTERPRETATIONS OF CAMBRO-ORDOVICIAN CRATONIC SHEET SANDSTONES
71-5 2:30 PM Zambito, James J.; Sullivan, Nicholas B.; McLaughlin, Patrick I.: SEA-LEVEL HISTORY OF CAMBRIAN-ORDOVICIAN BOUNDARY INTERVAL STRATA ON THE WISCONSIN ARCH
71-6 2:45 PM Malone, David H.; Konstantinou, Alex; Craddock, John R.: DETRITAL ZIRCON PROVENANCE OF THE EARLY PALEOZOIC ARENITES OF THE LAURENTIAN MICOCONTINENT
71-7 3:00 PM Moecher, David P.; Kelly, Evan A.; Hietpas, Jack; Samson, Scott D.: PROOF OF RECYCLING IN CLASTIC SEDIMENTARY SYSTEMS FROM TEXTURAL OBSERVATIONS AND TH-PB SIMS GEOCHRONOLOGY OF DIAGENETIC DETRITAL MONAZITE: CHANNELING ONE’S INNER BOB DOTT AND IMPLICATIONS FOR DETRITAL MINERAL PROVENANCE STUDIES
71-8 3:30 PM Myrow, Paul M.*; Taylor, John F.; Chen, Jitao; Hasson, M.; Fowlkes, G.; Fike, David; Tarhan, Lidya G.: REVISED LOWER PALEOZOIC STRATIGRAPHY OF THE DINOSAUR NATIONAL MONUMENT REGION: NEWLY RECOGNIZED DEVONIAN STRATA OF THE UPPER “LODORÉ” FORMATION
71-9 3:45 PM Kerr, Dennis R.: SEQUENCE STRATIGRAPHY OF COASTAL MIXED CLASTIC-CARBONATE FACIES: PERMO-CARBONIFEROUS OF NORTH CENTRAL WYOMING, USA
71-10 4:00 PM Potter-McIntyre, Sally L.: USING TRADITIONAL TOOLS TO SHED NEW UNDERSTANDING ON DIAGENETIC AND DEPOSITIONAL PROCESSES: EXTENDING THE LEGACY OF DR. ROBERT DOTT, JR. TO A NEW GENERATION – AND A NEW PLANET!
71-11 4:15 PM Doe, Thomas W.: GEO-EPISTEMOLOGY OF SUBSURFACE FLOW SIMULATION: POROUS VERSUS DISCRETE FRACTURE FLOW MODELS
71-12 4:30 PM Denny, Adam*: Fall, András; Orland, Ian J.; Valley, John W.; Eichhubl, Peter; Laubach, Stephen E.: COUPLING SIMS ANALYSES, FLUID INCLUSIONS, AND 1-D BURIAL MODELING TO CONSTRAIN POREWATER δ18O EVOLUTION IN SANDSTONES OF THE CRETACEOUS TRAVIS PEAK FORMATION IN EAST TEXAS
5:00 PM CONCLUDING REMARKS, DISCUSSION, MEMORIES
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<td>Kerr, James*: COMMENSALISM IN THE MIDST OF EXTINCTION: ENCROUTERS AND BORERS OF THE APPALACIAN FORELAND BASIN ACROSS THE FRASNIAN-FAMENNIAN BOUNDARY</td>
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<td>73-8</td>
<td>Balseiro, Diego; Powell, Matthew G.*: CARBONATE COLLAPSE AND THE LATE PALEOZOIC ICE AGE BIODIVERSITY CRISIS</td>
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<td>73-9</td>
<td>Finnegan, Seth*; Saupe, Erin E.; Ridgwell, Andy; Gloo, Huije: MODELING EXPECTED PATTERNS OF EXTINCTION SELECTIVITY DURING EPISODES OF GLOBAL CHANGE</td>
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<td>73-11</td>
<td>Smits, Peter D.*; Finnegan, Seth: HOW PREDICTABLE IS EXTINCTION? FORECASTING SPECIES SURVIVAL AT MILLION-YEAR TIMESCALES</td>
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<td>73-12</td>
<td>Darroch, Simon A.F.*: Saupe, Erin E.; Casey, Michelle M.: THE PRESERVATION POTENTIAL OF GEOGRAPHIC RANGE SIZE DISTRIBUTIONS IN DEEP TIME</td>
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<td>73-13</td>
<td>Casey, Michelle M.*; Saupe, Erin; Lieberman, Bruce S.: IMPACT OF GEOGRAPHIC RANGE SIZE ON EXTINCTION SELECTIVITY IN LATE PALEOZOIC BRACHIOPODS OF THE NORTH AMERICAN MIDCONTINENT</td>
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<td>73-14</td>
<td>Tomasovych, Adam*; Albano, Paolo G.; Fukuji, Tomáš; Galmetzer, Ivo; Haselmair, Alexandra; Kowalewski, Michal; Nawrath, Rafael; Nerlovčík, Vedrana; Scarponi, Daniele; Zuschin, Martin: INCREASE IN SIZE OF THE BIVALVE CORRÜLĂ GIBBA DRIVEN BY CHANGES IN GROWTH RATE IN RESPONSE TO THE 20TH CENTURY EUTROPHICATION IN THE ADRIATIC SEA</td>
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**SESSION NO. 74**

**D56. Sediments, Carbonates**

8:00 AM, Indiana Convention Center, Room 238-239

Callum J. Hetherington and Delores M. Robinson, Presiding

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<td>Cvetko Tešović, Blanka*; Martinuš, Maja; Vlahović, Igor: SUBAERIAL EXPOSURE SURFACE WITHIN PALEOCENE CARBONATES AS A REGIONAL EVENT MARKING THE END OF ADRIATIC CARBONATE PLATFORM DEPOSITION ON THE ISLAND OF BRAČ, CROATIA</td>
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<td>74-2</td>
<td>Al Musawi, Mohammed A.*; Kaczmarek, Stephen: AN INTEGRATED SHELF-TO-BASIN CHEMO- AND CHRONO-STRATIGRAPHIC CORRELATION OF THE BURNT BLUFF GROUP (BBG) CARBONATES, MICHIGAN BASIN, U.S.A</td>
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<td>74-3</td>
<td>Harris, Clay D.*: AN UPPER ORDOVICIAN GEOLOGICAL ENIGMA: BEACHROCK BouldERS STRANDED ON THE LOWER SHOREFACE OF AN EPEIRIC-PLATFORM ISLET</td>
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<td>74-4</td>
<td>Smith, Benjamin Paul*; Kerans, Charles: ESTIMATING PALEOBATHMETRY IN CARBONATE SHELF STRATA: AN EXAMPLE FROM THE SEVEN RIVERS FORMATION, NM</td>
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<td>74-5</td>
<td>Lee, Jeong-Hyun*; Cho, Suk-Joo; Lee, Dong-Jin: LIMESTONE-SHALE COUPLE REVISITED: UPPER CAMBRIAN (FURGONIAN) HWAJOEL FORMATION, TAEBAEKSAN BASIN, KOREA</td>
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<td>74-6</td>
<td>Trower, Elizabeth J.*; Bridgers, Sophia; Lamb, Michael P.; Fischer, Woodward W.: OOID CORTICAL STRATIGRAPHY: THE TOPOLOGY OF CONCENTRIC LAMINATIONS IN CARBONATE SAND GRAINS RECORD GRAIN-SCALE ENVIRONMENTAL HISTORIES (Invited Presentation)</td>
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<td>Friedrich, Anke M.*: PALAEOGEOLOGICAL HIATUS SURFACE MAPPING: A TOOL TO VISUALIZE VERTICAL MOTION OF THE CONTINENTS</td>
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<td>Robinson, Delores M.*; Drago, L.W.: BURIAL, MATURATION AND MIGRATION OF CRUDE OILS FOUND IN CARBONIFEROUS SANDSTONE RESERVOIRS, BLACK WARRIOR BASIN, NORTHWESTERN ALABAMA</td>
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<td>74-9</td>
<td>Fisher, Matt P.<em>; Hetherington, Callum J.</em>: MEASURED VERSUS CALCULATED MINERAL ASSEMBLAGES AND ABUNDANCES IN UNCONVENTIONAL MUDSTONES: A ROUND-ROBIN TEST OF DIFFERENT XRF TECHNIQUES</td>
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**SESSION NO. 75**

**T3. Karst Hydrology and Hydrogeology (GSA Karst Division; GSA Geophysics and Geodynamics Division; GSA Hydrogeology Division)**

8:00 AM, Indiana Convention Center, Room 130-131

Benjamin F. Schwartz and Benjamin W. Tobin, Presiding

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<td>Coutino, Aaron*; Stastna, Marek; Reinhardt, Eduard G.: CURRENT OBSERVATIONS WITHIN THE YUCATAN KARST AQUIFER AND A BOX MODEL OF MANGROVE INTERACTIONS</td>
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<td>Perry, Eugene C.*; Leal-Bautista, Rosa Maria; Velázquez-Olman, Guadalupe; Wagner, Niklas: THE ICAICHE FORMATION: UNACKNOWLEDGED CONTRIBUTOR TO YUCATÁN HYDROGEOLOGY AND GEOMORPHOLOGY</td>
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<td>Land, Lewis*: HYDROLOGIC INVESTIGATION OF KARSTIC AQUIFERS: SAN SOLOMON SPRINGS GROUP, FAR WEST TEXAS</td>
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<td>Osborne, Cesalea N.*: HYDROGEOLOGY OF THE HIDDEN RIVER GROUNDWATER BASIN, HORSE CAVE, HART COUNTY, KENTUCKY</td>
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<td>75-5</td>
<td>Hunt, Brian B.*; Smith, Brian A.; Gary, Marcus O.; Wierman, Douglas A.; Watson, Jeffery A.: SUSTAINABLE YIELD OF JACOB’S WELL SPRINGS, MIDDLETOWN SPRINGS ZONE, KARST MOLasses, AN NAUTICAL AQUIFER, WIMBERLEY, TEXAS</td>
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<td>75-6</td>
<td>Bobek, P.*: JEAN-BAPTISTE PARAMELLE: PIONEER KARST HYDROGEOLOGYST</td>
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<td>75-7</td>
<td>Hernandez, Fernando*; Polk, Jason; Kambesis, Patricia N.; Smith, James, Siewers, Fredrick D.: CHARACTERIZING HYDROLOGIC CONNECTIONS AND KARSTIFICATION IN SISTEMA HUAUTLA FROM EXPLORATION AND DYE TRACING (Invited Presentation)</td>
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<td>75-8</td>
<td>Inkenbrandt, Paul C.*; Kirby, Stefan: UTAH’S ONLY DOCUMENTED PERIODIC SPRING: CHARACTERIZING KARST IN SOUTHERN CACHE COUNTY, UTAH</td>
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<td>Luhmann, Andrew J.*; Bilek, Susan L.; Grapenthin, Ronni: SEISMIC RESPONSES DURING RECHARGE EVENTS IN KARST AQUIFERS: POTENTIAL RECORDS OF PRESSURE PULSES?</td>
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<td>Agnew, Robert J.*; Halihan, Todd: DETERMINATION OF A HYDRO-PNEUMOGRAPH IN A KARST SPRING</td>
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<td>Muldoon, Maureen A.*; Bradbury, Kenneth R.: RECHARGE CHARACTERISTICS OF THE FRACTURED Dolomite AQUIFER IN NORTHEAST WISCONSIN: OBSERVATIONS, CONTROLS, AND IMPLICATIONS FOR AQUIFER VULNERABILITY</td>
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<td>75-12</td>
<td>Zhang, Heng*; Cai, Zhongxian: HYDROGEOLOGICAL ORIGIN OF THE ORDOVICIAN STRATIFORM PALEOKARST RESERVOIRS, IN THE SOUTHERN TAHE OILFIELD, TARIM BASIN, CHINA</td>
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<td>75-13</td>
<td>Moore, Brittany Paige*: EFFECTS OF LAND COVER CHANGE ON STORM WATER RUNOFF AT THE KISSING TREE DEVELOPMENT IN SAN MARCOS, TEXAS</td>
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<td>75-14</td>
<td>Zappitello, Sarah J.*; John, David A.: A ROBUST COLOR PALATE: THE LATEST CHAPTER IN 20+ YEARS (AND COUNTING) OF BARTON SPRINGS EDWARDS AQUIFER TRACING (Invited Presentation)</td>
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SESSION NO. 76

T13. Global Warning: Accelerating Rates of Change Forewarn of Catastrophic Impacts I (GSA Quaternary Geology and Geomorphology Division; GSA Energy Geology Division; GSA Environmental & Engineering Geology Division; GSA Geology and Health Division; GSA Geology and Society Division; GSA Geoscience Education Division; GSA Hydrogeology Division)

8:00 AM, Indiana Convention Center, Room 134

George T. Stone, Rolfe Mandel and Michael E. Mann, Presiding

8:00 AM INTRODUCTORY REMARKS

76-1 8:05 AM Mann, Michael E.*: CLIMATE CHANGE AND EXTREME SUMMER WEATHER EVENTS

76-2 8:20 AM Thompson, Lonnie G.*; Mosley-Thompson, Ellen; Davis, Mary E.; Pernama, Donald S.: RAPIDLY RETREATING TROPICAL GLACIERS: PRESENT AND FUTURE SOCIETAL IMPACTS (Invited Presentation)

76-3 8:40 AM Miller, Gifford*; Pendleton, Simon L.; Lehman, Scott; Lifton, Nathaniel A.; Southon, John: GLACIERS IN ARCTIC CANADA RECEIVING AT UNPRECEDENTED MELT RATES REVEAL EVIDENCE DEMONSTRATING CONTEMPORARY SUMMERS WARMEST IN >40,000 YEARS

76-4 8:55 AM Kurtz, Lauren; Wilson, Augusta*: CLIMATE SCIENCE IN THE CROSSHARRIS

76-5 9:10 AM Benbow, Ann E.*; Mably, Colin: GETTING THE WORD OUT: COMMUNICATING SCIENCE TO SCHOOLS AND THE PUBLIC

76-6 9:25 AM Phillips, Michael A.*: BUILDING TRUST AND PROMOTING SCIENTIFIC REALISM IN THE CLASSROOM AND COMMUNITY: A PATHWAY TO CLIMATE SANITY

9:40 AM BREAK

76-7 9:55 AM Courtney, Stephanie L.*; McNeal, Karen S.: BUILDING BETTER GRAPHS FOR CLIMATE CHANGE COMMUNICATION

76-8 10:10 AM Gomby, Gary*: BEYOND SUSTAINABILITY: THE ANTHROPOCENE AS A PARADIGM FOR TEACHING THE EARTH ACROSS DISCIPLINES

76-9 10:25 AM Missimer, Thomas M.*; Michael, Peter; Ng, Kim Choon: LINKING GEOTHERMAL ELECTRICITY GENERATION WITH MULTIPLE DESALINATION PROCESS AND AQUIFER STORAGE AND RECOVERY: A METHOD TO REDUCE FOSSIL FUELS USE AND THE CARBON FOOTPRINT OF MANY GLOBAL REGIONS

76-10 10:40 AM Onyeagba, Nnaemeka Chidubem*; Heilmeier, Hermann: THE EFFECT OF HYDROCARBON EXPLORATION ON THE ECOSYSTEM: THE NIGERIA NIGER-DELTA CASE STUDY


76-12 11:10 AM Stone, George T.*: FOSSIL FUEL COLLATERAL DAMAGE: RESPONSIBILITIES AND REPARATIONS

11:25 AM DISCUSSION

11:40 AM CONCLUDING REMARKS

SESSION NO. 77


8:00 AM, Indiana Convention Center, Room 233

Matthew Dawson, Lisa Norby, Jason P. Kenworthy, Johanna Kovarik and F. Edwin Harvey, Presiding

8:00 AM INTRODUCTORY REMARKS

77-1 8:10 AM Alvarado, Alberto O.*; Henderson, Kate M.; Tardona, Daniel R.: CONSERVATION CHALLENGES AT TIMUCUAN ECOLOGICAL AND HISTORIC PRESERVE: A COMPLEX URBAN MULTI-JURISDICTIONAL ESTUARINE PRESERVE

77-2 8:25 AM Ruhm, Catherine T.*; Davis, Christopher A.; Jeffreyson, Anne J.; Blackwood, Christopher B.; Bahlai, Christie A.; Ruggles, Thomas A.; Minervic, Anthony J.: SOIL PROPERTIES IMPEDE REFORESTATION OF ABANDONED MINE SITES IN CUYAHOGA VALLEY NATIONAL PARK

77-3 8:40 AM Yragui, Angela*: MAPPING RIPARIAN ZONE SHRUBS AND TREES TO ANALYZE BEAVER HABITAT SUITABILITY IN THE MANCOS RIVER, MESA VERDE NATIONAL PARK

77-4 8:55 AM McCracken, Reba*: Caskey, Simeon: ASSESSING CITIZEN SCIENCE STRUCTURE-FROM-MOTION AS A METHOD FOR MEASURING GLACIER ANNUAL MASS BALANCE IN GRAND TETON NATIONAL PARK

77-5 9:10 AM Tenison, Christina N.*; Trimboth, Ryan J.; Meyer, Mark E.: Peters, Melanie V.: ENJOY THE VIEW: ASSESSING RIVER-RELATED SCENIC VIEWS TO HELP DETERMINE WILD AND SCENIC RIVER ELIGIBILITY AT CUYAHOGA VALLEY NATIONAL PARK, OHIO

9:25 AM BREAK

77-6 9:40 AM Miranda, Ariana*: Tweet, Justin S.; Santucci, Vincent L.; Deutsch, Kara: A COMPREHENSIVE PALEONTOLOGICAL RESOURCES INVENTORY OF THE DELAWARE WATER GAP NATIONAL RECREATION AREA IN NEW URBAN WESTERN NEW JERSEY AND NORTHEASTERN PENNSYLVANIA

77-7 9:55 AM Ong, Nathan S.*; Hunt, ReBecca K.: EXPLORING THE PALEONTOLOGY OF MOAB THROUGH THE JURASSIC WALKS AND TALKS PROGRAM

77-8 10:10 AM Kort, Anne E.*; Famoso, Nicholas A.: THE EVOLUTION OF CARNIVORAN HUNTING STYLES AT JOHN DAY FOSSIL BEDS NATIONAL MONUMENT

77-9 10:25 AM Ferguson, Phoebe*: STORIES IN STONE: GEOLOGIC RESOURCES OF OUR NATIONAL FORESTS

77-10 10:40 AM Port, Rebecca B.*: GEOLOGY THROUGH GREEN AND GRAY LENSES: ACQUIRING AND PROVIDING GEOSCIENCE INFORMATION TO THE NATIONAL PARK SERVICE

10:55 AM BREAK

77-11 11:10 AM Barthelmes, Michael*: STORY CIRCLES DEVELOP NARRATIVE INTUITION FOR SCIENCE COMMUNICATION

11:25 AM "LIGHTNING ROUND" POSTER INTRODUCTIONS

11:40 AM DISCUSSION

SESSION NO. 78

T27. The Application of Soil Science in Archaeological Research During the 21st Century (GSA Geoarchaeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Soils and Soil Processes Division; GSA International Interdisciplinary Interest Group)

8:00 AM, Indiana Convention Center, Room 135

Rolfe Mandel and Vance T. Holliday, Presiding

78-1 8:00 AM Hajic, Edwin R.*; Martin, Andrew V.: AN INTEGRATED AND ARCHAEOLOGICALLY SCALED SOIL GEOMORPHIC AND SOIL STRATIGRAPHIC APPROACH TO ARCHAEOLOGICAL RESEARCH IN ALLUVIAL ENVIRONMENTS (Invited Presentation)

78-2 8:20 AM Scher, Naomi*; Kajiankoski, Philip; Meyer, Jack A.: URBAN ARCHAEOLOGY: NEXUS OF GEOARCHAEOLOGY AND CULTURAL RESOURCES MANAGEMENT
**SESSION NO. 79 $**

**T33. Geologic Energy Research I (GSA Energy Geology Division)**

8:00 AM, Indiana Convention Center, Room 145

Laura S. Ruhl, Marc L. Buursink, Travis L. McIlng and J. Fred McLaughlin, Presiding

79-1 8:00 AM Ehinola, Olugbenga A.; Afuye, Taiwo: RESERVOIR PROPERTIES EXTRAPOLATION USING PROBABILITY TRENDS AS AREAL CONTROL FOR “AJOT” FIELD, OFFSHORE NIGER DELTA

79-2 8:15 AM Larmagnat, Stéphanie*; Lavoie, Denis; Francis, Pierre; Des Roches, Mathieu; Daigle, Louis-Frederic; Raymond, Jasmim; Malo, Michel: FLUID STORAGE AND CIRCULATION IN CARBONATES: A SILURIAN CASE STUDY IN EASTERN CANADA

79-3 8:30 AM Frey, Bonnie A.; Cadol, Daniel; McLemore, Virginia T.; Chávez, William X.; Hettiarachchi, Eshani; Brown, Reid D.; Caldwell, Samantha; Pearce, Alexandra R.; Assaf-Akowuah, John; Silva, Marcus: EXAMINING URANIUM TRANSPORT, SOURCES AND WASTE IN NEW MEXICO MINING DISTRICTS


79-5 9:00 AM Lobeck, Haylie L.*; Isner, Jordan K.; Burns, Peter C.: TRANSFORMATION OF THE URANYL PEROXIDE MINERALTIDE, ([UO2]−(O2)−NH4)(H2O)2, TO SOLUBLE NANOCLUSTER CAGE CLUSTERS

79-6 9:15 AM Sapiie, Benyamin*; Gunawan, Indra; Handoyo, Agus Handoyo: INTEGRATED STRUCTURAL GEOLOGY APPROACH IN EVALUATING HYDROCARBON POTENTIAL OF WEST TIMOR, INDONESIA

79-7 9:45 AM Wright, Christopher*: COAL RESOURCES OF THE MIDDLE AND LOWER KITTANNING COAL BEDS IN OHIO

79-8 10:00 AM Montross, Scott N.*; Guan, Kelly M.; Verba, Circe: MINERALOGICAL ANALYSIS AND RECOVERY OF RARE EARTH ELEMENTS FROM U.S. DOMESTIC COAL RESOURCES

79-9 10:15 AM Li, Xining*; Zhang, Shuhang; Jin, Xu; Li, Jianming; Jiao, Hang; Wang, Xiaoqi; Liu, Xiaodan: MICROSCOPIC SPHERULITIC APATITE IN MESOPROTEROZOIC BLACK SHALE: BIOTOMIC OR DIAGENETIC ORIGIN?

79-10 10:30 AM Wuyep, Elizabeth Olive*; Oluyemi, Gbenga; Yates, Kyari; Akinyanya, Alfred: NUMERICAL MODELLING OF OILFIELD CHEMICAL INTERACTION WITH POROUS MEDIUM


79-12 11:00 AM Drake, Ronald M.: ASSESSMENT RESULTS OF UNDISCOVERED OIL AND GAS RESOURCES OF THE HEATH FORMATION, CENTRAL MONTANA AND WESTERN NORTH DAKOTA

79-13 11:15 AM Ren, Rong*; Guan, Shuwei; Wu, Lin: TECTONIC EVOLUTION OF THE NEOPROTEROZOIC RIFT BASINS AND ITS IMPLICATION FOR OIL AND GAS EXPLORATION IN THE TARIM BASIN, CHINA

79-14 11:30 AM Guan, Shuwei*; Ren, Rong; Zhang, Chunyu: PROTOTYPE, TECTONIC-SEDIMENTARY FEATURE, EVOLUTION, AND PETROLEUM PROSPECT OF THE PROTEROZOIC RIFTS AND MARGINAL BASINS IN THE MAIN CRATONS OF CHINA

**SESSION NO. 80**

**T37. Global Change: Evolution and Extinctions in the Triassic (GSA Geobiology & Geomicrobiology Division; Paleontological Research Institution; Paleoclimatology/Paleoceanography; GSA Sedimentary Geology Division; Paleontological Society)**

8:00 AM, Indiana Convention Center, Room 136-137

Stephen E. Grasby and David P.G. Bond, Presiding

80-1 8:00 AM Wignall, Paul B.: EARLY TRIASSIC RECOVERY - A FALSE DAWN? (Invited Presentation)

80-2 8:20 AM Grasby, Stephen E.*; Bond, David P.G.; Wignall, Paul B.: THE LONG ROAD TO RECOVERY – THE TRIASSIC MARINE BOREAL RECORD AT SPATH CREEK, CANADIAN HIGH ARCTIC

80-3 8:35 AM Chu, Daoliang*; Tong, Jinnan; Benton, Michael J.; Song, Haijun: THE CORRELATION OF THE PERMIAN-TRIASSIC TRANSITIONAL BEDS AND MASS EXTINCTION IN CONTINENTAL-MARINE SUCCESSIONAL SETTINGS OF WESTERN GUICHUOU AND EASTERN YUNNAN, SOUTHWESTERN CHINA (Invited Presentation)

80-4 8:55 AM Opazo, L. Felipe*; Hendy, Austin J.W.; Abades, Sebastian R.; Marquet, Pablo A.: EPISODES OF FAUNAL TURNOVER AND INCREASES OF ECOLOGICAL COMPLEXITY ACROSS PALAEOZOIC-EOSIEZOIC TRANSITION IN MARINE ECOSYSTEMS

80-5 9:10 AM Bond, David P.G.; Wignall, Paul B.; Grasby, Stephen E.; Pruss, Sara B.: EDIACARAN-LIKE TEXTURED ORGANIC SURFACES FROM THE BOREAL EARLY TRIASSIC: MICROBIAL MATS THRIVED IN THE ABSENCE OF
GRAZING AFTER THE PERMIAN-TRIASSIC MASS EXTINCTION

9:25 AM BREAK


8:55 AM Zhao, He; Zhang, Feifei; Algeo, Thomas J.; Chen, Zhong Qiang; Liu, Yongsheng; Hu, Zhaochu; Li, Ziheng; Anbar, Ariel D.: CALCIUM ISOPE EVIDENCE OF AN EPISODE OF OCEAN ACIDIFICATION ACROSS THE SMITHIAN-SPATHIAN BOUNDARY

10:10 AM Ritterbush, Kathleen A.: BIOENERGETICS OF EARLY TRIASSIC PELAGIC ECOSYSTEMS: FAST METABOLISMS, FAST CARBON CYCLING (Invited Presentation)

10:30 AM Tackett, Lydia S.; Clement, Annaka M.: CAN EVOLUTIONARY ESCALATION DRIVE CHANGES IN PALEOECOLOGICAL STRUCTURE?: A CASE STUDY FROM THE NORIAN STAGE (LATE TRIASSIC) OF WESTERN NEVADA

10:45 AM Irms, Randall B.; Nayee, Jaimun; Percival, Lawrence M.E.; Whiteside, Jessica H.; Matther, Tamsin A.; Mancuso, Adriana Cecilia; Benavente, Cecilia Andrea: IS MERCURY FROM “BACKGROUND” VOLCANISM PRESERVED IN THE SEDIMENTARY RECORD? A TEST USING FLUVIO-LACUSTRINE STRATA FROM THE UPPER TRIASSIC OF ARGENTINA

SESSION NO. 81

T45. Is There a Medical Geologist in the House? A Session Honoring the Contributions of Robert Finkelman to the Field of Medical Geology (GSA Geology and Health Division)

8:00 AM, Indiana Convention Center, Sagamore Ballroom 6

Malcolm Siegel, G. Nelson Eby, Saugata Datta and Jean M. Morrison, Presiding

8:00 AM INTRODUCTORY REMARKS

8:05 AM Belkin, Harvey E.: COAL RESEARCH, EARLY FORAYS INTO ENVIRONMENT AND HUMAN HEALTH AT THE U.S. GEOLOGICAL SURVEY, AND MEDICAL GEOLOGY WITH ROBERT B. FINKELMAN


8:55 AM Chakraborty, Jayeeta*; Finkelman, Robert B.; Orem, William H.; Varonka, Matthew S.; Mantion, William I.: INVESTIGATING A LINK BETWEEN LOW-RANK COAL BEARING CARRIZO-WILCOX AQUIFER WATER AND KIDNEY DISEASE IN EAST TEXAS

9:10 AM Kolker, Allan*: Valentine, Brett J.; McAleen, Ryan J.; Scott, Clint: THE ROLE OF MICROANALYSIS IN DETERMINING TRACE ELEMENT DISTRIBUTIONS IN ENERGY MATERIALS, AND THEIR IMPLICATIONS (Invited Presentation)

9:30 AM Nichols, Naomi T.P.; Brikowski, Tom; Finkelman, Robert B.: SAHARAN DUST AND PEDIATRIC ASTHMA IN THE CARIBBEAN

9:45 AM BREAK

10:00 AM Mugovhane, Phindulo; Diko Makia, Lawrence*: HEALTH RISK ASSESSMENT OF AS, NI AND PB FROM A SCHOOL PLAYGROUND SOIL NEAR AN OLD GOLDMINE TAILINGS DUMP IN THE MURCHISON AREA (LIMPOPO PROVINCE), SOUTH AFRICA

10:15 AM Ruhl, Laura S.; Horton, Ashley: THE MINERALOGY AND GEOCHEMISTRY OF SYNTHESIZED CALCIUM OXALATE KIDNEY STONES

10:30 AM Siegel, Malcolm*: Erdel, Esther: ADDITIONS TO THE MEDICAL GEOLOGIST’S TOOLBOX: APPLICATION OF SENSITIVE BIOLOGICAL ENDPOINTS TO ASSESS HUMAN EXPOSURE AND POTENTIAL HEALTH EFFECTS AT LOW ENVIRONMENTAL CONTAMINANT CONCENTRATIONS

10:45 AM Rubin, Jeffrey*: CONSISTENT PATTERNS IN SECONDARY HEALTH EFFECTS OF DISASTERS

11:00 AM Siegel, Frederic R.: POPULATION GROWTH AND DEMOGRAPHIC SHIFTS: CHALLENGES TO PUBLIC HEALTH

11:15 AM Finkelman, Robert B.*: MEDICAL GEOLOGY: A PERSONAL STORY OF LUCK,DEDICATION, AND FRIENDSHIP (Invited Presentation)

11:35 AM DISCUSSION

11:50 AM CONCLUDING REMARKS

SESSION NO. 82

T74. Declining Enrollments in U.S. Undergraduate Geoscience Programs: How Did We Get Here and How Do We Get Our Groove Back? (GSA Geoscience Education Division; National Association of Geoscience Teachers; GSA Energy Geology Division)

8:00 AM, Indiana Convention Center, Room 234

Miriam Barquero-Molina, Angela Van Boening and Damon J. Bassett, Presiding

8:00 AM Sparks, David W.*; Nunez, Judy: ENERGY-RELATED TRENDS IN ENROLLMENT IN A LARGE UNDERGRADUATE GEOLOGY PROGRAM, AND PREDICTING ENROLLMENT FOR THE FUTURE

8:20 AM Hantz, Catherine*: HISTORICAL EARTH SCIENCE CURRICULAR REFORM IN SECONDARY EDUCATION: IMPLICATIONS FOR CURRENT REFORM INITIATIVES

8:35 AM Freeman, Rebecca L*.; Lyon, Eva; Nelson, Andrew; Sampson, Shannon; Parsons, Joshua: GEOSCIENCE VERSUS ENVIRONMENTAL SCIENCE: 9th GRADERS’ DIFFERING PERCEPTIONS OF TWO CLOSELY RELATED DISCIPLINES

8:50 AM Guenther, Merrilee F.*; Johnson, Jon L.; Sawyer, Thomas: THE KEYSTONE PROGRAM AT ELMHURST COLLEGE: A MODEL FOR INCREASING STEM RETENTION AND SUCCESS AT SMALL COLLEGES

9:05 AM BREAK

9:20 AM Drummond, Carl*: WHY I CLOSED MY GEOSCIENCE DEPARTMENT AND WHAT YOU CAN DO TO KEEP IT FROM HAPPENING TO YOURS (Invited Presentation)

9:40 AM Tvelia, Sean*; McNamara, Marianne; Mandia, Scott; Buktos, Darrel: REVERSING THE ENROLLMENT TREND: GEOPATHS EXTRA: GEOSCIENCE EDUCATIONAL OPPORTUNITIES & CAREER ORIENTED RESEARCH EXPERIENCES

9:55 AM Mrofka, David D.*; Walker, Becca: ENGAGING AND RETAINING STUDENTS IN THE GEOSCIENCES THROUGH CAREER AND TECHNICAL EDUCATION

10:10 AM Walker, Becca*; Mrofka, David D.; Nagy-Shadman, Elizabeth A.: MAKING CLASSROOM AND PROGRAM LEVEL CHANGES TO SUPPORT STUDENT SUCCESS: PROFESSIONAL DEVELOPMENT OPPORTUNITIES FOR 2-YEAR COLLEGE GEOSCIENCE FACULTY IN SOUTHERN CALIFORNIA

10:25 AM DISCUSSION
SESSION NO. 83

T84. Making Sense of Methodologies and Theoretical Frameworks in Geoscience Education Research (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)

8:00 AM, Indiana Convention Center, Room 235
Katherine Ryker, Karen S. McNeal, Anne Gold and Leilani Arthurs, Presiding

83-1 8:00 AM Lombardi, Doug*: DEVELOPING SCAFFOLDS TO PROMOTE GEOGRAPHIC THINKING: THE RIGOR AND PROMISE OF SYSTEMIC CLASSROOM-BASED RESEARCH (Invited Presentation)

83-2 8:20 AM Nosofsky, Robert*; Sanders, Craig; Douglas, Bruce J.; McDaniel, Mark: A COGNITIVE-SCIENCE AND GEOGRAPHIC-EDUCATION COLLABORATION: ENHANCING THE TEACHING OF ROCK IDENTIFICATION

83-3 8:35 AM McNeal, Karen S.*; Soltis, Nick; Zhong, Min; Doukopoulos, Lindsay; Porch, Mallory; Alwan, Alikah; Johnson, Elijah T.; Courtenay, Stephanie L.: USING SKIN SENSORS TO MEASURE STUDENT ENGAGEMENT IN TRADITIONAL AND ACTIVE LEARNING CLASSROOMS

83-4 8:50 AM Ford, Danielle*; McGearry, Susan; Gallo-Fox, Jennifer; Ackerman, Cheryl M.: GEOGRAPHIC CURRICULUM REFORM USING A DESIGN-BASED APPROACH

83-5 9:05 AM Iverson, Ellen*; Macdonald, R. Heather; Baer, Eric M.D.; Bragg, Debra; Eddy, Pamela; Emerson, Norlene R.; Hodder, Jan; McDaris, John R.; O’Connell, Kristin; Ormand, Carol J.: BUILDING A COMMUNITY OF PRACTICE AMONG GEOGRAPHIC TWO-YEAR COLLEGE FACULTY: A FRAMEWORK TO SUPPORT INDIVIDUAL LEARNING AND COLLECTIVE CHANGE

83-6 9:20 AM Ballen, Cissy J.*; Salehi, Shima: STRUCTURAL EQUATION MODELING (SEM) IN BIOLOGY EDUCATION RESEARCH: MOVING BEYOND “WHAT WORKS” TO UNDERSTAND HOW IT WORKS, AND FOR WHOM (Invited Presentation)

83-7 9:40 AM Soltis, Nicholas A.*; McNeal, Karen S.; Forbes, Cory; Lally, Diane: THE RELATIONSHIP BETWEEN ACTIVE LEARNING, COURSE INNOVATION AND TEACHING EARTH SYSTEM THINKING: A STRUCTURAL EQUATION MODELING APPROACH

83-8 9:55 AM Libarkin, Julie C.*: VALIDITY AND RELIABILITY IN DISCIPLINE-BASED EDUCATION RESEARCH

SESSION NO. 84

T85. Climate Variability, Change, and Water Resources (GSA Hydrogeology Division; GSA Karst Division; GSA Limnology Division; GSA International Interdisciplinary Interest Group)

8:00 AM, Indiana Convention Center, Room 132
Randy L. Stotler, David L. Rudolph and W. Berry Lyons, Presiding

84-1 8:05 AM Sukop, Michael C.*; Wei, Bei; Castex, Santiago: ANOTHER LOOK AT FRESHWATER LENSES

84-2 8:20 AM Timmons, Stacy*; Chudnoff, Sara: NEW MEXICO’S COLLABORATIVE GROUNDWATER MONITORING NETWORK

84-3 8:35 AM Warner, Scott D.*: REMEDIATION CHALLENGES FOR WATER RESOURCE PROTECTION AND REMEDIATION IN THE AGE OF CLIMATE SHIFT

84-4 8:50 AM Vang, Duach*; Finger, Emily M.; Vitale, Sarah A.: ASSESSMENT OF LONG-TERM AND RECENT GROUNDWATER LEVEL RECORDS IN WISCONSIN FROM 1917 TO 2017

84-5 9:05 AM Fehling, Anna*; Bahr, Jean M.; Hart, David J.: POTENTIAL CLIMATE CHANGE IMPACTS TO GROUNDWATER FLOW AND STREAM TEMPERATURE IN THE MARENGO RIVER HEADWATERS, WISCONSIN

84-6 9:20 AM Wright, Stephanie N.*; Novakowski, Kent S.: INFLUENCES OF A CHANGING CLIMATE ON THE SEASONAL VARIABILITY OF STABLE ISOTOPE AND RECHARGE: SPATIOTEMPORAL MONITORING OF MULTI-LEVEL BEDROCK WELLS

84-7 9:35 AM BREAK

84-8 9:50 AM Sambuco, Emily*; Patrick, Nathan; Mark, Bryan G.; DeGrand, James; Reinemann, Scott; Porinchu, David: A DECADE OBSERVING VERTICAL TEMPERATURE IN GREAT BASIN NATIONAL PARK USING AN EMBEDDED SENSOR NETWORK

84-9 10:05 AM Schoessow, Forrest Scott*; Manos, John-Morgan; Mark, Bryan G.; DeGrand, James; Soni, Nischay; Reinemann, Scott; Porinchu, David: MAPPING ROCK GLACIER SURFACE ELEVATION CHANGES IN GREAT BASIN NATIONAL PARK, NEVADA

84-10 10:20 AM Malone, Andrew G.O.*; Damian, Daniela: A TIME-EVOLVING INVENTORY OF TROPICAL GLACIERS IN BOLIVIA AND NORTHERN CHILE

84-11 10:35 AM Kamp, Ulrich*; Walther, Michael: MONGOLIA’S GLACIERS: A CENTURY OF OBSERVATIONS
SESSION NO. 85  🌟  🌟

**T109. Hydrogeology and Energy (GSW Geology Division; GSA Energy Geology Division)**

8:00 AM, Indiana Convention Center, Room 133

Erick Burns, Mark A. Engle and Andrew J. Stumpf, Presiding

**INTRODUCTORY REMARKS**

8-1  8:05 AM  Gong, Yiwen*; Shi, Xutao; El-Monier, Ilham: THE EVOLUTION OF PROPPANT DISTRIBUTION IN A MULTISCALE FRACTURE PROCESSED ZONE

8-2  8:20 AM  Engle, Mark A.*; A MULTI-ISOTOPE APPROACH TO STUDY THE SOURCE, ORIGIN, AND HISTORY OF PRODUCED WATERS FROM SHALE RESERVOIRS: EXAMPLES FROM THE PERMIAN AND GULF COAST BASINS

8-3  8:35 AM  Rostro, Benjamin J.*; UNUSUAL STABLE ISOTOPIC COMPOSITIONS OF FORMATION-WATERS FROM THE INTERLACE FORMATION (SILURIAN) IN THE SOUTHEASTERN SASKATCHEWAN AREA OF THE WILLISTON BASIN

8-4  8:50 AM  Landon, Matthew*; McMahon, Peter B.; Davis, Tracy A.; Wright, Michael T.; Taylor, Kimberly A.; Gillespie, Janice M.; Kulogoski, Justin T.: RELATIONS OF GROUNDWATER QUALITY TO OIL DEVELOPMENT IN DIFFERENT HYDROGEOLOGIC SETTINGS – INITIAL RESULTS FROM CALIFORNIA REGIONAL GROUNDWATER MONITORING NEAR OIL FIELDS (Invited Presentation)

8-5  9:10 AM  Lueck, Lillian R.*; Fischer, Mark P.: HYDROLOGICAL BEHAVIOR OF FAULTS NEAR SALT: FIELD AND ISOTOPIC CONSTRAINTS FROM EXAMPLES NEAR THE GYPSUM VALLEY SALT WALL, PARADOX BASIN, COLORADO

8-6  9:25 AM  Camargo, Marcelo G.P.*; Sawakuchi, André O.; Sacek, Victor; Silva, Gylene A.M.: CLIMATE CHANGE EFFECTS OVER BELO MONTE DAM’S HYDROELECTRICITY GENERATION CAPACITY: ECONOMIC, ENVIRONMENTAL AND SOCIAL IMPACTS IN THE HEART OF BRAZILIAN AMAZON

9:40 AM  BREAK

8-7  9:55 AM  Stumpf, Andrew J.*; Lin, Yu-Feng F.: THERMOGEOLOGY ASSESSMENTS OF GEOTHERMAL ENERGY IN THE SWALLOW HETEROGENEOUS SUBSURFACE

8-8  10:10 AM  Abesser, Corinna*; Schofield, D.L.: INTEGRATED REGULATION OF (GEO)THERMAL SUBSURFACE USE(S) AND GROUNDWATER

8-9  10:30 AM  Harkness, Jennifer S.*; Swana, Kelley; Eymold, William K.; Miller, Jodie A.; Murray, Ricky; Vengosh, Avner; Darrah, Thomas H.: GEOCENIC METHANE AND FLUORIDE IN GROUNDWATER OF THE KAROO BASIN, SOUTH AFRICA

9:40 AM  BREAK

8-10  10:45 AM  Al-Aswad, Jood A.*; Jordan, Teresa E.; Smith, Jared D.; Gustafson, J. Olaf: POROSITY, PERMEABILITY AND PALEOPOLOGIC ANALYSIS: A GEOLOGICAL INTERPRETATION OF IN-SITU GEOTHERMAL RESERVOIR QUALITY AT CORNELL UNIVERSITY, ITHACA, NEW YORK

8-11  11:00 AM  Jackson, Tracie*; Fenelon, Joe: NUCLEAR-DETONATION ALTERATION OF HYDROGEOLOGY: LARGE-SCALE, POST-BLAST EFFECT ON FLOW AND TRANSPORT

SESSION NO. 86

**T118. Paleoenvironmental Reconstructions from Biogenic Carbonates I (SEPM (Society for Sedimentary Geology); Paleontological Society; Paleontological Research Institution; GSA Sedimentary Geology Division; GSA Karst Division)**

8:00 AM, Indiana Convention Center, Room 140

Yuren Yanes, Wesley G. Parker and Donna Surge, Presiding

**INTRODUCTORY REMARKS**

86-1  8:05 AM  Grossman, Ethan L.*; Joachimski, Michael M.: PALEOZOIC OCEAN TEMPERATURES: BRACHIOPOD AND CONODONT δ 18O RECORDS COMPARED (Invited Presentation)

86-2  8:25 AM  Shohel, Mohammad*; Cranmer, Bradley D.; Forbes, Tori Z.: SYSTEMATIC ASSESSMENT OF CRYSTALLINE STRUCTURE ALONG THE LENGTH OF CONICAL CONODONT MICROFOSSILS USING MICROFOCUS X-RAY DIFFRACTION

86-3  8:40 AM  Kidwell, Susan M.*; Meadows, Caitlin A.; Edelman-Furstenberg, Yaed: SEM EVIDENCE OF THE EARLY DIAGENESIS ASSOCIATED WITH ARGONIC SHELLS THAT SURVIVE 1000S-10000S YEARS OF TIME- AVERAGED RESIDENCE IN BIOTURBATED SEABEDS

86-4  8:55 AM  Khan, Tasnuva Ming*; Anderson, Brendan M.; Allmon, Warren D.; Stilwell, Jeffrey D.: PALEOENVIRONMENTAL INTERPRETATION OF TURRITELLINE GASTROPOD-DOMINATED ASSEMBLAGES (TDAS) FROM THE LA MESETA FORMATION (MIDDLE TO UPPER EOCENE), SEYMOUR ISLAND, ANTARCTICA

86-5  9:10 AM  Kosloski, Mary Elizabeth*; Dietl, Gregory P.; Judd, Emily J.; Goodwin, David: SPACE, TIME AND SHELLS: USING STABLE ISOTOPES TO DISENTANGLE GEOGRAPHIC VARIATION IN THE SEASONAL TIMING OF GROWTH IN THE KNOBBED WHELK, BUSYCON CARICA

86-6  9:25 AM  Parker, Wesley G.*; Yanes, Yuren; Surge, Donna; Mesa-Hernández, Eduardo: HIGH-RESOLUTION PALEOCURRENT RECONSTRUCTION OVER THE LAST TWO MILLENNIA IN THE EASTERN SUBTROPICAL ATLANTIC OCEAN

9:40 AM  BREAK

86-7  9:55 AM  Burchell, Meghan*; Sparrow, Anna; Dusseauit, Marisa; Hallmann, Nadine; Schöne, Bernd R.: THE MID-HOLOCENE LANDSCAPE OF DEEP BAY: A MULTI-PROXY APPROACH TO PALEOENVIRONMENTAL RECONSTRUCTION FROM SHELL MIDDEN DEPOSITS IN COASTAL BRITISH COLUMBIA, CANADA (Invited Presentation)

86-8  10:15 AM  Graniero, Lauren E.*; Surge, Donna; Gillikin, David P.: EVALUATING OXYGEN AND CARBON ISOTOPE RATIOS IN RANGIA CUNEATA AS A PALEOENVIRONMENTAL PROXY

86-9  10:30 AM  Mohr, Rachel C.*; Tobin, Thomas S.; Dutton, Andrea; Petersen, Sierra V.: SCLEROCHRONOLOGICAL RECORDS OF CARBONATE ISOTOPES FROM
T126. Earth and Life Co-Evolution in the Early to Middle Neoproterozoic (1000 to ca. 635 Ma) (GSA Geobiology & Geomicrobiology Division; AASP - The Palynological Society; Paleontological Society; Paleontological Research Institution; GSA Sedimentary Geology Division)

Monday, 5 November 2018

8:00 AM, Indiana Convention Center, Room 143-144

Qing Tang, Heda Agic and Leigh Anne Riedman, Presiding

87-1 8:00 AM Evans, David A.D.; Wen, Bin; Bradley, Dwight C.; Eglington, B.M.: A NEW MODEL FOR TWO-SIDED RODINIA SUPERCONTINENT ASSEMBLY AS YOUNG AS 900-850 MA

87-2 8:15 AM Tang, Qing*; Pang, Ke; Xiao, Shuhai; Yuan, Xunlai: PHOTOSYNTHETIC GREEN ALGAE FROM THE EARLY TONIAN NANFEN FORMATION IN NORTH CHINA

87-3 8:30 AM Qin, Shujian*; Dong, Lin; Shen, Bing: SIZE DISTRIBUTION CONSTRAINS AFFINITY OF CHUARIA FROM EARLY NEOProTEROZOIC SUCCESSIONS IN NORTH CHINA

87-4 8:45 AM Cohen, Phoebe*: Riedman, Leigh Anne: IT'S A PROTIST-EAT-PROTIST WORLD: RECALCITrANCE, PREDATION, AND EVOLUTION IN THE TONIAN-CRYOGENIAN OCEAN (Invited Presentation)

87-5 9:05 AM Riedman, Leigh Anne*; Porter, Susannah M.; Czaja, Andrew D.: GLOBALLY WIDESPREAD APATITIC SCALE MICROFOSSILS OF THE MId-TONIAN

87-6 9:20 AM Woltz, Christina R.*; Porter, Susannah M.; Dehler, Carol M.; Juniun, Christopher K.; Hodgskiss, Malcolm S.W.; Worndie, Sarah; Halverson, Galen P.: TOTAL ORGANIC CARBON AND THE PRESERVATION OF PRECAMBRIAN ORGANIC-WALLED MICROFOSSILS IN SHALES

9:35 AM BREAK


87-8 10:10 AM Cui, Yixin*; Lang, Xianguo; Li, Fangbing; Huang, Kang-Jun; Ma, Haoran; Pei, Haoxiang; Zhou, Chunming; Shen, Bing: GERMANIUM/SILICA RATIO AND RARE EARTH ELEMENT COMPOSITION OF SILICA-FILLING IN SHEET CRACKS OF THE DOUSHANWU CAP CARBONATES, SOUTH CHINA: CONSTRAINING HYDROTHERMAL ACTIVITY IN THE MARINAO SNOWBALL EARTH GLACIATION

87-9 10:25 AM Burzyński, Greg*; Narbonne, Guy M.; Dececchi, Thomas Alexander; Dallymple, Robert W.: CRYOGENIAN ASPIDELLA FROM NORTHWESTERN CANADA

87-10 10:40 AM Agić, Heda*: Högström, Anette E.S.; Jensen, Sören; Ebbestad, Jan Ove; Meinhold, Guido; Taylor, Wendy L.; Palacios, Teodoro; Hayberget, Magne: LIFE THROUGH THE ‘VARANGER ICE AGES’: MICROFOSSIL RECORD OF LATE NEOProTEROZOIC GLACIAL-INTERGLACIAL UNITS FROM ARCTIC NORWAY
Monday, 5 November 2018

SESSION NO. 89 \$

T138. Magma Assemblies: Petrologic, Geochemical, Chronologic, and Geophysical Insights into the Architecture and Timescales of Magma Systems (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Geophysics and Geodynamics Division)

8:00 AM, Indiana Convention Center, Room 240-241

Ken Brown and Claire McLeod, Presiding

89-1 8:00 AM Claborn, Lily L.; Sharp, Emily; Baran, Amelia K.; Miller, Calvin F.; Bradshaw, Richard W.: UNDERSTANDING ASSEMBLY AND STORAGE OF MAGMAS AT MOUNT ST. HELENS USING CHEMISTRY, TEXTURES, AND AGES OF CRYSTAL-RICH INCLUSIONS (Invited Presentation)  
89-2 8:15 AM Mohr, Michael T.; Schmitz, Mark D.; Jicha, Brian R.; Fodor, R.V.: A MULTI-MINERAL PETROCHRONOLOGIC APPROACH FOR UNDERSTANDING CRYSTAL-RICH RHYOLITIC MAGMA SYSTEMS: AN EXAMPLE FROM THE MIOCENE APACHE LEAP TUFF, CENTRAL AZ  
89-3 8:30 AM Clemens-Knot, Diane*; Surpless, Kathleen DeGraaff; Barth, Andrew; Wooden, J.L.: INSIGHTS INTO MIDDLE TO LATE JURASSIC MAGMATISM WITHIN THE SIERRA NEVADA ARC AS RECORDED BY TRACE ELEMENT COMPOSITIONS OF DETRITAL ZIRCON  
89-4 8:45 AM Molisee, Danielle*; Germa, Aurelie; Charbonnier, Sylvain; Connor, Charles; Connor, Laura: 2018 JOHN A. BLACK AWARD: TOWARD DEVELOPING A CONCEPTUAL MODEL OF MAGMATISM AT MEDICINE LAKE VOLCANO, NORTHERN CALIFORNIA, USA  
89-5 9:00 AM Klemetti, Erik W.; Kent, Adam J.R.; Clynne, Michael A.; Bertolett, Elisabeth; Hernandez, Lindsey D.; Herrold, Emily N.: AGE OF ZIRCON: WHAT IS REALLY BEING RECORDED IN INTERMEDIATE-TO-SILICIC ARC VOLCANIC ROCKS? (Invited Presentation)  
89-6 9:15 AM Kent, Adam J.R.; Bradshaw, Richard W.; Lubbers, Jordan; Cooper, Kari M.; Huber, Christian; de Silva, Shan: UNDERSTANDING THE LONG-TERM THERMAL CONDITIONS OF MAGMA STORAGE IN THE CRUST: ARE WE THERE YET?  
89-7 9:30 AM Pitcher, Bradley W.; Gualda, Guilherme A.R.: VARIABLE TIMESCALES AND MAGMA STORAGE CONDITIONS FOR THREE MAJOR PLEISTOCENE IGNIMBRITE S, HOKKaidO, JAPAN  
9:45 AM BREAK

89-8 10:00 AM Michelfelder, Gary S.*; O'Dowd, Conor L.; Benz, Brooke E.: THE PRE-ERUPTIVE PLUMBING SYSTEM OF INTERMEDIATE MAGMAS FROM THE MOLLON-DATIL VOLCANIC FIELD: INSIGHTS FROM PYROXENE AND PLAGIOCLASE MINERAL CHEMISTRY AND GEOTHERMOMETERSY

89-9 10:15 AM Tierney, Casey R.*; Reid, Mary R.; Burns, Dale H.; Chesner, Craig A.: SYNERGISTIC COUPLING OF QUARTZ TITANIUM ZONING AND MELT INCLUSION COMPOSITIONS: UTILIZING THE QUARTZ GROWTH RECORD TO ELUCIDATE MAGMATIC ASSEMBLY AND STORAGE OF THE YOUNGEST TOBA TUFF, INDONESIA

89-10 10:30 AM Isom, Shelby Lee*; Shafer, Erik; Streck, Martin J.: INSIGHTS INTO THE MAGMATIC ASSEMBLY OF A VOLCUMINOUS, LOW 87/86O, AND STRONGLY TRACE ELEMENT ZONED HIGH-SILICA RHYOLITE BODY: THE DEVINE CANYON TUFF, OREGON

SESSION NO. 90

T144. Friends of Hoth: Episode III—Bodies of the Outer Solar System (GSA Planetary Geology Division)

8:00 AM, Indiana Convention Center, Room 236-237

Emily S. Martin and D. Alex Patthoff, Presiding

90-1 8:05 AM Byrne, Paul K.*; Regensburger, Paul V.; Klimczak, Christian; Bohnenstiehl, DellWayne R.; Hauck, Steven A.; Dombard, Andrew J.; Hemingway, Douglass J.; Vance, Steven D.; Melwani Daswani, Mohit: A POROUS SILICATE INTERIOR FOR ENCELADUS, BUT LIMITED GEOLOGICAL ACTIVITY AT THE SEAFLOOR OF EUROPA

90-2 8:20 AM Howell, Samuel M.*; Leonard, Erin: NON-ICE DISTRIBUTIONS IN OCEAN WORLD ICE SHELS RECORD GEOLOGIC HISTORY

90-3 8:35 AM Nguyen, Tina Phung*; Patthoff, D. Alex; Pappalardo, Robert T.: EXPLORING TIDAL STRESSES TO ANALYZE EUROPA'S INNER AND OUTER TURMOIL

90-4 8:50 AM Leonard, Erin*; Pappalardo, Robert T.; Yin, An: FORMING RIDGE-AND-TRough SYSTEMS ON ICY SATELLITES: INSIGHTS FROM PHYSICAL ANALOGUE MODELING (Invited Presentation)

90-5 9:10 AM Schoenfeld, Ashley*; Yin, An: FIRST TECTONIC STRESS MAP ACROSS ENCELADUS' SPT AND POSSIBLE DYNAMIC CAUSES

90-6 9:25 AM Kinczyk, Mallory*; Byrne, Paul K.; Collins, Geoffrey C.; Martin, Emily S.; Patterson, G. Wesley: CHARACTERIZING STRAIN IN ENCELADUS' CRATERED TERRAIN

90-7 9:40 AM Patthoff, D. Alex*; Martin, Emily S.; Pappalardo, Robert T.: ENCELADUS: SATURN'S REGENERATING ICY MOON

90-8 9:55 AM Martin, Emily S.*; Patthoff, D. Alex: LONG-TERM TECTONIC DEFORMATION OF SATURN'S MOON RHEA, DIONE, AND TETHYS

90-9 10:10 AM MacKenzie, S.M.*; Turtle, Elizabeth; Barnes, J.W.; Karkoschka, Erich: TITAN'S NORTH POLE: A VIEW FROM ENCELSU'S REGENERATING ICY MOON

90-10 10:30 AM Malaska, Michael J.*: TITAN'S SEDIMENT CYCLE (Invited Presentation)

90-11 10:50 AM Maue, Anthony D.*; Burr, Devon M.; Levy, Joseph S.; Nathan, Erica: LINKING COBBLE-RIICH FLUVIAL ENVIRONMENTS ON EARTH AND TITAN

90-12 11:05 AM MacKenzie, S.M.*; Turtle, Elizabeth; Lorenz, Ralph; Radebaugh, Jani; Barnes, J.W.; Trainer, M.G.: DRAGONFLY: A RORCRAFT-LANDER TO EXPLORE TITAN'S PREBIOTIC CHEMISTRY AND HABITABILITY

11:20 AM CONCLUDING REMARKS
SESSION NO. 91

T159. Different Roads to Rodinia: Re-Analysis of the Geochronology and Tectonic Evolution of Precambrian and Crystalline Basement Terranes in Southeastern Laurentia (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Geophysics and Geodynamics Division; GSA Sedimentary Geology Division)

8:00 AM, Indiana Convention Center, Room 242

John B. Hickman and J. Richard Bowersox, Presiding

8:00 AM INTRODUCTORY REMARKS

91-1 8:05 AM Freiburg, Jared T.; McBride, John H.; Leetaru, Hannes E.: PETROLOGIC AND GEOPHYSICAL CHARACTERIZATION OF THE PRECAMBRIAN IN CENTRAL ILLINOIS: VOLCANISM AND MAFIC IGNEOUS INTRUSION ALONG THE ANCIENT LAURENTIAN CONTINENTAL MARGIN


91-3 8:35 AM Willis, David*; O’Farrell, Keely; Moecher, David: MANTLE CONTRIBUTION TO POST-COLLISIONAL ULTRA-HIGH TEMPERATURE METAMORPHISM

91-4 8:50 AM Moecher, David P.; Samson, Scott D.; Tohver, Eric: NEW ZIRCON GEOCHRONOLOGY AND N-D-PB ISOTOPE GEOCHEMISTRY FOR GRENVILLE BASEMENT ROCKS OF THE SOUTHERN APPALACHIANS AND EASTERN KENTUCKY: PROBING FOR THE BOUNDARY BETWEEN AMAZONIA AND LAURENTIA DURING ROBINIAN ASSEMBLY (Invited Presentation)

91-5 9:05 AM Hickman, John B.; Bowersox, J. Richard; Moecher, David P.: REEXAMINING THE NATURE AND LOCATION OF THE GRENVILLE FRONT IN OHIO, KENTUCKY, AND TENNESSEE

91-6 9:20 AM Pinan Llamas, Aranzazu*: LATE SVECONORWEGIAN DEFORMATION IN A SECTION ACROSS THE IDEFJORDEN TERRANE-EASTERN SEGMENT BOUNDARY, SVECONORWEGIAN OROGEN, SW SWEDEN

9:35 AM BREAK

91-7 9:50 AM Stein, Carol A.*; Stein, Seth A.; Keller, G. Randy; Eilling, Reece P.: OPENING OF THE MIDCONTINENT RIFT DURING THE ASSEMBLY OF ROBINIA (Invited Presentation)

91-8 10:05 AM Abolins, Mark*: RELATIONSHIP BETWEEN THE ORIENTATION OF THE NASHVILLE RIFT IN CENTRAL TENNESSEE AND THE ORIENTATION OF MACROSCALE FOLDS IN POST-RIFT PALEOZOIC STRATA: EVIDENCE FOR RIFT FAULT REACTIVATION

91-9 10:20 AM Hauser, Ernest C.*; Peterman, David; Alam, Saisul; Watts, Doyle R.: LIMESTONE BENEATH THE MIDDLE RUN FORMATION IN THE GRENVILLE FORELAND OF SW OHIO AND EASTERN INDIANA (Invited Presentation)

91-10 10:35 AM Parent, Andrew*; Hauser, Ernest C.; Watts, Doyle R.: GEOLOGIC EVOLUTION OF THE PRE-MT. SIMON BELOW WEST-CENTRAL INDIANA: IMPLICATIONS FROM SEISMIC REFLECTION


11:05 AM DISCUSSION

SESSION NO. 92

T160. Advances in Understanding the Laurentide Ice Sheet I (GSA Quaternary Geology and Geomorphology Division)

8:00 AM, Indiana Convention Center, Room 138-139

Kathy Licht, Henry Loope, Timothy Fisher, Todd Grote, J. Steven Kite and G. William Monaghan, Presiding

92-1 8:00 AM Lowell, Thomas V.*; Kelly, Meredith A.; Hall, Brenda L.: REORGANIZATION OF THE LAURENTIDE ICE SHEET - HOW LONG DOES IT TAKE?

92-2 8:15 AM Edwards, Graham Harper*; Blackburn, Terrence; Tulaczyk, Slawek; Piccione, Gavin G.: EVALUATION OF LAURENTIDE ICE SHEET DEGLACIATION SCENARIOS BY COMPARISON OF IN-SITU DISEQUILIBRIA MEASURED IN MODERN ANTARCTIC ICE AND THE ATLANTIC CORAL RECORD

92-3 8:30 AM Loope, Henry M.*; Antinno, José Luis; Lowell, Thomas V.; Curry, B. Brandon; Monaghan, G. William: CHRONOLOGY OF LAURENTIDE ICE SHEET FLUCTUATIONS SURROUNDING THE LAST GLACIAL MAXIMUM, CENTRAL INDIANA, USA

92-4 8:45 AM Mickey, Jeremiah L.*; Licht, Kathy: TRACING LOBES OF THE LAURENTIDE ICE SHEET IN INDIANA USING DETRITAL ZIRCON AGE DISTRIBUTIONS

9:00 AM DISCUSSION

92-5 9:15 AM Corbett, Lee B.*; Bierman, Paul R.; Wright, Stephen F.; Shukun, Jeremy D.; Davis, P. Thompson; Halsted, Christopher T.; Goering, Brent M.; Koester, Alexandria J.; Caffee, Marc; Zimmer, Susan H.: MULTIPLE COSMOGENIC NUCLEIDES CONSTRAIN LAURENTIDE ICE SHEET HISTORY AND PROCESS ON MT. MANSFIELD, VERMONT'S HIGHEST PEAK (Invited Presentation)

92-6 9:35 AM Halsted, Christopher T.; Shukun, Jeremy D.; Corbett, Lee B.; Bierman, Paul R.; Davis, P. Thompson; Caffee, Marc; Koester, Alexandria J.: DETERMINING THE TIMING AND RATE OF SOUTHEASTERN LAURENTIDE ICE SHEET THINNING USING IN-SITU 10BE DIPSTICKS

92-7 9:50 AM Straffin, Eric; Grote, Todd*: LATE WISCONSIN LANDFORM-SEDIMENT ASSEMBLAGES INDICATE ICE STAGNATION AND DISINTEGRATION IN NORTHWESTERN PENNSYLVANIA

92-8 10:05 AM Sodeman, Alexander D.*; Fisher, Timothy; Becker, Richard H.: IMPLICATIONS FOR HURON-ERIE LOBE DEGLACIATION FROM UNIQUE SUBGLACIAL MELTGROUND FEATURES IN OHIO AND INDIANA

10:20 AM BREAK

92-9 10:35 AM Wroblewski, Emmy*; Hooke, Roger LeB.: GLACIAL DEPOSITIONAL FEATURES REVEALED ON LIDAR IMAGERY: IMPLICATIONS FOR THE BEHAVIOR AND MARGIN POSITION OF THE LAURENTIDE ICE SHEET DURING RETREAT

92-10 10:50 AM McKay, Matthew P.*; Hessler, Angela; Mason, Cody; Stockli, Daniel F.; Fildani, Andrea: NORTH AMERICA MAJOR RIVER DRAINAGES MODIFIED AT LATE PLEISTOCENE GLACIAL TRANSITIONS: A TALE FROM DEEP-SEA SEDIMENT


92-12 11:20 AM Carson, Eric C.*; Rawling, J. Elmo; Attig, John W.; Bates, Benjamin: LATE CENOZOIC EVOLUTION OF THE UPPER MISSISSIPPI RIVER, STREAM PIRACY, AND IMPLICATIONS FOR NORTH AMERICAN MID-CONTINENT DRAINAGE SYSTEMS (Invited Presentation)

11:40 AM DISCUSSION

Monday, 5 November 2018

4–7 November • Indianapolis, Indiana, USA
SESSION NO. 93 $ O
T180. Plate Tectonics Paradigm and Future Directions of Research—Discovery in Light of Its 50-Year History I (GSA Structural Geology and Tectonics Division; GSA History and Philosophy of Geology Division; GSA Geophysics and Geodynamics Division; American Geophysical Union)
8:00 AM, Indiana Convention Center, Room 243
Yildirim Dilek and Eldridge M. Moores, Presiding

93-1 8:00 AM Scoetese, Christopher*: PLATE TECTONIC EVOLUTION DURING THE LAST 1.5 BILLION YEARS: THE MOVIE

93-2 8:15 AM Yin, An*: PRIMITIVE PLATE TECTONICS IN THE CONTEXT OF PRESENT-DAY PLATE TECTONICS ON EARTH: A PLANETARY PERSPECTIVE

93-3 8:30 AM Kattenhorn, Simon A.*; Proctor, Louise; Collins, Geoffrey C.; Cooper, Catherine M.; Patterson, G. Wesley; Roden, Alyssa: PLATE TECTONICS ON AN ICY MOON: EUROPA'S MOBILE LID EXAMINED IN THE TERRESTRIAL PLATE TECTONICS PARADIGM

93-4 8:45 AM McKenzie, D.P.*; Rudge, John; Kloecking, Marthe; Priestley, Keith F.: MELT GENERATION BENEATH PLATE INTERIORS

93-5 9:00 AM Hopper, Emily*; Tahery, James B.; Shillington, Donna J.; Accardo, Natalie J.; Nyblade, Andrew A.; Ebinger, C.J.; Scholz, Christopher; Chinandali, P.R.N.; Ferdinand-Wambura, Richard; Mbogoni, Gabriel John; Mullibo, Gabriel D.: ENHANCED LITHOSPHERIC MANTLE THINNING IN THE MELT-POOR MALAWI RIFT

93-6 9:15 AM Brown, Michael*: FIFTY YEARS AFTER THE REVOLUTION: METAMORPHISM AND PLATE TECTONICS (Invited Presentation)


9:50 AM BREAK

93-8 10:05 AM Dilek, Yildirim*: OPHIOLITES: 4-D ARCHIVES OF EARTH'S MELT PRODUCTION AND RECYCLING PROCESSES

93-9 10:20 AM Wakabayashi, John*; Shimabukuro, David H.: HOT AND COLD SUBDUCTION INITIATION

93-10 10:35 AM Yamamoto, Yuzuru*: Chiyonobu, Shun; Hamada, Yohei: PRELIMINARY RESULTS OF THE ISHIDO THRUST (OUT-OF-SEQUENCE THRUST) DRILLING IN BOSO PENINSULA, CENTRAL JAPAN: STUDYING EARTHQUAKE RUPTURE TO SHALLOW PORTION OF SUBDUCTION ZONE

93-11 10:50 AM Rowley, David B.*: EARTH'S CONSTANT MEAN ELEVATION: IMPLICATIONS OF CHANGES IN DYNAMIC TOPOGRAPHY, CONTINENTAL CRUSTAL AREA AND MEAN DEPTH OF THE OCEANS AS JOINT DRIVERS OF LONG-TERM SEA LEVEL

93-12 11:05 AM Molnar, Peter*: THE GROWTH OF TIBET AND ITS IMPACT OF CLIMATE IN ASIA (Invited Presentation)

93-13 11:25 AM Ward, Peter L.*: MOVING PLATE TECTONICS TO THE NEXT LEVEL OF DETAIL BY UNDERSTANDING HOW PLATE TECTONICS CONTROLS SLOW GLOBAL WARMING, SLOW INCREMENTAL GLOBAL COOLING, AIR TEMPERATURES, OCEAN TEMPERATURES, OCEAN ACIDIFICATION, DOMINANT SPECIES, MASS EXTINCTIONS, AND THE MAJOR AND MINOR SUBDIVISIONS OF THE GEOLOGIC TIME SCALE

11:40 AM DISCUSSION

Monday, 5 November 2018

SESSION NO. 94 $ O
T32. Energy and Mineral Resources of the Illinois Basin (Posters) (GSA Energy Geology Division; GSA Environmental & Engineering Geology Division; GSA Geology and Society Division; GSA Continental Scientific Drilling Division; Society of Economic Geologists)
9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

94-1 1 Yin, Yidong*; Schimmelmann, Arndt; Mastalerz, Maria D.; Drobniaik, Agnieszka: FUGITIVE HYDROCARBON EMISSIONS FROM INDIANA OIL/GAS WELLS INTO THE ATMOSPHERE

94-2 2 Askari, Zohreh*; Lasemi, Yaghoub: STRATIGRAPHY AND RESERVOIR CHARACTERIZATION OF THE SILURIAN RACINE FORMATION IN HARRISTOWN OIL FIELD, CENTRAL ILLINOIS

94-3 3 Teng, Juan*; Mastalerz, Maria; Hampton, LaBraun: INFLUENCE OF MACERAL ON POROSITY CHARACTERISTICS OF LITHOTYPES OF PENNSYLVANIAN HIGH VOLATILE BITUMINOUS COALS FROM THE ILLINOIS BASIN

94-4 4 Greb, Stephen F.*; Weisenfluh, Gerald A.; Curl, Douglas C.: CALCULATING AND COMMUNICATING COAL RESERVE INFORMATION FOR WESTERN KENTUCKY

94-5 5 Greb, Stephen F.*; Sparks, Thomas N.; Solis, Michael; Harper, John A.; Carter, Kristin; Dinterman, Philip A.; Lewis, J. Eric: THE POTENTIAL FOR DEEP CO2 STORAGE ALONG THE TIPTON RIVER INDUSTRIAL CORRIDOR

94-6 6 Wilson, Kelly R.*; Hummer, Daniel R.; Denny, F. Brett; Filliberto, Justin: MODE OF MINERALIZATION AND RELATIONSHIP WITH IGNEOUS INTRUSIONS OF RARE EARTH ELEMENTS AT HICKS DOME, ILLINOIS

SESSION NO. 95 $ O
T11. Environmental & Engineering Geology Division Student Posters (GSA Environmental & Engineering Geology Division; Association of Environmental & Engineering Geologists)
9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

95-1 7 Hartman, Courtney*; Hurding-Jones, Holly; Pedigo, Richardson M.; Hurst, Eliza; Tormey, Blair R.; Waters-Tormey, Cheryl, Peek, Katie McDowell; Bilderback, Eric L.; Anderson, Douglas; Hungerford, Jefferson; Young, Robert S.: MAPPING LANDSLIDE AND ROCK FALL HAZARDS IN YELLOWSTONE NATIONAL PARK USING THE UNSTABLE SLOPE MANAGEMENT PROGRAM'S SLOPE ASSESSMENT MOBILE APPLICATION

95-2 8 Chen, Junjun*; Dax, Zhenxue; Qin, Shengwu; Liu, Xu: Li, Guangjie; Soltanian, Mohammad Reza: POTENTIAL VOLCANIC EARTHQUAKE INDUCED LANDSLIDE HAZARD ASSESSMENT IN CHANGBAI MOUNTAIN, NORTHEAST CHINA

95-3 9 Rodriguez-Peces, M.J.*; Delgado, J.; Tsige, M.: TESTING REGRESSION MODELS FOR ESTIMATING NEWMARK CO-SISMIC DISPLACEMENTS IN MODERATE TO LOW SEISMIC AREAS

95-4 10 Tsige, M.; Rodriguez-Peces, M.J.*; Garcia-Florizo, F.: FAILURE MECHANISM OF LARGE LANDSLIDES TRIGGERED BY EARTHQUAKES IN THE EL SALVADOR FAULT ZONE: THE CASE OF JIBOA LANDSLIDE

95-5 11 Graber, Andrew P.*; Santi, Paul M.: USING LICHENOMETRY TO EVALUATE ROCKFALL RECURRANCE INTERVAL AND TALUS FAN BEHAVIOR, GLENWOOD CANYON, COLORADO
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<td>95-6</td>
<td>Moore, Chelsea N.; Olgers, Amy E.; Bodenbender, Brian E.</td>
<td>A RECONNAISSANCE OF MICROPLASTIC DISTRIBUTION IN A SMALL MICHIGAN WATERSHED</td>
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<td>95-7</td>
<td>Jerrell, Rebecca L.; Latimer, Jennifer C.</td>
<td>MOBILITY AND BIOAVAILABILITY OF LEAD AT A NICHE OUTDOOR SHOOTING RANGE IN WEST CENTRAL INDIANA</td>
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<td>95-8</td>
<td>Foiz, Carlton A.; Weaver, Cole; Blumenitr, Dylan; Aufdenkampe, Anthony K.; Mundahl, Neal</td>
<td>USING CUSTOMIZABLE OPEN SOURCE TECHNOLOGY TO DEVELOP A NETWORK OF STREAM MONITORING STATIONS</td>
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<td>95-9</td>
<td>Schenck, Nadia*; Borgognoni, William; Lawrence, Graham; Kubiat, Thomas; Mutiti, Samuel; Mutiti, Christine; Mutiti, Samuel</td>
<td>TRACKING HEAVY METAL CONTAMINANTS ALONG THE MONONGAHELA RIVER, MORGANTOWN, WEST VIRGINIA</td>
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<td>95-10</td>
<td>Glasco, Emily*; Ngoma, Idah; Williams, Marina; Mutiti, Christine; Mutiti, Samuel</td>
<td>SPATIAL DISTRIBUTION OF SOIL CHARACTERISTICS AND THEIR IMPACT ON SEED BANK</td>
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<td>95-11</td>
<td>Rex, Nicholas B.; Brown, Ken; Veldhuizen, Hannah J.; Latimer, Jennifer C.</td>
<td>A GLOBAL RECONNAISSANCE OF THE DISTRIBUTION AND CONCENTRATION OF HEAVY METAL CONTAMINANTS AMONG PUBLIC PLAYGROUNDS IN MORGANTOWN, WV</td>
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<td>95-12</td>
<td>Sakowski, Timothy A.; Walsh, Talor B.</td>
<td>EVALUATING SUBSURFACE FRACTURES IN THE APPALACHIAN BASIN</td>
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<td>95-13</td>
<td>Peterson, Jonas M.; VanderRoest, Jacob P.; Wade, Daniel R.; Peterson, Jonathan W.; Wade, Randall D.; Brokus, Sarah A.; Pikaart, Michael J.; Best, Aaron A.</td>
<td>DETERMINING SIZE DISTRIBUTION OF VERY FINE PARTICLES IN ENVIRONMENTAL SAMPLES VIA A SIMPLE SETTLING EXPERIMENT: A SPECTROSCOPIC RECONNAISSANCE METHOD</td>
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<td>95-14</td>
<td>Mayfield, Marissa Louise*; Steele, Julia; Mutiti, Samuel; Mutiti, Christine; Manoylov, Kalina</td>
<td>RELATIONSHIP BETWEEN SALINITY AND MACROINVERTEBRATE DISTRIBUTIONS ON A BARRIER ISLAND IN GEORGIA</td>
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<td>95-15</td>
<td>Morkner, Paige*; Housen, Bernard; Grossman, Eric; Caplan-Auerbach, Jackie</td>
<td>VALIDATION OF PREDICTED TSUNAMI INUNDATION FOR THE INLAND COAST OF THE SALISH SEA ASSOCIATED WITH CASCADIA SUBDUCTION ZONE EARTHQUAKES</td>
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<td>95-16</td>
<td>Schenk, Nadia*; Borgognoni, William; Lawrence, Graham; Kubiat, Thomas; Mutiti, Samuel</td>
<td>PREVALENCE AND DISTRIBUTION OF MICROPLASTICS ON TWO BARRIER ISLANDS IN GEORGIA</td>
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<td>95-17</td>
<td>Wade, Daniel R.; VanderRoest, Jacob P.; Tarp, Cleveland E.; Std, Jacob T.; Peterson, Jonas M.; Peterson, Joseph J.; Wade, Randall D.; Brokus, Sarah A.; Best, Aaron A.; Pikaart, Michael J.; Peterson, Jonathan W.</td>
<td>A GLOBAL RECONNAISSANCE SURVEY OF PARTICULATES IN UNTREATED DRINKING WATER SOURCES: POTENTIAL RELATIONSHIPS TO WORLDWIDE METADATA</td>
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<td>95-18</td>
<td>An, Bang*; Zhou, Bing</td>
<td>NUMERICAL INVESTIGATION ON DC RESISTIVITY ANISOTROPY MODELLING AND IMAGING FOR NEAR-SURFACE STRUCTURES</td>
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<td>95-19</td>
<td>Germain, Alexandra*; Lemieux, Jean-Michel; Cloutier, Catherine; Kokutse, Nomesi Kuma; Locat, Ariane; Locat, Pascal; Demers, Denis</td>
<td>TEMPORAL MEASUREMENT AND PREDICTION OF PORE PRESSURE RESPONSE TO CLIMATIC EVENTS IN CLAY DEPOSITS</td>
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<td>95-20</td>
<td>Iosso, Chantal*; Maxwell, Bryan; Winter, Dani; Birgand, Francois</td>
<td>A HIGH-RESOLUTION ASSESSMENT OF THE IMPACT OF FLOATING TREATMENT WETLANDS ON NUTRIENT REMOVAL</td>
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<td>95-21</td>
<td>Toupal, Jonas*; Arens, Nan Crystal</td>
<td>CAN REMOTE SENSING MAP MERCURY POLLUTION IN VEGETATED AREAS? THE CASE OF TARKWA, GHANA, AFRICA</td>
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<td>95-22</td>
<td>Zerquera, Thomas*</td>
<td>COMMUNITY REDEVELOPMENT THROUGH USE OF THE BROWNFIELDS PROGRAM</td>
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<td>96-1</td>
<td>Martin, Eli C.*; Brown, Kala M.; Chapman, Marshall; Backus, Jason; O’Keefe, Jennifer M.K.; Demchuk, Thomas D.; Denison, Christopher N.; Cowey, Nicholas</td>
<td>VOLCANIC ASH IN THE HOOPER FORMATION (PALEOCENE), WILCOX GROUP: A PRELIMINARY REPORT</td>
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<td>96-2</td>
<td>Wright, Maxwell N.; Barth, Andrew; Riggs, Nancy; Field, Derek; Walker, J. Douglas; Woollen, J.L.</td>
<td>PETROLOGIC EXAMINATION OF A MESOZOIC SUPER-ERUPTION: TUFF OF SKELOTON LAKE, MT. MORRISON PENDANT, SIERRA NEVADA, CALIFORNIA</td>
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<td>96-3</td>
<td>Humphreys, Mary*; Michelfelder, Gary S.; Benz, Brooke E.</td>
<td>U-PB GEOCHRONOLOGY AND PETROLOGY OF OLIGOCENE AND MIOCENE RHYOLITE TUFFS FROM THE NORTHERN MOGOLLON-DATIL VOLCANIC FIELD</td>
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<td>96-4</td>
<td>Choisser, Abigail*; Cribb, Warner</td>
<td>INSIGHT INTO INTERRELATIONSHIPS AMONG DENSITY, VISCOSITY, CRYSTALLINITY AND CHEMICAL COMPOSITION WITHIN HYPOCRYSTALLINE INTERMEDIATE LAVAS, MT. HOOD VOLCANO, OREGON</td>
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<td>96-5</td>
<td>Humphress, Jaqueline Ann*; Barth, A.P.; Riggs, Nancy</td>
<td>BASALTIC CLASTS CONTAINED IN BRECCIA OF THE EASTERN RITTER RANGE PENDANT, SIERRA NEVADA, CALIFORNIA</td>
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<td>96-6</td>
<td>Perrier, Jhamila A.</td>
<td>PETROGRAPHY OF TRIASSIC IGNEOUS ROCKS FROM THE NORTH PAMIR</td>
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<td>96-7</td>
<td>Wegmann, Mackenzie*; Gehring, Brandie; O’Dowd, Conor L.; Michelfelder, Gary S.</td>
<td>THE PETROLOGY AND GEOCHEMISTRY OF A MIOCENE UNDIFFERENTIATED DACITE IN THE MOGOLLON-DATIL VOLCANIC FIELD, NEW MEXICO</td>
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<td>96-8</td>
<td>Baker, Morgan E.*; Casale, Gabriele</td>
<td>ANNEALING CHARACTERISTICS OF RADIATION DAMAGE HALOS IN QUARTZ AS REVEALED BY CATHODOLUMINESCENCE MICROSCOPY</td>
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<td>96-9</td>
<td>Pummelli, Benjamin*; Peterson, Ginny</td>
<td>MICROSTRUCTURE AND PALEOPIEZOMETRIC CONSTRAINTS ON DEFORMATION CONDITIONS OF OLIVINE FROM THE SOUTHERN APPALACHIAN BUCK CREEK ULTRAMAFIC COMPLEX</td>
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<td>96-10</td>
<td>Basconi, Miranda T.; Anderson, Dustin R.; Deskins, Lindsey R.; Frye, James K.; Green, Tyler T.; Hardman, Jonathan H.; Lilly, Carl E.; Runke, Michael R.; Allen, Joseph L.; Kuehn, Stephen C.; Green, Tyler T.</td>
<td>FIELD RELATIONS AND TITANIUM-IN-QUARTZ THERMOMETRY OF MYLONITIC PSEUDOTACHYLYTES FROM THE SLIDE LAKE AND HOMESTAKE SHEAR ZONES, SAWATCH RANGE, COLORADO</td>
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<td>96-11</td>
<td>Thomas, Michael A.; Judge, Shelley; Shabazz, Juwan; Braunagel, Michael</td>
<td>STRUCTURAL COMPARISON OF THE DEFORMATION STYLES IN THE ARAPIEN FORMATION (TWELVEMILE CANYON MEMBER: HARDY UNITS B AND C), NINEMILE RESERVOIR, CENTRAL UTAH</td>
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61 Peterson, McKenze*; Kaszuba, John; Terry, Olivia Renee: THE MOBILITY OF RARE EARTH ELEMENTS IN ALTERED SHERMAN GRANITE, LARAMIE RANGE, SOUTHEAST WYOMING

62 Wilson, Jonathan*; Hagg, Wendell; Weisrock, David; Price, Steven; Erhardt, Andrea M.: VARIATION IN STABLE ISOTOPES OF FRESHWATER MUSSEL SHELLS IN THE LICKING RIVER OF KENTUCKY

63 Johnstone, Caroline*; Bedaso, Zalealem K.: CHARACTERIZING INTERACTIONS BETWEEN SURFACE AND GROUNDWATER IN THE GREAT MIAMI VALLEY WATERSHED USING STABLE ISOTOPE AND CHEMICAL ANALYSIS

64 Watts, Elena M.*; Coleman, Drew S.; Colon-Ramirez, Angel M.; Walah, Aleah R.: STRONTIUM ISOTOPIC COMPOSITIONS OF THE NEUSE AND CAPE FEAR RIVER BASINS, NORTH CAROLINA

65 Belanger, Bryce K.*; Hampton, Samuel J.: GEOCHEMICAL CHARACTERIZATION OF NEAR AND FAR-FIELD TSUNAMI DEPOSITS: LITTLE PIGEON BAY, BANKS PENINSULA, NEW ZEALAND

66 Kleban, Lillian R.*; Welch, Sue A.; Carey, Anne E.: WEATHERING OF VOLCANIC ASH AS A CARBON SINK

67 Brownson, Cindy*; Noll, Mark R.: AQUEOUS GEOCHEMISTRY OF WESTERN NEW YORK'S MEROMICTIC LAKES DURING SUMMER THERMAL STRATIFICATION


69 Wulsin, Gus*; Whyte, Colin; Moore, Myles T.; Darrah, Thomas H.: COMPARISON OF WATER WELL SAMPLING METHODS FOR DISSOLVED GASES

70 Davila-Banrey, Marcos*; Howard, Maury E.; Leonard-Pingel, Jill S.; Michelson, Andrew V.: TRACKING THE SUCCESS OF REMEDIATION IN TEMPERATE LAKES USING BIOLOGICAL AND GEOCHEMICAL PROXIES

71 Garcia, Cesar A.*; Kilibarda, Zoran: PELLETS AND FRAGMENTS ARE MOST COMMON MICROPLASTICS ON THE LAKE MICHIGAN BEACHES OF INDIANA

72 Carlson, Claire*; Milbrandt, Eric; Cramer, Bradley D.: TESTING AQUACULTURE TECHNIQUES ON THE GROWTH RATES OF MACROALGAE IN TARPON BAY, SW FLORIDA

73 Bierly, Helena E.*; Latimer, Jennifer C.; Stone, Jeffery R.: AN INVESTIGATION OF ENVIRONMENTAL DISTURBANCES ASSOCIATED WITH HURRICANE HARVEY RECORDED IN CORES COLLECTED FROM CORPUS CHRISTI BAY, TEXAS

74 Anderson, Rebecca L.*; Welch, Sue A.; Carey, Anne E.: PETROGRAPHIC ANALYSIS AND CHEMICAL WEATHERING SOURCES IN THE CHOSHUI RIVER WATERSHED ON THE HIGH-STANDING ISLAND OF TAIWAN

75 Baker, Andrew D.*; Rosenburg, Maxim; Lincoln, Timothy N.: EVALUATING THE CONTRIBUTIONS OF SEDIMENT AND ADJACENT WETLAND PORE WATERS TO THE DISSOLVED ORTHOPHOSPHATE LOAD OF THE KALAMAZOO RIVER

76 Wright, R. Morgan*; Michel, Lauren A.; Asante, Joseph; Li, Peter: DENDROCHRONOLOGICAL STUDY OF HEMLOCK (TSUGA CANADENSIS) FROM WINDOW CLIFFS STATE PARK, TENNESSEE

77 Kelly, Patrick R.*; Elrick, Maya: RECOGNIZING A GLOBAL NEGATIVE CARBON ISOTOPE EXCURSION IN THE EARLY DEVONIAN

78 Stoffa, Brittany M.*; Cramer, Bradley D.; Clark, Ryan J.; Day, James; Hogancamp, Nicholas Jay; Tassier-Surine, Stepanie; Witzke, Brian J.: TOURNAISIAN CONODONT BIOSTRATIGRAPHY OF THE TYPE KINDERHOOKIAN AREA OF IOWA, ILLINOIS, AND MISSOURI

79 Geng, Jie*; Flynn, Andrew; Pepe, Daniel J.: PALEOCLIMATE RECONSTRUCTION AND THE PATTERN OF CLIMATE
CHANGE AT EARLY PALEOCENE FROM LEAF PHYSIOGAMY AT SAN JUAN BASIN, NEW MEXICO FOLLOWING THE CRETACEOUS-PALEOGENE BOUNDARY

96-49 80 Powers, Megan*, Milbrandt, Eric; Cramer, Bradley D.: FACTORS IMPACTING LUCIDIN BIVALVE AND SEAGRASS SYMBIOSIS WITHIN THE SANIBEL-CAPITNA AREA, SW FLORIDA

96-50 81 Khatri, Samantha I.*; Beatty, William Lee; Schroeder, Adam: FAUNAL ANALYSIS OF A FOSSIL MICROSITE FROM THE LATE CRETACEOUS HELL CREEK FORMATION, NORTH DAKOTA

96-51 82 Lown, Abigail*; Gravery, Damen M.; Rhodes, Amy L.: EXPLORING BULK ROCK GEOCHEMICAL CONTROLS ON FORMATION OF VOLCANIC “BENCHES” AT PIGEON BAY PEAK, BANKS PENINSULA NZ

96-52 83 Argyilan, Erin P.; Wible, Randi Jean*: PHOTOMONITORING OF SHRUBLINE DYNAMICS ALONG THE INDIANA SHORELINE OF LAKE MICHIGAN, USA

96-53 84 Martin-Capestany, Melanie Ann*; Argyilan, Erin P.: IMPACT OF SOCIAL TRAILS ON DUNE INTEGRITY ON THE SOUTHERN SHORELINE OF LAKE MICHIGAN

96-54 85 Valenti, Peter*; Noll, Mark R.: APPLICATION OF GPR TO LOCATING EARLY REPUBLIC PERIOD GRAVES IN A HISTORIC GRAVEYARD, EAST BLOOMFIELD, NY

96-55 86 Hendry, Cindy L.*; Jenkins, Kirsten E.; Li, Peter; Michel, Lauren A.; McNulty, Kieran P.: GIS INTERPRETATION OF FOSSIL DISTRIBUTION OF AN EKEMBO BEARING SITE FROM THE EARLY MIocene, RUSINGA ISLAND. LAKE VICTORIA, KENYA

96-56 87 Garrett-Anes, Noah M.*; McRivette, Michael W.; Bartels, William S.: MAPPING A SMALL DEVONIAN WORLD: A GIS ANALYSIS OF THE DISTRIBUTION EPISOANS ON BRACHIOPOD SHELLS

96-57 88 Sherwood, Tyler C.*; Minter, Logan M.; Larson, Erik B.: A GIS DATABASE OF NATIVE AND EXOTIC TREES/WOODY-SHRUBS USING HISTORICAL AND MODERN DATA AT SHAWNEE STATE UNIVERSITY, OHIO

96-58 89 Williams, garnet J.*; Stewart, Alexander K.: MAJORING IN GEOLOGY AS AN ARMY ROTC CADET: THE BENEFITS OF 4D THINKING AND ITS UNDERREPRESENTATION

SESSION NO. 97

D5. Geochemistry (Posters)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

97-1 90 Brooker, Sarah Elizabeth*; Liu, Xiao-Ming: RARE EARTH ELEMENT ANALYSIS OF SOIL WEATHERING PROFILES IN VARYING CLIMATE ZONES ON THE ISLAND OF HAWAI'I

97-2 91 Zabrecky, Jordan*; Liu, Xiao-Ming: ANTHROPOGENIC GADOLINIUM IN TRIANGLE AREA WATERS, NC: A CASE STUDY OF WASTEWATER TREATMENT PLANTS

97-3 92 Ness, Richard*; Fedo, Christopher M.: PRELIMINARY PETROGRAPHIC AND GEOCHEMICAL APPRAISAL OF A CAMBIAN WEATHERING PROFILE DEVELOPED ON PROTEROZOIC POTASSIC GRANITE, MARBLE MOUNTAINS, SOUTHEASTERN, CALIFORNIA

97-4 93 Matthews, Bryan; Veldhuizen, Hannah J.*; Latimer, Jennifer C.; Speer, James H.: SEDIMENTATION AND WATER QUALITY DETERMINATION OF THE OTTER CREEK WATERSHED

97-5 94 Faron, Thomas D.*; Hunt, A.M.: UTILIZATION OF THE NITON XL3T 950 GOLD®+ HAND-HELD XRF ANALYZER FOR NON-Destructive DETECTION OF RARE ELEMENTS IN LOW CONCENTRATIONS IN THE FIELD AND CONFIRMATION IN THE LABORATORY

97-6 95 Avery, Elizabeth A.*; Erhardt, Andrea M.: EFFECTS OF INJECTED WASTE WATER ON A HETEROGENEOUS SYSTEM

97-7 96 Collin-Rodriguez, A.*; Núñez Useche, Fernando; Aadate, Thierry; Alfonso, P.: PALEOREDOX CONDITIONS DURING THE CENOMANIAN-TURONIAN IN CENTRAL MEXICO AND THEIR RELATION TO OCEANIC ANOXIC EVENT 2

97-8 97 Abdelnaem, Rifai Ibrahim Rifai*; Kolkas, Mossbah: DEPOSITIONAL ENVIRONMENT AND DIAGENESIS OF THE MIDDLE JURASSIC BLACK SHALES AND ASSOCIATED IRON SULFIDS, CENTRAL SINAI, EGYPT

97-9 98 Hickam, Sarah*; Aksenov, Sergey M.; Dembowski, Mateusz; Perry, Samuel N.; Traustason, Hrafn; Russell, Meghann; Burns, Peter C.: DISSOLUTION OF UO2 IN URANYL PEROXIDE CLUSTER-FORMING CONDITIONS

97-10 99 Green, Jessica*; Murochwick, James B.: FLUID ORIGINS OF MANGANESE OXIDES FROM THE BOLEO FORMATION AND LUCIFER DISTRICT, SANTA ROSALIA, BAJA CALIFORNIA SUR, MEXICO

97-11 100 Hagen, Cedric J.*; Crevelling, Jessica R.; Mix, Alan C.: SULFATE EVAPORITE DISSOLUTION, AOM, AND THE NEOPROTEROZOIC CARBON CYCLE

97-12 101 Xing, Chaochao*; Lang, Xiangao; Ma, Haoan; Peng, Yang; Peng, Yongbo; Ning, Meng; Cui, Yixin; Shen, Bing: DOES MICRITE (LIME MUD) ARCHIVE SEAWATER MG ISOTOPIC COMPOSITION?

97-13 102 Kuebler, Corinne*: Simonetti, Antonio: TRACING THE DEEP CARBON CYCLE: BORON ISOTOPE INVESTIGATION OF MANTLE-DERIVED CARBONATES

97-14 103 Escorcia-Ocampo, Emmanual*; Gil-Bernal, Felipe; Núñez Useche, Fernando; Canet, Carles; Teske, Andreas; Rodriguez Diaz, Augusto Antonio; Pi Puig, Teresa: NEW INSIGHTS INTO AUTHIGENIC AND HYDROTHERMAL MINERALIZATION PROCESSES OF THE GUAYMAS BASIN (GULF OF CALIFORNIA)

SESSION NO. 98

T53. High-Resolution Datasets for Fluvial and Hillslope Processes and Landforms: Frontiers of Remotely Sensed Data (Posters)
(GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics Division; GSA Sedimentary Geology Division; GSA Environmental & Engineering Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

98-1 104 Patenostro, Skyler*; Bulger, Nicole; Merritz, John; Singer, Jill; Bajo, Jorge: DOCUMENTING CHANGES TO AN URBAN RIVER UNDERGOING SEDIMENT REMOVAL: RESTORATION OF THE BUFFALO RIVER, BUFFALO, NY

98-2 105 Godinez-Tamay, Arturo*; Castillo, Miguel; Ferrar, Luca; Ortega-Gutiérez, Fernando: RIVERS RESPONSE TO TECTONICS IN EXTENSIOINAL LANDSCAPES: A CASE OF STUDY IN THE JALISCO BLOCK (WEST-CENTRAL MEXICO) AND ADJACENT AREAS


98-4 107 Dean, Brian Allen*; Blumentritt, Dylan; DeLong, Whitney M.; Wickert, Andrew D.; Gran, Karen B.; Jennings, Carrie E.: DOCUMENTING LANDSLIDES IN THE DRIFTLESS AREA OF SOUTHEASTERN MINNESOTA

98-5 108 Mehr, Ashay*; Maloof, Adam; Geyman, Emily C.: ANALYSIS OF CHANNEL MORPHOLOGY USING HIGH RESOLUTION, DRONE-DERIVED IMAGERY OF THE TIDAL FLAT AT TRIPLE GOOSE CREEK, ANDROS ISLAND

98-6 109 Lee, Rebecca E.*; Eyles, Carolyn H.; Narro Perez, Rodrigo A.; Maclachlan, John C.: UTILIZING PHOTOGRAMMETRY TO ANALYZE VARIATION IN THE LITHOLOGY AND STRUCTURE OF THE NIAGARA ESCARPMENT IN HAMILTON, ONTARIO, CANADA

4–7 November • Indianapolis, Indiana, USA 191
Monday, 5 November 2018

98-7  110  Johnson, Sarah*; Edwards, Trent; Johnson, Matthew; Brown, Constance; Peterson, Cameron: LANDSLIDE INVENTORY OF NORTHERN KENTUCKY USING DIFFERENTIAL ELEVATION MAPS DERIVED FROM SEQUENTIAL LIDAR SURVEYS

98-8  111  Witter, Robert C.; Bender, Adrian: LIDAR-BASED MAPS OF ACTIVE TRACES OF THE FAIRWEATHER FAULT IN GLACIER BAY NATIONAL PARK, ALASKA

SESSION NO. 99

D27. Geoscience Education (Posters)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM Booth #

99-1  112  Petrovic, Heather L.; McNeal, Peggy M.; Nyarko, Samuel Cornelius*; Doorlag, Megan: "HOW DID YOU LEARN TO MAKE GEOLOGIC MAPS?" THE IMPACT OF EMBODIMENT, COMMUNITY, AND INSTRUCTION

99-2  113  Plitt, Brian F.; Plitt, Sara: APPLICATION OF CURRICULUM-BASED MEASUREMENT TO ASSESS WRITING OF ELL AND NATIVE-ENGLISH SPEAKING GRADUATE STUDENTS IN THE GEO SCIENCES


99-5  116  Charles, Monica P.*; Gilleseaudou, Geoffrey J.; Ehrick, Maya: TEACHING THE NSSG AND COMBINING REAL-WORLD EARTH SCIENCE CONCEPTS THAT CAN RESULT IN A NEW MINDSET FOR THE NEXT GENERATION OF SCIENTISTS

99-6  117  Miller, Scott R.*; Meert, Joseph G.; Stofler, Kathryn; Matyas, Corene; Lannon, Heidi; Williams, Amy J.: GEOBACKGROUND: A BRIEF SURVEY OF EXPOSURE AND KNOWLEDGE OF GEOLOGY AMONG INTRODUCTORY LEVEL GEOLOGY STUDENTS IN FLORIDA

99-7  118  Clark, Robert*: CLASSIFICATION IN THE CLASSROOM: A MIDDLE SCHOOL EXPLORATION OF TAXONOMY, FOSSILS, AND EVOLUTION

99-8  119  Bruckner, Monica Z.*; Manduca, Cathryn A.; Fox, Sean P.; Iverson, Ellen; O'Connell, Kristin; Sheriff, Kathryn; Egger, Anne E.: ENGAGING STUDENTS UNDERSTANDING EARTH IN THE CONTEXT OF SOCIETAL ISSUES THROUGH THE INTEGRATE TEACHING MATERIALS

SESSION NO. 100

T72. Integrating Active Learning Strategies into College-Level Geoscience Classrooms: Implementation, Effects, and "Lessons Learned" (Posters) (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM Booth #

100-1  120  Martindale, Rowan C.*; Weiss, Anna M.: "TAPHONOMY: DEAD AND BURIED" – A NEW BOARD GAME DESIGNED TO TEACH THE PLAYERS ABOUT THE PROCESS OF FOSSILIZATION

100-2  121  Park Boush, Lisa E.*: EXTINCTION! A GAME THAT TEACHES EARTH HISTORY THAT IS TIED TO K-12 LEARNING STANDARDS

100-3  122  Scribner, Emily D.*; Harris, Sara E.: THE MINERALOGY CONCEPT INVENTORY: A STATISTICALLY-VALIDATED ASSESSMENT TO MEASURE LEARNING GAINS AND COMPARE PEDAGOGIES

100-4  123  Pettus, Holly D.*; Andrews, Graham: WVU FIRE AND ICE: LESSONS LEARNED FROM (RE)-ESTABLISHING A

STUDY ABROAD PROGRAM TO INVI GORATE A GEOLOGY PROGRAM

100-5  124  Humphreys, Robin R.*: HOW TO ENGAGE THE DISENGAGED: REACHING NON-SCIENCE MAJORS THROUGH ACTIVE LEARNING STRATEGIES IN INTRODUCTORY GEO SCIENCE COURSES

100-6  125  Jones, Jason P.*; McConnell, David A.: HOW DO EFFORT AND JUDGMENTS OF LEARNING DURING ONLINE PRACTICE QUIZZES PREDICT EXAM OUTCOMES IN AN INTRODUCTORY PHYSICAL GEOLOGY COURSE?

100-7  126  Ryker, Katherine*; Johnson, Amy Flanagan; Ward, Timothy; Koolage, W. John; Dority; Evan; Clevenger, Danielle: STUDENT PERCEPTIONS OF AN INTERDISCIPLINARY POP-UP LEARNING COMMUNITY ON CLIMATE CHANGE

100-8  127  Abolins, Mark*: LEARNING WITH ARCGIS WITHIN AN UNDERGRADUATE STRUCTURAL GEOLOGY COURSE AT MIDDLE TENNESSEE STATE UNIVERSITY IN MURFREESBORO, TENNESSEE

100-9  128  Horodylskyj, Lev*: Bruce, Geoffrey; Bratton, Donald; Mead, Chris; Ruberto, Thomas; Semken, Steven; Anbar, Ariel D.: EDUCATION THROUGH EXPLORATION: LESSONS FROM DIGITAL ACTIVE LEARNING AT SCALE

100-10  129  Teed, Rebecca*: DO STUDENT NOTE-SHEETS INCREASE LEARNING WITH ARCGIS WITHIN AN UNDERGRADUATE STRUCTURAL GEOLOGY COURSE AT MIDDLE TENNESSEE STATE UNIVERSITY IN MURFREESBORO, TENNESSEE

SESSION NO. 101

T83. Beyond the Numbers: Strategies for Inclusive Education Practices across the Geological Sciences (Posters) (American Geophysical Union; GSA Diversity in the Geosciences Committee; GSA Geoscience Education Division; National Association of Geoscience Teachers; National Earth Science Teachers Association; NTA (National Technical Association))

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM Booth #

101-1  130  Balgord, Elizabeth*; Frantz, Carie M.; Matyjašik, Marek; Yonkée, Adolph; Ford, Richard L.: A MULTIFACETED APPROACH TO INCREASING DIVERSITY IN GEOSCIENCES: HIGH SCHOOL CONCURRENT ENROLLMENT, SUMMER BRIDGE, COMMUNITY ENGAGED LEARNING, AND EARLY RESEARCH EXPERIENCES

101-2  131  McConnell, David A.*; Wegmann, Karl W.; Brewer, Chester; Wiggen, Jennifer; Jones, Jason P.; Atkins, Rachel M.: LESSONS LEARNED FROM THE FIRST YEAR OF A GEOPATHS PROJECT: WHAT WORKED, WHAT WILL CHANGE

101-3  132  Flessa, Karl W.*; Schmidt, Nancy; Fay, Noah P.; Battista, Jennifer; Birmingham, Colleen; Campbell, Cade; Collins, Daniel; Foehner, Brandon; Ford, Matthew; Furphy, Lauren; Gallo, Scott; Lizarazu, Isa; Ridinghafer, Jacob; Ross, Braden: INTERNS AND INCLUSION: STUDENTS IN THE SOUTHERN ARIZONA EARTH-SCIENCE WORKFORCE

101-4  133  Dozer, Diane*; Rohrbaugh, Rob; Villalobos, Joshua: SLEATES: A COLLABORATIVE SERVICE-LEARNING PROGRAM FOR TWO-YEAR AND FOUR-YEAR COLLEGE STUDENTS IN THE EL PASO, TEXAS REGION

101-5  134  Claiborne, Lily L.*; Oster, Jessica L.; Young, De'Etra; Byl, Thomas D.; Vanags, Chris P.; Kelley, Neil P.; de Koff, Jason P.; Goodbred, Steven L.: EARTH HORIZONS: A TSU-VANDERBILT PARTNERSHIP BUILDING A PATHWAY TO BROADEN PARTICIPATION OF UNDERREPRESENTED GROUPS IN GRADUATE SCHOOL AND THE GEOSCIENCE WORKFORCE

101-6  135  Wilson, Carolyn*; Keane, Christopher; Leiby, Annika: ASSESSING THE STRUCTURE OF GEOSCIENCE GRADUATE PROGRAMS IN THE UNITED STATES

101-7  136  Upadhyay, Deepshikha*: Adebiyi, Adeyemi; Njbo, Kevin; Linol, Bastien; Kruytthof, Ashley A.; Jesmok, Greg; Glaser, Emily; Tripati, Aradhna: ENVIRONMENTAL SCIENCE WITHOUT BORDERS
SESSION NO. 102

T84. Making Sense of Methodologies and Theoretical Frameworks in Geoscience Education Research (Posters) (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

102-1 148 Teasdale, Rachel*; Scherer, Hannah H.; Forbes, Cory; Boger, Rebecca A.; Holder, Lauren N.: A CALL FOR MORE GEO SCIENCE EDUCATION RESEARCH ON TEACHING ABOUT EARTH IN THE CONTEXT OF SOCIETAL PROBLEMS

102-2 149 McNeal, Karen S.*; van der Hoeven Kraft, Katrien J.; Nagy-Shadman, Elizabeth A.; Beck, Mary A.; Jones, Jason P.: A COMMUNITY FRAMEWORK FOR GEO SCIENCE EDUCATION RESEARCH: RESEARCH ON GEO SCIENCE STUDENTS’ SELF-REGULATED LEARNING, METACOGNITION, AND AFFECT

102-3 150 Pyle, Eric J.*; Darling, Andrew L.; Kreager, Bailey Zo; Conrad, Susan Howes: HOW DO WE LEARN HOW STUDENTS ARE TO LEARN? GER GRAND CHALLENGES ON SOLID EARTH CONCEPTUAL UNDERSTANDING

102-4 151 Johnson, Elijah T.*; McNeal, Karen S.: SUPPORTING SPATIAL THINKING IN UNDERGRADUATES USING THE AUGMENTED-REALITY SANDBOX


102-6 153 Broich, Kelsi*; Ishimwe, Felix; Turner, Sheldon; Libarkin, Julie C.: ERRORS AND GEOLOGIC WORKING MEMORY

102-7 154 Singer, Jill K.*; Fox, Sean P.; Weiler, Daniel; Zimmerman, Bridget; Ambos, Elizabeth; Hewlett, James: EVALUATOR: AN INNOVATIVE APPROACH TO FOSTERING AND DOCUMENTING GROWTH IN STUDENT OUTCOMES IN AN UNDERGRADUATE RESEARCH PROGRAM

102-8 155 Stempien, Jennifer*: Abbott, Lon D.: COMBINING BEST PRACTICES OF INDIVIDUAL AND COURSE-BASED RESEARCH EXPERIENCES TO CREATE A COLLABORATIVE UNDERGRADUATE GEO SCIENCE RESEARCH COMMUNITY
SESSION NO. 105
T105. Climate Variability, Change, and Water Resources (Posters) (GSA Hydrogeology Division; GSA Karst Division; GSA Limnogeology Division; GSA International Interdisciplinary Interest Group)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

105-1 168 Chipman, Melissa L.*; Lasheer, G. Everett; Medeiros, Andrew; Axford, Yarrow: 6500 YEARS OF CLIMATE CHANGE IN SOUTH GREENLAND INFERRED FROM INSECT (DIPTERA: CHIRONOMIDAE) ASSEMBLAGES

105-2 169 Dai, Zhenxue; Zhou, Yan*: Soltanian, Mohamad Reza: A REVIEW OF BASAL HYDROGEOLOGY AND WATER DRAINAGE OF ANTARCTIC SUBGLACIAL HYDROLOGIC SYSTEMS

105-3 170 Miller, Jordyn B.*; Frisbee, Marty D.; Hamilton, Trinity L.: IDENTIFYING ALPINE GLACIER MELT INFLUENCED SPRINGS IN MT. HOOD NATIONAL FOREST AND GLACIER NATIONAL PARK USING STABLE ISOTOPES OF WATER

105-4 171 Cole, Alison*; Boutilier, David F.: HIGH-RESOLUTION SPATIAL AND TEMPORAL MAPPING OF SURFACE AND GROUNDWATER STABLE ISOTOPES ENABLE INSIGHTS INTO HYDROLOGIC PROCESSES AT THE CATCHMENT SCALE

105-5 172 Liu, Guodong*: ISOTOPIC CHARACTERISTICS IN HUMID AREAS AFFECTED BY MULTIPLE MOISTURE SOURCES: A CASE STUDY IN CHENGDU, CHINA

105-6 173 Labelle, Lor*: Frape, Shaun K.; Gerber, Richard E.: THE ROLE OF STABLE ISOTOPES (δ18O, δD) IN ASSESSING SALINITY IMPACTS ON THE WATER RESOURCES OF THE OAK RIDGES MORaine, ONTARIO, CANADA

105-7 174 Wu, Shuang-Ye*; Bedaso, Zelalem K.; McGlade, Colin: CLIMATIC CONTROLS OVER VARIATION OF STABLE ISOTOPES OF PRECIPITATION IN ETHIOPIA

105-8 175 Adhikari, Bishwodeep*: Wang, Lixin: GROUNDWATER AND SOIL MOISTURE - POTENTIAL SOURCES OF FOG IN THE NAMIB DESERT?

105-9 176 Longo, Carmen*: Balgord, Elizabeth; Diedesch, Timothy F.; Ali, John: THE IMPACT OF CLIMATE CHANGE ON WATER QUALITY IN THE CORDILLERA BLANCA, PERU

105-10 177 Akara, Mahawa-Essia Mabossani*: Reeves, Donald M.: A CONCEPTUAL MODEL FOR SURFACE-WATER-GROUNDWATER INTERACTIONS WITHIN A REGIONAL-SCALE FRAGMENTED ROCK AQUIFER

105-11 178 Goldstein, Suzanne D.*; Gundak, Jason J.; Sklar, Leonard S.; Maurer, Edwin P.: Leventhal, Roger: MODELING FLOODING AND COMMUNITY VULNERABILITY IN A CHANGING CLIMATE: NOVATO CREEK WATERSHED, MARIN COUNTY, CA

SESSION NO. 106
T106. Springs: Groundwater-Influenced Ecosystems, Gaining Streams, and Wetlands (Posters) (GSA Hydrogeology Division; GSA Karst Division; GSA Geobiology & Geomicrobiology Division; GSA Limnogeology Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

106-1 182 Nelson, Amelia R.*; Wilkins, Michael J.; Saup, Casey M.; Bryant, Savannah R.; Harris, Kira; Williams, Kenneth H.; Sawyer, Audrey H.: HETEROGENEITY IN RIVER-GROUNDWATER MIXING, MICROBIOLOGY, AND GEOCHEMISTRY IN AN ALPINE RIVERBLED DURING BASEFLOW

106-2 183 Stribling, Selsey*; Malzone, Jonathan M.: MODELING SEASONAL SPRING DEVELOPMENT AND HEAD REVERSALS IN AN ISOLATED RIDGETOP WATERTABLE IN THE DANIEL BOONE NATIONAL FOREST

106-3 184 Warix, Sara R.*; Rademacher, Laura K.; Meyers, Zachary P.; Frisbee, Marty D.; Gleason, Carolyn L.; Hedlund, Brian P.; Friel, Ariel D.; Pordel, Khaled: GEOLOGIC CONTROLS ON GROUNDWATER FLOWPATHS IN THE SPRING MOUNTAINS, NV INFERRRED FROM SPRING WATER GEOCHEMISTRY AND δO/δ18O

106-4 185 Norton, Monica Kelly*: Ashley, Gail M.; Cuthbert, Mark O.: SPRINGS IN THE NGORONGORO VOLCANIC HIGHLAND: GEOLOGY, GEOMORPHOLOGY, AND HYDROLOGY

106-5 186 Saup, Casey M.*; Nelson, Amelia; Bryant, Savannah R.; Sawyer, Audrey H.; Christensen, John N.; Williams, Kenneth H.; Wilkins, Michael J.: JUST AROUND THE RIVERBEND: SEASONAL HYDROLOGIC CONTROLS ON HYPORHEIC MICROBIAL COMMUNITY FUNCTION

106-6 187 Moran, Brendan J.*; Boutilier, David F.; Munk, LeeAnn: RESOLVING WATER AND SOLUTE BUDGET IMBALANCE IN A GROUNDWATER-DOMINATED ARID CATCHMENT USING HYDROFACIES CHARACTERIZATION AND INVERSE MODELLING

SESSION NO. 107
T107. Hydrogeology and Energy (Posters) (GSA Hydrogeology Division; GSA Energy Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

107-1 188 Davalos-Elizondo, Estefanny*: Atekwana, Eliot; Atekwana, Estella A.; Tsokonombwe, Gift; Laó Dávila, Daniel A.: GEOUALMETRY OF HOT SPRINGS IN THE MALAWI RIFT VALLEY


107-3 190 Mwangi, Anna*: Mickus, Kevin L.; Serpa, Laura: MAGNETOTELLURIC ANALYSIS OF THE OLKARIA GEOTHERMAL SYSTEM, KENYA

107-4 191 Law, Eric; Yin, Shangxian; Wu, Zhiyuan*: Ma, Lihong; Lian, Huiqing: NEW INSIGHT ABOUT THE DIAGENETIC HISTORY
SESSION NO. 108

T3. Karst Hydrology and Hydrogeology (Posters) (GSA Karst Division; GSA Geophysics and Geodynamics Division; GSA Hydrogeology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

108-1  195 Soto-Kerans, Nick*; Hunt, Brian B.; Smith, Brian A.: STRATIGRAPHIC EVALUATION OF TRINITY AQUIFERS IN HAYS AND WESTERN TRAVIS COUNTY AND IMPLICATIONS FOR GROUNDWATER AVAILABILITY

108-2  196 Laney, Brendan L.*; Asante, Joseph: A STUDY OF BASELINE WATER QUALITY AND CONTROLLING FACTORS OF THE BOILS SPRING ON SCENIC ROARING RIVER, JACKSON COUNTY TENNESSEE

108-3  197 Hall, Andrew*; Springer, Gregory S.: VERIFICATION OF AND EXPANSION UPON THE USE OF CAVE SCALLOPS IN RECREATING HYDROGEOLOGIC CONDITIONS IN KARST AQUIFERS

108-4  198 Lilley, Sara*; Yonge, Chas: A NOVEL UNDERSTANDING OF THE BANFF HOT SPRINGS VIEWED AS A KARST SYSTEM

108-5  199 Zhang, Qiang*: Xu, Mo; Sun, Jinyu; Liu, Yafei: EVOLUTION OF GROUNDWATER SEEPAGE FIELD IN HEIJIAYI AREA WITH MULTIPERIODIC ENGINEERING

108-6  200 Wood, Alexander J.*; Jones, Casey; Springer, Abraham E.; Tobin, Benjamin W.: HYDROGEOLOGY OF A PERCHED AND SEMI-CONFINED KARST AQUIFER, KAIBAB PLATEAU, GRAND CANYON

108-7  201 Barakat, Michelle*: HYDROGEOLOGICAL ASSESSMENT OF CAMEL'S HUMP FARM IN BETHLEHEM, PA

108-8  202 El-Mallakh, Rif S.*; Beard, Alisha; Mohammed, Schaib Khaled; Fathima, Samreen; Lippmann, Steven: THE HEALING WATERS OF DAWSON SPRINGS, KENTUCKY

SESSION NO. 109

T110. Lakes through Space and Time (Posters) (GSA Limnogeology Division; GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; AASP - The Palynological Society; American Quaternary Association; Association for the Sciences of Limnology and Oceanography; International Association of Limnogeology; SEPM (Society for Sedimentary Geology); GSA Continental Scientific Drilling Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

109-1  203 Mongol, Erdoo*; Ohbo-Ikueno, Francisca E.; Obrist-Farmer, Jonathan: PALYNOCARPIC ANALYSIS AND PALEOENVIRONMENTAL RECONSTRUCTION OF HOLOCENE LACUSTRIAN SEDIMENTS, LAKE IZABAL, EASTERN GUATEMALA

109-2  204 Stone, Jeffery*; Brown, Sabrina R.; Burge, David R.L.; El-Alami, Majid; Edlund, Mark B.: A HOLOCENE RECORD OF DIATOM SPECIES PLASTICITY AND EVOLUTION FROM CUMBRES BOG (COLORADO, USA)

109-3  205 Mohan, Joseph*; Saros, Jasmine; Stone, Jeffery R.; Bierly, Helen: 3D MODELING OF DIATOM FOSSILS REVEALS NUTRIENT BURIAL AND SEDIMENTATION RATE FLUCTUATIONS IN HERD LAKE, IDAHO, USA

109-4  206 Black, Morgan*; McClure, Michael; Ivory, Sarah: A LATE QUATERNARY HYDROCLIMATIC AND VEGETATION RECONSTRUCTION IN THE EASTERN SIERRA NEVADA: PRELIMINARY RESULTS

109-5  207 Henke, Alyssa*; Gilhooley, William; Bird, Broxton W.: USING REACTIVE IRON DISTRIBUTION TO CHARACTERIZE REDOX CONDITIONS IN THE LATE-HOLOCENE RECORD OF MARTIN LAKE, USA

109-6  208 Martin Merino, Germán*; Roverato, Matteo; Toro, Jorge; Villagómez, Diego; López, David; Toro, Michel; Sanmartín, Kebler; Joshua; Reinoso, Maria: NEW INSIGHTS ON THE STRATIGRAPHY, SEDIMENTOLOGY AND DEFORMATIONAL EVOLUTION OF AN ANDEAN INTERMONTANE QUATERNARY PALEO LAKE

109-7  209 Vornlocher, Jamie R.*; Hillman, Aubrey L.; Vining, Benjamin R.: UNDERSTANDING GLACIAL FLUCTUATIONS USING CLASTIC SEDIMENT FLUX IN CORDILLERA CENTRAL, PERUVIAN ANDES

109-8  210 Yanska, Catherine H.*: IMPROVING THE ACCURACY OF RADIOCARBON-DATING PLANT MACROFOSSILS: A PICTORIAL AND TEXTUAL GUIDE TO DISTINGUISH SUBFOSSIL SEEDS OF TERRESTRIAL, AQUATIC EMERGENT, AND SUBMERGED AQUATIC PLANTS

109-9  211 Sims, Tyler*; Stone, Jeffery R.; Latimer, Jennifer C.; Smith, Erika L.; Mudica, Kathryn: DIATOM ANALYSIS FROM A RECLAIMED STRIP PIT

109-10  212 Smith, Erika L.*; Stone, Jeffery R.; Latimer, Jennifer C.; Westover, Karlyn: ANALYSIS OF LAKE SEDIMENTS TO EVALUATE PAST INFLUENCES OF COAL-FIRED POWER PLANTS ON FRESHWATER LAKE ECO SYSTEMS


109-12  214 MacGregor, Kelly*; Myrbo, Amy; Abboud, Diala; Atalig, Elizaveta; Chenevert, Etienne; Moore, Elizabeth; Page, Bonnie; Pearson, Anna; Stephenson, Joshua; Watts, Jacob: SEDIMENT TRANSPORT AND DEPOSITION IN FISHERCAP LAKE AND THE SWIFT CURRENT VALLEY, GLACIER NATIONAL PARK, MONTANA, USA

109-13  215 Myrbo, Amy; MacGregor, Kelly*; Abboud, Diala; Atalig, Elizaveta; Chenevert, Etienne; Moore, Elizabeth; Page, Bonnie; Pearson, Anna; Stephenson, Joshua; Watts, Jacob: USING LAKE CORES TO ANALYZE SEDIMENT TRANSPORT AND ENVIRONMENTAL CHANGE IN SWIFTCURRENT LAKE, GLACIER NATIONAL PARK, MONTANA, USA

109-14  216 LaBelle, Meredith; Beck, Catherine C.; Zaremba, Nicholas; Alexander, Emily; Wegter, Bruce; Scholz, Christopher A.: PALEOLIMNOLOGICAL COMPARISON OF TWO SUBBASINS IN TUPPER LAKE, ADIRONDACK PARK, NEW YORK

109-15  217 Okun, Jacob M.*; Wittmer, Jacalyn M.; Gleasman, Gavin L.: ANTHROPIC EFFECTS ON LACUSTRIAN FIDELITY: A STUDY OF LIVE-DEAD MACROINVERTEBRATE ASSEMBLAGES IN CONESUS LAKE, LAKEVILLE NY

109-16  218 Patterson, Emma*; Loubsky-Lonergan, Emma; Curtin, Tara M.; Finkelstein, David B.: TRACKING THE CLIMATE SIGNAL FROM THE LAKE TO THE MUD: USING CARBONATE TO ASSESS THE FIDELITY OF THE SEDIMENT RECORD IN SENeca LAKE, NY
SESSION NO. 110 $ 

T110. Gemological Research in the Twenty-First Century—Characterization, Exploration, and Geological Significance of Diamonds and Other Gem Minerals (Posters) (Mineralogical Society of America; Gemological Institute of America; Society of Economic Geologists; GSA Mineralogy; Geochemistry, Petrology, and Volcanology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

110-1 223 Tollefson, Kyle T.*; Ihinger, Philip D.: EVOLVING GROWTH CONDITIONS FOR WATERMELON TOURMALINE: ELEMENTAL ABUNDANCE PATTERNS TELL THE STORY

110-2 224 Kepezhiniskas, Nikita*; Kepezhiniskas, Pavel; Foster, David A.; Kamenov, George: MOISSANITE AND DIAMOND FROM THE PRIMITIVE SHOSHONITE DIKE IN EASTERN FINNMARK (NORWAY): EVIDENCE FOR SUPERDEEP SLAB-MANTLE INTERACTIONS IN SUBDUCTION ZONES

110-3 225 Moe, Kyaw Soe*; Johnson, Paul: CUBO-OCTAHEDRAL GROWTH STRUCTURE IN A TYPE IB DOMINANT MIXED TYPE DIAMOND: A RARE DIAMOND FORMATION

110-4 226 Berg, Richard B.*; MANGMATIC Fragmentation of Sapphire Xenocrysts in a Basaltic Trachyandesite Sill Near Helena, Montana

110-5 227 Song, Ying*: THE DESIGN AND IMPLEMENTATION OF A COMPUTER-VISION BASED INTELLIGENT SYSTEM FOR THE REFRACTION INDEX IDENTIFICATION OF GEMSTONES

110-6 228 Sun, Ziyin*: Palke, Aaron C.; Renfro, Nathan D.: ISOLATING CHROMOPHOPHRES IN PYRALSPITE GARNET—QUANTITATIVE DEFINITION OF STRENGTH OF CHROMOPHOPHRES AND THEIR IMPACT ON COLOR CHANGE

110-7 229 Palke, Aaron C.*; Berg, Richard B.; Renfro, Nathan D.: UNRAVELING THE GEOLOGICAL MYSTERIES OF MONTANA’S SAPPHIRE DEPOSITS

SESSION NO. 111

T111. Insights from Microfossils, Palynology, and Their Modern Analogs: From Traditional to Emerging Techniques (Posters) (Cushman Foundation; AASP - The Palynological Society; Geochemical Society; Paleontological Society; Paleontological Research Institution; GSA Limnogeology Division; GSA Sedimentary Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

111-1 230 Aćić, Hedra*; Högström, Anette E.S.; Matthews, Jack J.; Liu, Alexander G.; Porter, Susanannah M.: MODIFIED ACID-MACERATION METHOD FOR EXTRACTING PALYNOMORPHS FROM NEOPROTEROZOIC GLACIOGENIC DIAMICTITES

111-2 231 Pippinger, Kate*; Estrada, Lucas; Boyer, Diana L.; Cohen, Phoebe: EXPLORING THE MICROFOSSIL RECORD OF THE LATE DEVONIAN HANGENBERG EVENT IN THE CLEVELAND SHALE, OHIO

111-3 232 Fulton, Michael*; McLaughlin, Peter P.: STRATIGRAPHIC CORRELATION OF THE HETEROGENEOUS CRETACEOUS AGED SEDIMENTARY RECORD OF THE POTOMAC FORMATION IN NEW CASTLE COUNTY, DELAWARE THROUGH EXAMINATION OF CORE, WELL LOGS, AND PALYNOLOGY

111-4 233 Stephenson, Maggie*; O’Keefe, Jennifer M.K.; Demchuk, Thomas D.; Denison, Christopher N.: FROM PALM SAANNAWS TO HARDWOOD HAMMICKS AND BACK: PALYNOLOGY OF THE PALEOCENE-EOCENE MANAWANIU DRIVE SECTION, BASTROP COUNTY, TX

111-5 234 Killen, Ashton A.*; Cowey, Nicholas; Denison, Christopher N.; Demchuk, Thomas D.; O’Keefe, Jennifer M.K.: PALYNOLOGY OF THE HOOPER FORMATION (PALEOCENE), WILCOX GROUP, BASTROP COUNTY, TEXAS: A PRELIMINARY STUDY

111-6 235 Cárdenas, Damión*: Oboh-Ikuenobe, Francisca E.; Jaramillo, Carlos: EARLY TO MIDDLE MIocene MARINE PALYNOLOGY OF THE COLOMBIAN CARIBBEAN MARGIN: BIOSTRATIGRAPHIC AND PALEOECOENOGRAphIC IMPLICATIONS

111-7 236 Poli, Maria-Serena*: THE BENTHIC FORAMINIFERAL ASSEMBLAGE RECORD OF PALEOENVIRONMENTAL CHANGES DURING MIS 10-11 AT THE BLAKE OUTER RIDGE (WESTERN NORTH ATLANTIC, ODP SITE 1057)

111-8 237 Olmstead, Sara S.*; Steiner, Lucille M.; Stephenson, Maggie; O’Keefe, Jennifer M.K.; Andrews, William: PALYNOLOGY OF PLEISTOCENE AND HOLOCENE SEDIMENT CORE BBL 3, BIG BONE LICK, KENTUCKY

111-9 238 Sarkar, Ria*; Netitzke Adamo, Lauren; Wright, James D.: A HIGH-RESOLUTION STUDY OF THE EIRIK DRIFT ACROSS THE LAST DEGLACIATION USING PLANKTONIC AND BENTHIC FORAMINIFERAL PROXIES

111-10 239 Kyrmanidou, Anastasia*: Isman, Scott E.; Leverentz, Amy; Humer, Eric: THE FORAMINIFERAL RECORD OF LARSEN C ICE SHELF EDGE IN NORTHWESTERN WEDDELL SEA, ANTARCTIC PENINSULA

111-11 240 Kopera, Kristin*: VEGETATION SENSITIVITY DURING THE MID-HOLOCENE WARMING IN WESTERN OHIO

111-12 241 Saha, Subrota Kumar*: Tushar, Mahmud Al Noor; Monsur, Md Hussain: RECONSTRUCTION OF HOLOCENE SEA LEVEL CHANGE AND PALEOC OASTONE FOR THE EASTERN COASTAL MARGIN OF BANGLADESH USING MICROPALYNOLOGICAL EVIDENCES

111-13 242 Verlaak, Zoë R.F.*; Collins, Laurel S.: HISTORY OF PALEOENVIRONMENTAL CHANGES IN THE SOUTHERN WESTERN EVERGLADES (FLORIDA, USA) USING FORAMINIFERAL ASSEMBLAGES

111-14 243 Schiller, Christopher M.*; Whitlock, Cathy: RADIOCARBON DATING POLLEN RESIDUES IN A VOLCANIC SETTING

111-15 244 Christie, Margaret; Parnell, Andrew; Corbett, D. Reide; Garcia-Artola, Ane; Clear, Jennifer; Khan, Nicole S.; Shaw, Timothy A.; Walker, Jennifer; Kemp, Andrew C.; Donnelly, Jeffrey P.; Horton, Benjamin P.: IMPACT OF ANTHROPOGENIC POLLEN CHRONORHIZONS ON AGE-DEPTH MODELS FOR THE ATLANTIC COAST OF THE UNITED STATES DURING THE LAST 500 YEARS

111-16 245 Romero, Ingrid*: Kong, Shu; Fowlkes, Charless C.; Urban, Michael A.; Punyasena, Surangi W.: AUTOMATED NEOTROPICAL FOSSIL POLLEN FABACEAE ANALYSIS USING CONVOLUTIONAL NEURAL NETWORKS

111-17 246 Aubery, Rosa*: Urban, Michael A.; Sivaguru, Mayandi; Punyasena, Surangi W.: CREATING HIGH QUALITY PLANT CUTICLE IMAGES WITH EXISTING METHODS AND NEW MICROSCOPIC SYSTEMS
SESSION NO. 112

**D19. Paleontology, Vertebrate Paleontology (Posters)**

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

**Booth #**

112-1 247 Tamez-Galvan, Evan Michelle*; McKenzie, Scott C.: **POSSIBLE DINOSAUR GASTROLITHS COMPARED TO MOA GIZZARD STONES**

112-2 248 Bakker, Robert T.; Temple, David Porter*: **VEGIE-SAUR DEBUT? EALIEST COPROLITE FROM HI-FIBER LARGE TETRAPOD, EARLY PERMIAN, SEYMOUR, TX**

112-3 249 Marston, Haley*; Tackett, Lydia S.; Clement, Annaka M.: **A PALEOECOLOGICAL SURVEY OF VERTEBRALE PREDATORS IN THE LATE TRIASSIC USING MICROFOSSIL DIVERSITY**

112-4 250 Scholtz, Elinor*: DeSantis, Larisa R.G.: **USING DIETARY ECOLOGY TO EXAMINE THE IMPACTS OF NON-NATIVE SPECIES ON AUSTRALIAN MARSUPIAL HERBIVORES**

112-5 251 Petherick, Ansley*; DeSantis, Larisa R.G.: **DIETARY BEHAVIOR OF POLAR BEARS (URUSUS MARITIMUS) DURING PREHISTORIC AND HISTORIC TIMES IN ALASKA AS REVEALED FROM DENTAL MICROWEAR TEXTURES**

112-6 252 Burtt, Amanda Anne*; DeSantis, Larisa R.G.: **USING DENTAL MICROWEAR TEXTURE ANALYSIS TO INVESTIGATE THE SCAVENGING BEHAVIOR OF LATE-PREHISTORIC DOMESTIC DOGS IN NORTH AMERICA**

112-7 253 Burg, Brynne E.*; Thomka, James R.: **LINEAR GOUGES ON THE BONES OF A PLEISTOCENE MASTODON FROM NORTHEASTERN OHIO: EVIDENCE OF SCAVENGING, GNAWING, OR HUMAN BUTCHERING?**

112-8 254 Beatty, William Lee*: **MEASURING TYRANNOSAURUS REX’S BINOCULAR VISION**

112-9 255 Rhoda, Daniel*: Hellert, Spencer; Polly, P. David: **SHIFTING PATTERNS OF FUNCTIONAL INTEGRATION DURING THE EVOLUTION OF FLIGHT IN THEROPODS**

112-10 256 Hutson, Kelda N.*; Hutson, Joel David; Meers, Mason B.: **FUNCTIONAL COMPARISONS OF ASYMMETRICAL JOINT SURFACES IN THE SEMI–PRONATED FINGERS OF CROCODYLIA AND DINOSAURIA**

112-11 257 Deak, Michael D.*; McKenzie, Scott C.: **A COMPARISON OF NON-AVIAN THEROPOD AND BASAL AVIALAN LOCALITIES IN CHINA, GERMANY, AND ALBERTA WITH THE POTENTIAL FOR FEATHER PRESERVATION**

112-12 258 Ong, Nathan S.*; Irms, Randall B.; Levitt-Bussian, Carrie: **THE HISTOLOGICAL ONTOGENY OF ORNAMENTED TURTLES FROM THE KAPAROWITS FORMATION OF UTAH**

112-13 259 Ciampaglio, Chuck*; Clayton, Angela Ann; Fuelling, Lauren J.; Cobb, Chasalim: **PRELIMINARY OPTIMIZATION OF THE AQUEOUS FORMIC-ACID SOLUTION FORMATION AND DISSOLUTION PROCEDURES USED IN THE REMOVAL OF FOSSIL VERTEBRATE MATERIAL FOR CARBONATE ROCKS**

SESSION NO. 113

**T125. EARThTImeS and EarthRates: Exploring the Tempo and Mode of Earth-System Processes and Evolution (Posters)**

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

**Booth #**

113-1 260 Cappello, Mariko*; Husson, Jon; Schoene, Blair; Bergmann, Kristin; Finnegan, Seth; Jones, David S.: **RADIOMETRIC AGE CONSTRAINTS ON THE ORDOVICIAN-SILURIAN BOUNDARY FROM EASTERN CANADA AND SWEDEN**

113-2 261 Jennings, Deserea L.*; Bidgoli, Tandis; Moller, A.; Walker, J. Douglas: **ASSESSING URBAN HETEROGENEITY AND U-PB GEOCRONOMIAL VIABILITY IN CONODONT ELEMENTS USING KANSAS OUTCROP SAMPLES**

113-3 262 Hagen, Cedric J.*; Creveling, Jessica R.; Hay, Carling C.; Maloof, Adam C.; Maloof, Adam C.; Peter, Peter: **REVISED FIRST AND LAST APPEARANCES OF EARLY CAMBRIAN ANIMALS FROM DYNAMIC PROGRAMMING-DETERMINED 8°C, 8°C CORRELATIONS**

113-4 263 Sinnesael, Matthias*; McLaughlin, Patrick L.; Brett, C.E.: **TESTING THE REPRODUCTIBILITY OF CYCLOSTROGRATIC SIGNALS ACROSS A FACIES GRADIENT (UPPER ORDOVICIAN KOPE FM. CINCINNATI REGION, USA**

113-5 264 Rooney, Alan D.*; Li; Yang; Creaser, Robert A.; Seiby, David: **NEW REFERENCE AND TRACER SOLUTIONS FOR INTEGRATING THE RE-OS SYSTEM INTO THE EARTTIME INITIATIVE: UPDATES AND FUTURE PLANS**

113-6 265 Morgan, Leah*: Johnstone, Sam; Gilmer, Arny K.; Cosca, Michael A.*; Thompson, Ren A.: **A SUPERVOLCANO AND ITS SIDEKICKS: A 100 KA ERUPTIVE CHRONOLOGY OF THE FISH CANYON TUFF AND ASSOCIATED UNITS OF THE LA GARITA MAGMATIC SYSTEM**

113-7 266 Johnstone, Sam*: Colgan, Joseph P.: **INTERPRETATION OF LOW-TEMPERATURE THERMOCRONOMETER AGES FROM TILTED NORMAL FAULT BLOCKS**

SESSION NO. 114

**T128. Recent Advances in Ichnology: Traces of Modern and Ancient Behavior (Posters) (Paleontological Society; GSA Limnogeology Division; GSA Sedimentary Geology Division)**

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

**Booth #**

114-1 267 Boan, Phillip C.*; Tacker, R.C.; Martin, Anthony J.; Knapp, James H.: **POSSIBLE TRACE FOSSILS FROM THE EARLY EDIACARA (620 MA) OF NORTH CAROLINA, OR TECTONIC PSUEDOFOSSILS?**

114-2 268 Cribb, Alison T.*; Kenchington, Charlotte G.; Darroch, Simon A.F.: Laffamme, Marc: **ECOSYSTEM ENGINEERING IN THE EDIACARA NAMA GROUP, NAMIBIA AS A TEST FOR A BIOLOGICAL DRIVER EXTINCTION OF THE EDIACARA BIOTA**

114-3 269 Morgan, Ryan*: Juntunen, Kristopher Lee; Scott, Ashley Brooke; Landreth, Manion: **ICNHOLOGY OF THE LATE CAMBRIAN LION MOUNTAIN MEMBER OF THE RILEY FORMATION**

114-4 270 Leibach, Wade W.*; Kimmig, Julien: **HORSESHOE CRAB TRACE FOSSILS AND ASSOCIATED ICHNOFAUNA OF THE PONY CREEK SHALE LAGERSTÄTTE, UPPER PENNSYLVANIAN, KANSAS**

114-5 271 Foster, Carleton*; DeMetz, Edward; Sandlin, Wesley; Savrda, Charles E.: **CHARACTER AND SEQUENCE STRATIGRAPHIC IMPLICATIONS OF LARGE FIRMGROUND BURROW SYSTEMS IN PALEOCENE MARINE SHELF DEPOSITS, CLAYTON FORMATION, WESTERN ALABAMA**

114-6 272 Zill, Michelle E.*; Kirtland Turner, Sandra; Droser, Mary L.: **UTILIZING BIOTURBATION TO CONSTRAINT PALEOCENE-EOCENE THERMAL MAXIMUM CARBON CYCLING IN THE PACIFIC**

114-7 273 Hogue, Joshua*; Hasiotis, Stephen T.: **INVERTEBRATE AND AVIAN ICHNOTAXONOMY OF THE EOCENE GREEN RIVER FORMATION, UINTA BASIN, UTAH: INTERPRETING BEHAVIORS AND LIFESTYLES, AND ERECTING THE COCHILICHIUS ICHNOFACIES**

114-8 274 Kella, Venu Gopal Srinivasa*: Chattopadhyay, Debarenti: Chattopadhyay, Devapriya: **DRILLING PREDRATION IN EXTREME SIZE CLASS: INSIGHT FROM EARLY MIocene MICROMOLLUSCAN ASSEMBLAGE OF KERALA, INDIA**

114-9 275 Mustacato, Ryan M.*; Frank, Tracy D.: **INSIGHTS INTO PALEOENVIRONMENTAL CONDITIONS, RELATIVE SEA-LEVEL, AND CARBONATE RESERVOIR QUALITY USING ICHNOLOGY: MIDDLE-UPPER MIocene SLOPE DEPOSITS FROM THE GREAT BAHAMA BANK**
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114-10 276 Graveline, Alyssa*; Beckham, Abigail; Glumac, Bosiljka; Curran, H. Allen: PETROGRAPHIC AND STABLE ISOTOPE ANALYSIS OF BIOTURBED AND SUBAERIALLY ALTERED SUBLTIDAL PLEISTOCENE LIMESTONE IN THE BAHAMAS

114-11 277 LaPierre, Kari R.*; Nagel-Myers, Judith: OBSERVATIONS ON CRAYFISH PREDATION IN NORTHERN NEW YORK

114-12 278 Clendenon, Cedric L.*; Brand, Leonard R.: EXPERIMENTAL TRACKWAYS OF ISOSPADS AND MILLIPEDES UNDER SUBAERIAL AND SUBLUABEOUS CONDITIONS: PALEOENVIRONMENTAL IMPLICATIONS FOR ICHNITES IN FINE-GRAINED SANDSTONE

114-13 279 Stewart, Dustin*; Druckenmillner, Patrick; Erickson, Gregory; Benowitz, Jeffrey A.; Capps, Denny; McCarthy, Paul J.: PALEOENVIRONMENTAL INTERPRETATION OF ALASKA’S LARGEST DINOSAUR MEGATRACKSITE FROM THE UPPER CRETACEOUS CANTWELL FORMATION, DENALI NATIONAL PARK AND PRESERVE

114-14 280 Crowell, Jennifer Kailoa*; Shim, Grant: DINOSAUR TRACKS FROM THE LATE CRETACEOUS IRON SPRINGS FORMATION, PAROWAN GAP, UTAH

SESSION NO. 115

T141. Different Personalities of Granites and Rhyolites: Silicic Magmas from the Lower Crust to the Surface (Posters)—A Session in Honor of Calvin Miller, Recipient of the MGPV Distinguished Geological Career Award (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division) 9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

115-1 281 Gazze, Caroline*; Bourne, Audrey; Roselle, Brooke; Christie, Max; Sclafani, Judith A.; Patzkowsky, Mark E.: LEPTAENA (BRACHIOPODA) MORPHOLOGY ACROSS THE LATE ORDOVICIAN MAGMA EXTINCTION

115-2 282 Roselle, Brooke*; Gazze, Caroline; Bourne, Audrey; Christie, Max; Sclafani, Judith A.; Patzkowsky, Mark E.: QUANTIFYING MORPHOLOGICAL CHANGES AMONG RAFINESQUINA (BRACHIOPODA) WITH 3D PHOTOGRAMMETRY

115-3 283 LaVine, Rhiannon J.*: PATTERNS OF MORPHOLOGICAL DIVERSIFICATION WITHIN THE SUBORDER AGNOSTINA (TRILOBITA)

115-4 284 Pankowski, Mary K.*; Pankowski, Michael J.; Hegna, Thomas: LEGACY DATA IN PHYLOGENETICS AND A RE-ANALYSIS OF MID-PALEOZOIC PHACOPID PHYLOGENY

115-5 285 Ng, Reuben Y.*; Adrain, Jonathan M.: PHYLOGENY AND MORPHOLOGY OF THE CAMPBRI-ORDOVICIAN TRILOBITE GENUS CLEANDAIA WITH NEW AND REVISED SPECIES

115-6 286 Atlier, Elizabeth B.*; Altiman, Warren D.; Friend, Dana S.: REDEFINING PHYLOGENETIC RELATIONSHIPS IN FLORIDA’S PLIO-PLEISTOCENE TURRITELLINE GASTROPODS USING PROTOCONCH MORPHOLOGY AND GENETIC INVESTIGATION

115-7 287 Castillo, Miguel*; Christie, Max; Heads, Sam; Thomas, M. Jared: TAXONOMIC DESCRIPTION OF TIPULIDAE FROM PAROWAN GAP, UTAH

115-8 288 Atteberry, Madeleine R.*; Eberie, Jaelyn J.: PHYLOGENY OF NEW EARLIEST PALEOCENE (PUERCAN) PERIPHYTID ‘CONDYLARThS’ FROM THE GREAT DIVIDE BASIN, WY

115-9 289 Broussard, Joshua*: MACROFAUNAL DISTRIBUTION AND STRATIGRAPHIC FACIES CHANGE IN THE CLAYTON PALEOENVIRONMENT OF OKTIBBEHA COUNTY, MISSISSIPPI

115-10 290 Ely, Ricardo Carlos*: PHYLOGENETIC AND GEOMETRIC MORPHOMETRIC ANALYSES OF LYGOSSOMINE SINK MANDIBLES

115-11 291 Ormsby, Christianne*: Gearty, William; Payne, Jonathan L.: THE EFFECT OF HABITAT ON DIVERSIFICATION RATE IN SNAKES

115-12 292 Bapst, David W.*; O’Meara, Brian C.; Banbury, Barbara: IF YOU CAN SIMULATE IT, YOU CAN FIT IT: DO-IT-YOURSELF PHYLOGENETIC MODELS OF TRAIT EVOLUTION FOR THE FOSSIL RECORD WITH THE R PACKAGE TREEVO

115-13 293 Juhn, Mark*; Alfaro, Michael E.; Van Valkenburgh, Blaire: EXPLORING MACROEVOLUTIONARY RATCHETS AS A POTENTIAL DRIVER OF CLADE DECLINE

115-14 294 Warmock, Rachel C.M.*; Pett, Walker; Gavryushkina, Alexandra; Heath, Tracy A.; Stader, Tanja; Dunhill, Alexander M.: CONSTRAINING THE LATE TRIASSIC MASS EXTINCTION USING THE FOSSILIZED BIRTH-DEATH RANGE MODEL

SESSION NO. 116

T141. Different Personalities of Granites and Rhyolites: Silicic Magmas from the Lower Crust to the Surface (Posters)—A Session in Honor of Calvin Miller, Recipient of the MGPV Distinguished Geological Career Award (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division) 9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

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116-1 295 Allen, Sydney M.*; Gualda, Guilherme A.R.; Gravley, Darren M.: MAGMA IN MOTION: DETERMINING VERTICAL MAGMA POSITIONING IN THE MAGMATIC SYSTEM THAT FED THE OHAKURI ERUPTION, TAUPō VOLCANIC ZONE, NEW ZEALAND


116-3 297 Saunders-Shultz, Che Pablo*; Harmon, Lydia J.; Gualda, Guilherme A.R.: TRACING MELT PATHWAYS OF THE WHAKAMARU SUPERERUPTIONS WITH RHYOLITE-MELTS GEOBAROMETRY IN PUMICE WHOLE-ROCK AND GLASS

116-4 298 Blackstone, Laura Anne*; Gravley, Darren; Gualda, Guilherme A.R.; Dempsey, David; Harmon, Lydia J.: THERMODYNAMIC MODELLING OF CRUST-MAGMA HEAT INTERACTIONS IN THE TVZ

116-5 299 Wallrich, Blake M.*; Miller, Calvin F.; Claiborne, Lily L.; McIntosh, William; Bradshaw, Richard W.; Gualda, Guilherme A.R.: SITGREAVES TUFF, SOUTHERN BLACK MOUNTAINS, NW AZ: PHASE CHEMISTRY AND AR DATING ILLUMINATE THE EVOLUTION OF A DYNAMIC SILICIC MAGMATIC SYSTEM

116-6 300 Harmon, Lydia J.*; Gualda, Guilherme A.R.; Gravley, Darren M.: TEMPORAL EXPLORATION OF VOLCANISM IN THE PARANÁ VOLCANIC PROVINCE, SOUTHERN BRAZIL: EVIDENCE FROM CONTINUOUS VERTICAL SECTIONS ALONG CANYON WALLS

116-7 301 Chiaro, Genna R.*; Gualda, Guilherme A.R.; Morelli, Corrado; Giordano, Guido: MULTIPLE MAGMAS: A TEXTURAL ANALYSIS OF FIAMME FROM THE ORA SUPERERUPTION (PERMIAN, ITALY)

116-8 302 Wiejakaczka, Joshua*; Giachetti, Thomas; Watkins, James M.; Gardner, James E.; Trafton, Kathy; Needham, Eamonn: OBSIDIAN PYROCLASTS: PRE-ERUPTIVE VANGUARD MAGMA, OR JUVENILE CLASTS FORMED AFTER FRAGMENTATION?


116-10 304 Quevy, Amber L.*; Price, Jonathan D.: CHARACTERIZING THE OLDER SILICIC DOMES AND FLOWS OF WESTERN DESCHUTES COUNTY, CENTRAL OREGON, USA

116-11 305 Vazquez, Jorge A.*; Burgess, Seth D.: THE UTILITY OF LREE-RICH ACCESSORY MINERALS IN CHARACTERIZING AND
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SESSION NO. 117

T144. Friends of Hoth: Episode III—Bodies of the Outer Solar System (Posters) (GSA Planetary Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K

117-1 317 Hart, Roger M.*; Cardace, Dawn: EFFECT OF CHANGING THE INTERIOR AND SEAWATER COMPOSITIONS OF ENCELADUS ON SERPENTINIZATION-DRIVEN HABITABILITY

117-2 318 Sakimoto, Susan E.H.*; Gregg, Tracy K.P.: ENCELADUS’ SOUTH POLAR TERRAIN: HEAT PIPE CONTROL OF REGIONAL HEATING AND Eruptions

117-3 319 Gallagher, Tony*; Kattenhorn, Simon A.: PINWHEEL RIDTS RADIAL TO THE SOUTH POLAR TERRAIN OF ENCELADUS

117-4 320 Leonard, Erin*; Battistel, D. Alex; Senske, David: INSIGHT INTO SURFACE PROCESSES ON EUROPA THROUGH GEOLoGIC MAPPING AT THE GLOBAL SCALE

117-5 321 Craft, Kathleen L.*; Hand, Kevin P.; Phillips, Cynthia B.; Hofmann, Amy; Cable, Morgan; Dooley, Jennifer; Europa Lander Concept, Project Science & Engineering Teams: UPDATES ON THE EUROPA LANDER MISSION CONCEPT

SESSION NO. 118

T152. Grain to Global Perspectives of Mars: Evolving Views of the Martian Sedimentary Rock Record (Posters) (GSA Planetary Geology Division; SEPM (Society for Sedimentary Geology); GSA Sedimentary Geology Division; GSA Limnogeology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 9:30 to 6:30 PM

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118-1 322 Buczkowski, Debra L.*; Seelos, Kim D.; Viviano, Christina; Seelos, Frank P.; Murchie, Scott L.: ANOMALOUS CIRCULAR PHYLLOSiLICATE-BEARING OUTCROPS SOUTH OF COPRATES CHASMA: A STUDY OF POSSIBLE EMPLACEMENT MECHANISMS

118-2 323 Kronvak, Rachel; Kah, Linda C.; TerMaath, Stephanie C.: UNDERSTANDING FRACTURE FORMATION CONDITIONS IN GALE CRATER, MARS

118-3 324 Williams, Rebecca M.E.*; Stack, Kathryn M.; Dietrich, William E.; Eby, David E.; Wiens, Roger C.; Miniti, Michelle E.: SELECT OBSERVATIONS OF THE COARSE SEDIMENT RECORD AT GALE CRATER FROM MARS SCIENCE LABORATORY CAMERAS

SESSION NO. 119

T158. Evolution of the Midcontinent Rift: A Window into Proterozoic Environments, a Repository of Minerals, and a Lesson in Rifting (Posters) (GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; Society of Economic Geologists; GSA Geobiology & Geomicrobiology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

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119-2 326 Delong, Ashley*; Mickus, Kevin L.: MAGNETOTELLURIC ANALYSIS OF THE MIDCONTINENTAL RIFT IN IOWA


119-4 328 Davis, William Ray*; Collins, Mitchell Alexander; LaVigne, Andrew; Rooney, Tyrone O.; Krans, Susan; Brown, Eric; Stein, Seth A.; Stein, Carol A.; Moucha, Robert: IMPLICATIONS OF GEOCHEMICAL, PETROGRAPHIC AND STRATIGRAPHIC ANALYSES OF THE UPPER PORRAGE LAKE VOLCANICS FOR THE KEWENAW FLOOD BASALTS

119-5 329 Johnson, Linnea L.*; Malone, David H.; Credidox, John P.: DETRITAL ZIRCON GEOCHRONOLOGY OF KEWEENAWAN INTERFLOW SEDIMENTS WITHIN THE NORTH SHORE VOLCANIC GROUP

119-6 330 Bonesi, Jacob M.*; Rooney, Tyrone O.; LaVigne, Andrew; Svoboda, Christopher; Girard, Guillaume; Moucha, Robert; Brown, Eric; Stein, Carol A.; Stein, Seth: SILICIC VOLCANISM OF THE PORCUPINE VOLCANICS: IMPLICATIONS FOR MAGMA DIFFERENTIATION DURING THE TERMINAL STAGES OF VOLCANISM WITHIN THE MIDCONTINENT RIFT
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119-7 331 Martella, Kellen Edward Kawika*; LaVigne, Andrew; Svoboda, Christopher; Rooney, Tyrone O.; Girard, Guillaume; Stein, Carol; Stein, Seth; Moucha, Robert; Brown, Eric: MAGMATIC PLUMBING DURING THE FINAL STAGES OF THE KEWEENAN Large IGNEOUS PROVINCE: EVIDENCE FROM THE MICHICIPOTEN ISLAND FORMATION

119-8 332 Peterson, Liam D.*; Rooney, Tyrone O.; Steiner, Alex: CROSSING THE GAP: LINKING THE EOCENE AND OLIGOCENE EAST AFRICAN RIFT VOLCANICS

119-9 333 Phillips, Ray K.*; Rooney, Tyrone O.; Steiner, Alex; Girard, Guillaume; Kappelman, John: EARLY CENOZOIC MAGMATISM IN EAST AFRICA: EXPANDING THE EOCENE AMARO AND GAMO BASALTS

119-10 334 Lewis, Jesse D.*; Emishaw, Luelseged; Abdel Salam, Mohamed: TWO-DIMENSIONAL (2D) LITHOSPHERIC STRUCTURE BENEATH THE SOUTHWESTERN BRANCH OF THE EAST AFRICAN RIFT SYSTEM

119-11 335 Golani, P.R.*: REACTIVATION HISTORY OF THE GAVILGARH-MEGALINEAMENT AND DEVELOPMENT OF A MID-CONTINENTAL RIFT IN CENTRAL INDIA

SESSION NO. 120

T165. Where Does the Wind Blow? Aeolian Systems in Time and Space (Posters) (GSA Quaternary Geology and Geomorphology Division; International Society of Aeolian Research; GSA Sedimentary Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

120-1 336 Wolfe, Stephen A.*; Morse, Peter D.; Neudorf, Christina M.; Kokelj, Steven V.; Lian, Olav B.; Onelli, H. Brendan: CONTEMPORARY SAND WEDGE DEVELOPMENT IN EOLIAN SETTINGS OF SEASONALLY FROZEN GROUND

120-2 337 Warner, Abbey*; Gontz, Allen; Hess, Patrick A.; Miot da Silva, Graziela: BEACHES, DUNES AND BLOWOUTS – USING GPR TO RELATE COASTAL FEATURES AND CLIMATES, COORONG LAGOON, SOUTH AUSTRALIA

120-3 338 Stid, Jacob T.*; Yunk, Brian P.; Hansen, Edward; Pearson, Paul: USING DRONE-ACQUIRED, HIGH-RESOLUTION, MULTISPECTRAL IMAGING TO PREDICT AND MONITOR COASTAL DUNE MOBILITY: AN EXAMPLE FROM THE SOUTHEASTERN SHORE OF LAKE MICHIGAN


120-5 340 Weeden, Taylor L.*; Colgan, Patrick M.: AREA, MORPHOLOGY, GRAIN SIZE, AND PALEOWIND DIRECTIONS OF INLAND DUNE FIELDS ON THE ABANDONED BED OF GLACIAL LAKE CHICAGO IN SOUTHWESTERN LOWER MICHIGAN, U.S.A

120-6 341 Gontz, Allen*; Ellerton, Daniel; Miot da Silva, Graziela: EVIDENCE OF COASTAL TOPOGRAPHIC STEERING OF WINDS IN A SMALL, COASTAL BLOWOUT, SOUTHEAST QUEENSLAND – APPLICATIONS OF GPR AND PALAEOCLIMATE

120-7 342 Lacey, Tad A.*; Sweeney, Mark R.: WHAT THE FLUX? DUST PRODUCTION FROM ABRASION OF AEOLOIAN SANDS MEASURED BY PI-SWERL

120-8 343 Huth, Tyler E.*; Jin, Max; Cerling, Thure; Fernandez, Diego P.; Mackey, Glen N.; Marchetti, David W.: TRACE ELEMENTS IN LAMINATED SOIL CARBONATES: FIRST STEPS TOWARDS UNDERSTANDING THE SIGNAL

120-9 344 Denny, Sarah N.*; Grimsley, David A.; Guenthner, William R.; Conroy, Jessica L.: U-PB AGE DENSITY DISTRIBUTIONS AS AN INDICATOR OF GLACIAL LOESS PROVENANCE IN MIDWESTERN NORTH AMERICA

120-10 345 Grissett, Zane*; Heil, Clifford W.; Zarate, Marcelo; Schultz, Peter H.; King, J.W.: AN ENVIRONMENTAL MAGNETIC ANALYSIS OF LATE MIOCENE (CHASICOAN) LOESS IN SOUTHERN BUENOS AIRES PROVINCE, ARGENTINA ASSOCIATED WITH THE 9.23 MA METEORITE IMPACT EVENT

SESSION NO. 121

T166. Sedimentary Geology Division/SEPM Student Research Competition: Dynamics of Stratigraphy and Sedimentation (Posters) (GSA Sedimentary Geology Division; SEPM (Society for Sedimentary Geology))

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

121-1 346 Atkins, Carmen A.*; Minzoni, Marcello; Prather, Bradford E.: A FRESH LOOK AT OLD PROBLEMS: UNLOCKING THE RELATIONSHIP BETWEEN CARBONATE FACTORY TYPE AND WATER CHEMISTRY ON CARBONATE RAMPES, JURASSIC SMACKOVER, GULF OF MEXICO

121-2 347 Steuer, Christopher*; Bowen, David W.; Calavan, Chuck: SEQUENCE STRATIGRAPHIC FRAMEWORK AND DEPOSITIONAL SYSTEMS OF THE LATE DEVONIAN (FRASIAN) DUPE R FORMATION IN WESTERN AND CENTRAL MONTANA

121-3 348 Hasan, Md Nahidul*; Yeasmin, Rumana; Rahman, M. Julhe Jalalur: FACES ASSOCIATIONS AND PALEOENVIRONMENTAL RECONSTRUCTION OF THE RESERVOIR ROCKS OF THE SHAHBAZPUR STRUCTURE, BENGAL BASIN

121-4 349 Onyeagba, Nnaemeka Chidubem*; Seifert, Thomas: LEAD-ZINC MINERALIZATION IN THE CRETACEOUS SEDIMENTS OF BENU TROUGH OF NIGERIA


121-6 351 Gregorich, Holly G.*; McLaughlin, Patrick I.; Malone, David H.; Craddock, John P.: EVIDENCE FOR LONG DISTANCE EOLIAN TRANSPORT OF 1460 MA ZIRCONS IN THE BORDEN SILTSTONE, ILLINOIS BASIN, USA

121-7 352 Braun, Matthew Gregory*; Desrochers, Andre: AN INTEGRATED HIGH-RESOLUTION STRATIGRAPHIC FRAMEWORK OF THE HIRNANTIAN TO TELYCHIAN SUCCESSION OF ANTILOCSTI ISLAND, QUEBEC, EASTERN CANADA

121-8 353 Zhao, Wenyu*; Eckert, Andreas: NUMERICAL SIMULATION OF OVERPRESSURE DURING SEDIMENTATION

121-9 354 Landstedt, Adrian*; Weissmann, Gary S.; Scuderi, Louis A.: INFLUENCES OF POSITION IN A FORELAND BASIN ON MEANDER BELT MIGRATION PATTERNS ON THE MEGAFANS IN THE CENTRAL ANDEAN FORELAND BASIN

121-10 355 Ejebi, John Idoko*; Satoli, Sara; Friedman, Sarah A.; Potter-McIntyre, Sally L.; Ferre, Eric C.: FLUID FLOW THROUGH JURASSIC SANDSTONES IN THE PARADOX BASIN, COLORADO: SYNDEPPOSITIONAL, DIAGENETIC OR LATER?

121-11 356 Andreskie, Anna Sofia*; Benison, Kathleen C.: THE PERMIAN HUTCHINSON SALT MEMBER OF KANSAS: MARINE, CONTINENTAL, OR TRANSITIONAL?

121-12 357 Lehrmann, Asmara*; Minzoni, Rebecca Totten; Wallace, Davin J.; Parker, Lauren; Sobrado, Joel; Surpless, Kathleen: HOLOCENE FREQUENCY OF PALEO-FLOO DS IN MOBILE BAY FROM SEDIMENT GRAIN SIZE AND ELEMENTAL ANALYSES: IMPLICATIONS FOR RECENT ESTUARINE EUTROPHICATION EVENTS

121-13 358 Cruzan, Jordan D.*; McKay, Matthew P.: NORTH AMERICAN DETRITAL ZIRCON AGE DOMAINS AND SEDIMENT DISPERSAL PATTERNS

121-14 359 McFadden, Kiana D.*; Heydari, Ezat: SEDIMENTOLOGY, PETROGRAPHY, AND MINERALOGY OF THE TALLAHATTA FORMATION NEAR THE TOWN OF MERIDIAN, MISSISSIPPI
SESSION NO. 123

D24. Paleontology, Morphology and Systematics

1:30 PM, Indiana Convention Center, Room 143-144

Steven T. LoDuca and Tara Selly, Presiding

123-1 1:30 PM Law, Nicole M.*; Powell, Rex R.; McKenzie, Scott C.: INFLATABLE DICKINSONIA: A NEW POSSIBLE FEEDING MECHANISM FOR EDIACARAN FAUNA


123-3 2:00 PM LoDuca, Steven T.*: NEW MARINE MACROALGAE FROM THE ORDOVICIAN OF WISCONSIN AND MICHIGAN

123-4 2:15 PM Kopaska-Merkel, David C.; Haywick, Douglas W.*; Keyes, Richard: NEW MICROBIAL BIOTA IN A SMALL CHESTERNER (UPPER MISSISSIPPIAN) CARBONATE MOUND IN NORTHCENTRAL ALABAMA

123-5 2:30 PM DePalma, Robert A.*; Gurche, Loren; Burnham, David A.; Christopher, Matthew; Atkins-Weitman, Kyle; Boone, Matthieu: A NEW, PARASITOID INSECT (CF. DIPTERA: PIPUNCULIDAE) OCCURRING WITH MULTIPLE TIPULIDS (CRANE-FLIES) IN A SINGLE PIECE OF AMBER FROM THE HELL CREEK FORMATION (LATEST-MAASTRICHTIAN)

123-6 2:45 PM Sokolovsky, Tymofii*; Guinot, Guillaume: ELASMOBRANCH (CHONDROICHYTES: ELASMOBRANCHII) FAUNAL COMPLEX FROM LATE ALBIAN (EARLY CRETACEOUS) OF KANEV DISLOCATIONS, UKRAINE

123-7 3:00 PM Hellert, Spencer*; Rhoda, Daniel; Polly, P. David: EVOLUTIONARY CONSTRAINT OF THE DIVERSIFICATION OF AVIAN LIMBS

123-8 3:15 PM Carroll, Nathan*: MID-CRETACEOUS FEATHERS IN AMBER REVEAL UNUSUAL MORPHOGENESIS OF RACHIS-DOMINATED FEATHERS

123-9 3:30 PM Caledon, Jonathan J.*; Brown, Andrew C.: CRANIAL DISPARITY IN EXTANT GEOMYOID RODENTS: IMPLICATIONS FOR SPECIES BOUNDARIES IN THE FOSSIL RECORD

SESSION NO. 124

D64. Advances in Stable Isotope Geochemistry—Applications to Earth Science Systems

1:30 PM, Indiana Convention Center, Room 135

Amy Wolfe and Claire McLeod, Presiding

124-1 1:30 PM Broz, Adrian P.*; Retallack, Gregory J.; Maxwell, Toby M.; Silva, Lucas C.R.: PALEOPIX SY FOR VAPOR PRESSURE DEFICIT (VPD) FROM FOSSIL CELLULOSE AND PEDOGENIC CARBONATE

124-2 1:45 PM Deflisee, William F.*; Grossman, Ethan L.: CLUMPED ISOTOPE REORDERING RATES IN CARBONATE MINERALS AND APPLICATIONS TO PALEOCURRENT AND BASIN ANALYSIS

124-3 2:00 PM Wan, Zhenzhu*; Jenden, Peter; Schmidt Mumm, Andreas; Arouri, Khaled: STE ADABLE CARBON ISOTOPIC VARIATION OF FLUID INCLUSION GASES FOR CHARGE HISTORY ANALYSIS


2:30 PM BREAK

124-5 2:45 PM Shahar, Anat*: AN EXPERIMENTAL PERSPECTIVE ON NON-TRADITIONAL STABLE ISOTOPE GEOCHEMISTRY (Invited Presentation)

124-6 3:00 PM Anderson, Calvin J.*; Mathur, Ryan; Rakovan, John; Tremsin, Anton S.: A NEW MECHANISM FOR TRANSITION METAL ISOTOPE FRACTIONATION BY SOLID-STATE ION CONDUCTION

124-7 3:15 PM Lundstrom, Craig C.*: ARE STABLE METAL ISOTOPE RATIOS RELATED TO SPATIAL POSITION IN MAGMA BODIES?

124-8 3:30 PM Nielsen, Sune G.*; Horner, Tristan J.; Le Roux, Veronique; Kurz, Mark D.; Bluszta;n, Jerzy S.: BARIUM ISOTOPE EVIDENCE FOR GLOBAL SEDIMENT RECYCLING IN THE UPPER MANTLE (Invited Presentation)

124-9 3:45 PM Kendall, Brian*; Wang, Su; Lillis, Paul; Xing, Liyan; Zheng, Wang; Zhu, Congxi: EVALUATION OF MOLYBDENUM ISOTOPES AS A PETROLEUM TRACER: THE PHOSPHORIA PETROLEUM SYSTEM, BIGHORN BASIN, U.S.A

124-10 4:00 PM Stotler, Randy L.*; Kirk, Matthew F.; Frape, Shaun K.; Gwynne, Rhys: STABLE BROMINE ISOTOPIC COMPOSITION OF COAL BED METHANE (CBM) PRODUCED WATER

124-11 4:15 PM Martin, Peter E.*; Farley, Kenneth A.; Eiler, John M.: A NEW METHOD OF ISOTOPIC ANALYSIS OF PERCHLORATE USING ELECTROSPRAY-ORBITRAP MASS SPECTROMETRY

4:30 PM DISCUSSION
SESSION NO. 126

T1. Karst Hazards and Monitoring (GSA Karst Division; GSA Geophysics and Geodynamics Division)
1:30 PM, Indiana Convention Center, Room 130-131

126-1 1:35 PM May, Michael T.*; Brandt, Thomas B.; May, Elizabeth C.; Shields, Nathaniel P.: ELECTRICAL RESISTIVITY FOR KARST GEOHAZARD IDENTIFICATION IN SOUTH CENTRAL KENTUCKY

126-2 1:50 PM Doctor, Daniel H.; Cox, Cheyenne L.: MAPPING KARST FEATURES FROM LIDAR-DERIVED ELEVATION MODELS IN MONROE COUNTY, WEST VIRGINIA

126-3 2:05 PM Weary, David J.; Doctor, Daniel H.: A PRELIMINARY MAP SHOWING THE DISTRIBUTION OF SOLUTION CAVES IN CARBONATE AND EVAPORITE-BEARING GEOLOGIC UNITS IN THE UNITED STATES

126-4 2:20 PM Alexander, E. Calvin*: PALEO LANDSLIDES IN SE MN KARST LANDS

126-5 2:35 PM Shelley, Adam*; Polk, Jason: THE PAST, PRESENT, AND FUTURE OF ENVIRONMENTAL DATA MANAGEMENT IN KARST SYSTEMS

126-6 3:05 PM Polk, Jason; Shelley, Adam: KARST SCIENCE AND BIG DATA: ADVANCES AND CHALLENGES IN MONITORING AND STUDYING KARST SYSTEMS

126-7 3:20 PM Kaiser, Rachet; Polk, Jason; Parise, Mario; North, Leslie A.; Powell, Matt; Shelley, Adam: DEVELOPING A THREAT AND VULNERABILITY ASSESSMENT AND MONITORING FRAMEWORK FOR URBAN KARST GROUNDWATER MANAGEMENT

126-8 3:35 PM Mukherjee, Arindam*: SINKHOLE PROBABILITY MAP USING BINARY LOGISTIC REGRESSION COUPLED WITH GIS: A CASE STUDY IN SOUTHWEST MISSOURI

126-9 3:50 PM Blackman, Laurel E.; Worsham, Baron M.; Williams, Nathan D.; Jirousek, Steven J.; Bateman, Vanessa C.: GEOSTATISTICAL ANALYSIS OF DISSOLUTIONING AND VOIDS IN THE FOUNDATION OF MOSUL DAM, IRAQ TO CHARACTERIZE SUBSURFACE CONDITIONS AND FACILITATE SEMI-QUANTITATIVE RISK ASSESSMENT

126-10 4:05 PM Schönfeld, Geary M.; Von Cramon, Benjy; Cradit, Jon: A 3D PHOTO REAL EDUCATIONAL AND RESEARCH MODEL OF A RECHARGE FEATURE AND CAVE IN THE EDWARDS AQUIFER OF SOUTH CENTRAL TEXAS

126-11 4:20 PM Holmes, Mary Anne*: WHAT WE KNOW WORKS: LESSONS LEARNED FROM NFS’S ADVANCE PROGRAM

126-12 4:35 PM Mukherjee, Arindam*: WHAT WE KNOW WORKS: LESSONS LEARNED FROM NFS’S ADVANCE PROGRAM

SESSION NO. 127

T13. Global Warning: Accelerating Rates of Change Forewarn of Catastrophic Impacts II (GSA Quaternary Geology and Geomorphology Division; GSA Energy Geology Division; GSA Environmental & Engineering Geology Division; GSA Geology and Health Division; GSA Geology and Society Division; GSA Geoscience Education Division; GSA Hydrogeology Division)
1:30 PM, Indiana Convention Center, Room 134

George T. Stone, Rolfe Mandel and Michael E. Mann, Presiding

127-1 1:35 PM Horton, Benjamin P.; Kopp, Robert E.; Garner, Andra J.; Hay, Carl C.; Khan, Nicole S.; Roy, Keven; Shaw, Timothy A.: MAPPING SEA-LEVEL CHANGE IN TIME, SPACE, AND PROBABILITY (Invited Presentation)

127-2 1:55 PM Pfeffer, W. Tad*: Baliagi, Rajagopalan: HIDDEN MARKOV MODELS OF FUTURE Cost OF SEA LEVEL RISE

127-3 2:10 PM Waniess, Harold R.: SEA LEVEL RESPONSES TO WARMING WITH RAPID PULSES OF RISE


127-5 2:55 PM Dutton, Andreat*: Vyverberg, Karen L.; Dechnik, Belinda; Webster, Jody; Edwards, R. Lawrence; Zwartz, Dan: Pythoud, Mathieu; Zhang, Pu: DO MODERN RATES OF SEA LEVEL CHANGE FOREWARN IMPELLING ICE SHEET COLLAPSE? (Invited Presentation)

127-6 3:15 PM Cornell, Sean R.; Gilddner, Brett R.; Loski, Brett; Oakley, Adrienne: ASSESSING BARRIER ISLAND CHANGE ON ASSATEAGUE AND WALLOPS ISLANDS (MID-ATLANTIC VIRGINIA, USA) AND MODELING IMPACTS OF SEA LEVEL RISE

127-7 3:30 PM Dods, Melissa J.: Alley, Karen: INVESTIGATING THE EFFECTS OF BASAL CHANNELS ON ICE SHEET MARGIN MELTING AT PETERMANN GLACIER, GREENLAND

127-8 3:45 PM Parizek, Katarin A.: THE GRAND ETHIOPIAN RENAISSANCE DAM ON THE NILE RIVER IS A WAKE UP CALL FOR EGYPT

127-9 4:00 PM DISCUSSION

127-10 4:15 PM CONCLUDING REMARKS

SESSION NO. 128

1:30 PM, Indiana Convention Center, Room 233

Jason P. Kenworthy, Johanna Kovarik, F. Edwin Harvey, Matthew Dawson and Lisa Norby, Presiding

128-1 1:40 PM Pigati, Jeffrey S.; Springer, Kathleen B.: DESERT WETLANDS AND THE YOUNGER DRYAS COLD EVENT IN THE MOJAVE DESERT AND SOUTHERN GREAT BASIN

128-2 1:55 PM Springer, Kathleen B.; Pigati, Jeffrey S.: DESERT WETLANDS IN DEATH VALLEY NATIONAL PARK AND THE REGIONAL HYDROLOGIC RESPONSE TO CLIMATE CHANGE DURING THE LATE QUATERNARY

128-3 2:10 PM Rice, Steven*: Schook, Derek M.; Kim, Tae Wan: EFFICACY OF SHALLOW GEOPHYSICS TO SUPPORT ECOHYDROLOGY RESEARCH IN A COMPLEX GEOLOGIC TERRAIN, GREAT BASIN NATIONAL PARK, NEVADA, USA (Invited Presentation)
2:30 PM  Stroope, Timothy L.*: ESTIMATING THE CONTRIBUTION TO GROUNDWATER RECHARGE FROM STREAMFLOW ORIGINATING ON NATIONAL FOREST SYSTEM LANDS FOR THE CENTRAL VALLEY, CALIFORNIA

2:45 PM  Durcanin, Michael A.*; Malinconico, MaryAnn L.; Withjack, Martha Oliver: BEST OF AAPG: LONG LIVED EXHUMATION ON THE “PASSIVE MARGIN” OF EASTERN NORTH AMERICA: RESULTS FROM SONIC TRANSIT-TIME AND VITRINITE-REFLECTANCE ANALYSES IN THE NEWARK RIFT BASIN (Invited Presentation)

2:15 PM  Anastasio, David*; Pares, Josep M.: BEST OF AAPG: EPIDEMIC DEFORMATION RATES RECOVERED FROM GROWTH STRATA, PYRENEES (Invited Presentation)

2:00 PM  Ruez, Dennis R.*; Eddington, Seth B.; Espinosa Gonzalez, Roque: BEST OF AAPG: DOES IT PAY TO INNOVATE? AN ECONOMIC LOOKBACK AT THE LIFECYCLE OF THE AMPLITUDE PLAY IN THE DEEPWATER GULF OF MEXICO (Invited Presentation)

1:55 PM  Horn, Brian; Goswami, Antara*: Steffensen, Cari; Pindell, James; Graham, Rod: BEST OF AAPG: NEW HYDROCARBON PLAYS IN THE GULF OF MEXICO–POTENTIAL OF JURASSIC AND CRETACEOUS CLASTIC AND CARBONATE PLAYS ON BOTH THE YUCATAN AND FLORIDA MARGINS (Invited Presentation)

1:50 PM  Shah, Kun*; Wang, Tongshan: ASSESSING THE IMPACTS OF SMALL-SCALE RESTORATION ACTIVITY ON COLUMBIA SPOTTED FROG POPULATIONS

1:45 PM  Santucci, Vincent L.*: ASSESSING THEFT, VANDALISM AND OTHER DEPRECIATIVE BEHAVIORS RESULTING IN THE IMPAIRMENT OF GEOLOGIC RESOURCES AND FEATURES IN U.S. NATIONAL PARK SERVICE AREAS

1:40 PM  Kellogg, Hugh: MAPPING OF STREAM TERRACE ALLUVIAL DEPOSITS NEAR TUPELO, MISSISSIPPI (Invited Presentation)

1:35 PM  Molnia, Bruce F.*; Angeli, Kim M.; Dilles, Shawn J.: USING GLOBAL FIDUCIAL PROGRAM IMAGERY TO BETTER UNDERSTAND AND MANAGE THE GEOLOGY AND HYDROLOGY OF PUBLIC LANDS

1:30 PM  Lanik, Amanda*; Hults, Chad P.: PRESERVING THE FOSSILS AT FOSSIL POINT: A NEW EFFORT TO MONITOR AND PROTECT PALEONTOLOGICAL RESOURCES IN LAKE CLARK NATIONAL PARK AND PRESERVE, SOUTHWEST ALASKA

1:25 PM  Schmitz, Darrel W.*: OPTIMAL METHODS FOR ASSESSING MATURITY OF ORGANIC MATTER IN THE SUBSURFACE - WHY IT MATTERS

1:20 PM  Reed, Robert M.*; Milliken, Kaitlynn; Louchs, Robert G.: RADICAL DIAGENESIS: RECOGNIZING COMPLEX REPLACEMENT AND INFILLING OF RADIOISOTOPIC TESTS

1:15 PM  Moore, Myles T.*; Phillips, Stephen C.; Cook, Ann; Sawyer, Derek E.; Lary, Brent A.; Wulsin, Gus; Darrah, Thomas H.: NOBLE GAS AND HYDROCARBON GEOCHEMICAL COMPOSITION OF FLUIDS ASSOCIATED WITH GAS HYDRATE FORMATION IN CORES FROM GULF OF MEXICO GREEN CANYON, BLOCK GC955

1:10 PM  Grammer, G. Michael*: THE PASSIVE MARGIN BREAK

1:05 PM  Lesher, Thomas: BEST OF AAPG: INTEGRATED RESERVOIR CHARACTERIZATION OF SILURIAN (NIAGARAN) “PINNACLE” REEFS IN THE MICHIGAN BASIN–NEW INSIGHTS INTO A MATURE REEF PLAY (Invited Presentation)

1:00 PM  Retallack, Michael J.; Best, Aaron A.: BEST OF AAPG: OPTIMAL METHODS FOR ASSESSING THE IMPACTS OF SMALL-SCALE RESTORATION ACTIVITY ON COLUMBIA SPOTTED FROG POPULATIONS

0:55 PM  Stroope, Timothy L.*: ESTIMATING THE CONTRIBUTION TO GROUNDWATER RECHARGE FROM STREAMFLOW ORIGINATING ON NATIONAL FOREST SYSTEM LANDS FOR THE CENTRAL VALLEY, CALIFORNIA

0:50 PM  Stroope, Timothy L.*: ESTIMATING THE CONTRIBUTION TO GROUNDWATER RECHARGE FROM STREAMFLOW ORIGINATING ON NATIONAL FOREST SYSTEM LANDS FOR THE CENTRAL VALLEY, CALIFORNIA

0:45 PM  Stroope, Timothy L.*: ESTIMATING THE CONTRIBUTION TO GROUNDWATER RECHARGE FROM STREAMFLOW ORIGINATING ON NATIONAL FOREST SYSTEM LANDS FOR THE CENTRAL VALLEY, CALIFORNIA

0:40 PM  Stroope, Timothy L.*: ESTIMATING THE CONTRIBUTION TO GROUNDWATER RECHARGE FROM STREAMFLOW ORIGINATING ON NATIONAL FOREST SYSTEM LANDS FOR THE CENTRAL VALLEY, CALIFORNIA

0:35 PM  Stroope, Timothy L.*: ESTIMATING THE CONTRIBUTION TO GROUNDWATER RECHARGE FROM STREAMFLOW ORIGINATING ON NATIONAL FOREST SYSTEM LANDS FOR THE CENTRAL VALLEY, CALIFORNIA

0:30 PM  Stroope, Timothy L.*: ESTIMATING THE CONTRIBUTION TO GROUNDWATER RECHARGE FROM STREAMFLOW ORIGINATING ON NATIONAL FOREST SYSTEM LANDS FOR THE CENTRAL VALLEY, CALIFORNIA
131-7 3:10 PM Datta, Saugata*; Marcantonio, Franco; Galinskaya, Karina; Coute, Zach; Cizmas, Leslie; Han, Dalkwon; Romero, Luz: DETERMINING ENVIRONMENTAL EXPOSURE ROUTES FOR ELEVATED LEVELS OF BLOOD Pb IN KANSAS CHILDREN (Invited Presentation)

3:30 PM BREAK

131-8 3:45 PM Newton, Ryan J.*; Roguet, Adelaide; Mclelland, Sandra L.: DEVELOPING NOVEL MICROBIAL TRACKING CAPABILITIES TO IDENTIFY FECAL POLLUTION SOURCES (Invited Presentation)

131-9 4:05 PM Best, Aaron A.*; Baar, Tena; Laughlin, Jade; Les, Sydney; Schoonover, Lexi; Slater, Adam; Sund, Meghan; Brokos, Sarah A.; Moen, Francesoccio Wade, Randall D.; Pikaart, Michael J.; Peterson, Jonathan W.: GLOBAL SURVEY OF MICROBIAL POPULATIONS IN UNTREATED DRINKING WATER SOURCES

131-10 4:20 PM Tagne, Gilles V.*: WATER QUALITY ASSESSMENT OF ALTERNATIVE DRINKING WATER SOURCES IN URBAN AND SUBURBAN AREAS, SIERRA LEONE, AFRICA

131-11 4:35 PM Walker, Rachel L.*; Mundell, John A.: ADVANCES IN GROUNDWATER PROTECTION IN MARION COUNTY, INDIANA

131-12 4:50 PM Schroeder, Timothy*; Bond, David; Foley, Janet: WIDESPREAD PER- AND POLYFLUOROALKYL SUBSTANCE GROUNDWATER CONTAMINATION IN BENNINGTON, VT AND HOOSICK FALLS, NY: MARSHALLING UNDERGRADUATE CURRICULUM FOR PURPOSE-DRIVEN SCIENCE

131-13 5:05 PM Letsinger, Sally L.*; Branam, Tracy; Green, Robin; Amoroso, Rachael; Harris, Megan B.; Gokey, Megan: AN ASSESSMENT OF THE PERSISTENCE OF CHLORIDE FROM SOURCE WATER TO TAP AND ITS IMPLICATIONS FOR POTENTIAL CORROSION OF METAL PIPES: A PILOT STUDY

SESSION NO. 131 🌶️

T62. Landscapes in the Anthropocene (GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division; GSA International Interdisciplinary Interest Group; GSA Limnogeology Division)

1:30 PM, Indiana Convention Center, Room 234

José Antonio Constantine and Ronád Cox, Presiding

1:30 PM INTRODUCTORY REMARKS

131-1 1:45 PM Ortiz, Alejandra*; Daly, Sean; Johnson, Faith M.: ANALYZING GLOBAL ANTHROPOGENIC IMPACTS ON ATOLL ISLAND CHANGE OVER THE LAST THREE DECADES

131-2 2:05 PM Jones, Cathleen E.*; Simard, Marc; Rangoonwala, Amina; Ramsey, Elijah; Bekaert, David; An, Karen: OH, THAT SINKING FEELING: OBSERVATIONS OF LANDSCAPE CHANGE IN THE MISSISSIPPI RIVER DELTA

131-3 2:25 PM Blau, Emmett*; Constantine, José Antonio: THE SELF-CLEANSING WATERS OF THE HOUSATONIC: A CASE STUDY OF AN INDUSTRIAL RIVER

131-4 2:40 PM Reminga, Katy N.*; Pavlowsky, Robert T.; Owen, Marc: HISTORICAL LAND USE INFLUENCE ON LEGACY FLOODPLAIN DEPOSITS IN FORESTED WATERSHEDS IN THE OZARK HIGHLANDS

131-5 2:55 PM Jordan, Miranda*; Pavlowsky, Robert T.; Owen, Marc: STRATIGRAPHIC RECORD OF LEGACY SEDIMENTS IN FLOODPLAIN DEPOSITS ALONG BIG RIVER, MISSOURI OZARKS

131-6 3:10 PM Stewart, Alexander K.*; Hubbard, Trent D.; Heinrich, Catherine; Eifert, Helen; Leech, Maria: LANDSCAPE INSTABILITY, PERMAFROST AND REMOTE INFRASTRUCTURE CORRIDORS: DENDROGEOMORPHOLOGY USING BLACK SPRUCE, ALASKA

3:25 PM BREAK

131-7 3:40 PM Larsen, Isaac J.*; Thaler, Evan; Yu, Qian: HOW MUCH TOPSOIL REMAINS? - QUANTIFYING SOIL LOSS IN THE MIDWESTERN U.S.

131-8 4:00 PM Thaler, Evan*; Larsen, Isaac J.: QUANTIFYING RATES OF AGRICULTURALLY-INDUCED SOIL EROSION IN THE MIDWESTERN U.S

131-9 4:15 PM Nagle-McNaughton, Timothy*; Ahsing, Jonathan; Constantine, José Antonio: THE DRIVERS AND EXTENT OF WILDFIRE REGIME CHANGE IN WASHINGTON STATE, USA

131-10 4:30 PM Kean, Jason W.*; Staley, Dennis M.; Lancaster, Jeremy T.; Rengers, Francis K.; Swanson, Brian J.; Coo, Jeffrey A.; Hernandez, Janis L.; Sigman, Aaron J.; Allstadt, Kate E.; Lindsay, Donald: LEARNING TO ROLL WITH THE ONE-TWO PUNCH OF FIRE AND DEBRIS FLOW: LESSONS LEARNED FROM THE JANUARY 2018 DEBRIS-FLOW DISASTER IN MONTECITO, CA

131-11 4:45 PM Booth, Adam M.*; McCarley, Justin; Garriss, Rebecca N.; Allen, Bryan; Nelson, JoAnn; Boyd, Charles: WHEN LANDSLIDES DO AND DO NOT RESPOND TO CLIMATE, SEISMICITY, AND SLOPE GEOMETRY CHANGES OVER SEASONAL TO HOLOCENE TIME SCALES

131-12 5:00 PM Letsinger, Sally L.*; Branam, Tracy; Green, Robin; Amoroso, Rachael; Harris, Megan B.; Gokey, Megan: AN ASSESSMENT OF THE PERSISTENCE OF CHLORIDE FROM SOURCE WATER TO TAP AND ITS IMPLICATIONS FOR POTENTIAL CORROSION OF METAL PIPES: A PILOT STUDY

131-13 5:15 PM DISCUSSION
SESSION NO. 133

T96. Large Watershed to National Scale Data and Science for Water Management (GSA Hydrogeology Division; GSA Geoinformatics Division; GSA Karst Division; GSA International Interdisciplinary Interest Group)

1:30 PM, Indiana Convention Center, Room 132

E. Randall Bayless, Presiding

1:30 PM INTRODUCTORY REMARKS

133-1 1:45 PM Chapman, Melinda*: NEW USGS PUBLIC WEB-BASED TOOL FOR VIEWING AND DOWNLOADING GEOPHYSICAL LOG DATA

133-2 2:00 PM Aichele, Stephen S.*: NATIONAL TERRAIN DATA FOR NATIONAL APPLICATIONS

133-3 2:15 PM Arhood, Leslie D.; Bayless, E. Randall*: STANDARDIZATION AND ANALYSIS OF WATER-WELL RECORDS WITHIN THE GLACIATED PART OF THE UNITED STATES

133-4 2:30 PM Starn, J. Jeffrey*; Kauffman, Leon J.; Carlson, Carl S.; Belitz, Kenneth; Yager, Richard M.: INNOVATIVE WAY TO ESTIMATE GROUNDWATER RESIDENCE TIMES IN THE GLACIATED U.S. USING NEW MODELING METHODS AND WALL-TO-WALL DATA SETS (Invited Presentation)

133-5 2:45 PM Belitz, Kenneth*; Moore, Richard B.; Arnold, T.L.; Sharpe, J.B.; Starn, J. Jeffrey: MULTI-ORDER HYDROLOGIC POSITION: A HIGH-RESOLUTION DATASET FOR THE CONTERMINOUS UNITED STATES

133-6 3:00 PM Harvey, Judson W.*: IDENTIFYING DOMINANT RIVER WATER-QUALITY FUNCTIONS AT A NATIONAL SCALE

3:15 PM BREAK

133-7 3:30 PM Green, Ronald T.*; Fratesi, Beth: EVALUATING RECHARGE FROM WATERSHEDS ALONG THE TEXAS REACH OF THE RIO GRANDE

133-8 3:45 PM Rahman, Md Sanoar*; Bowling, Laura: HYDROLOGIC RESPONSE TO GROUNDWATER WITHDRAWALS IN THE UPPER WABASH RIVER

3:45 PM DISCUSSION

133-9 4:00 PM Smith, Michael*; Larsen, Daniel; Schoefernacker, Scott R.; Waldron, Brian: EVALUATING MODERN RECHARGE TO THE MEMPHIS AQUIFER AT THE LICHTERMAN WELL FIELD, MEMPHIS, TN

133-10 4:15 PM Piske, Jacob*: Peterson, Eric W.: NITRATE CONCENTRATIONS IN STREAMS AS A FUNCTION OF CROP COVER IN MIDWESTERN AGRICULTURAL WATERSHEDS: ASSESSING THE ROLE OF CORN AND SOYBEANS

133-11 4:30 PM Zhang, Fei*: Jie, Yuan; Huiwei, Zhang; Kung, Hsiang-te; Johnson, Verner C.: WATERSHED WATER QUALITY ASSESSMENT OF EBINUR LAKE BASIN, XINJIANG, CHINA, BASED ON WEBER-FECHNER LAW

133-12 4:45 PM Lyons, W. Berry*: Croot, Peter; Carey, Anne E.; Henry, Tiernan; Welch, Susan A.; Gardner, Christopher B.; Flynn, Raymond: THE GEOCHEMISTRY OF RIVERS IN IRELAND: A SNAPSHOT

5:00 PM BREAK

5:15 PM DISCUSSION

SESSION NO. 134

T103. Springs: Groundwater-Influenced Ecosystems, Gaining Streams, and Wetlands (GSA Hydrogeology Division; GSA Karst Division; GSA Geobiology & Geomicrobiology Division; GSA Limnogeology Division)

1:30 PM, Indiana Convention Center, Room 133

Abraham E. Springer, Susan Swanson and Brad David Wolaver, Presiding

134-1 1:30 PM Ward, Adam S.*; Schmadel, Noah; Wondzell, Steven M.; Johnson, Sherri: HOW HAS CLIMATE CHANGE ALTERED NETWORK CONNECTIVITY IN A MOUNTAIN STREAM NETWORK?

134-2 1:45 PM Gleason, Carolyn L.*; Frisbee, Marty D.; Meyers, Zachary P.; Rademacher, Laura; Pordel, Khaled; Friel, Ariel D.; Hedlund, Brian P.; Sada, Donald W.: LIFE IN THE RAIN SHADOW: UNDERSTANDING SOURCES OF RECHARGE AND GROUNDWATER FLOWPATHS TO GROUNDWATER DEPENDENT ECOSYSTEMS IN THE PANAMINT RANGE, DEATH VALLEY, CALIFORNIA, USA

134-3 2:00 PM Pordel, Khaled*; Sada, Donald W.; Umek, John; Meyers, Zachary P.; Frisbee, Marty D.; Warix, Sara R.; Rademacher, Laura K.; INTEGRATING HYDROGEOLOGY AND AQUATIC ECOLOGY: EVIDENCE THROUGH THE STRUCTURE OF ENHANCED MACROINVERTEBRATE COMMUNITIES AND WATER GEOCHEMISTRY IN THE OWENS VALLEY, CA


134-5 2:30 PM Friel, Ariel D.*; Meyers, Zachary P.; Gleason, Carolyn; Warix, Sara R.; Seymour, Cale O.; Frisbee, Marty D.; Rademacher, Laura K.; Hedlund, Brian P.: MICROBIAL DIVERSITY AND COMMUNITY STRUCTURE OF DESERT SPRINGS ACROSS HYDROGEOCHEMICAL GRADIENTS IN THE SOUTHERN HYDROGRAPHIC GREAT BASIN

134-6 2:45 PM Sada, Donald W.*; Pordel, Khaled; Umek, John: SCALED AND ECOLOGICAL PERSPECTIVES FOR GROUNDWATER SURFACE WATER INTERACTIONS IN TWO NORTH AMERICAN DESERTS (Invited Presentation)

3:05 PM BREAK

134-7 3:20 PM Springer, Abraham E.*; Sinclair, David; Stevens, Lawrence E.: CLASSIFYING SIGNIFICANTLY DIFFERENT TYPES OF SPRINGS ECOSYSTEMS WITH PHYSICAL, BIOLOGICAL, AND ANTHROPOGENIC-IMPACT INVENTORY DATA IN THE GRAND CANYON ECOREGION
SESSION NO. 135

T118. Paleoenvironmental Reconstructions from Biogenic Carbonates II (SEPM (Society for Sedimentary Geology); Paleontological Society; Paleontological Research Institution; GSA Sedimentary Geology Division; GSA Karst Division)

1:30 PM Indiana Convention Center, Room 140

Yurena Yanes, Wesley G. Parker and Donna Surge, Presiding

135-1 1:30 PM Passey, Benjamin H.; Hu, Huanting; Lehmann, Sophie B.; Winkelstein, Ian Z.; Levin, Naomi E.: TRIPLE OXYGEN ISOTOPES IN TERRESTRIAL BIOMINERALS: A NEW TOOL FOR ENVIRONMENTAL AND ECOLOGICAL RECONSTRUCTION (Invited Presentation)

135-2 1:50 PM Rech, Jason A.; Bosch, Stephanie; Pigati, Jeffrey S.; Springer, Kathleen B.; Nekola, Jeffrey C.; Yanes, Yurena: CALIBRATION AND DEVELOPMENT OF AN OXYGEN ISOTOPE PALEOClimATE PROXY FROM TERRESTRIAL GASTROPODS, SAN PEDRO VALLEY, ARIZONA

135-3 2:05 PM Nash, T. Andrew*: RECONSTRUCTION OF LAST GLACIAL MAXIMUM AVERAGE WINTER TEMPERATURES AND CHRONOLOGICAL CORRELATION OF WISCONSINAN PALEOSOL DEVELOPMENT IN SOUTHWESTERN OHIO

135-4 2:20 PM Yanes, Yurena*; Jimenez-Morenzo, Gonzalo; Camuera, Jon; Ramos-Román, María J.; García-Alix, Antonio; Anderson, R. Scott: LATE GLACIAL-HOLOCENE ENVIRONMENTAL RECONSTRUCTION IN SOUTHERN IBERIA AS INFERRED FROM THE STABLE ISOPTRE COMPOSITION OF FRESHWATER GASTROPOD SHELLS

135-5 2:35 PM Saxena, Divya*; Wang, Xingchen T.; Grossman, Ethan L.; O’Dea, Aaron; Sigman, Daniel M.: MOLLUSK SHELL δ13C VALUES AS INDICATORS OF DENITRIFICATION AND TROPHIC POSITION IN CONTRASTING SITES ACROSS CENTRAL AMERICAN ISTHMUS

135-6 2:50 PM Williams, Siobhan*; Hafar, Jochen; Nash, Merinda; Kronz, Andreas; Zajacz, Zoltán; Adey, Walter: A COMPARISON OF TECHNIQUES FOR ANALYSIS OF MG/CA RATIOS IN THE HIGH-LATITUDE CORALLINE ALGAL PROXY CLIMATE ARCHIVE CLATHROMORPHUS

135-7 3:05 PM Chrpá, Michelle E.*; Raymond, Anne; Lamb, William M.: MG/CA RATIOS OF ECHINOERDER SSSICLES IN PENNSYLVANIAN COAL BALLS: IMPLICATIONS FOR RECONSTRUCTING MG/CA RATIOS OF PENNSYLVANIAN SEAWATER

135-8 3:20 PM BREAK

135-9 3:35 PM Maloof, Adam C.*; Geyman, Emily C.; Dyer, Blake: HOW DO SHALLOW BIOGENIC CARBONATES RECORD WATER DEPTH CHANGE?

135-9 3:50 PM Lis, Michael*; Thunell, Robert C.; Tappa, Eric: GLACIAL-INTERGLACIAL CHANGES IN THE THERMOCLINE STRUCTURE OF THE MAKASSAR STRAITS:

IMPLICATIONS FOR CHANGES IN THE INDONESIAN THROUGHFLOW

SESSION NO. 136

T134. Echinoderm Paleobiology II: In Honor of the Career of James Sprinkle (Paleontological Society)

1:30 PM Indiana Convention Center, Room 142

Chris L. Schneider and Colin D. Sumrall, Presiding

136-1 1:30 PM Schneider, Chris L.*: CRINOIDS AS KARST AND DIAGENETIC INDICATORS IN DEVONIAN LIMESTONE BENEATH THE ALBERTA OIL SANDS

136-2 2:00 PM Mikulic, Donald G.*; Klussendorf, Joanne: THE RELATIONSHIP OF DEPOSITIONAL SEQUENCES, AND δ18O EXCURSIONS TO ECHINODERM DIVERSITY IN THE SILURIAN REFS OF WISCONSIN AND ILLINOIS

136-3 2:15 PM Whittle, Rowan J.*; Hunter, Aaron W.; Cantrill, David J.; McNamara, Kenneth J.: GLOBALLY DISCORDANT ISOCRINITA (CRINOIDEA) MIGRATION CONFIRMS ASYNCHRONOUS MARINE MESOZOIC REVOLUTION

136-4 2:30 PM Limbeck, Maggie R.*; Sumrall, Colin D.: EXPLORING THE DISTRIBUTION OF PARACRINOIDEA (ECHINODERMATA)

136-5 2:45 PM Petsios, Elizabeth*; Tyler, Carrie L.; Farrar, Lyndsey E.; Portell, Roger W.; Kowalewski, Michał: TRENDS IN DRILLING PREDATION AND PARASITISM ON ECHINODROMES DURING THE MESOZOIC MARINE REVOLUTION

136-6 3:00 PM Farrar, Lyndsey*; Graves, Erin; Petsios, Elizabeth; Portell, Roger W.; Tyler, Carrie L.; Kowalewski, Michał: TRACKING TRACES OF PREDATION AND PARASITISM ON FOSSIL ECHINODROMES THROUGH GEOLOGIC TIME

136-7 3:15 PM BREAK

136-8 3:30 PM Saulsbury, James*; Baumiller, Tomasz K.: NICE BREATH AS A LINK BETWEEN FEEDING MORPHOLOGY AND EXTINCTION RISK: AN EXPLORATION WITH EXTANT CRINOIDS

136-9 3:45 PM Meyer, David L.*; Waters, Johnny: FOOD PARTICLE SIZE LIMITATION IN BLASTOIDS: A KEY TO MISSISSIPPIAN DIVERSIFICATION

136-10 4:00 PM Shroat-Lewis, René A.*; Greenwood, Emily N.; Sumrall, Colin D.: WHY SCALE MATTERS IN SPATIAL ANALYSIS: AN EXAMPLE USING NEOSOROPHUSSELLA LANEI EDROASTEROID-ENCURSTED SLABS FROM THE CHESTERIAN (UPPER MISSISSIPPIAN) KINCAID LIMESTONE OF SOUTHERN ILLINOIS


4–7 November • Indianapolis, Indiana, USA 207
SIGNIFICANCE OF COILING ANAL SACs IN ORDOVICIAN CRINIDS
4:30 PM CONCLUDING REMARKS

SESSION NO. 137 $

T139. Work on the Zircon, Highlight the Apatite: Wielding the Power of Accessory Minerals and Honoring the Contributions of Bruce Watson, 2018 Roebling Medalist (Mineralogical Society of America; Geochemical Society; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Volcanic and Magmatic Studies Group; American Geophysical Union)

1:30 PM, Indiana Convention Center, Room 240-241
Calvin F. Miller, Mark Harrison, Sumit Chakraborty, Frederick J. Ryerson and Julia E. Hammer, Presiding

INTRODUCTORY REMARKS

137-1 1:35 PM Trail, Dustin*; Wang, Yanling; Barboni, Melanie; McKeegan, K.D.: AL IN ZIRCON AS A PROXY FOR TERRESTRIAL AND EXTRATERRESTRIAL MELT COMPOSITIONS: A PROGRESS REPORT (Invited Presentation)

137-2 1:55 PM Bea, Fernando*; Monteiro, Pilar; Molina Palma, Jose Francisco: EXPERIMENTAL EVIDENCE FOR THE BEHAVIOUR OF PB AND O ISOTOPES IN MANTLE-RECYCLED CRUSTAL ZIRCON GRAINS

137-3 2:10 PM Cambeses, Ator*; Chakraborty, Sumit: ZIRCON PRESERVATION IN MAFIC MELTS: A THEORETICAL AND EXPERIMENTAL STUDY

137-4 2:25 PM Liu, Hangyu*; McKenzie, N. Ryan; Smye, Andrew J.; Stockli, Daniel F.: DETRITAL ZIRCON TRACE ELEMENTS AS A PROXY FOR CRUSTAL EVOLUTION

137-5 2:40 PM Yakymchuk, Chris*; Brown, Michael: DIVERGENT BEHAVIOR OF TH AND U IN MIGMATITIDES

137-6 2:55 PM Cherniak, Daniele J.*: AL AND SI DIFFUSION IN RUTILE BREAK

137-7 3:25 PM Hoff, Christopher M.*; Watson, E. Bruce: TITANIV-A TITANIUM-IN-POTASSIUM Feldspar Thermometer

137-8 3:40 PM Maclennan, Scott A.*; Schoene, Blair; Stockli, Daniel F.; Pamukcu, Ayla S.: THE STRENGTHS AND PITFALLS OF USING APATITE U-PB TO DETERMINE THERMOTECTONIC HISTORIES: A CASE STUDY FROM THE MESOARCHEAN PILBARA CRATON

137-9 3:55 PM Farmer, G. Lang*; Fritz, Diane; Glazner, Allen: IDENTIFYING RUTILE- AND APATITE-BEARING METASOMATIZED LITHOSPHERIC MANTLE INVOLVEMENT IN CENOZOIC CONTINENTAL MAGMATISM, SOUTHWESTERN NORTH AMERICA

137-10 4:10 PM Ayers, John C.*; Flanagan, Daniel M.; Miller, Calvin F.; Watson, E. Bruce; Ryerson, Frederick J.: SOLUBILITY OF SPHENE IN SILICEOUS MELTS

137-11 4:25 PM Kowallis, Bart J.*; Christiansen, Eric H.; Dorais, Michael J.; Winkel, Anthony; Henze, Porter; Franzen, Lauren; Webb, Haley: COMPOSITIONAL VARIATION OF FE, AL, AND F IN TITANITE (SPHENE)

137-12 4:40 PM Mahur, Munazamm At*; Alvarez, Anthony; Ricketts, Jason W.; Goodell, Philip C.: POST-GRENVILLIAN TECTONOMAGMATIC EVOLUTION OF THE SOUTHWESTERN LAURENTIAN FRONT

137-13 4:55 PM Price, Jonathan D.*: ACCESSORY MINERALS AND MICROSTRUCTURE: CRYSTALLIZATION SEQUENCE IN THE WICHTA GRANITE GROUP, SOUTHERN OKLAHOMA AUGLACOMEN, USA

137-14 5:10 PM Reid, Mary R.*; Vazquez, Jorge A.; Tierney, Casey: WORK ON THE ZIRCON, HIGHLIGHT THE ALLANITE (Invited Presentation)

SESSION NO. 138

T146. Geomorphology and Landscape Evolution of Mars (GSA Planetary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)

1:30 PM, Indiana Convention Center, Room 236-237
Sharon Wilson Purdy, James J. Wray and Elena Favaro, Presiding

138-1 1:30 PM Head, James W.*: THE LATE NOACHIAN CLIMATE OF MARS: EVIDENCE FROM GEOMORPHOLOGY, STRATIGRAPHY, CLIMATE MODELING AND TERRESTRIAL ANALOGS

138-2 1:45 PM Morgan, Alexander M.*; Craddock, Robert A.: UTILIZING MORPHOMETRIC ANALYSES OF EVERY MARTIAN VALLEY TO ASSESS THE HETEROGENEITY OF CONDITIONS DURING THE TIME OF VALLEY NETWORK FORMATION (Invited Presentation)

138-3 2:05 PM Goudge, Timothy A.*; Fassett, Caleb I.; Mohrig, David: INCISION OF PALEOLAKE OUTLET CANYONS ON MARS FROM OVERFLOW FLOODING (Invited Presentation)

138-4 2:25 PM Robbins, Natalie*; Bohanon, Allison; Smith, Shelby; Blaylock, Hannah E.; Loggins, Matthew; Wolak, Jeannette M.: MANY WORLDS, MANY MAPS, MANY USERS: COORDINATING SIMULTANEOUS MAPPING EFFORTS WITH INTEGRATED DATASETS, XANTHE TERRA, MARS

138-5 2:40 PM Palucis, Marisa*; Kanine, Melanie; Rivera-Hernandez, Frances: EXTENT AND TIMING OF HYDROLOGIC ACTIVITY IN THE GALE CRATER REGION OF MARS (Invited Presentation)

138-6 3:00 PM Wilson, Sharon A.*; Grant, John A.: GEOLOGIC MAPPING OF MORAVA VALLES AND MARGARIFTER BASIN ON MARS

138-7 3:15 PM Williams, Rebecca M.E.*; Moersch, Jeffrey E.; Fergason, Robin L.: WHAT CAN BE DEDUCED ABOUT THE CAPPING UNIT OF MARTIAN ‘INVERTED CHANNELS’ FROM THEIR THERMOPHYSICAL PROPERTIES?

138-8 3:30 PM Howard, Alan D.*; Purdy, Sharon Wilson; Morgan, Alexander M.; Moore, Jeffrey M.: TERRAIN-CONFORMING LIGHT-TONED MANTLE IN THE HELLAS BASIN REGION, MARS

138-9 3:45 PM Bishop, Janice L.*: REACTION OF CA SULFATES AND CHLORIDES IN THE MARTIAN NEAR SURFACE TO CREATE SINKHOLES AND DEBRIS FLOWS

138-10 4:00 PM Scheller, Eva L.*; Ehlmann, Bethany L.: COMPOSITION AND IMPACT DEFORMATION OF NOACHIAN BASEMENT SURROUNDING THE ISIDIS BASIN, MARS

138-11 4:15 PM Warner, Nicholas H.*; Sweeney, Julienne; Ganti, Vamsi; Golombek, Matthew P.; Lamb, Michael P.; Ferguson, Robin L.; Kirk, Randolph: DEGRADATION OF ONE-HUNDRED-METER-SCALE ROCKY EJECTA CRATERS AT THE INSIGHT LANDING SITE ON MARS AND IMPLICATIONS FOR SURFACE PROCESSES AND EROSION RATES

138-12 4:30 PM Hughes, Madison N.*; Arvidson, Raymond E.; Grant, John A.; Purdy, Sharon Wilson; Howard, Alan D.: DEGRADATION OF ENDEAVOUR CRATER BASED ON ORBITAL AND ROVER-BASED OBSERVATIONS IN COMBINATION WITH LANDSCAPE EVOLUTION MODELING

138-13 4:45 PM Heggy, Essam*; Scabia, Giovanni; Abotaleb, Abotaleb Z.; Palmer, Elizabeth M.: GROUNDWATER DETECTABILITY ON EARTH AND PLANETARY SUBSURFACES FROM VHF SOUNING RADARS
SESSION NO. 139

T150. Impact Cratering: Geologic, Geochemical, and Geophysical Signatures on the Terrestrial Planets (GSA Planetary Geology Division; GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)

1:30 PM, Indiana Convention Center, Room 235

Jeffrey B. Plescia and Christian Koebeler, Presiding

139-1 1:30 PM
Mahanti, Prasun*; Thompson, Tyler J.; Fassett, Caleb I.: SCALED IMPACT SIGNATURES ON THE MOON - INVESTIGATING FRESH SIMPLE CRATER SHAPES

139-2 1:45 PM
Plescia, Jeffrey*; Terfelt, Fredrik; Bergström, Stig M.: EMPLACEMENT OF IMPACT CRATER EJECTA - THE VIEW FROM THE MOON (Invited Presentation)

139-3 2:05 PM
Tikoo, Sonia M.*; Gattacceca, Jerome; Lepaulard, Camille: QUANTIFYING SHOCK MODIFICATION OF THE LUNAR PALEOINTENSITY RECORD

139-4 2:20 PM
Schmitz, Birger*; Terfelt, Fredrik; Bergström, Stig M.: HOW MANY CRATERS ON EARTH AFTER THE BREAKUP OF THE L-CHONDRITE PARENT BODY 466 MA?

139-5 2:35 PM
Gulick, Sean P.S.*; Morgan, Joanna V.; Bralower, Timothy J.; Chenot, Elise; Christeson, Gail L.; Claeys, Philippe; Cockell, Charles; Coolen, Marco J.L.; Ferrière, Ludovic; Gebhardt, Catalonia; Kato, Kazuhiro; Green, Sophie; Jones, Heather L.; Kring, David A.; Lof, Johanna; Lowry, Christopher; Ocampo-Torres, Ruben; Perez-Cruz, Ligia; Pickersgill, Anne Marie; Poelchau, Michael H.; Rae, Auril S.P.; Rasmussen, Cornelia; Rebolledo-Vieyra, Mario; Riller, Ulrich; Sato, Hirono; Schmitt, Doug; Smit, Jan; Tikoo, Sonia; Urrutia-Fucugauchi, Jaime; Wittmann, Axel; Xiao, Long; Yamaguchi, Kosei E.; Vellekoop, Johan; Niel, C.R.; Grice, Kilt; Ormö, Jens; Melosh, Jay; Collins, Gareth S.; Rodriguez-Tovar, Francisco J.; Olsinski, Gordon R.; Stockli, Daniel F.; Schmieder, Martin; Snedden, John; Freeman, Katherine H.; Hall, Brendon; Smith, Vann; Grieve, Richard A.F.; Koeberl, Christian; Goderis, Steven; Nixon, Chris; Vada, Vivi; Warmy, Sophie; Schulte, Felix; Artemieva, Natalia; Sluis, Apy; McCall, Naoma; Schaefer, Bettina; Diaw, Abdoulaye; Lyons, Shelby; O’Malley, Katherine E.; Gattacceca, Jerome; Quesnel, Yoann; Ross, Catherine; Feignon, Jean-Guillaume: INSIGHTS INTO IMPACT PROCESSES AND EXTINCTION MECHANISMS FROM IODP-ICDP CHICXULUB CRATER DRILLING (Invited Presentation)

139-6 2:55 PM
Harris, R. Scott*; Jaret, Steven J.: EVIDENCE FOR A LATE EOCENE ATLANTIC IMPACT PRIOR TO THE CHESAPEAKE BAY EVENT

139-7 3:10 PM

139-8 3:30 PM
Koeberl, Christian*; Ferrière, Ludovic: LIBYAN DESERT GLASS AREA IN WESTERN EGYPT: SHOCKED QUARTZ IN BEDROCK POINTS TO POSSIBLE PRESENCE OF A DEEPLY ERODED IMPACT STRUCTURE IN THE REGION

139-9 4:00 PM
Skidder, Arif M.*; Newsom, Horton; Misra, Saumitra; Brum, Jose; Hill, Tina R.; Liu, Xin-Chen; Turner, Joseph B. McGee: AMBIGUOUS GEOCHEMICAL SIGNATURE IN THE EJECTA OF LONAR CRATER, INDIA

139-10 4:15 PM
Cavosie, Aaron J.*; Folco, Luigi: DISCOVERY OF SHOCK-TWinned ZIRCON AT KAMIL CRATER, EGYPT

139-11 4:30 PM
Schultz, Peter H.*; Harris, R. Scott; Perraud, Sebastián; Blanco, Nicholas; Tomlinson, Andrew J.; Valenzuela, Millaica: FIREBALL ORIGIN OF THE PICA GLASSES, ATACAMA DESERT, CHILE

SESSION NO. 140

T160. Advances in Understanding the Laurentide Ice Sheet II (GSA Quaternary Geology and Geomorphology Division)

1:30 PM, Indiana Convention Center, Room 138-139

Kathy Licht, Henry Loope, Timothy Fisher, G. William Monaghan, J. Steven Kite and Todd Grote, Presiding

140-1 1:30 PM
Shoemaker, Kurt A.; Erjavec, James: PLEISTOCENE SEISMICITY ASSOCIATED WITH THE IMPOUNDMENT OF PROGLACIAL LAKE TIGHT, PIKE COUNTY, OHIO

140-2 1:45 PM
Kite, J. Steven*; Maynard, Shannon Marie; Swift, Mark D.; Morgan, Scott A.: FACIES RECONSTRUCTION: THE KEY TO RECONSTRUCTING THE PLEISTOCENE TRANSFORMATION OF THE PITTSBURGH RIVER SYSTEM AND LAKE MONONGAHELA INTO THE UPPER OHIO RIVER WATERSHED

140-3 2:00 PM
Lewis, C.F. Michael*; Todd, Brian J.: AN EARLY LAKE ONTARIO PALEO-BARRIER BEACH BUILT AT SEA LEVEL 12.8-12.5 CAL KA BP

140-4 2:15 PM
Loope, Walter L.*; Loope, Henry; Jol, Harry M.; Fisher, Timothy; Goble, Ronald J.: LEGACY OF A TRANSENSION: SHORELINE BEHAVIOR ALONG THE SOUTHEASTERN MARGIN OF THE SUPERIOR BASIN IN RESPONSE TO HOLOCENE LAKE-LEVEL CHANGE

140-5 2:45 PM
Luczak, Jonathan N.; Fisher, Timothy*; Samsen, Brian: HISTORY AND CHRONOLOGY OF LAKE MAUMEE’S IMLAY CHANNEL, MICHIGAN

140-6 3:00 PM
Thompson, Todd A.*; Argylan, Erin P.; Loope, Henry M.; Lepper, Kenneth; Johnston, John W.: LAKE-LEVEL ELEVATION IN THE CHICAGO OUTLET DURING THE NIPISSING PHASE OF ANCESTRAL LAKE MICHIGAN: WENTWORTH WOODS STRANDPLAIN, ILLINOIS

140-7 3:15 PM
Fleisher, P. Jay*; Heisig, Paul M.: LAURENTIDE RETREAT FROM AN EASTERN SUSQUEHANNA LAKE SYSTEM

140-8 3:30 PM
Phillips, Andrew C.*; Curry, B. Brandon; Loope, Henry; Grimley, David A.; Huot, Sebastien: ACTIVITY OF THE LAURENTIDE ICE SHEET EVIDENT IN SEDIMENT ARCHIVES OF THE LOWER WABASH VALLEY

140-9 3:45 PM
Counts, Ronald*; Monaghan, G. William: A CHRONOSTRATIGRAPHIC RECORD OF MID-WISCONSINAN AGRADATION IN THE LOWER OHIO RIVER VALLEY AND IMPLICATIONS FOR THE LAURENTIDE ICE SHEET (Invited Presentation)

140-10 4:20 PM
Odom, William E.; Granger, Darryl E.: ISOCRHN BURIAL DATING OF PLIO-PLEISTOCENE TERRACE DEPOSITS ALONG THE LOWER TENNESSEE RIVER

140-11 4:35 PM
Haugerud, Ralph A.: LATE PLEISTOCENE LAKE PADUCAH AND THE ABANDONMENT OF Cache VALLEY, SOUTHERNMOST ILLINOIS

140-12 4:50 PM
Monaghan, G. William*; Hayes, Daniel R.; Herrmann, Edward W.: GEOARCHAEOLOGICAL STUDIES TRACE
THE HOLOCENE DEVELOPMENT OF THE OHIO RIVER VALLEY

5:05 PM CONCLUDING REMARKS

SESSION NO. 141 ☀ ☊ $ T171. Late Paleozoic Tectonics and Sedimentation along the Allegheny-Ouachita-Marathon Orogen Belt (GSA Sedimentary Geology Division; GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)
1:30 PM, Indiana Convention Center, Sagamore Ballroom 7
Xiangyang Xie, Majie Fan and Robert J. Stern, Presiding

141-1  1:30 PM Kroner, Uwe*: COMPLEX TECTONICS OF THE GONDWANA-LAURUSSIA PLATE BORDER ZONE – INTERFERENCE OF RELATIVE PLATE MOTION AND LATERAL ESCAPING LITHOSPHERIC BLOCKS (Invited Presentation)

141-2  1:50 PM Herman, David J.*; Knapp, James H.: THE CAROLINA MISSISSIPPI FAULT AND POSSIBLE IMPLICATIONS FOR PANGEA RECONSTRUCTION MODELS

141-3  2:05 PM Stephan, Tobias*; Kroner, Uwe; Romer, Rolf L.: THE BIPARTITE EARLY PALEOZOIC GONDWANA SHELF: PALEOGEOGRAPHIC CONTROL ON THE SN-W MINERALIZATION ALONG THE VARISCAN-APPALACHIAN OROCENE BELT

141-4  2:20 PM Cains, Julie M.; Chick, Jonathan T.; McKim, Sydney; Potra, Adriana; Manger, W.L.*, SILICIFICATION HISTORY OF THE BOONE FORMATION (LOWER MISSISSIPPIAN), SOUTHERN OZARK REGION, AND ITS RELATIONSHIP TO THE OUACHITA OROGENY

141-5  2:35 PM Çeşen, Ibrahim*; Yezerski, Donald: STRUCTURAL GEOMETRY OF THE FRONTAL OUACHITAS-ARKOMA FORELAND BASIN TRANSITION ZONE, IN OKLAHOMA AND WESTERN ARKANSAS

141-6  2:50 PM Chase, Brandon Franklin*; Atekwana, Estella A.; Kolawole, Folarin; Turk; Molly Simpson; Carpenter, Brett M.; Evans, Rob L.; Finn, Carol: THE SOUTHERN OKLAHOMA AULOCAGEN: NEW INSIGHTS ON THE PALEOZOIC RIFT-RELATED AND INVERSION-RELATED STRUCTURES IN THE WICHITA UPLIFT

141-7  3:05 PM Weislogel, Amy L.*; Abatan, Oluwasugun: ASSESSING THE CONTROLS ON STRATIGRAPHIC PATTERNS IN THE SYNOGENIC CLASTIC WEDGE OF THE CENTRAL ALLEGHENY OROCENE (Invited Presentation)

141-8  3:25 PM Lynch, Erin*: van der Pluijm, Ben: ISOTOPIC ANALYSES OF CENTRAL APPALACHIANS CLAYS IN FOLDED SEDIMENTARY ROCKS OF PA, WV, AND MD REVEAL MIXING OF SURFACE AND DEEPLY-SOURCED FLUIDS AND MINERALIZATION DURING OROGENIC EXHUMATION

3:40 PM BREAK

141-9  3:55 PM Thomas, William A.*: TECTONIC EVOLUTION OF THE SOUTHERN MARGIN OF LAURENTIA (Invited Presentation)

141-10  4:15 PM Hames, Willis*; Uddin, Ashraf; Thompson, Jacob T.; Pashin, Jack C.: AN ASSESSMENT OF POTENTIAL OUACHITA AND APPALACHIAN SOURCES FOR SANDSTONES OF THE GREATER BLACK WARRIOR BASIN, BASED ON 40Ar/39Ar DATING OF MUSCOVITE

141-11  4:30 PM Ridgway, Kenneth*; Colliver, Lauren A.; Bataille, Clément: A DETRITAL ZIRCON RECORD OF THE PROTEROZOIC TO CENOZOIC TECTONIC GROWTH OF THE SOUTHERN MARGIN OF NORTH AMERICA, TRANS-PECTOS REGION, WEST TEXAS

141-12  4:45 PM Thompson, Jacob T.; Hames, Willis; Johnson, Harold E.: SEDIMENT PROVENANCE USING COUPLED U/Pb DETRITAL ZIRCON AND 40Ar/39Ar DETRITAL MUSCOVITE ANALYSIS, CARBONIFEROUS OUACHITA-ARKOMA BASIN, SOUTHEASTERN OKLAHOMA

3:40 PM BREAK

141-13  5:00 PM Tian, Hepeng*: Fan, Majie; Valencia, Victor; Waite, Lowell; Stern, Robert J.: GEOCHRONOLOGY AND PROVENANCE OF EARLY PERMIAN VOLCANIC ASHES IN THE MIDLAND BASIN, WEST TEXAS

141-14  5:15 PM Perez, Nicholas D.*; Gao, Zhui: COMPETING LAURENTIAN AND GONDWANAN SEDIMENT SOURCES DURING PROTRACKED PANGAEA ASSEMBLY IN THE MARATHON REGION OF WEST TEXAS

SESSION NO. 142 ☀ ☊ $ T178. Geologic Mapping in the Twenty-First Century: Innovative Applications of Technology and Strategies to Aid Field-Based Studies (GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division)
1:30 PM, Indiana Convention Center, Room 242
Sourav Krishna Nandi and Matthew P. McKay, Presiding

142-1  1:30 PM Keane, Christopher*: Mars, Mike: THE EXTENT OF GEOLOGIC MAP DATA’S IMPACT ON THE U.S. ECONOMY


142-3  2:00 PM Nandi, Sourav Krishna*; McKay, Matthew P.; Mickus, Kevin L.: CRUSTAL ARCHITECTURE OF THE EASTERN BLUE MOUNTAINS PROVINCE AND SALMON RIVER SUTURE ZONE RESOLVED THROUGH INTEGRATED GEOLOGIC MAPPING, GEOCHRONOLOGY, AND GEOPHYSICAL SURVEYS

142-4  2:15 PM Aronoff, Ruth F.*; Vervoort, Jeffrey D.; Carberry, Jade-Ashley: ADDING DETAIL TO A GEOLOGIC MAP USING GEOCHRONOLOGY AND METAMORPHIC MODELING TOOLS

142-5  2:30 PM McClellan, Elizabeth*: Watts, Chester F.; Rasiak, Sophia: CRYPTIC FAULTING AND BASIN INVERSION REVEALED THROUGH GEOCHRONOLOGY OF VOLCANIC CLASTS IN CONGLOMERATE, REFINED USING 3-D MODELS OBTAINED BY UAS

142-6  2:45 PM Langenheim, Victoria*; Guglielmo, Giovanni; Vazquez, Jorge A.; Sweetkind, Donald: A TALE OF TWO (POSSIBLY THREE) PLUTONS REVEALED BY GEOLOGIC, GEOPHYSICAL AND GEOCHRONOLOGICAL DATA: THE MERRIMAC PLUTONS, NORTHERN SIERRA NEVADA, CALIFORNIA

142-7  3:00 PM Edwards, Lucy E.*; Newell, Wayne L.; Powars, David S.; Crider, Ernest, Self-Trail, Jean M.: FUN FACTS FROM THE WASHINGTON EAST 1:100,000 QUADRANGLE

3:15 PM BREAK

142-8  3:30 PM Keever, Donald A.*; Gasser, Leslie L.; Phillips, Andrew C.: IMPROVING 3-D GEOLOGIC MAPPING: MOVING BEYOND THE SINGLE BEST PREDICTION

142-9  3:45 PM Bunse, Emily G.*; Walker, J. Douglas; Graham, Kathleen A.; Tikoff, Basil; Olson, Amy; Ruffled, Carson J.; Kamola, Diane L.; Möller, Andreas: STUDENT USE OF STRABOSPAT, A GEOLOGIC DATA MANAGEMENT SYSTEM

142-10  4:00 PM McKay, Matthew P.*; Runyon, Kirby D.: MAPPING THE MOON: CHALLENGES FOR FUTURE FIELD-BASED PLANETARY GEOLOGIC MAPPING

142-11  4:15 PM Boling, Kenneth S.*; Hatcher, Robert D.; Lemiszki, Peter J.; Bible, Gary G.: ANALYSIS OF POLYPHASE DEFORMATION OF THE SOUTHERN CINCINNATI ARCH USING PYTHON AND GIS APPLICATIONS

142-12  4:30 PM Young, Brennan W.*; Bishop, Michael P.; Huo, Da: GEOMORPHOMETRIC ANALYSIS FOR
CHARACTERIZATION AND MAPPING OF CRUSTAL DEFORMATION IN THE KARAKORAM HIMALAYA
Yager, Douglas B.; Anderson, Eric D.; Rodriguez, Brian D.; Deszcz-Pan, Maria; Smith, Bruce D.; Brown, Kirstin. SESSION NO. 143
142-13 4:45 PM

OCEAN AND THE TETHYAN OCEANS TECTONIC DOMAINS
Ma, Anlin*, Hu, Xiumian; Lai, Wen; Xue, Weivei. SESSION NO. 143
143-10 4:05 PM

RECYCLED OROGEN-DERIVED SANDSTONES IN THE MUGAGANGRI MÉLANGE, BANGONG-NIUJIANG SUTURE ZONE, CENTRAL TIBET
Xiao, Wenjiao*, Windley, Brian F.; Han, Chunming. SESSION NO. 143
143-11 4:20 PM

PALEOZOIC TO EARLY TRIASSIC MULTIPLE ROLL-BACK AND OROCLINAL BENDING OF THE MONGOLIA COLLAGE IN CENTRAL ASIA
Murphy, J. Brendan*, Casas, Josep Maria; Nance, R. Damian; Quesada, Cecilio; Álvaro, J. Javier. SESSION NO. 143
143-12 4:35 PM

RECONCILING TECTONIC AND GEODYNAMIC MODELS FOR THE ASSEMBLY AND BREAKUP OF PANNOTIA
Nance, R. Damian*, Murphy, J. Brendan. SESSION NO. 143
143-13 4:50 PM

THE SUPERCONTINENT CYCLE AND THE PROXY CASE FOR PANNOTIA
Nance, R. Damian*, Murphy, J. Brendan. SESSION NO. 143
5:05 PM

SESSION NO. 143

TUESDAY, 6 NOVEMBER 2018

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 144

GSA Hydrogeology Division: Henry Darcy Distinguished Lecture
4:00 PM, Indiana Convention Center, Sagamore Ballroom 6

Hayashi, Masaki*: ALPINE HYDROGEOLOGY: THE CRITICAL ROLE OF GROUNDWATER IN SOURCING THE HEADWATERS OF THE WORLD

SESSION NO. 145

D63. Geoscience Education II
8:00 AM, Indiana Convention Center, Room 235

Virginia Peterson, Ken Brown, Sarah K. Fortner and Claire McLeod, Presiding

Fox, Lydia K.*, Fortner, Sarah K.; Kraal, Erin; Wilson, Carolyn: DESIGNING COURSE-BASED UNDERGRADUATE RESEARCH EXPERIENCE (CURES) TO ADDRESS SCIENCE LITERACY
145-1 8:00 AM

Miller, M. Meghan; Charlevoix, Donna: INCORPORATING KEY ELEMENTS OF CURES INTO THE INTRODUCTORY CLASSROOM: GETSI MODULES AS A MECHANISM FOR BUILDING STUDENT RESEARCH SKILLS (Invited Presentation)
145-2 8:15 AM

MacDonald, James H.; Ryan, Jeffrey G.; Hickey-Vargas, Rosemary; Beck, Mary A.; Holbik, Sven; Lewis, Scott E.: UTILIZING CREATIVE EXERCISE ASSESSMENT OF A COURSE-BASED UNDERGRADUATE RESEARCH EXPERIENCE TO ADDRESS SCIENCE LITERACY
145-3 8:35 AM

Schmitkons, Jonathan P.; Graney, Joseph R.: THE BIOGEOCHEMISTRY FRESHMAN RESEARCH IMMERSION PROGRAM AT BINGHAMTON UNIVERSITY
145-4 8:50 AM

Walowski, Kristina*, Aster, Ellen: INTEGRATION OF FIELD-BASED UNDERGRADUATE RESEARCH EXPERIENCES IN AN INTRODUCTORY COURSE AT MIDDLEBURY COLLEGE, VT (Invited Presentation)
145-5 9:10 AM
Tuesday, 6 November 2018

145-6  9:25 AM  Beck, Mary A.*: WHEN YOU DON’T HAVE ROCKS: MAPPING VEGETATION TO DETERMINE SOILS AND USING SOILWEB TO “GROUND TRUTH”

9:40 AM  BREAK

145-7  9:55 AM  Widzowski, Stephanie*; Cull-Hearth, Selby: CREATING COMPLEX AND ACCESSIBLE EXHIBITS AT BRYN MAWR COLLEGE: MAKING GEOL OGY RELEVANT

145-8  10:10 AM  Svtana, Kevin*: USING BROWNFIELDS IN A GENERAL EDUCATION TEACHING FORMAT AT OTTERBEIN UNIVERSITY

145-9  10:25 AM  Hamilton, Wayne*: THE CHALLENGES AND SUCCESSES IN PREPARING SENIOR GEOLOGY STUDENTS AT BAYLOR UNIVERSITY FOR THE NATIONAL ASSOCIATION OF STATE BOARD OF GEOLOGY (ASBGO) FUNDAMENTAL OF GEOLOGY EXAMINATION


145-11  10:55 AM  Stirbu, Simona*; Greco, Ninfa: SCIENTIFIC LITERATURE USES IN GEOGRAPHY: ANALYZE OF THREE DOCTORAL DISSERTATIONS

145-12  11:10 AM  Moran, K.T.*; Whitcomb, Natalie; Maier, Joey: STUDY ABROAD: SCIENCE, SAFETY, AND SYNERGISM

SESSION NO. 146

P3. Plate Tectonics Paradigm 50 Years after the Seminal Work of Morgan, Mckenzie, and Le Pichon (GSA Structural Geology and Tectonics Division; GSA History and Philosophy of Geology Division; GSA Geophysics and Geodynamics Division; American Geophysical Union)

8:00 AM, Indiana Convention Center, Sagamore Ballroom 5

Yildirim Dilek and Eldridge M. Moores, Presiding

146-1  8:00 AM  McKenzie, D.P.*: PLATE TECTONICS AT 50

146-2  8:20 AM  Harrison, Mark*: WHEN DID PLATE TECTONICS INITIATE?

146-3  8:40 AM  Windley, Brian F.*; Kusky, Timothy M.; Polat, Ali: THE ONSET OF PLATE TECTONICS IN THE EOCARCHIAN

9:00 AM  INTRODUCTION OF PENROSE MEDALIST, BY ROBERT J. STERN

146-4  9:05 AM  Condie, Kent C.*: PENROSE MEDAL: THE EVOLUTION OF PLATE TECTONICS ON PLANET EARTH: TWO LITHOSPHERIC TRANSITIONS IN THE LAST 4 GYR

146-5  9:25 AM  Wernicke, Brian*; Price, Jason B.: GREAT NORMAL FAULTS AND THEIR ROLE IN ACCOMMODATING THE RISE OF COLLISIONAL MOUNTAIN BELTS

146-6  9:40 AM  Anderson, Thomas H.*: OROGENESIS: COLLISION, PLATE CAPTURE, MANTLE WAVES, DYNAMIC TOPOGRAPHY AND TECTONIC DUNKS - CAUSES, CHARACTERISTICS, AND MANIFESTATIONS

9:55 AM  BREAK

146-7  10:15 AM  Stock, Joann M.*: EVOLUTION OF PACIFIC BASIN PLATES AND BOUNDARIES: CURRENT KNOWLEDGE AND REMAINING MYSTERIES

146-8  10:35 AM  Schellart, Wouter P.*: SUBDUCTION DYNAMICS, CORDILLERAN MOUNTAINS AND BACKARC BASINS

146-9  10:55 AM  Plank, Terry A.*; Malinverno, Alberto; Aiuppa, Alessandro: CARBON RECYCLING AT SUBDUCTION ZONES

146-10 11:15 AM  Kay, Suzanne Mahlburg*: THE EVOLUTION OF AN ARDENGAN MARGIN: A MAGMATIC AND TECTONIC VIEW FROM THE CENTRAL AND SOUTHERN ANDES

146-11 11:30 AM  Pazzaglia, Frank*: TECTONIC GEOMORPHOLOGY INSIGHTS TO FRONTIER RESEARCH IN PLATE TECTONICS WITH EXAMPLES FROM PLATE BOUNDARY AND PLATE INTERIOR SETTINGS

146-12  11:45 AM  Swanson-Hysell, Nicholas L.*; Macdonald, Francis; Park, Yuem; Jagoutz, Oliver; Godderis, Yves: PLATE TECTONIC DRIVEN CHANGES IN PLANETARY WEATHERABILITY AS THE LONG-TERM CONTROL OF EARTH’S CLIMATE STATE

SESSION NO. 147

T5. Karst Processes and Speleology (GSA Karst Division)

8:00 AM, Indiana Convention Center, Room 130-131

Angel A. Garcia, Angel A. Acosta Colon and Joshua M. Feinberg, Presiding

147-1  8:00 AM  Kambesis, Patricia N.*: CAVE AND KARST DEVELOPMENT OF THE JUDAS–AGUADA COASTAL PLAIN, SANCTI SPIRITUS, CUBA (Invited Presentation)

147-2  8:20 AM  Acosta Colon, Angel A.*: GEOMETRICAL CHARACTERIZATION OF THE CABACHUELAS NATURAL RESERVE CAVE SYSTEM

147-3  8:35 AM  Myerslie, John E.*; Lace, Michael J.; Albury, Nancy; Myroie, Joan R.: MID-QUATERNARY SEA-LEVEL HIGHTANDS IN THE BAHAMIAN ARCHIPELAGO: EVIDENCE FROM KARST DENUDATION AND FLANK MARGIN CAVE POSITION

147-4  8:50 AM  Austermann, Jacqueline*; Creveling, Jessica R.; Dutton, Andrea: THE CONTRIBUTIONS OF KARST ISOSTASY, GLACIAL ISOSTATIC UPLIFT, AND DYNAMIC TOPOGRAPHY TO THE ELEVATION OF THE TRAIL RIDGE, FL

147-5  9:05 AM  Ofate-Angulo, Guillermo*; Arroyo-Cabales, Joaquin; Montellano Ballesteros, Marisol; Valiente-Banuet, Alfonso: EXCAVATIONS AND FOSSIL COLLECTIONS FROM TLAPACOYA AND LOLTUN CAVES, MEXICO

147-6  9:20 AM  Jenson, Aubri*: Schwartz, Benjamin; Li, Yuxia; Gao, Yongli: THE IMPLICATIONS AND LIMITATIONS OF PHERATIC OVERGROWTHS OF SPELEOTHEMS AS SEA LEVEL INDICATORS: QUINTANA ROO, MEXICO

9:35 AM  BREAK

147-7  9:50 AM  Gao, Yongli*; Rowe, Harry; Springer, Gregory; Li, Yuxia; Buckles, Jessica; Ray, Christopher J.; Cheng, Hai; Edwards, Lawrence: MILLENNIAL-SCALE CLIMATE VARIABILITY IN THE PAST 600,000 YEARS BASED ON HIGH-RESOLUTION SPELEOTHEM RECORDS FROM EASTERN NORTH AMERICA

147-8  10:05 AM  Balbas, Andrea*; Farley, Kenneth A.: HELIUM RETENTION IN SPELEOTHEMS AND ITS INFERENCES FOR POTENTIAL U/TH-HE AGE DATING

147-9  10:20 AM  Conner, Garre A.*: THE MITCHELL AQUIFER KARST HYDROSTRATIGRAPHY CORRELATED WITH EROSIONAL HISTORY OF THE SPRINGVILLE ESCARPMENT IN INDIANA

147-10 10:35 AM  Tao, Xiaowan*; Ma, Debo; Chen, Xiuyan: HORIZONTAL AND VERTICAL EVOLUTION PROCESS OF THE ORDOVICIAN CARBONATE KARST RESERVOIRS IN NORTHERN TARIM BASIN, NW CHINA


147-12  11:05 AM  Burgess, Sarah A.*; Sadowsky, Ira D.; Dore, Michael J.: FIELD EXPERIMENT SHOWS MANGANESE-OXIDE AEROSOL DEPOSITION NEAR CAVE STREAM

147-13  11:20 AM  Jeffery, David L.*; Lucas, Philip C.: PALEO GHOST-ROCK KARSTIFICATION AT WATER SINKS CAVE REEF, LATEST SILURIAN KEYSER FORMATION, VIRGINIA

147-14  11:35 AM  Davies, Gareth James*: SUBAERIALLY-EXPOSED PALEOZOIC CARBONATES: KARST, OR PALEOKARST?
SESSION NO. 148
T12. Communicating Geologic Hazard and Risk: Sharing Successes, Failures, and Lessons Learned (GSA Environmental & Engineering Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division; GSA Geophysics and Geodynamics Division; GSA Karst Division)

8:00 AM, Indiana Convention Center, Room 134

Stephen L. Slaughter, Matthew M. Crawford and William J. Burns, Presiding

148-1  8:00 AM  Jaramillo-Nieves, L.G.*; COMUNICATING SEISMIC HAZARDS TO THE GENERAL PUBLIC WITH THE ARTS AND LOCAL HISTORY IN PUERTO RICO

148-2  8:15 AM  Okumura, Koji*; COMMUNICATION ON EARTHQUAKE HAZARDS AND RISKS IN JAPAN SINCE 1995 KOBE EARTHQUAKE

148-3  8:30 AM  MacPherson-Kutsenky, Carson*; Brand, Brittany D.; Lindell, Michael K.; USING ACTIVE-LEARNING AND GOAL-SETTING STRATEGIES TO PROMOTE HAZARD AWARENESS AND PREPAREDNESS (Invited Presentation)

148-4  8:50 AM  Kirschbaum, Dalia*; Stanley, Thomas; Emberson, Robert; Juang, Carolina; NEW APPROACHES TO LANDSLIDE HAZARD AND RISK ASSESSMENT LEVERAGING REMOTE SENSING AND CITIZEN SCIENCE

148-5  9:05 AM  Crawford, Matthew M.; Haneberg, William C.; Wang, Zhenning; Lynch, Michael J.; Carpenter, N. Seth; LANDSLIDE AND EARTHQUAKE HAZARD ASSESSMENT AND COMMUNICATION IN KENTUCKY


148-7  9:40 AM  Reid, Mark E.*; Godt, Jonathan W.; LaHusen, Richard G.; Slaughter, Stephen L.; Badger, Thomas C.; WHEN AVOIDANCE IS NOT AN OPTION: LESSONS FROM MONITORING THE OSO LANDSLIDE DURING RECOVERY OPERATIONS

148-8  10:00 AM  Slaughter, Stephen L.*; COMMUNICATING LANDSLIDE HAZARDS TO THE MEDIA, PUBLIC, AND EMERGENCY MANAGERS: LESSONS LEARNED FROM THE RATTLESTUNE HILLS LANDSLIDE, YAKIMA COUNTY, WASHINGTON


148-10 10:40 AM  Wooten, Richard M.*; Cattanach, Bart L.; Bauer, Jennifer B.; COMMUNICATING HAZARDS AND RISK IN REACTIVE AND PROACTIVE ENVIRONMENTS: EMERGENCY LANDSLIDE RESPONSE AND LANDSLIDE HAZARD MAPPING (Invited Presentation)

148-11 11:00 AM  Sataer, Guzhaliyait*; Sultan, Mohamed; Gebremichael, Esayas; Emil, Mustafa Kemal; Yelich, John A.; LANDSLIDE DETECTION USING INSAR TECHNIQUES ALONG THE COASTAL BLUFF OF LAKE MICHIGAN

148-12 11:15 AM  Sturmer, Daniel M.*; Micander, Rachel E.; Ward, Dylan J.; DOCUMENTING MEGA-LANDSLIDES IN THE BASIN AND RANGE USING THE MYHAZARDS AND MYPLAN WEB MAPPING APPLICATIONS

148-13 11:30 AM  Levine, Norman S.*; Beutel, Erin K.; Jaume, Steven C.; Ali, K. Adem; Callahan, Timothy J.; LESSONS FROM THE LOWCOUNTRY HAZARDS CENTER: COMMUNICATING NATURAL HAZARD RISK TO DIVERSE POPULATIONS

148-14 11:45 AM  Khatun, Mahmuda*; Hossain, A.T.M. Shakhatwar; Karim, Mir Fazul; LANDSLIDE SUSCEPTIBILITY MAPPING OF SOUTH-EASTERN RANGAMATI DISTRICT, BANGLADESH

SESSION NO. 149
T15. Urban Geochemistry (International Association of Geochemistry; GSA Environmental & Engineering Geology Division; GSA Limnogeology Division; GSA International Interdisciplinary Interest Group)

8:00 AM, Indiana Convention Center, Room 135

W. Berry Lyons and David T. Long, Presiding

149-1  8:00 AM  Gieré, Reto*; Sommer, Frank; Dietze, Volker; Baum, Anja; Gilge, Stefan; Sauer, Jan; Maschowski, Christoph; TIRE-WEAR PARTICLES AS A MAJOR COMPONENT OF MICROPLASTICS IN THE ENVIRONMENT

149-2  8:15 AM  O'Shea, Michael J.; Vann, David R.; Plante, Alain F.; Gieré, Reto; A COMPOSITIONAL COMPARISON OF URBAN ROAD DUST AND SOIL IN PHILADELPHIA, PENNSYLVANIA

149-3  8:30 AM  Gibson, James; Peters, Chaukim; Landes, Franziska C.; Mailloux, Brian J.; Ellis, Tyler; van Geen, Alexander*; SCREENING HOMES FOR SOURCES OF LEAD EXPOSURE CONDUCTED BY HIGH SCHOOL STUDENTS IN NEW YORK AND NEW JERSEY: COMBINING CITIZEN SCIENCE WITH SCIENCE EDUCATION TO STUDY URBAN GEOCHEMISTRY

149-4  8:45 AM  Huggler, Sadie M.D.*; Lemke, Lawrence D.; ANALYSIS OF TRACE METAL CONCENTRATIONS IN FLOODED URBAN GARDEN SOILS

149-5  9:00 AM  Merkley, Brett*; Farver, John R.; SOURCES AND PATHWAYS OF LEAD CONTAMINATION IN URBAN COMMUNITY GARDENS IN TOLEDO, OHIO

149-6  9:15 AM  Latimer, Jennifer C.*; Pigg, Joshua; Meunier, Caroline; Veldhuizen, Hannah J.; Lower, Brenda S.; Fox; Heather; LEAD BIOAVAILABILITY OF URBAN SOILS ESTIMATED USING A SIMULATED GASTRIC SOLUTION: EXAMPLES FROM TERRE HAUTE, INDIANAPOLIS, AND EAST CHICAGO

149-7  9:30 AM  Deeba, Emily A.*; Hasenmueller, Elizabeth A.; LAND USE CONTROLS ON GROUNDWATER INPUTS TO STREAMS

149-8  9:45 AM  Miller, David W.*; Rueger, Bruce F.; CHEMICAL ANALYSES OF SURFACE SEDIMENTS IN PROXIMITY TO A SOAKAWAY IN WARWICK PARISH, BERMUDA AND IMPLICATIONS TO RESIDENT AMPHIBIANS

149-9 10:00 AM  Coyte, Rachel*; Forst, Kirin Emlert; Mitch, William; Vengosh, Avner; GEOCHEMICAL FACTORS AFFECTING THE POTENTIAL FOR DISINFECTION BYPRODUCT FORMATION IN GROUNDWATER FROM NORTHEASTERN INDIA

149-10 10:15 AM  Mailloux, Brian J.; Ellis, Tyler; van Geen, Alexander*; Pennington, Gary H.*; DO SOILS SLOW THE TRANSPORT OF WINTER DEICING SALTS TO SHALLOW GROUNDWATER?

149-11 10:45 AM  McCray, John E.*; Gustafsson, Kyle; Silinski, Kimberly M.; Gilliom, Ryan Louise; Mcgovern, Jessica; Hogue, Terri S.; STORMWATER QUALITY RELATED TO INFILL REDEVELOPMENT IN DENVER: RESULTS OF STORM SEWER MONITORING

149-12 11:00 AM  Long, David T.*; Pijanowski, Bryan C.; IDENTIFYING THE INFLUENCE OF URBANIZATION ON LANDSCAPES THROUGH SEDIMENT-CHEMICAL CHRONOLOGIES AND BACKCAST MODELING

SESSION NO. 150
T29. New Voices in Geobiology I (GSA Geobiology & Geomicrobiology Division)

8:00 AM, Indiana Convention Center, Room 243

Victoria A. Petryshyn, Lydia S. Tackett, Rowan C. Martindale, Simon A.F. Darroch, Amanda Lynn Godbold and Anna M. Weiss, Presiding

150-1  8:00 AM  INTRODUCTORY REMARKS
SESSION NO. 151 $

T30. Geology and Fluid Dynamics of Cr, Ni-Cu-PGE, and PGE Mineralized Magmatic Plutonic Systems (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Society of Economic Geologists)

8:00 AM, Indiana Convention Center, Room 233

Edward M. Ripley, Chusi Li and Hong Zhong, Presiding

151-1 8:00 AM  Skulsiki, Thomas*; Jackson, Simon; Petts, Duane; Davis, Bill J.: MULTIPLE ORIGINS FOR NATIVE COPPER IN CONTINENTAL THOLEIITIC BASALTS, COPPERMINE RIVER GROUP, NUNAVUT, CANADA: CRYSTALLIZATION IN MAGMAS, AMYGDULES AND HYDROTHERMAL REMOBILIZATION

151-2 8:15 AM  Larsen, R.B.*: Sørensen, Bjørn Eke; Tollefsrud, Lars: FORMATION OF PGE-CU-NI DEPOSITS IN A HIGH-YIELDING LOWER CRUSTAL PLUMBING SYSTEM: THE SEILAND IGNEOUS PROVINCE, N-NORWAY

151-3 8:30 AM  Ethich, Joshua J.*; Frank, Mark R.: GOLD SEQUESTRATION IN CHALCOPYRITE, BORNITE, AND PYRRHOTITE AT MAGMATIC CONDITIONS

151-4 8:45 AM  Li, Chusi*: COMPUTATIONAL METHODS TO DETERMINE THE COMPOSITION OF MAGMAS ASSOCIATED WITH MAGMATIC SULFIDE DEPOSITS

151-5 9:00 AM  Lesher, C. Michael*: THE RISE AND FALL OF MAGMATIC NI-CU-PGE SULFIDES (Invited Presentation)

151-6 9:20 AM  Zuccarelli, Natascia*: Lesher, C. Michael; Houlé, Michel G.; Weston, Ryan J.: SULFIDE TEXTURAL VARIATIONS AND MULTIPHASE ORE EMPLACEMENT IN THE EAGLE’S NEST NI-CU-PGE DEPOSIT, MCAFaulds LAKE GREENSTONE BELT, SUPERIOR PROVINCE, NORTHERN ONTARIO, CANADA


151-8 9:50 AM  Benson, Erin*; Ripley, Edward M.; Li, Chusi: SULFUR ISOTOPE HETEROGENEITY IN DISSEMINATED SULFIDE MINERALIZATION: INSIGHTS FROM THE EAST EAGLE DEPOSIT, NORTHERN MICHIGAN

151-9 10:05 AM  Kerr, Andrew*: Naldrett, Tony: THE IMPACT OF VOISEY’S BAY: TWENTY FIVE YEARS FROM GREENFIELDS DISCOVERY TO A NEW TYPE EXAMPLE

151-10 10:40 AM  Andersen, Allen K.*; Zientek, Michael L.; Parks, Heather L.: BASE-METAL AND PGE DISTRIBUTION IN THE IRON MOUNTAIN AREA OF THE STILLWATER COMPLEX, MONTANA

151-11 10:55 AM  Smith, Joshua M.*; Ripley, Edward M.; Li, Chusi; Shirey, Steven B.; S, PB, AND OS ISOTOPIC STUDIES OF MASSIVE NI-CU-PGE SULFIDES HOSTED IN METASEDIMENTARY COUNTRY ROCKS OF THE MIDCONTINENT RIFT SYSTEM, USA

151-12 11:10 AM  Bai, Ting-Jie; Zhong, Hong*; Hu, Rui-Zhong; Zhu, Wei-Guang; Hu, Wen-Jun: COMPOSITION OF THE CHILLED MARGINAL ROCKS OF THE PANZHIIHUA LAYERED INTRUSION, EMEISHAN LARGE IGNEOUS PROVINCE, SW CHINA: IMPLICATIONS FOR PARENTAL MAGMA COMPOSITIONS, SULFIDE SATURATION HISTORY, AND Fe–Ti OXIDE MINERALIZATION

151-13 11:25 AM  Childress, Tristan*: Simon, Adam C.; Reich, Martin; Barra, Fernando; Bindeman, Ilya N.: TRADITIONAL AND NON-TRADITIONAL STABLE ISOTOPES FROM FIVE EL LACO IRON OXIDE ORE BODIES INDICATE A MAGMATIC/MAGMATIC-HYDROTHERMAL GENESIS WITH VARIABLE ALTERATION BY METEORIC WATER
SESSION NO. 152 $

T32. Energy and Mineral Resources of the Illinois Basin I (GSA Energy Geology Division; GSA Environmental & Engineering Geology Division; GSA Geology and Society Division; GSA Continental Scientific Drilling Division; Society of Economic Geologists)

8:00 AM, Indiana Convention Center, Room 145

Maria D. Mastalerz, Liliana Lefticariu and Allan Kolker, Presiding

8:00 AM

INTRODUCTORY REMARKS

152-1  8:10 AM  Santiago Torres, Alejandra*; Grammer, G. Michael; Prezbindowski, Dennis; Havens, Jonathan J.: SIGNIFICANCE OF MICROBIAL BINDING IN SILURIAN FOREREEF SLOPE DEPOSITS AT PIPE CREEK JR. QUARRY, INDIANA

152-2  8:25 AM  Dyson, Jacob R.*; Rimmer, Susan M.; Elrick, Scott D.: GEOCHEMISTRY AND ORGANIC PETROLOGY OF THE ANNA SHALE (PENNSYLVANIAN) AND PYRITE "SUNS" IN SOUTHWESTERN ILLINOIS

152-3  8:40 AM  Kanderes, Stuart M.*; Hofmeister, Anne; Merriman, Jesse; Whittington, Alan: THE EFFECTS OF TEMPERATURE DEPENDENT THERMAL PROPERTIES IN MODELING GEOTHERMAL GEOTHERMAL GEOMETERS OF THE ILLINOIS BASIN

152-4  8:55 AM  Williams-Stroud, Sherilyn*; Leetaru, Hannes E.: GEOLOGICAL CHARACTERIZATION OF SEISMICITY IN THE ILLINOIS BASIN

152-5  9:10 AM  Ellett, Kevin M.*; Okwen, Roland T.: CAN CO2 ENHANCED OIL RECOVERY GIVE NEW LIFE TO ILLINOIS BASIN FIELDS?

152-6  9:25 AM  Henderson, Timothy C.*; Fekete, Jack W.; Ridgway, Kenneth D.; Johnston, Cliff T.; Schultheiss, Nathan C.; Clayton, Bryan: INTEGRATED RESERVOIR CHARACTERIZATION FOR CHEMICAL ENHANCED OIL RECOVERY, TAR SPRINGS FORMATION, ILLINOIS BASIN, U.S.A

152-7  9:40 AM  Swezey, Christopher S.*; Hatch, Joseph R.; Brennan, Sean T.; East, Joseph A.; Repetski, John E.; Rowan, Elisabeth L.: TEMPORAL AND SPATIAL DISTRIBUTION OF PETROLEUM SOURCE ROCKS IN THE ILLINOIS BASIN (Invited Presentation)

10:00 AM BREAK

152-8  10:15 AM  Moore, Myles T.; Whyte, Colin; Vinson, David S.; Darrah, Thomas*: THE EVOLUTION OF PETROLEUM SYSTEMS AND FLUID FLOW IN THE ILLINOIS BASIN (Invited Presentation)

152-9  10:35 AM  Greb, Stephen F.*; Eble, Cortland F.: ILLINOIS BASIN COAL RESOURCES AND MINING GEOLOGY

152-10  10:50 AM  Eble, Cortland F.*; Greb, Stephen F.: PALYNOLOGICAL RECONNAISSANCE OF LOWER AND MIDDLE PENNSYLVANIAN STRATA IN THE EASTERN INTERIOR (ILLINOIS) BASIN, USA

152-11  11:05 AM  Kolker, Allan*; Lefticariu, Liliana; Mastalerz, Maria; Scott, Anne M.; Drobnia, Agnieszka; Scott, Clint: MERCURY REMOVAL IN ILLINOIS BASIN COALS BY COAL PREPARATION

152-12  11:20 AM  Mastalerz, Maria D.*; Drobnia, Agnieszka; Rupp, John A.: POTENTIAL OF ILLINOIS BASIN COALS FOR UNDERGROUND COAL GASIFICATION

SESSION NO. 153 $

T38. Interdisciplinary Investigations of Mantle-Crustal Mass Transfer (GSA Geophysics and Geodynamics Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)

8:00 AM, Indiana Convention Center, Room 140

Marek Locmelis, Steve Gao, Kelly H. Liu and Ricardo David Arevalo Jr., Presiding

153-1  8:00 AM  Holt, Benjamin D.*; Karlstrom, Karl E.; Crossey, Laura J.; Darrah, Thomas; Whyte, Colin; Gonzales, David A.; Burch, Sara J.: APPLICATION OF ‘HE/HE, CO2, FLUX MEASUREMENTS, AND HYDROCHEMICAL ANALYSES TO ASSESS THE HYDROLOGY AND MANTLE-TO-SURFACE CONNECTIONS OF THE WESTERN SAN JUAN MOUNTAINS GEOTHERMAL SYSTEM OF COLORADO

153-2  8:15 AM  Romano, Valentina*; Gregg, Patricia: THREE-DIMENSIONAL MANTLE MELT GENERATION, MIGRATION AND EXTRACTION AT THE QUEBRADA-DISCOVERY-GOFAR FRACTURE ZONES ON THE SOUTHERN EAST PACIFIC RISE

153-3  8:30 AM  Gao, Stephen S.*; Liu, Kelly H.: MAGMATIC DIKING AND UNDERPLATING BENEATH THE HOGGAR SWELL, ALGERIA REVEALED BY P-TO-S CONVERSIONS

153-4  8:45 AM  Liu, Lijun*: Zhou, Quan: ON THE ORIGIN AND EVOLUTION OF INTRAPLATE VOLCANISM: THE CASE FOR YELLOWSTONE (Invited Presentation)

9:05 AM BREAK

153-5  9:20 AM  Locmelis, Marek*; Moroni, Marliena; Fiorentini, Marco L.: THE ROLE OF CARBONATED HYDROUS FLUIDS IN THE TRANSPORT OF METALS IN THE DEEP EARTH

153-6  9:35 AM  Carter, Matthew*; Zimmermann, Mark; Teyssier, Christian: AN EXPERIMENTAL INVESTIGATION INTO FLUID TRANSFER MECHANISMS IN THE MANTLE LITHOSPHERE

153-7  9:50 AM  Kempton, Pamela D.*; Mathur, Ryan; Zweifelhofer, Grant: CU-ISOTOPE HETEROGENEITY IN THE LITHOSPHERIC MANTLE: A ROLE FOR SUBDUCTION-DERIVED FLUIDS?

153-8  10:05 AM  Tang, Ming*; Lee, Cin-Ty; Chen, Kang; Erdman, Monica; Costin, Gelu: BUILDING CONTINENTS IN MAGMATIC OROGENS: Nb/Ta SYSTEMATICS IN ARC MAGMA DIFFERENTIATION AND THE ROLE OF ARCLOGITES (Invited Presentation)

10:25 AM BREAK

153-9  10:40 AM  Song, Jianguo; Liu, Kelly H.*; Gao, Stephen S.; Sun, Muchen; Yu, Youqiang; Kong, Fansheng; Mickus, Kevin L.: CRUSTAL STRUCTURE AND SUBSIDENCE MECHANISM OF THE WILLISTON BASIN FROM RECEIVER FUNCTIONS

153-10  10:55 AM  Dumond, Gregory*; Williams, Michael L.: EXHUMED RECORD OF CRUST-MANTLE INTERACTION AS A MECHANISM FOR UHT METAMORPHISM IN A THICKENED DEEP CRUSTAL HOT ZONE

153-11  11:10 AM  Hacker, Bradley*; Kelemen, Peter B.: MANTLE-CRUSTAL MASS TRANSFER BY RELAMINATION (Invited Presentation)

SESSION NO. 154 $

T46. From Local to Global—Why Geology Matters for Human Health (GSA Geology and Health Division)

8:00 AM, Indiana Convention Center, Sagamore Ballroom 6

Bethany Overfield, William C. Haneberg, Amy Wolfe, Saugata Datta and Robert B. Finkelman, Presiding

8:00 AM INTRODUCTORY REMARKS

Tuesday, 6 November 2018

4–7 November • Indianapolis, Indiana, USA

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**SESSION NO. 155 ✈**

**T53. High-Resolution Datasets for Fluvial and Hillslope Processes and Landforms: Frontiers of Remotely Sensed Data**

(GSA Quaternary Geology and Geomorphology Division; GSA Geoinformatics Division; GSA Sedimentary Geology Division; GSA Environmental & Engineering Geology Division)

8:00 AM, Indiana Convention Center, Room 242

Quinn W. Lewis, Christopher E. Sheehan, Jeffrey M. Valenza, Matthew Massey and Jason M. Dorch, Presiding

155-1  8:00 AM  Konsoer, Kory*; Richards, Derek: A NEW CONCEPTUAL MODEL FOR NECK CUTOFFS REVEALED BY HIGH-RESOLUTION BATHYMETRIC DATASETS (Invited Presentation)

155-2  8:20 AM  Forte, Adam M.*; Whipple, Kelin X.: OPEN SOURCE TOOLS FOR TECTONIC GEOMORPHOLOGY: THE TOPOGRAPHIC ANALYSIS KIT (TAK) AND DIVIDETOOLS (Invited Presentation)

155-3  8:40 AM  Gallen, Sean F.: DRAINAGE BASIN DYNAMICS AND TRANSIENT LANDSCAPE EVOLUTION IN DECAY-PHASE OROGENS

155-4  8:55 AM  Best, Jim*; Strick, Rob; Ashworth, Phil; Sambrook Smith, Gregory; Nicholas, Andrew; Lane, Stuart N.; Parsons, Dan; Simpson, Chris; Unsworth, Chris; Dale, Jonathan: ASSESSING BEDFORM DYNAMICS AND BEDLOAD SEDIMENT FLUX IN SANDY BRAIDED RIVERS USING AIRBORNE AND SATELLITE IMAGERY: A COMPARISON OF AERIAL, DRONE AND CUBESAT APPROACHES (Invited Presentation)

9:15 AM  BREAK

155-5  9:30 AM  Zimmerer, Matthew*; Ross, Jake: USING DRONES TO UNDERSTAND FLUVIAL SYSTEMS: LESSONS LEARNED FROM A YEAR OF FLYING ALONG THE RIO GRANDE

155-6  9:45 AM  Lewis, Quinn W.*; Edmonds, Douglas A.; Yanites, Brian J.: CHARACTERIZING EROSIONAL “WOOD GOUGES” ON NEAR-CHANNEL RIVER FLOODPLAINS WITH UAS AND LIDAR

155-7  10:00 AM  Huntley, David H.; Bobrowsky, Peter; MacLeod, Roger; Roberts, Nicholas J.: NEW INSIGHTS INTO FORM AND FUNCTION OF VERY SLOW-MOVING LANDSLIDES FROM BATHYMETRIC SURVEYS IN THE THOMPSON RIVER VALLEY, BRITISH COLUMBIA

155-8  10:15 AM  Kang, Ranbir Singh*: DREAMS OF STREAM VIEWS-3D RIVERSCAPES USING TERRESTRIAL LIDAR

10:30 AM  BREAK

155-9  10:45 AM  Valenza, Jeffery M.*; Edmonds, Douglas A.; Roy, Samapriya; Hwang, Tae Hee: FINGERPRINTING RIVER AVULSIONS

155-10  11:00 AM  Brasington, James*: THE OPPORTUNITIES AND CHALLENGES OF MODELING WATERSHED-SCALE RIVER MORPHODYNAMICS WITH SFM PHOTOGRAMMETRY

155-11  11:15 AM  Hadley, Daniel R.*; Grams, Paul E.; Kaplinski, Matt: INTEGRATING HIGH-RESOLUTION VEGETATION DATA AND 14 YEARS OF TOPOGRAPHIC SURVEYS TO QUANTIFY IMPACTS TO SANDBAR CAMPSITES IN GRAND CANYON NATIONAL PARK

155-12  11:30 AM  Massey, Matthew A.*; Dorch, Jason M.: CORRELATION OF FLUVIAL TERRACES AND STRATIGRAPHY USING DIGITAL ELEVATION DATA, RIVER LONG PROFILES, AND HISTOGRAM ELEVATION ANALYSIS: AN EXAMPLE FROM THE LICKING RIVER IN NORTHERN KENTUCKY
SESSION NO. 156

T54. Quantifying Geomorphic Processes and Rates of Landscape Evolution I (GSA Quaternary Geology and Geomorphology Division)

8:00 AM, Indiana Convention Center, Room 136-137

Lydia M. Staisch, Arjun M. Heimsath and Paul R. Bierman, Presiding

8:00 AM

INTRODUCTORY REMARKS

156-1 8:05 AM Lai, Wen*; Hu, Xiymian; Garzanti, Eduaro; Sun, Gaoyuan; Garzoni, Carmala N.; Boudagher-Fadel, Marcell; Ma, Aini: INITIAL GROWTH OF THE NORTHERN LHASAPLANO IN THE EARLY LATE CRETACEOUS (~ 92 MA)

156-2 8:20 AM Pundir, Shailendra*: INTERPLAY OF TOPOGRAPHY AND EXHUMATION IN THE TRANS-HIMALAYA

156-3 8:35 AM Eizenhöfer, Paul R.; McQuarrie, Nadine*; Ghoshal, Suryodoy; Ehlers, Todd A.: LINKING GEOMETRY AND LANDSCAPE EVOLUTION IN CENTRAL NEPAL OVER GEOLOGIC TIME THROUGH INTEGRATED THERMO-KINEMATIC AND SURFACE PROCESSES MODELING

156-4 8:50 AM Tomasek, Jan*: Kley, Jonas; Hindle, David: QUANTIFYING THE EGER GRABEN AND ITS SHOULders – SHOULD WE CONSIDER A ‘PHANTOM Rift’?

156-5 9:05 AM Midttun, Nikolay C.*; Niemi, Nathan A.; Babayan, Hektor; Igityan, Hayk; Gevorgyan, Mikayel: STRIKE-SLIP FAULTING DOMINATES THE RESPONSE OF THE LESSER CAUCASUS TO THE ARABIA-EURASIA CONTINENT COLLISION

156-6 9:20 AM Harbert, Sarah A.*; Duvall, Alison R.; Flowers, Rebecca; Tucker, Gregory E.; Upton, Phaedra; O’Sullivan, Paul B.: EXHUMATION, MOUNTAIN BUILDING, AND LANDSCAPE EVOLUTION ACROSS THE MARLBOROUGH FAULT SYSTEM, SOUTH ISLAND, NEW ZEALAND

156-7 9:35 AM Stanley, Jessica R.*; Flowers, Rebecca M.: THE ROLE OF RIVER NETWORK GEOMETRY AND MANTLE PROCESSES ON EROSION PATTERNS IN SOUTHERN AFRICA (Invited Presentation)

9:55 AM BREAK

156-8 10:10 AM Buford Parks, Victoria M.*; McQuarrie, Nadine; Eizenhöfer, Paul R.; Ehlers, Todd A.: STRUCTURAL AND LANDSCAPE EVOLUTION IN THE CENTRAL BOLIVIAN ANDES: INSIGHTS FROM FLEXURAL, THERMO-KINEMATIC, AND LANDSCAPE MODELLING


156-10 10:40 AM Murray, Kendra E.*; Clark, Marin K.; Niemi, Nathan A.; Bierman, Paul R.: THE RESPONSE OF THE ROCKY MOUNTAIN FRONT RANGE DURING SUPERCONTINENT RODINIA BREAKUP (Invited Presentation)

156-11 11:00 AM Darling, Andrew L.*; Whipple, Kelin X.; Heimsath, Arjun M.; Bierman, Paul R.: STRIKE-SLIP FAULTING HISTORY OF THE GRAND CANYON AND INCISION RATES

156-12 11:15 AM Abbott, Low D.*; Flowers, Rebecca M.; Metcalfe, James R.; Hieth, Coleman; McCorkel, Noah; Schanock, Evan; Gonzalez, Nicole: INVESTIGATING A BULL’S EYE OF LATE MIocene EXHUMATION IN COLORADO’S ELK AND WEST ELK MOUNTAINS USING (U-TH)/HE THERMOCHRONOLOGY

156-13 11:30 AM Pesek, Maria E.*; Perez, Nicholas D.; Melges, Andrew: EXHUMATION OF THE OREGON CASCADES: TESTING THE ROLE OF LITHOSPHERIC AND SURFACE PROCESSES ON OROGEN EVOLUTION

SESSION NO. 157

T61. Fluvial Geomorphology of Post-Glacial Rivers (GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)

8:00 AM, Indiana Convention Center, Room 138-139

Karen B. Gran, Amanda Henck Schmidt and Matthew Cross Jengers, Presiding

8:00 AM

INTRODUCTORY REMARKS

157-1 8:00 AM Fitzpatrick, Faith A.; Gran, Karen B.: THE RESPONSE OF POST-Glacial LANDFORMS AND HISTORICAL HUMAN ALTERATIONS ON BEHAVIOR, RESPONSE, AND EVOLUTION OF FLUVIAL SYSTEMS IN THE GREAT LAKES AND UPPER MISSISSIPPI RIVER BASINS (Invited Presentation)

157-2 8:20 AM Pico, Tamar*: Bierman, Paul R.; Mitrovica, Jerry X.; Perron, J. Taylor; Ferrier, Ken L.; Braun, Jean: THE RESPONSE OF U.S. EAST COAST RIVERS TO GLACIAL-ISOSTATIC ADJUSTMENT

157-3 8:35 AM Anderson, Justin*: Holbrook, John: THE RELATIVE IMPACT OF LAURENTIDE DISCHARGE AND FOREBUDGE MIGRATION ON THE UPS AND DOWNS OF THE MISSOURI RIVER PROFILE

157-4 8:50 AM Phillips, Zachary*: LANDSCAPE EVOLUTION MODELING OF GIA-ASSISTED CHANNEL AVULSIONS IN LOW RELIEF RIVERINE LANDSCAPES

157-5 9:05 AM Schanz, Sarah A.*; Montgomery, David R.; Collins, Brian D.; Duvall, Alison R.: GLACIATION THROUGH THE LENS OF STRATH TERRACEs (Invited Presentation)

157-6 9:25 AM Gran, Karen B.; Finnegan, Noah J.; Johnson, Andrea L.; Belmont, Patrick; Wittkop, Chad; Rittenour, Tammy: GSA QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION KIRK BRYAN AWARD: LANDSCAPE EVOLUTION, VALLEY EXCAVATION, AND TERRACE DEVELOPMENT FOLLOWING ABRupt POST-Glacial BASE-LEVEL FALL

9:55 AM BREAK

157-7 10:10 AM Tranell, Lisa M.*; Rutte, Monique M.; Neundorff, Jeremy A.: POST-Glacial ERosion OF SANDSTONE CANYONS IN CENTRAL ILLINOIS

157-8 10:25 AM McCarville, Katherine*: A NEW LOOK AT THE IOWAN EROSION SURFACE AS A MEGAFLOOD LANDSCAPE

157-9 10:40 AM Snyder, Noah P.*: LONgITUDINAL VARIATIONS IN CHANNEL MORPHOLOGY IN POSTGLACIAL WATERSHEDS OF THE NORTHEASTERN UNITED STATES: IMPLICATIONS FOR CHANNEL RESPONSE TO DISTURBANCES (Invited Presentation)

157-10 11:00 AM Belmont, Patrick*: Kelly, Sara Ann; Call, Bruce C.: THE ROLE OF SEDIMENT SUPPLY IN THE MORPHOLOGY AND DYNAMICS OF A SAND BED ALLUVIAL RIVER

157-11 11:15 AM Grote, Todd*: A MODEL OF FLOODPLAIN EVOLUTION IN THE FORMERLY GLACIATED OHIO RIVER HEADWATERS OF NORTHEASTERN PENNSYLVANIA

157-12 11:30 AM Scholl, Nathan C.*; OHIO RIVER FLOODPLAIN DEVELOPMENT IN OHIO AND WEST VIRGINIA NEAR WELLS BOTTOM: GEOARCHAEOLOGICAL LANDSCAPE EVOLUTION MODELING

157-13 11:45 AM Donahue, Daniel*: Constantine, José Antonio; Pasternack, Gregory B.: UNRAVELLING THE ROLE OF VEGETATION IN THE AVULSION HISTORY OF GRAVEL-BED RIVERS

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SESSION NO. 158  $  
T64. Beyond EarthScope in the Eastern U.S.—What We’ve Learned and What Needs Doing Next (GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)

8:00 AM, Indiana Convention Center, Room 238-239

Seth Stein, G. Randy Keller, Reece P. Elling and Stephen Marshak, Presiding

158-1  8:05 AM  van der Pluijm, Ben*; Marshak, Stephen: THE MYSTERIOUS US MIDCONTINENT: A GEOLOGIC HISTORY PRESERVED IN NEGATIVE TOPOGRAPHY (Invited Presentation)

158-2  8:20 AM  Hopper, Emily*; Marzen, Rachel E.; Fischer, Karen M.; Shillington, Donna J.; Hawman, Robert B.: CONTINENTAL COLLISIONS DURING APPALACHIAN OROGENESIS AS REVEALED BY NEW GEOPHYSICAL OBSERVATIONS FROM THE SOUTHEASTERN U.S. (Invited Presentation)

158-3  8:35 AM  King, Scott D.*; Long, Maureen D.; Benoit, Margaret H.; Aragon, John C.: A MID-CRUSTAL SHEAR ZONE ASSOCIATED WITH RODINIA’S FORMATION: IS IT TOO SOON TO WIPE THE GRENVILLE FRONT LINEAMENT FROM MAPS? (Invited Presentation)

158-4  8:50 AM  Elling, Reece P.*; Stein, Seth; Stein, Carol A.; Keller, G. Randy; Barklage, Mitchell: IMPLICATIONS FOR THE GRENVILLE OROGENY AND ASSEMBLY OF RODINIA FROM GRAVITY ANOMALIES ALONG THE MIDCONTINENT RIFT AND GRENVILLE FRONT IN CANADA

158-5  9:05 AM  Neely, James S.*; Stein, Seth; Merino, Miguel; Adams, John: HAVE WE SEEN THE LARGEST EARTHQUAKES IN EASTERN NORTH AMERICA?

158-6  9:20 AM  Kolawole, Folarin*; Johnston, Candace; Chang, Jefferson C.; Marfurt, Kurt J.; Reches, Zev; Carpenter, Brett M.: CHARACTERIZATION OF PRE-EXISTING STRUCTURES IN THE BASEMENT OF OKLAHOMA WITH IMPLICATIONS FOR INDUCED SEISMICITY

9:35 AM  BREAK

158-7  9:50 AM  Powell, Christine*: Biryol, Berk C.: WHAT IS THE ORIGIN OF THE UPPER MANTLE LOW VELOCITY ZONE BELOW THE MISSISSIPPI EMBAYMENT?

158-8  10:05 AM  Xiao, Hongyu*; Song, Xiaodong; Marshak, Stephen: SURFACE WAVE TOMOGRAPHY FROM AMBIENT NOISE IN CENTRAL U.S. AND ITS IMPLICATIONS FOR ILLINOIS BASIN AND NEW MADRID SEISMIC ZONE

158-9  10:20 AM  DeLucia, Michael S.*; Marshak, Stephen; Guenther, William R.; Murphy, Benjamin S.; Egbert, Gary; Pavlis, Gary; Gilbert, Hersh; Hamburger, Michael W.; Chen, Chen; Yang, Xiaotao; Larson, Timothy; Rupp, John A.: MULTIDISCIPLINARY APPROACH TO CHARACTERIZE TECTONIC HISTORY OF THE MIDCONTINENT USA CRATONIC PLATFORM: THE OZARK PLATEAU - ILLINOIS BASIN BOUNDARY

158-10  10:35 AM  Barklage, Mitchell*: Stein, Seth; Stein, Carol A.; Keller, G. Randy; Marshak, Stephen; Hickman, John B.; Carpenter, N. Seth; Persaud, Patricia; Hatcher, Robert D.; Elling, Reece P.: BARSCOPE - EXTENDING EARTHSCOPE BETWEEN THE APPALACHANS AND THE ROCKIES

158-11  10:50 AM  Carpenter, N. Seth*; Hickman, John B.; Barklage, Mitchell; Keller, G. Randy; Wang, Zhenming; Stein, Seth A.; Ravat, Dhananjay: A SEISMIC EXPERIMENT TO INVESTIGATE MAJOR CRUSTAL-SCALE STRUCTURES IN EASTERN KENTUCKY AND TENNESSEE

158-12  11:05 AM  Hulett, Samuel*: THE PRECAMBRIAN IN OHIO: REASSESSING EXISTING MODELS AND THE NEED FOR NEW SEISMIC DATA

SESSION NO. 159

T83. Beyond the Numbers: Strategies for Inclusive Education Practices across the Geological Sciences II (American Geophysical Union; GSA Diversity in the Geosciences Committee; GSA Geoscience Education Division; National Association of Geoscience Teachers; National Earth Science Teachers Association; NTA (National Technical Association))

8:00 AM, Indiana Convention Center, Room 234

M. Brandon Jones, Felicia Davis, Marilyn J. Suter, Lina Patino, Lisa Rom and Amanda Adams, Presiding

159-1  8:05 AM  Davis, Felicia*: BUILDING HBCU PATHWAYS TO GEOSCIENCES (Invited Presentation)

159-2  8:25 AM  Mogk, D.W.*: PROFESSIONALISM IN THE GEOSCIENCES: CREATING LEARNING AND WORK ENVIRONMENTS THAT ENSURE SUCCESS FOR EVERYONE

159-3  8:40 AM  Weissmann, Gary S.*; Ilarra, Roberto A.; Howland-Davis, Michael; Lammey, Machiennvee V.: ACTIVATING BROADER DIVERSITY IN STEM – THE MULTICONTTEXT PATH TO REDEFINING HOW WE THINK ABOUT DIVERSITY, EQUITY, AND INCLUSION

159-4  8:55 AM  Beane, Rachel J.; Macdonald, R. Heather; McNeal, Karen S.: NATIONAL GEOSCIENCE FACULTY SURVEY RESULTS ON EDUCATION PRACTICES THAT SUPPORT DIVERSITY AND INCLUSION IN UNDERGRADUATE COURSES

159-5  9:10 AM  Rigs, Eric M.*; Callahan, Caitlin N.; Brey, James A.: RESEARCH ON ACCESS AND SUCCESS OF UNDER-REPRESENTED GROUPS IN THE GEOSCIENCES: RESULTS FROM THE COMMUNITY FRAMEWORK FOR GEOSCIENCE EDUCATION RESEARCH

159-6  9:25 AM  Williams, Billy M.*; Karsten, Jill; Stanley, Sabine; Harwell, David: ADVANCING ETHICS AND EQUITY IN THE EARTH AND SPACE SCIENCES-STRAATEGIES AND ACTIONS TO IMPACT DIVERSITY AND INCLUSION

9:40 AM  BREAK

159-7  9:55 AM  Chenz, Jason; Houlton, Heather R.*; Samuels, Dena: MIXED-REALITY SIMULATIONS TO DEVELOP CHAMPIONS FOR DIVERSITY IN GEOSCIENCES: CONCEPTUAL FRAMEWORKS AND THREE WAVES OF DATA

159-8  10:25 AM  Guardokus Fisher, Kathleen*: Dixon, P. Grady; Kaufman, Eric K.; Calagna, Oriana; Simmons, Denise R.; Brinkworth, Carolyn; Myles, LaToya: PREPARING GEOAUTSCIENTISTS TO LEAD DIVERSITY, EQUITY, AND INCLUSION CULTURAL CHANGES IN THE GEOLOGICAL SCIENCES: HEARTS OF GOLD

159-9  10:40 AM  Byl, Thomas D.*; Snow, Eleanor; Young, De Era; Oster, Jessica L.: PROMOTING DIVERSITY IN THE GEOSCIENCES THROUGH USGS PIPELINE PARTNERSHIPS

159-10  10:55 AM  Ormand, Carol J.*; Macdonald, R. Heather; Baer, Eric M.D.; Beane, Rachael J.; Hodder, Jan; McDaris, John R.; O'Connell, Kristin: DIVERSITY, EQUITY, AND INCLUSION: SAGE 2YC RESOURCES FOR THE GEOSCIENCE COMMUNITY

159-11  11:10 AM  Macdonald, R. Heather*; Baer, Eric M.D.; Beane, Rachel J.; Bragg, Debra; Emerson, Norlene R.; Hodder, Jan; Iverson, Ellen; McDaris, John R.; O'Connell, Kristin; Ormand, Carol J.: PROMOTING DIVERSITY, EQUITY, AND INCLUSION: ENGAGING SAGE 2YC FACULTY TO TRANSFORM GEOAUTSCIENCE IN TWO-YEAR COLLEGES

159-12  11:25 AM  Dahle, Robyn Miek*: Bisquerra, Rosemarie; Phelps, William; Drosler, Mary L.: USING GEOAUTSCIENCE RESEARCH INTERNSHIPS AS A BRIDGE FROM TWO-YEAR COLLEGES TO UNIVERSITY

11:40 AM  DISCUSSION
SESSION NO. 160 🌌
T94. Water Temperatures in Surface and Subsurface Hydrologic Systems: Controls, Applications, and Implications (GSA Continental Scientific Drilling Division; GSA Karst Division; GSA Hydrogeology Division; GSA Energy Geology Division)

8:00 AM, Indiana Convention Center, Room 133

Tyler V. King, Barret L. Kurylyk, Dylan J. Irvine and Laura K. Lautz, Presiding

160-1 8:00 AM Wilson, Alicia*: HEAT AS A TRACER FOR SUBMARINE GROUNDWATER DISCHARGE (Invited Presentation)

160-2 8:20 AM George, Cameron M.; Wilson, Alicia; Moore, Willard; White, Scott; Smoak, Erin: SUBMARINE GROUNDWATER DISCHARGE TO THE CONTINENTAL SHELF IN THE SOUTH ATLANTIC BIGHT

160-3 8:35 AM Paldor, Anner*; Aharonov, Einat; Katz, Oded: THERMAL-CIRCULATION IN CONFINED COASTAL AQUIFERS AND RESULTING DEEP SUBMARINE GROUNDWATER DISCHARGE

160-4 8:50 AM Kurylyk, Barret L.*; Bense, Victor F.; Irvine, Dylan J.: TRACING GROUNDWATER FLOW FROM THERMAL PROFILES: AN UNDERUTILIZED HYDROGEOLOGICAL METHOD

160-5 9:05 AM Kelley, Shari*: GROUNDWATER TEMPERATURE FLUCTUATIONS DURING AQUIFER RECOVERY IN THE BUCKMAN MUNICIPAL WELL FIELD, SANTA FE, NEW MEXICO

160-6 9:20 AM Heintz, Kevin*: Pohlmann, Karl; Healey, John; Hausner, Mark B.: AN APPLICATION OF DISTRIBUTED TEMPERATURE SENSING TO CHARACTERIZE FLOW IN A WELL COMPLEX DURING PUMPING

160-7 9:35 AM O’Connor, Michael T.*; Nicholaides, Kindra D.; Cardenas, Bayani; Neilson, Bethany T.; Jan, Ahmad; Coon, Ethan T.; Kling, George W.: IMPACT OF A DEPTH-VARIABLE ORGANIC MAT ON THAW AND GROUNDWATER FLOW IN CONTINUOUS PERMAFROST

9:50 AM BREAK

160-8 10:05 AM Briggs, Martin A.*; Dawson, Cian; Holmquist-Johnson, Christopher L.; Helton, Ashley M.; Barclay, Janet Rice; Day-Lewis, Frederick D.; Domanski, Marian: COMPREHENSIVE GEOLOCATION OF PREFERENTIAL GROUNDWATER DISCHARGES USING HEAT TRACING TECHNIQUES (Invited Presentation)

160-9 10:25 AM Glose, Thomas J.*; Lowry, Christopher S.; Hausner, Mark B.: LOW FLUX LIMITATIONS ON THE USE OF HEAT AS A TRACER IN GROUNDWATER-SURFACE WATER INTERACTIONS

160-10 10:40 AM Irvine, Dylan*; Briggs, Martin A.; Kurylyk, Barret L.: STREAMBED TEMPERATURES ARE TRANSIENT. HOW RELIABLE ARE VERTICAL FLUXES ESTIMATED FROM METHODS THAT ASSUME THAT THEY ARE CONSTANT?

160-11 10:55 AM Kelleher, Christa*; Zimmer, Margaret: WHAT CAUSES CHANGES TO STREAM TEMPERATURES: LEVERAGING PUBLICLY AVAILABLE STREAM TEMPERATURE DATASETS TO INTERPRET DRIVERS OF SPATIO-TEMPORAL VARIABILITY (Invited Presentation)

160-12 11:15 AM Kublik, Kristina*: Grasby, Stephen E.: CONTROLS ON PERENNIAL SPRING TEMPERATURE AND DISCHARGE IN HIGH LATITUDE REGION WITH THICK PERMAFROST

160-13 11:30 AM King, Tyler V.*; Neilson, Bethany T.: IDENTIFYING SOURCE AREAS FOR FLOW AND HEAT IN THE KUPARUK RIVER, ALASKA

SESSION NO. 161 🌌💰💰💰
T98. Satellite Remote Sensing Applications in Hydrology and Geology (GSA Hydrogeology Division; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division; GSA Environmental & Engineering Geology Division; GSA Geology and Society Division; GSA Limnogeology Division; GSA International Interdisciplinary Interest Group)

8:00 AM, Indiana Convention Center, Room 132

Richard H. Becker and Wondwosen Mekonnen Seyoum, Presiding

161-1 8:00 AM Thomas, Brian F.*: INFLUENCE OF NATURAL AND HUMAN DRIVERS TO GROUNDWATER STORAGE CHANGES

161-2 8:15 AM Sahour, Hossein*; Sultan, Mohamed; Abdelmohsen, Kareem; Karri, Sita; Gebreemichael, Essayas; Elibayumi, Tamer: ASSESSMENT OF THE SPATIO-TEMPORAL VARIATIONS IN GROUND WATER STORAGE USING DOWN-SCALED GRACE DATA

161-3 8:30 AM Kwon, Dongjae*: Seyoum, Wondwosen Mekonnen; Milewski, Adam M.: PREDICTION OF GROUNDWATER LEVEL ANOMALY BASED ON GRACE AND WATER-BUDGET VARIABLES USING MACHINE LEARNING IN THE GLACIAL AQUIFER SYSTEM

161-4 8:45 AM Abdelmohsen, Kareem*; Sultan, Mohamed; Save, Himanshu; Ahmed, Mohamed; Emil, Mustafa Kemal: USE OF GEOPHYSICAL, REMOTE SENSING, AND FIELD DATA TO INVESTIGATE THE NATURE OF GROUNDWATER FLOW REGIMES IN LARGE AQUIFERS: THE NUBIAN SANDSTONE AQUIFER SYSTEM (NSAS) OF NE AFRICA

161-5 9:00 AM Carlson, Grace*: Shirizaei, Manoochehr; Othman, Chandra; Walrath, Theressa; Susanna: SEASONAL AND LONG-TERM CRUSTAL STRESS MODULATION DUE TO GROUNDWATER UNLOADING AND AQUIFER COMPACTION DURING THE 2007-2010 DROUGHT IN CALIFORNIA INFERRED FROM INSAR

161-6 9:15 AM Abotalib, Abotalib Z.*; Heggy, Essam: POTENTIALS OF VHF SOUNDING RADARS FOR LARGE-SCALE CHARACTERIZATION OF GROUNDWATER MOURNUNG UNDER HYPER-ARID CONDITIONS

161-7 9:30 AM Musckett, Reginald Reed*: THE IMPORTANCE OF L-FREQUENCY SAR VOLUME SCATTERING ON LOWLAND TUNDRA IN PERIGLACIAL AND PERMAFROST TERRAINS

9:45 AM LIGHTNING TALKS - 2 MINUTE INTRODUCTIONS OF POSTERS IN COMPANION SESSION

10:00 AM BREAK

161-8 10:15 AM Pankratz, Hannah G.*; Sultan, Mohamed; Al Sefry, Saleh; Al-Harbi, Hassan; Abdelmohsen, Kareem; Emil, Mustafa Kemal: IDENTIFYING NEAR SURFACE SALT DIAPIRS IN ARID ENVIRONMENTS USING OPTICAL AND RADAR REMOTE SENSING

161-9 10:30 AM Milliner, J.P.L.*: TRACKING THE WEIGHT OF HURRICANE HARVEY’S STORMWATERS USING GPS DATA

161-10 10:45 AM Kelly, Joshua T.*; McSweeney, Sarah; Shulmeister, James; Gontz, Allen: THE IMPACT OF CLIMATE CHANGE ON SHORELINE DYNAMICS ALONG SOUTHEAST QUEENSLAND, AUSTRALIA

161-11 11:00 AM Becker, Richard H.*; Duhm, Dustin: INTEGRATING UNMANNED AERIAL SYSTEM (UAS) BASED SPECTROMETER MEASUREMENTS WITH AIRBORNE AND SATELLITE DATA FOR MEASURING WATER QUALITY

161-12 11:15 AM Mihindukulasooriya, Lorita*: Mabry, Brenna S.; Ortiz, Joseph D.: MONITORING THE WATER QUALITY AND THE TEMPORAL VARIABILITY OF PHYTOPLANKTON USING REFLECTANCE SPECTROSCOPY TO UNDERSTAND HARMFUL ALGAL BLOOMS IN THE OLD WOMAN CREEK NATIONAL ESTUARINE RESERVE, OHIO
Tuesday, 6 November 2018

SESSION NO. 162

T119. Extinction and Survival across the Triassic-Jurassic Boundary (GSASedimentary Geology Division; Paleontological Research Institution; Paleontological Society)

8:00 AM, Indiana Convention Center, Room 141
Shane Schoepfer and Thomas J. Algeo, Presiding

162-1 8:00 AM Whiteside, Jessica H.*; Fox, Calum P.; Yager, Joyce; Cui, Xingqian; Summons, Roger E.; Olsen, Paul E.; Grice, Kilian: THE END-TRIASSIC INITIAL CARBON ISOTOPIC EXCURSION: NOT YOUR GRANDPA'S CIE (Invited Presentation)

162-2 8:15 AM Fujisaki, Wataru*; Matsui, Yohei; Ananuma, Hisashi; Sawaki, Yusuake; Suzuki, Katsuhiro; Maruyama, Shigenori: GLOBAL Perturbations of Carbon Cycle during the Triassic-Jurassic Transition Recorded in the Mid-Pantanalassa

162-3 8:30 AM Schoepfer, Shane*; Algeo, Thomas J.; Shen, Jun: Precursors: Environmental Disturbance in the Pantanalassa Realm Prior to the TJB

162-4 8:45 AM van de Schootbrugge, Bas*; Lindström, Sofie: MUDDY WATERS: TRIASSIC-JURASSIC SOIL LOSS, EXTINCTION, AND ANOxia (Invited Presentation)

162-5 9:00 AM Lucas, Spencer G.*; Tanner, Lawrence H.: MULTIPLE, MAJOR EXTINCTIONS OF THE LATE TRIASSIC

162-6 9:15 AM Corsetti, Frank A.*; Petryshyn, Victoria A.; Greene, Sarah E.; Lalone, Stefan; Farnsworth, Alexander; Ibarra, Yadira; Lunt, Dan J.; Bottjer, David J.; Tripati, Aradhna: ROLE OF TEMPERATURE CHANGE DURING INITIATION OF THE END-TRIASSIC MASS EXTINCTION (Invited Presentation)

9:30 AM BREAK

162-7 9:45 AM Robinson, Autumn J.*; Stanley, George D.; Shepherd, Hannah M.E.: THE END-TRIASSIC MASS EXTINCTION RANKS AS ONE OF THE FIVE BIGGEST MASS EXTINCTION EVENTS IN EARTH'S HISTORY

162-8 10:00 AM McRoberts, Christopher*: REAPPRaisal of Bivalves and the End-Triassic Mass Extinction

162-9 10:15 AM Ritterbush, Kathleen A.*: BIOenergetics of Earliest Jurassic Marine Ecosystems: SLOW Metabolisms, SLOW Carbon Cycling

162-10 10:30 AM Clement, Annaka M.*; Tackett, Lydia S.; Ritterbush, Kathleen A.; Ibarra, Yadira: A NEW PANTHALASSAN Iron-Oolite Deposit from the Early Jurassic: Implications for Global Shallow Marine Iron Deposition in the Aftermath of the End-Triassic Mass Extinction

162-11 10:45 AM Remirez, Mariano N.*; Algeo, Thomas J.: STUDIES of the TRIASSIC/JURASSIC BOUNDARY in ARGENTINA: A Review and Prospective

162-12 11:00 AM Myers, Timothy S.*; Tabor, Neil J.; Eagle, Robert; Bateman, Jesse B.; May, Steven; Jacobs, Louis L.; Weil, Anne: Paleoclimate of the Upper Jurassic Morrison Formation in Oklahoma and Texas

SESSION NO. 163

T123. Cephalopods through Time (Paleontological Society; EarthRates; Paleontological Research Institution)

8:00 AM, Indiana Convention Center, Room 142
Christina Iffim, Margaret M. Yacobucci and Neil H. Landman, Presiding

163-1 8:00 AM De Baets, Kenneth*; Jarochowska, Emilia; Kiessling, Wolfgang; Korn, Dieter; Rita, Patricia: PRESERVATION OF MACROECOLOGICAL AND MACROEVOLUTIONARY SIGNALS WITHIN CEPHALOPOD BODY-SIZE DISTRIBUTIONS ACROSS TIME (Invited Presentation)

163-2 8:15 AM Tajika, Amane*; Klug, Christian: VARIOEVODEVO: INTRASPECIFIC VARIATION IN PALEozoic AMMONoids

163-3 8:30 AM Peterman, David*: Ciampaglio, Charles N.: HOW STABLE WERE ORTHOCONE CEPHALOPODS? HYDRODYNAMIC ANALYSES OF RESTORING MOMENTS FROM NEUTRALLY BUOYANT, 3D PRINTED MODELS OF ECTOCOCHLEATE CEPHALOPODS

163-4 8:45 AM Carrier, Agathe; Myers, Corinne*: TESTING Niche STABILITY IN WESTERN INTERIOR SEAWAY CEPHALOPODS and OTHER MOLLUSKS ACROSS THE ENVIRONMENTAL PERTURBATION OF OAE2

163-5 9:00 AM Linzmeyer, Benjamin*: REFINING THE INTERPRETATION OF OXYGEN ISOTOPE VARIABILITY IN CEPHALOPODS

163-6 9:15 AM Sessa, Jocelyn A.*; Ferguson, Katherine; Landman, Neil H.; MacLeod, Kenneth G.: USING ISOTOPIC COMPOSITION TO DETERMINE GROWTH and Ecology in BACULITE and SCAPHITE AMMONITES

163-7 9:30 AM Rowe, Alison J.*; Landman, Neil H.; Garb, Matthew P.; Wits, James D.; Cochran, J. Kirk: PRESENCE of Juvenile Ammonites at Late Cretaceous Methane Seeps (Western Interior Seeway)

163-8 9:45 AM Thompson, Carmi Milagros*; Portell, Roger W.: ATURIA (CEPHALOPODA: NAUTILIDA) in the LOWER Oligocene Suwannee Limestone of Florida

163-9 10:00 AM Barod, Gregory Jeff*; Ward, Peter D.: USING UNDERWATER VIDEO METHODS TO SEARCH for the NAUTILUS EGG in FIJI

10:15 AM BREAK

163-10 10:30 AM Kruta, Isabelle*: Rouget, Isabelle; Brayard, Arnaud; Fernandez, Vincent; Monvoisin, Evariste; Charbonnier, Sylvain: CEPHALOPODS from LA VOULTE-SUR-RHÔNE: A Glimpse on Diversity of Jurassic Vampyropoda (Invited Presentation)

163-11 10:45 AM Rovelli, Remy*: Myers, Corinne: THE DISTAL EFFECTS of AVAILABLE SUITABLE HABITAT on Extinction Potential in Cephalopods and Other Mollusks across the K/PG in the Atlantic Coastal Plain

163-12 11:00 AM Landman, Neil H.*: SCAPHITID AMMONITES from the Upper Cretaceous Western Interior of North America

163-13 11:15 AM Wits, James D.*; Landman, Neil H.; Hopkins, Melanie J.: EXAMINING EVOLUTIONARY and ENVIRONMENTAL CHANGES of AMMONITES in the Late Cretaceous (MAASTRICHTIAN) Western Interior Seaway, USA

163-14 11:30 AM Goolaerts, Stijn*: TOWARDS a PALEOECOLOGICAL and PALEOGEOGRAPHICAL MODEL for Ammonoids during Deccan Volcanism

163-15 11:45 AM Iffim, Christina*: DETERMINING FACTORS in the TERMINAL Extinction of Cretaceous Ammonoïds

SESSION NO. 164

T129. Evolution of Terrestrial Ecosystems: Community Assembly through Time I (Paleontological Society; Paleontological Research Institution)

8:00 AM, Indiana Convention Center, Room 143-144
Laura C. Soul, Danielle Fraser and Joshua H. Miller, Presiding

164-1 8:00 AM Martin, John Matthew*; DeSantis, Larisa R.G.: FOUR or More is a Crowd: Assessing Competition Between Australian Dasyurids via Dental Microwear Texture Analysis
Tuesday, 6 November 2018

SESSION NO. 165

T142. Metamorphic Petrology Past, Present, and Future: Preparing for the Next 100 Years with the Mineralogical Society of America (Mineralogical Society of America; GSA Mineralogy, Petrology, and Volcanology Division)

8:00 AM, Indiana Convention Center, Room 240-241

John M. Cottage, Sarah Pennist-Donalc and Mark J. Caddick, Presiding

165-1 8:00 AM Spear, Frank S.; Wolfe, Oliver M.: BEYOND EQUILIBRIUM THERMOBAROMETRY: SHIFTING THE PARADIGM TOWARDS KINETICS (Invited Presentation)

165-2 8:20 AM Forshaw, Jacob B.; Waters, David J.; Pattison, David R.M.; Palin, Richard M.; Gopon, Phillip: THERMODYNAMIC MODELLING OF MAFIC GRANULITES: DISCREPANCIES BETWEEN OBSERVED AND PREDICTED PHASE EQUILIBRIA

SESSION NO. 166

T145. Apollo 17 Forty-Five Years on: Reanalysis of the Geochemistry, Geophysics, and Field Geology in Light of Data from the Lunar Reconnaissance Orbiter and Other Recent Missions (GSA Planetary Geology Division; GSA Geophysics and Geodynamics Division; GSA Geoinformatics Division)

8:00 AM, Indiana Convention Center, Room 236-237

Noah E. Petro, Jacob E. Bleacher, C.R. Neal and H.H. Schmitt, Presiding

166-1 8:00 AM Fassett, Caleb I.; King, Isabel R.; Nypaver, Cole A.; Thomson, Bradley J.: HOW THE MEDIAN S-BAND CIRCULAR POLARIZATION RATIO OF KILOMETER-SCALE CRATERS EVOLVES WITH TIME ON THE LUNAR MARIA

166-2 8:15 AM Stickle, Angela M.; Patterson, G. Wesley; Cahill, Joshua T.S.: MINI-RF BISTATIC OBSERVATIONS OF COPERNICAN CRATER EJECTA
SESSION NO. 167

T169. The Evolution of Continental Weathering through Geologic Time: Paleoclimate, Biogeochemistry, Diagenesis, and Clay Minerals (GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Energy Geology Division; GSA Geoinformatics Division)

8:00 AM, Indiana Convention Center, Sagamore Ballroom 7

Gregor Austermann, Anne Hildenbrand, Dario Harazim and Neil Fishman, Presiding

8:00 AM INTRODUCTORY REMARKS

167-1 8:05 AM Heins, William A.*: DARING TO ACCOUNT FOR CLAY MASS BALANCE (Invited Presentation)

167-2 8:20 AM Harazim, Dario*; Denommee, Kathryn: STORM-DOMINATED DELTAS PRIOR TO THE EVOLUTION OF LAND PLANTS: HIGH-VOLUME, IN-SITU CLAY MINERAL FACTORIES?

167-3 8:35 AM Li, Zhiyang*; Schieber, Juergen; Bish, David L.: THE ORIGIN OF CLAY MINERALS IN THE UPPER CRETACEOUS TUNJUK SHALE MEMBER OF THE MANCOS SHALE FORMATION, HENRY MOUNTAINS REGION, SOUTH-CENTRAL UTAH

167-4 8:50 AM Graly, Joseph A.; Licht, Kathy; Bish, David L.: CLAY MINERAL FORMATION IN THE SUBGLACIAL ENVIRONMENT OF EAST ANTARCTICA - IMPLICATIONS FOR CHEMICAL WEATHERING AND BIOGEOCHEMICAL CYCLES

SESSION NO. 168

T33. Geologic Energy Research (Posters) (GSA Energy Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

168-1 9:05 AM BREAK

168-2 9:10 AM Drobniak, Agnieszka*; Mastalerz, Maria D.: CHANGING LANDSCAPE OF COAL MINING INDUSTRY IN THE UNITED STATES

168-3 9:15 AM Onwumelu, Chioma*; Laudal, Daniel: DISTRIBUTION PATTERN OF RARE EARTH ELEMENTS IN HARMON COAL BED NORTH DAKOTA

168-4 9:20 AM Hasan, Md Nahidul*; Potter-McIntyre, Sally L.: RESERVOIR CHARACTERIZATION OF THE KIZLER NORTH FIELD, LYON CO., KANSAS, USA

168-5 9:25 AM Zhang, Pengfei*; Lu, Shuangfang; Li, Junqian: QUANTITATIVE CHARACTERIZATION OF THE KIZLER NORTH FIELD, LYON CO., KANSAS, USA

168-6 9:30 AM Grady, Joseph A.: CLAY MINERAL FORMATION IN THE SUBGLACIAL ENVIRONMENT OF EAST ANTARCTICA - IMPLICATIONS FOR CHEMICAL WEATHERING AND BIOGEOCHEMICAL CYCLES

POSTER TECHNICAL SESSIONS
TUESDAY, 6 November 2018

SESSION NO. 169  

T15. Urban Geochemistry (Posters) (International Association of GeoChemistry; GSA Environmental & Engineering Geology Division; GSA Limnogeology Division; GSA International Interdisciplinary Interest Group)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

169-1  19 Peck, John A. *, Gromosky, Gabrielle A.; King, Mary Lee; Maen, Kristofer; Milkovich, Nick: USING SEDIMENT MAGNETISM TO ASSESS ANTHROPOGENIC IMPACTS TO NORTHEAST OHIO STREAMS

169-2  20 Richardson, Joshua J.; Schafer, Lindsey *; Miner, James; Plankell, Eric T.; Locke, Randy; Pociask, Geoffrey E.; Monson, Jessica L.B.: USING FUZZY C-MEANS CLUSTERING AND PARTIAL LEAST SQUARES REGRESSION TO EVALUATE SOURCES FOR GEOCHEMICAL CHANGES AND CHLORIDE ENRICHMENT IN A CALCAREOUS FEN LOCATED IN AN URBAN ENVIRONMENT

169-3  21 Udy, Nicholas D. *, Smith, Serena; Ranney, McKenzie M.; Andrews, Michael; Zanazzi, Alessandro: A STABLE ISOTOPE STUDY OF THE DIETS OF UTAH VALLEY UNIVERSITY COMMUNITY MEMBERS

169-4  22 Taylor, Trent H.; Carling, Gregory T.; Goodman, Michael; Fernandez, Diego P.; Nelson, Stephen; Rey, Kevin A.: DUST COMPOSITION IN THE URBAN WASATCH FRONT, UTAH, AND COMPARISON TO NEARBY DESERT PLAYA

169-5  23 Lalocamao, Dalila *; Schwartz, Benjamin; Nowlin, Weston: STORMWATER AND NON-POINT SOURCE CONTAMINANTS IN A SMALL URBAN WATERSHED

SESSION NO. 170  

T29. New Voices in Geobiology (Posters) (GSA Geobiology & Geomicrobiology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

170-1  25 Rodedwald, Beatrice M.; Vogel, Jacqueline; Stockey, Richard G.; Fraser, Tiffany; Strauss, Justin V.; Melchin, Michael; Sperling, Erik A.: THE BLACK SHALE RECORD OF THE ODORVICIAN RADIATION: NEW INSIGHTS INTO REDOX CHANGE FROM THE ROAD RIVER GROUP OF YUKON, CANADA

170-2  26 Larina, Ekaterina *; Bottjer, David J.; Corsetti, Frank A.; Celestian, Aaron J.; Zonneveld, John-Paul: GENESIS OF UPPER TRIASSIC PHOSPHATIC OOID BEDS FROM WILLISTON LAKE, CANADA: MICROBIAL OR ABIOTIC MINERALIZATION?

170-3  27 Irizarry, Kayla M.; Garb, Matthew P.; Witts, James D.; Landman, Neil H.; Danilova, Anastasia; Rovelli, Remy: FAUNAL AND STRATIGRAPHIC ANALYSIS OF THE CRETACEOUS-PALEOGENE (K-PG) BOUNDARY EVENT DEPOSIT, BRAZOS RIVER, TEXAS

170-4  28 Reichard-Flynn, Willow R. *, Evans, Shannon N.; Keebler, Abby; Kislu, Isabelle; Simpson, Edward L.; Wizelvich, Michael C.: VERTICAL VARIABILITY OF MISS MORPHOLOGY IN AN EARLY CRETACEOUS CONTINENTAL_setting: MILL CANYON DINOSAUR TRACKSITE, MOAB, UTAH


170-6  30 Horn, Jackie D. *, Brikowski, Tom: ORIGIN OF ELEVATED ARSENIC IN POSSIBLE LANDFILL, LEACHATE IN THE AUSTIN CHALK, NORTH TEXAS: BIOGENIC REDUCTION OF IN SITU IRON SULFIDES?

170-7  31 Wawrzonek, Karen; Drogos, Donna; Nye, Charles; Quillinan, Scott: COMPARATIVE ANALYSIS OF MICROBIAL COMMUNITIES IN TWO SIMILAR UNCONVENTIONAL OIL WELLS IN THE POWDER RIVER BASIN, WYOMING

170-8  32 Richardson, Christina *; Richard, Alexandra D.; Kirk, Matthew F.; Zegin, Lydia H.: IMPACT OF LAND USE ON GROUNDWATER CHEMISTRY AND MICROBIAL COMMUNITIES IN GREAT BEND PRAIRIE AQUIFER

170-9  33 Putt, Andrew D.; Adams, Benjamin G.; McBride, Kathryn; Walian, Peter; McKay, Larry D.; Hazen, Terry C.: THE ULTRAMICROBACTERIAL COMMUNITY OF THE URANIUM AND HEAVY METAL CONTAMINATED Y-12 AQUIFER

170-10  34 DeVera, Christina A. *, Shelton, Jenna L.K.; Akob, Denise M.; Doolan, Colin A.; Lohr, Celeste D.; Slucher, Ernie R.; Warwick, Peter D.: RELATIONSHIP BETWEEN MICROBIAL COMMUNITY COMPOSITION AND GEOCHEMICAL PROPERTIES OF WATERS ASSOCIATED WITH NATURAL CO2 ACCUMULATIONS IN THE SOUTHERN PERMIAN BASIN
Tuesday, 6 November 2018

170-11  35  Bachman, Emma E.; Hullaster, Desiree; Krumholz, Lee R.; Elwood Maddox, Andrew S.: BIOTIC AND ABIOTIC MINERALOGICAL SIGNATURES INDUCED BY EUXINIC METHANE-RICH BRINE SPRING DISCHARGE

170-12  36  Monroe, Lucas H.; Magnin, Benjamin P.; Brake, Sandra; Hasiotis, Stephen T.: APPLICATION OF IMAGERY TO QUANTIFY THE SWEEPING AND BINDING OF PRECIPITATES BY EUGLENA MUTABLIS TO FORM IRON-RICH STROMATOLITES

170-13  37  Sramek, Natasha*; Mackey, Tyler J.; Sumner, D.Y.: QUANTIFYING PINNACLE MORPHOLOGY USING 3-DIMENSIONAL RECONSTRUCTIONS OF MICROBIAL MATS IN LAKE VANDA, ANTARCTICA

170-14  38  Fouke, Kyle W.; Todorov, Lauren G.; Sivaguru, Mayandi; Kingsford, Michael J.; Fried, Glenn; Fried, Ellumae; Fouke, Kaitlyn E.; Trop, Jeffrey M.; Fouke, Bruce W.: CRYSTALLINE STRUCTURE AND DIAGENESIS OF HIGH AND LOW DENSITY BANDS IN PORITES CORAL SKELETONS, MYRIMIDON REEF, GREAT BARRIER REEF, AUSTRALIA

SESSION NO. 171

T49. Cascading Geohazards: Frequency, Impacts, and Topographic Signatures (Posters) (GSA Quaternary Geology and Geomorphology Division; GSA Geophysics and Geodynamics Division; GSA Environmental & Engineering Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

171-1  39  Beers, Rebecca L.; Joyal, Taylor J.: QGG STANLEY A. SCHUMM AWARD: CHANNEL REFILL PROCESSES FOLLOWING POST-FIRE DEBRIS FLOWS, PINALEÑO MOUNTAINS, ARIZONA, USA

171-2  40  Rochner, Maegen L.*: DENDROGEOMORPHIC ANALYSIS OF AVALANCHE CHUTES IN THE ROCK CREEK VALLEY, BEARTOOTH MOUNTAINS, MONTANA, U.S.A

171-3  41  Stanczyk, Anna*; Moore, Jeffrey R.; Kronig, Olivia; Quirk, Brendon J.; Ivy-Ochs, Susan: SIZE, AGE, AND GEOMICROSCOPIC CONSEQUENCES OF AN ANCIENT ROCK AVALANCHE IN HOP VALLEY, ZION NATIONAL PARK, UTAH

171-4  42  Milano, Lea*; Borella, Josh W.; Goldstein, Sharyn: ESTABLISHMENT OF HILLSFLOP FOREST CHARACTERISTICS IN BANKS PENINSULA: IMPLICATIONS FOR ROCKFALL MODELING AND RUNOUT

171-5  43  Hornsey, Brooke M.; Villeneuve, Marlene C.; Davidson, Jonathan: ROCK MASS STRENGTH IN RELATION TO LANDSLIDE PROGRESSION

171-6  44  Scott, Rhiannon*: POSSIBLE TSUNAMI DEPOSITS OF THE NORTHEAST COAST OF THE YUCATAN PENINSULA

171-7  45  Thunkettle, Sara A.: RECONSTRUCTING PALEOFLOODS IN THE BEDROCK GREENBRIER RIVER USING SLACKWATER DEPOSITS AND HYDRAULIC MODELING

171-8  46  Yang, Dong-Yoon*; Han, Min; Kim, Jong Yeon; Shin, Won Jeong: CAUSIS OF POWERFUL STORM SURGES OF THE 18TH CENTURY CONFIRMED FROM HISTORICAL RECORDS AND THOSE IN COASTAL SEDIMENTS ON THE WEST COAST OF THE KOREAN PENINSULA

171-9  47  Prentice, Carol S.; Sickler, Robert R.; Clahan, Kevin B.; Pickerings, Alexandra; DeLong, Stephen B.: PALEOSEISMIC EXCAVATIONS ACROSS THE SAN ANDREAS FAULT ON THE SAN FRANCISCO PENINSULA, WOODSIDE, CALIFORNIA

171-10  48  Krueger, Russell; Volpano, Chelsea A.; Zuet, Lucas K.; Rawling, J. Elmo: LAKE MICHIGAN BLUFF STABILITY AND SEDIMENT DELIVERY IN WISCONSIN

171-11  49  Garcia Lopez, Xavier Alfredo*; Soto Rios, Stephanie; Gonzalez del Valle, Selena; Hughes, K. Stephen: QUANTIFICATION OF THE EFFECT OF GEOLOGY, SOIL, AND LAND-USE ON LANDSLIDES IN PUERTO RICO CAUSED BY HURRICANE MARIA IN 2017

171-12  50  Bayouth Garcia, Desiree*; Rodríguez Feliciano, César A.; Hughes, K. Stephen: EVENT-SPECIFIC AND ANNUAL PRECIPITATION CONTROLS ON MASS WASTING SITES IN PUERTO RICO AFTER THE PASSAGE OF HURRICANE MARIA

171-13  51  Lugo Bendezu, Raquel; Martinez, Gabriel*; Ortiz Carrero, Priscilla; Torres Anglèrø, Karla Heloise; Hughes, K. Stephen: ASSESSING PUERTO RICO'S PHYSICAL TOPOGRAPHY IN RELATION TO RAINFALL-INDUCED MASS WASTING SITES POST HURRICANE MARIA

171-14  52  Santiago-Perez, Yanira*: Hughes, K. Stephen: PROXIMITY ANALYSIS OF RAINFALL INDUCED LANDSLIDE SITES TO ROAD SURFACES AND FLUVIAL CHANNELS DURING HURRICANE MARIA IN PUERTO RICO

171-15  53  Cancel Vazquez, Sahira Monic*; Irizarry Brugman, Edwin Omar; Hughes, K. Stephen: RESERVOIR SEDIMENTATION ESTIMATES AND LANDSLIDE SUSCEPTIBILITY IN PUERTO RICO AFTER HURRICANE MARIA

SESSION NO. 172

T54. Quantifying Geomorphic Processes and Rates of Landscape Evolution (Posters) (GSA Quaternary Geology and Geomorphology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

172-1  54  Valarezo, Mauricio*; Reyes, Pedro; Michaud, François; Valarezo, Jose: NEW INSIGHTS FOR DETERMINING RELATIVE TECTONIC UPLIFT USING HIGH-RESOLUTION TOPOGRAPHIC DATA

172-2  55  Gelwick, Katrina D.; Pazzaglia, Frank J.; Kodama, Kenneth P.: LITHOLOGIC AND ROCK MAGNETIC CYCLOSTRATIGRAPHY IN PLEISTOCENE TERRESTRIAL SEDIMENTS

172-3  56  Hill, Marcus*; Bordt, Ely Addison; Quock, Melinda; Amber, Eliza; Corbett, Lee B.; Biales, Josh; Schmidt, Amanda H.; Bierman, Paul R.: ASSESSING SPATIAL EROSION PATTERNS RESULTING FROM HURRICANE MARIA ON DOMINICA, LESSER ANTILLES, CARIBBEAN

172-4  57  Lynch, Bridgid M.; Yanites, Brian J.: QUANTIFYING TRIBUTARY RESPONSE TO CANYON INCISION IN THE CENTRAL ANDES, SOUTHERN PERU

172-5  58  Schorr, Marissa Rose*; Hartke, Samantha; Pugh, Andrew; Camacho, Daniel; Navarrete, Gabriela Marie; Tjarks, Dulaney; Martinez Gutierrez, Genaro; Niemi, Tina M.; Antinano, Jose Luis: PRELIMINARY GEOCHRONOLOGY OF UPLIFTED MARINE AND FLUVIAL TERRACES IN THE SANTA ROSALIA BASIN, CENTRAL BAJA CALIFORNIA, MEXICO

172-6  59  Morris, Matthew C.; Schoetttle-Greene, Philip; Duval, Alison R.; Flowers, Rebecca M.: EXHUMATION AND FAULTING IN HILLS CANYON, NORTH AMERICA’S DEEPEST GORGE

172-7  60  Saha, Sourav*; Owen, Lewis A.; Orr, Elizabeth; Ward, Dylan J.; Caffee, M.W.: SYSTEMATICALLY INHERITED COSMOGENIC 10BE IN LATE HOLOCENE AGE MORaine BOULDERS IN THE BHAGIRATHI VALLEY, GARHWAL

172-8  61  Michalak, Melanie J.*; Team, Taylor Charles; Cashman, Susan M.; Furlong, Kevin P.; Kirby, Eric: EXAMINING TIME-SPACE PATTERNS IN TERTIARY-PRESENT EXHUMATION AND UPLIFT IN THE KLAMATH MOUNTAINS, SOUTHERN CASADIA FOREARC

172-9  62  Gray, Kalley E.; West, Nicole: TESTING RELATIONSHIPS BETWEEN PARTICLE SIZE, CHEMICAL WEATHERING, AND EROSION IN THE KLAMATH MOUNTAINS, CA

172-10  63  Schmidt, Christoph*; Richter, Tom; Bullmann, Lena: DOES THE MORPHOMETRY OF SCORIA CONES RELATE TO THEIR AGE? RESULTS FROM THE CAMEROON VOLCANIC LINE

172-11  64  Campbell, Mary K.*; Bierman, Paul; Corbett, Lee B.: DEVELOPING A METHOD FOR THE EXTRACTION OF 26Al FROM CARBONATE SEDIMENTS TO DETERMINE BACKGROUND EROSION RATES OF DRAINAGE BASINS
Tuesday, 6 November 2018

172-12 65 Rowden, C. Charles*; Pesek, Maria E.; Perez, Nicholas D.: INVESTIGATING ASYNCHRONOUS EXHUMATION TRENDS ALONG THE CASCADE RANGE IN WASHINGTON AND OREGON USING THERMOCHRONOLOGIC MODELING

172-13 66 Murphy, Dillon*; Gontz, Allen; Kelly, Joshua T.: APPLICATIONS OF REMOTE SENSING FOR DETERMINING DUNE MIGRATION RATES, ALGODONES DUNE FIELD, CA

172-14 67 Maffie, Sophia*; Grande, Alexandra; Soord, Natalie; Schmidt, Amanda H.; Bierman, Paul R.: ANALYZING THE EFFECTS OF LAND USE ON SOIL EROSION IN SOUTHWESTERN CHINA USING FALLOUT RADIONUCLIDES

172-15 68 Christ, Andrew J.*; Bierman, Paul R.: DISTRIBUTION AND SOURCES OF SCATTER IN ANTARCTIC EXPOSURE AGE CHRONOLOGIES: A CASE STUDY FROM MCMURDO SOUND

172-16 69 Newman, Patrick*; Haq, Saad S.B.: DETERMINING EXHUMATION RATES FROM EROSIONAL COULOMB WEDGES USING IMAGE CORRELATION

172-17 70 Levine, Kristina G.*; Perez, Nicholas D.: INVESTIGATING THE ROLE OF MULTI-PHASE DEFORMATION HISTORY ON TRIASSIC TO RECENT CRUSTAL EXHUMATION IN THE EASTERN CORDILLERA OF SOUTHERN PERU

172-18 71 Suhr, Jens Christoph*; Dunn, Sarah; Persico, Lyman P.: ASPECT CONTROLS ON EROSION RATES AND BASIN MORPHOLOGY IN THE MOJAVE DESERT

172-19 72 Larrinaga, Rae*; Morgan, Daniel; Balco, Greg; Merrick, Trina; Salvatore, Mark; Guglielemin, Mauro; Longhi, Alessandro: COMPARING SPECTRAL REFLECTANCE PATTERNS TO THE CONCENTRATION OF COSMOGENIC NE-21 TO LINK WEATHERING AND EROSION RATES FOR BEDROCK IN TERRA NOVA BAY, ANTARCTICA

172-20 73 Dahlquist, Maxwell Philip*; West, A. Joshua; Li, Gen: LANDSLIDES DRIVE DRAINAGE DIVIDES TOWARD STEADY STATE

172-21 74 Corbett, Lee B.*; Bierman, Paul R.: THE NSF/UVM COMMUNITY COSMOGENIC FACILITY: A NEW APPROACH TO RESEARCH AND RESEARCH TRAINING IN ISOTOPE GEOLOGY

172-22 75 Nagle-McNaughton, Timothy P.*; Cox, Rónadh: QUANTITATIVE STRUCTURE-FROM-MOTION MODELING FOR MONITORING CHANGE IN COASTAL BOULDER DEPOSITS

172-23 76 Gani, Nahid D.*; Bowden, Shelby; van Soest, Matthijs C.: TIMING OF THE BLUE NILE CANYON INCISION: AN UNDERSTANDING FROM LOW-TEMPERATURE THERMOCHRONOLOGY FROM NORTHERN AND SOUTHERN SECTIONS OF THE RIVER

172-24 77 Kleeman, Will*; Nymberg, David; Gomez, Francisco: AGES ESTIMATES OF ALLUVIAL SURFACES IN THE SOUTHERN DEATH VALLEY REGION USING SCHMIDT HAMMER REBOUND AND FAULT SCARP DEGRADATION

172-25 78 Foster, Devin M.*; Gunnells, Shelby; Goldade, Bria; Chavez, Daniel; Lepper, Kenneth: NEW AGES FROM A POTENTIAL PRE-AGASSIZ BEACH RIDGE TRANSECT IN NORTHWESTERN MINNESOTA

SESSION NO. 173

T60. Revolutions in Remote Sensing: Applications of UAVs to Field Mapping and Surface Analytics (Posters) (GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division; GSA Environmental & Engineering Geology Division; GSA Geoarchaeology Division; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 9:30 to 6:30 PM

173-1 79 Tewsksbury, David A.*: LESSONS LEARNED: INTEGRATING UAS OPERATIONS INTO AN UNDERGRADUATE GEOSCIENCES PROGRAM

173-2 80 Panner, Matthew*; Sheehan, Nathaniel; Kimball, Mindy A.; Carter, Abigail: WHAT’S OLD IS NEW AGAIN: BALLOON MAPPING AS AN ALTERNATIVE TO UAVS IN FIELD MAPPING

173-3 81 Blanton, Chelsea M.*; Rockwell, Thomas K.; Gontz, Allen; Kelly, Joshua T.: EARTHQUAKE SLIP, HURRICANES, AND RILL FORMATION – DRONE-BASED DEMS AND ORTHOMOSAICS FROM VERY HIGH-RESOLUTION SFM IMAGERY ALONG THE SOUTHERN SAN ANDREAS FAULT, COACHELLA VALLEY, CALIFORNIA

173-4 82 Gomez, Francisco*; Polun, Sean G.: APPLICATIONS OF LOW ALTITUDE AERIAL PHOTOGRAMMETRY FOR NEOTECTONIC AND GEOMORPHIC INVESTIGATIONS: DISPLACEMENTS, MORPHOMETRY, AND LANDFORM MODELING

173-5 83 Conway, Bennett C.*; Dogwiler, Toby: ASSESSMENT OF OBLIQUE PHOTOGRAPHY IN ENHANCING SUAS-BASED STRUCTURE FROM MOTION PHOTOGRAMMETRY- DERIVED DEMS

173-6 84 Pfitzer, Bailey D.*; Dogwiler, Toby: DETERMINING THE EFFECT OF GCP QUANTITY ON DEM ACCURACY IN SUAS-BASED STRUCTURE-FROM-MOTION PHOTOGRAMMETRY

173-7 85 Mans, Wade W.*; Weissmann, Gary S.; Moore, Jason R.; Wilson, Gregory P.: LATERAL STRATIGRAPHIC RELATIONSHIPS OF FLUVIAL OUTCROPS AND FOSSILIFIC ZONES AROUND THE K-PG BOUNDARY IN MONTANA FOX HILLS, HELL CREEK, AND FORT UNION FORMATIONS USING PHOTOGRAMMETRY

173-8 86 Donaldson, Alexandra*; DeVries-zimmerman, Suzanne; Stid, Jacob T.; Yurk, Brian P.: USING REMOTE SENSING TO MONITOR HISTORIC AND CURRENT ECOTECTICAL CHANGES IN A GREAT LAKES SLACK/INTERDUNAL WETLAND

173-9 87 Mensah, Shirley Tsootsoo*: MORPHOLOGICAL CHANGES ON EASTERN ILLINOIS UNIVERSITY CAMPUS OVER THE PAST 80 YEARS

173-10 88 Li, An*: Liu, Rui; Chen, Zhidan; Zhang, Shimin: FOLDS AND FAULTS ACTIVITY CHARACTERISTICS IN THE WESTERN END OF HEXI CORRIDOR AND ITS SIGNIFICANCE TO THE EXTENSION MODEL OF THE NORTHERN MARGIN OF THE TIBET PLATEAU

SESSION NO. 174

T63. Earthquakes and Deformation in Eastern North America and Other Continental Interiors: What We Know, What We Don’t, What We Think, and Which Is Which? (Posters) (GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM

174-1 89 Richmond, Dean R.*; Hunt, Tyler C.; Elmore, Douglas: SHAKE, RATTLE, AND ROLL: LATE JURASSIC EARTHQUAKE RECORDED IN MORRISON FORMATION FLUVIAL SEDIMENTS OF WESTERN OKLAHOMA

174-2 90 Nasg, Kristine M.*; Aly, Mohamed H.; Cothren, J.; Liner, Christopher L.: GEOSPATIAL ANALYSIS OF THE INFLUENCE OF WASTEWATER DISPOSAL ON THE RECENT SEISMICITY IN OKLAHOMA

174-3 91 Thompson Jobe, Jessica A.*; Gold, Ryan D.; Briggs, Richard W.; Delano, Jaime: USING QUANTITATIVE GEOMORPHOLOGY TO ASSESS QUATERNARY FAULTING ON CROWLEY’S RIDGE, NEW MADRID SEISMIC ZONE, ARKANSAS

174-4 92 Langenkamp, Teresa*; Kozlowska, Maria; Brudzinski, Michael R.; Friberg, Paul; Loughner, Erica A.: SEISMICITY INDUCED BY HYDRAULIC FRACTURING AND FLOWBACK IN MONROE COUNTY, OHIO

174-5 93 Hecker, S.*; Schwartz, D.P.: BEHAVIOR OF A NEW NORMAL FAULT IN THE ROCKY MOUNTAINS: IMPLICATIONS FOR CONTINENTAL INTRAPLATE EARTHQUAKES

4–7 November • Indianapolis, Indiana, USA
Tuesday, 6 November 2018

SESSION NO. 176  💧  💵  💲
T19. Geologic Maps and Their Derivatives (Posters) (Association of American State Geologists; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

176-1  100 Soller, David R.*; Garrity, Christopher P.; Wardwell, Robert C.; Stamm, Nancy R.: STATUS OF THE NATION’S GEOLOGIC MAP COVERAGE

176-2  101 Troost, Kathy Goetz*; Peter, Tim: FROM GEOLOGIC MAP TO GEOHAZARDS POLICY, A CASE STUDY FROM KIRKLAND WA

176-3  102 Lori, Lisa M.*; Seeger, Cheryl: COMPILATION OF THE PRECAMBRIAN ROCKS OF THE CENTRAL ST. FRANCOIS MOUNTAINS, MISSOURI

176-4  103 Wirth, Hannah S*; Peterson, Eric; Malone, David H.: SURFICIAL GEOLOGIC MAP OF THE GIBSON CITY WEST 7.5-MINUTE QUADRANGLE, CHAMPAIGN, FORD, AND MCELLEN COUNTIES, IL

176-5  104 Andrews, William*: FORTY YEARS OF USING DETAILED GEOLOGIC MAPS IN KENTUCKY

176-6  105 Currie, Brian*; Thoresen, Haley; Palko, Emma; Stubbins, Blake; Ries, Rosamiel; Adedugbe, Emmanuel; Levy, Jonathan; Blake, Daniel; Nash, T. Andrew: REVISED BEDROCK TOPOGRAPHIC MAP FOR THE OXFORD AND COLLEGE CORNER QUADRANGLES, BUTLER AND PREBLE COUNTIES, OHIO

176-7  106 Danielsen, Erika M.*; Hulett, Samuel: SUBSURFACE MAPPING OF THE MISSISSIPPIAN BLACK HAND SANDSTONE IN EAST-CENTRAL OHIO

176-8  107 Rodriguez, Stephanie C.*; Smith, Brianne; Garb, Matthew P.: ESTUARY FACIES MODELING OF HISTORIC WETLANDS AND STREAM-NETWORKS OF BROOKLYN AND QUEENS, NY

176-9  108 Horton, J. Wright*; Daniels, David L.; Powars, David S.; Reddy, James E.: GEOLOGIC MAP AND COMPOSITE AEROMAGNETIC/GRAVITY ANOMALY MAP OF PRE-CRETACEOUS ROCKS BENEATH THE ATLANTIC COASTAL PLAIN, VA TO SOUTHERN NJ

SESSION NO. 177  ⛰  🌓

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

177-1  110 Karpilo, Ronald D.; O’Meara, Stephanie A.*; Thornberry-Ehrlich, Trista L.; Winter, James R.H.; Chappell, James R.; Meyer, Dalton L.: INTERESTED IN A NATIONAL PARK’S GEOLOGY? WE HAVE SOMETHING FOR EVERYONE FROM GEO-TOURISTS TO SERIOUS SCIENTISTS!

177-2  111 Karpilo, Ronald D.*; Allan, Chris; Rasic, Jeffrey T.; Heise, Bruce A.: REPEAT PHOTOGRAPHY OF HISTORICAL U.S. GEOLOGICAL SURVEY EXPEDITION PHOTOGRAPHS IN GATES OF THE ARCTIC NATIONAL PARK AND PRESERVE, ALASKA

177-3  112 Inserri, Nicholas*; Akoz, Sinan O.: LATE HOLOCENE RUPTURE HISTORY OF THE SOUTH-CENTRAL SAN ANDREAS FAULT AT VAN MATRE RANCH SITE, CARRIZO PLAIN NATIONAL MONUMENT, CALIFORNIA

177-4  113 Springer, Kathleen B.*; Pigati, Jeffrey S.: DID CLIMATE PLAY A CAUSAL OR COINCIDENT ROLE IN THE ORIGIN AND DISPLACEMENT HISTORY OF THE EGLINTON FAULT, LAS VEGAS, NEVADA?

177-5  114 Tocci, Alaina*; Springer, Kathleen B.; Scott, Eric: CYCLIC FOSSIL PROSPECTING AT JOSHUA TREE NATIONAL PARK

177-6  115 Konett, Aliera E.A.*; Bitting, Chuck; Tweet, Justin S.; Santucci, Vincent L.: BUFFALO NATIONAL RIVER PALEONTOLOGICAL RESOURCE INVENTORY

177-7  116 Stack, Mary Elizabeth*; Young-Dahl, Erin; Todd, Shelley: ASSESSING POTENTIAL TRENDS IN TEMPERATURE AND FLOW DATA THROUGH SPATIAL AND TEMPORAL ANALYSIS OF THERMAL SPRINGS AT HOT SPRINGS NATIONAL PARK FROM 2010 TO 2018

177-8  117 Aunan, Megan M.*; Fairley, Jerry P.; Larson, Peter B.; Moser, Haylin: DELINEATING THERMAL MINERAL DEPOSITS ON THE CENTRAL PLATEAU IN YELLOWSTONE N.P., WY

177-9  118 Kaplan, Jenna M.*; Fairley, Jerry P.; Larson, Peter B.; Moser, Haylin: DELINEATING THERMAL MINERAL DEPOSITS ON THE CENTRAL PLATEAU IN YELLOWSTONE N.P., WY

177-10  119 Malzone, Jonathan M.*; Richter, Stephen; Watson, Kelly: MANAGING AND RESTORING UPLAND EMBEDDED DEPRESSIONAL WETLANDS IN THE DANIEL BOONE NATIONAL FOREST, KENTUCKY: A HYDROLOGICAL AND GEOSPATIAL DATA DRIVEN APPROACH TO BALANCE CONSERVATION, CONSTRUCTION, AND DECONSTRUCTION PRACTICES

177-11  120 Thompson, James*; Malzone, Jonathan M.: QUANTIFYING SOIL HYDROLOGIC PROPERTIES TO INFORM WETLAND REMEDIATION STRATEGIES IN THE DANIEL BOONE NATIONAL FOREST, KENTUCKY

SESSION NO. 178  🤔  🎩  🎩
T25. Geoscience Information Needs in Education and Research (Posters) (Geoscience Information Society; GSA Geoinformatics Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

178-1  121 Haroldson, Erik*: OUR TIME AROUND THE LAKE: A HIKING TOUR HISTORICAL GEOLOGY GROUP PROJECT

178-2  122 Licht, Kathy*; Cope, Tim D.; Edmonds, Douglas A.; Elliott, William S.; Fluegeman, Richard; Moore, A.: USE YOUR
TUESDAY, 6 NOVEMBER 2018

SESSION NO. 178

T26. Geoscience Apps on the Web and in Your Hand (Posters) (GSA Geoinformatics Division)

Authors will be present from 4:30 to 6:30 PM

Booth #

SESSION NO. 180

T94. Water Temperatures in Surface and Subsurface Hydrological Systems: Controls, Applications, and Implications (Posters) (GSA Continental Scientific Drilling Division; GSA Karst Division; GSA Hydrogeology Division; GSA Energy Geology Division)

Authors will be present from 4:30 to 6:30 PM

Booth #

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SESSION NO. 181

T98. Satellite Remote Sensing Applications in Hydrology and Geology (Posters) (GSA Hydrogeology Division; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division; GSA Environmental & Engineering Geology Division; GSA Geology and Society Division; GSA Limnogeology Division; GSA International Interdisciplinary Interest Group)

181-1 157 Chong, Jeng Hann*; Huang, Mong-Han: ANALYSIS OF THE 2018 M 7.5 PAPUA NEW GUINEA EARTHQUAKE USING THE SUB-PIXEL OFFSET METHOD

181-2 158 Cottrell, Dominique*; Iqbal, Mohammad; Liang, Bingqin; Petrov, Andrey: EVALUATION AND COMPARISON OF TOTAL SUSPENDED SOLIDS IN A SMALL WATERSHED USING TURBIDITY METERS AND GROUND-BASED HYERSPECTRAL IMAGING

181-3 159 Carstens, Dana*; Amer, Reda: A GIS-BASED MODEL FOR URBAN CHANGE AND WATER QUALITY IN THE PONTCHARTRAIN BASIN

181-4 160 Izadi, Moein*; Emil, Mustafa Kemal; Sultan, Mohamed: AN INTEGRATED APPROACH (INSR TIME SERIES, HYDROLOGY, SPATIAL ANALYSIS) TO IDENTIFY THE NATURE, INTENSITY, AND SPATIAL DISTRIBUTION OF GROUND DEFORMATION OVER RIYADH CITY AND SURROUNDINGS

181-5 161 Rateb, Ashraf*; Kuo, Chung-Yen; Scanlon, Bridget R.; Forooztan, Ehsan; Khaki, Mehdi; Othman, Abdullah: DECLINING WATER STORAGE IN THE MIDDLE EAST AS OBSERVED BY GRACE, ALTIMETRY, HYDROLOGICAL MODELS, AND IN-SITU DATA

181-6 162 Harvey, Korey T.*; Nguy-Robertson, Anthony: GEOLOGIC LINEAMENT DETECTION USING SATELLITE IMAGERY AND CLOUD-BASED GEOSPATIAL PROCESSING

181-7 163 Ambrose-Igho, Gare*; Seyoun, Widowoson Mekonnen; Perry, William L.; O'Reilly, Catherine: SPATIAL PATTERNS OF ALGAL BLOOMS IN LAKE BLOOMINGTON AND EVERGREEN LAKE USING FIELD OBSERVATIONS AND REMOTE SENSING

SESSION NO. 182

D44. Karst Landforms and Processes (Posters)

9:00 AM, Indiana Convention Center, Halls J-K

182-1 164 Baxstrom, Kelli W.*: APPALACHIAN ECOSYSTEM RESPONSE TO LATE PLEISTOCENE CLIMATE CHANGE

182-2 165 Xia, Wu*; Cao, Jianhua: EFFECT OF EXTREME PRECIPITATION ON STABLE ISOTOPE COMPOSITIONS OF DRIP WATER AND SEDIMENT DURING AUTUMN AND WINTER IN LIANGFENG CAVE AT GULIN, SOUTHWEST CHINA

182-3 166 Klug, Paige P.*; Martin, Chloe N.; Denniston, Rhawn F.; Ummerhofer, Caroline C.; Villarini, Gabriele; Asmerom, Yemane; Polvak, Victor J.; Cugley, John; Woods, David; Humphreys, William F.; Gonzalez, Angelique N.: A 4100-YEAR COMPOSITE STALAGMITE RECORD OF CAVE FLOODING EVENTS FROM CAVE KNI-51, CENTRAL AUSTRALIAN TROPICS

182-4 167 Katz, Sarah A.*; Gillikin, David P.; Rodbell, Donald T.; Cheng, Hai: CLIMATIC AND HYDROLOGIC VARIABILITY RECORDED IN A MID-TO LATE-HOLOCENE CENTRAL NY SPELEOTHEM


182-6 169 Birmingham, Colleen*; Stathis, Brooke; Truebe, Sarah: CONTROLLING AND QUANTIFYING LAMENPFLORA IN SHOW CAVES: A CASE STUDY FROM KARTCHNER CAVERS N STATE PARK, ARIZONA

182-7 170 Rendall, Benjamin*; Buono, Antonio; Moore, Paul J.; Fullmer, Shawn M.; Guley, Jason D.: ROLE OF ROOTS AND MUCORRHIZAL FUNGI IN EARLY TOUCHING VUG FORMATION AND POROSITY-PERMEABILITY RELATIONSHIPS ON A FORESTED CARBONATE ISLAND, SAN SALVADOR ISLAND, BAHAMAS

182-8 171 Huang, Amelia R.*; Borella, Josh W.; Jol, Harry M.; Faulds, James E.: DETERMINING THE ORIGINS OF KARST-RELATED DEPRESSIONS IN CASTLE HILL BASIN, NEW ZEALAND

182-9 172 Parrick, Brittany*: ASSESSING SINKHOLE COMPLEXITY OVER TIME IN THE KARST TERRAIN OF DELAWARE, OHIO

182-10 173 Xu, Mo*; Yang, Yanna; Zhang, Qiang; Zhao, Hongmei: THE GUSHING WATER HAZARD ASSESSMENT OF KARST TUNNEL IN THE PLATEAU OF EASTERN YUNNAN CHINA

182-11 174 Poulain, Amaël*: Watlet, Arnaud; Rochez, Gaëtan; Kaufmann, Olivier; Van Camp, Michel; Deleu, Romain; Quinif, Yves; Hallet, Vincent: FACTORS INFLUENCING KARST AQUIFER RECHARGE AS EVIDENCED THROUGH VADOSE DYE TRACING

182-12 175 Poulain, Amaël*: De Saddelaer, Geert; Rochez, Gaëtan; Zagouras, Nicolas; Hallet, Vincent: USING MULTIPLE FIELD FLUOROMETERS TO HIGHLIGHT DYE BEHAVIOR IN KARST CONDUITS

182-13 176 Bliss, Benjamin R.*; Fink, Madison S.; Edenborn, Harry M.; Toran, Laura; Herman, Ellen K.: TRACKING ANNUAL, SEASONAL, AND STORM-TO-STORM CHANGES IN THREE PENNSYLVANIA KARST SPRINGS TO DETERMINE FLOW PATHS AND RECHARGE PATTERNS

182-14 177 Downey, Autum R.*; Vesper, Dorothy J.; Padilla, Ingrid Y.: ORGANIC CARBON CONCENTRATION IN CAVE SEDIMENTS AS A TRACER OF INPUT FROM HURRICANE MARIA

SESSION NO. 183

T5. Karst Processes and Speleology (Posters) (GSA Karst Division)

9:00 AM, Indiana Convention Center, Halls J-K

183-1 178 Acosta Colón, Angel A.*; Bonet Santiago, Benny; Sinulingga, Ruddy Anto; Sitepu, Sedarta: 3-D CAVE MAPPING IN THE PALEOKARST REGION OF BATU KATAK IN NORTHERN SUMATRA, INDONESIA

183-2 179 Roque Martinez, Lorena*; Schwartz, Benjamin F.: TESTING STATISTICAL AND SEMI-AUTOMATED METHODS FOR ASSESSING AND PREDICTING KARST FEATURE DENSITY IN THE EDWARDS AQUIFER RECHARGE ZONE

183-3 180 Sumrall, Jonathan B.*; Gauvey, Kaitlyn: SINKHOLE MORPHOLOGY FROM THE BLAINE FORMATION OF BARBER COUNTY, KANSAS

183-4 181 Camelo, Jonathan M.*; Sumrall, Jonathan B.; Kambesis, Patricia N.: CAVE SEDIMENT ANALYSIS FROM RUSSELL AND MONTAUGE CAVES IN NORTHEASTERN ALABAMA

183-5 182 Heimel, Sierra M.*; Gantt-Blackwood, Stacy I.; Sanders, Lainea A.: MAPPING THE UPPER PLUMBING SYSTEM OF ACTIVE AND INACTIVE GEYSERS WITHIN THE GREATER YELLOWSTONE GEOSYSTEM, WYOMING

183-6 183 Blackwood, Kevin W.*; Gantt-Blackwood, Stacy I.; Sanders, Lainea A.: MAPPING THE UPPER PLUMBING SYSTEM OF ACTIVE AND INACTIVE GEYSERS WITHIN THE GREATER YELLOWSTONE GEOSYSTEM, WYOMING
SESSION NO. 184

**T111. Human Evolution and Environmental History in Africa: 25 Years of Transformative Research (Posters)**

(GSA Limnogeology Division; GSA Geoarchaeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Continental Scientific Drilling Division; EarthRates)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

**Booth #**

**184-1** 186 Stinchcomb, Gary E.*; Lukens, William E.; Forman, Steven L.; Binetti, Katle M.; Ferraro, Joseph V.; GEOLOGY AND PALEOENVIRONMENTS OF FARRE, A LARGE OPEN-AIR MIDDLE TO LATE PLEISTOCENE ARCHAEOLOGICAL SITE IN EAST AFRICA

**184-2** 187 Negash, Enquey W.*; Wynn, Jonathan G.; Alemseged, Zeresenay; Sponheimer, Matt; Bobe, René L.; PALEODIETARY RECONSTRUCTION USING STABLE ISOTOPES OF HERBIVORES FROM THE SHUNGURA FORMATION, ETHIOPIA: IMPLICATIONS FOR HOMININ ENVIRONMENTS

**184-3** 188 Wynn, Jonathan G.*; Lowenstein, Tim K.; Renaut, Robin W.; Owen, R. Bernhart; McNulty, Emma P.; SUPERHEAVY PYRITE FORMATION IN HYPERSONAL LAKES OF EAST AFRICA: A PALEOSALINITY PROXY FOR LAKE MAGADIGI HSPDP CORES

**184-4** 189 Kearney, John C.*; Johnson, Claudia C.; Njau, Jackson K.; Schick, Kathy; Toth, Nick; DEPOSITIONAL PROCESSES OF BED III AND BED IV, OLDUVAI GORGE, TANZANIA: EXPANDING ON THE WORK OF RICHARD HAY, 1976

**184-5** 190 Westover, Karlym*; Stone, Jeffery; Rabideaux, Nathan; Yost, Chad L.; Lupien, Rachel; Kingston, John D.; EXTREME HYDROCLIMATE VARIABILITY IN KENYA’S BARINGO BASIN DURING THE LATE PLEIOCENE: THE DIATOM RECORD

**184-6** 191 Foerster, Verena; Asrat, Asfawossen; Cohen, Andrew S.*; Dean, Jonathan R.; Deino, Alan L.; Deocolmo, Daniel M.; Dueing, Walter; Guenter, Christina; Junginger, Annett; Lamb, Henry F.; Lane, Christine S.; Leng, Melanie; Noren, Anders; Roberts, Helen M.; Schaebert, Frank; Trauth, Martin H.; ENVIRONMENTAL HISTORY AND HUMAN EVOLUTION IN EASTERN AFRICA: THE 550,000-YEAR CLIMATE RECORD FROM THE CHEW BAHIR BASIN, AN HSPDP KEY SITE IN SOUTHERN ETHIOPIA

**184-7** 192 Colcord, Devon E.*; Shilling, Andrea M.; Freeman, Katherine H.; Sauer, Peter E.; Njau, Jackson K.; Stanistreet, Ian G.; Stollhofer, Harald; Schick, Kathy; Toth, Nick; BRITTLE SUPERHEAVY PYRITE ORGANIC MATTER IN LAKE MAGADI, TANZANIA: A PROXY FOR OLDUVAI GORGE CLIMATE VARIABILITY)

**184-8** 193 Yost, Chad L.*; Kingston, John D.; Deino, Alan L.; Cohen, Andrew S.; PHYLLOLITHS AND MICROCARBONATE FROM THE BARINGO BASIN, KENYA, REVEAL SAVANNA DYNAMICS DURING THE PLAGIOPLEISTOCENE TRANSITION

**184-9** 194 Alexander, Emily*; Beck, Catherine C.; Feibel, Craig S.*; Yost, Chad L.; Wegter, Bruce; Mangold, Lucas; Cohen, Andrew; Campisano, Christopher J.; GRAIN SIZE ANALYSIS OF THE WEST TURKANA KAITIO (WTK13) CORE AND IMPLICATIONS FOR PALEOENVIRONMENTS IN THE TURKANA BASIN 1.8 TO 1.3 MA

**184-10** 195 Takashita-Bynum, Kevin K.*; Stinchcomb, Gary E.; Levin, Naomi E.; Quade, Jay; Iverson, Nels; McIntosh, William; Dunbar, Nelia; Arnold, Lee J.; Duval, Mathieu; Rogers, Michael J.; Semaw, Sileshi; THE PERSISTENCE OF SALT-AFFECTED PALEOSOLS AT GONA, ETHIOPIA: A SEDIMENTARY ARCHIVE OF MIDDLE TO LATE PLEISTOCENE SOIL SALINITY WITHIN A CORRIDOR OF EARLY HUMAN MIGRATION

**184-11** 196 Boyd, Melissa D.*; Feibel, Craig S.; Manthi, Fredrick K.; Ward, Carol V.; Piavcan, J. Michael; A SYNTHESIS OF MULTI-PROXY PALEOENVIRONMENTAL RECONSTRUCTION METHODS: THE DEPOSITIONAL ENVIRONMENTS OF THE LOMWEKI MEMBER, NACHUKUI FORMATION, WEST TURKANA

**184-12** 197 Niespolo, Elizabeth*; Sharp, Warren D.; Tryan, Christian A.; Faith, J. Tyler; Lewis, Jason; Ranhorn, Kathryn L.; Mambelli, Stefania; Miller, Melanie J.; Dawson, Todd E.; LIGHT STABLE ISOTOPES OF OSTRICH EGGSHLLS PROVIDE SITE-SPECIFIC PALEOENVIRONMENTAL RECORDS DURING THE MIDDLE-TO-LATER STONE AGE TRANSITION IN EASTERN AFRICA

**184-13** 198 O’Brien, Margaret Massie*; Beck, Catherine C.; Martin, Linda: OSTRACOD ASSEMBLAGE ANALYSIS FOR PALEOENVIRONMENTAL RECONSTRUCTION FROM THE PLEISTOCENE TO HOLOCENE TURKVELL CLIFF, WEST TURKANA, KENYA

**184-14** 199 Shilling, Andrea M.*; Colcord, Devon E.; Freeman, Katherine H.; Njau, Jackson K.; Stanistreet, Ian G.; Stollhofer, Harald; Schick, Kathy; Toth, Nick; BRITTLE SUPERHEAVY PYRITE ORGANIC MATTER IN LAKE MAGADI, TANZANIA: A PROXY FOR OLDUVAI GORGE CLIMATE VARIABILITY AROUND AFRICA AND IMPLICATIONS FOR HUMAN DISPERSALS

**184-15** 200 Billingsley, Anne L.*; Yost, Chad L.; Worthy, Kayla; Fenerty, Brendan; Kiellhofer, Jennifer; Fox, Mathew L.; Naiman, Zachary; Cohen, Andrew S.; Lamb, Henry F.; 400 KA YEAR RECORD OF CLIMATE VARIABILITY AROUND AFRICA AND IMPLICATIONS FOR HUMAN DISPERSALS


**184-17** 202 Stamat, Christina Ann*; GEOLOGIC CORRELATIONS AND PALEONTHROPOLOGICAL DISCOVERIES OF SIGNIFICANT ARCHAEOLOGICAL SITES IN THE TURKANA BASIN, EASTERN AFRICA

**184-18** 203 Beverly, Emily J.*; Levin, Naomi E.; Passey, Benjamin H.; Winkelstern, Ian Z.: RECONSTRUCTING ARIDITY AND EVAPORATION IN EAST AFRICA USING TRIPLE OXYGEN ISOLOTIES IN SOIL CARBONATES

**184-19** 204 Begbregorsig, Daniel*; Deocolmo, Daniel M.; Longstaffe, Fred J.; Ashley, Gail M.; Beverly, Emily J.; Delaney, Jeremy S.; Cuadros, Javier: QUANTITATIVE LACUSTRINE PALEOSALINITY AND PLEISTOCENE ORBITAL CONTROLS FROM CLAY MINERAL OXYGEN ISOLOTIES: OLDUVAI GORGE, TANZANIA

**184-20** 205 McHenry, Lindsay J.*; Kodikara, Gayantha Loku; Vickery, Christopher L.; Stanistreet, Ian G.; Njau, Jackson K.; Schick, Kathy; Toth, Nick; BULK MINERALOGY AS A PROXY FOR PALEOGEOGRAPHY AND PALEOCLIMATE CONDITIONS: A CORE-BASED XRD RECORD FROM OLDUVAI GORGE, TANZANIA

**184-21** 206 DiMaggio, Erin N.*; Sarkaw, Gina; Furman, Tanya; Gareillo, Dominique; Campisano, Christopher J.; Arrowmith, Ramon; Wynn, Jonathan G.; Quade, Jay; Feibel, Craig S.: APPLICATION OF LA-ICP-MS TO TEPHRA CORRELATION STUDIES IN AFAR, ETHIOPIA

**184-22** 207 Deocolmo, Daniel M.*; Owen, R. Bernhart; Lowenstein, Tim K.; Renaut, Robin W.; Rabideaux, Nathan M.; Deino, Alan; Luo, Shangde; Sier, Mark J.; Cohen, Andrew S.; Campisano, Christopher J.; Billingsley, Anne L.; Mubthia, Anthony: ORBITAL CONTROL OF EUXINIA IN LAKE MAGADI OVER THE PAST 1 MILLION YEARS: MOLYBDENUM, ARSENIC, AND VANADIUM RECORDS

**184-23** 208 Berke, Melissa A.*; Cartagena-Sierra, Alejandra; Castaneda, Isla S.; van der Meer, Marcel T.J.; Hall, Ian R.; Hemming, Sidney R.; LeVay, Leah J.: Plio-Pleistocene Biomarker
Tuesday, 6 November 2018

185-24 209 Ferland, Troy; Werne, Josef P.; Castaneda, Isla S.; Cohen, Andrew; Lowenstein, Tim K.; Deecampo, Daniel; Renaut, Robin W.; Owen, R. Bernhart: ASSESSING MOLECULAR ISOTOPIC PROXIES FOR PALEOENVIRONMENTAL RECONSTRUCTION IN A SALINE TROPICAL LAKE: LAKE MAGADI, KENYA

SESSION NO. 185
T117. Greenhouse to Icehouse Transition: Global Events of the Devonian, Carboniferous, and Early Permian (Posters) (GSAC Particle Sedimentary Geology Division; International Association of Sedimentologists; Geochemical Society; GSA International Interdisciplinary Interest Group; Paleontological Society)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

185-1 210 Sedlacek, Alexa R.C.*; Clark, Ryan J.; McMorrow, Riley; Bishop, Nicole; Wieman, Scott T.; Seebree, Joshua; Witzke, Brian J.: APPLICATION OF CARBON ISOTOPIC STRATIGRAPHY OF THE MIDDLE TO UPPER DEVONIAN (GIVETIAN-FRASNIAN) CEDAR VALLEY GROUP IN THE IOWA BASIN – NEW DATA FROM A CORE IN NORTH-CENTRAL IOWA

185-2 211 Chan, Rachel L.*; Michel, Lauren A.; Tabor, Neil J.; Millerson, Mary E.; Hillis, Kayla R.; Blaylock, Hannah E.: PALEOENVIRONMENTAL RECONSTRUCTIONS FROM THE PENNSYLVANIAN-PERMIAN ABO AND BURSUM FORMATIONS IN NEW MEXICO USING STABLE ISOTOPIC GEOCHEMISTRY OF PALEOSOLS

185-3 212 Pauls, Kathryn N.*; Isbell, John L.; Moxness, Levi D.; Limarino, C. Oscar; Schencon, L. Jazmin; Colombi, Carina E.; Alonso-Munugua, Pablo J.: LATE PALEOZOCIC REGIONAL PALEOClimaTE OF THE PROTOPRECOCIDILERAN GONDWANA MARGIN: A CASE STUDY IN THE PAGANZO BASIN

185-4 213 Perry, Amelia A.*; LaMaskin, Todd A.; Schantz, Krysden A.; Koster, Amanda*; Holbrook, John: A TWIST ON THE SEQUENCE STRATIGRAPHIC MODEL: CLIMATE INDUCED INCISION WITH A SEA LEVEL ASSIST

185-5 214 Depugh, Meagan E.*; Grossman, Ethan L.: USING PERMIAN BRachiOPod SHELL STABLE ISOTOPES TO DETERMINE MID-TO-HIGH LATITUDE SEASONALITY

185-6 215 Estrada, Lucas*; Pippenger, Kate; Boyer, Diana L.; Jones, David S.; Cohen, Phoebe: MERCURY AND MICROFOSSIL TRENDS DURING END-DEVONIAN EXTINCTION EVENTS

185-7 216 Cheng, Key*; Erick, Maya; Romaniello, Stephen J.; Gilleadeau, Geoffrey J.; Jiang, Ganking: EARLY MISSISSIPPIAN OCEAN ANOXIA DRIVING CLIMATE COOLING AND INCREASED GLACIATION: TESTING THE HYPOTHESIS USING URANIUM ISOTOPEs IN MARINE CARBONATES

185-8 217 Pechacek, Amanda*; Holbrook, John: A TWIST ON THE SEQUENCE STRATIGRAPHIC MODEL: CLIMATE INDUCED INCISION WITH A SEA LEVEL ASSIST

185-9 218 Koster, Olivia*; LaMaskin, Todd A.; Lane, Chad S.; Hawkes, Andrea D.: STABLE CARBON ISOTOPE SIGNATURE OF THE LATE DEVONIAN (FRASNIAN) ALAMO IMPACT AT DEVILS GATE, NEVADA: GEOLOGICALLY INSTANTANEOUS TRANSFER OF 13C-ENRICHED CARBON FROM THE LITHOSPHERE TO THE DISSOLVED INORGANIC CARBON POOL

185-10 219 Fedorchuk, Nicholas D.*; Isbell, John L.; Griffis, Neil; Montañez, Isabel P.; Vesely, Fernando; Rosa, Eduardo L.M.; Mundil, Roland; Iannuzzi, Roberto; Roesler, Guillerme A.; Yin, Qiong-zhu: CARBONIFEROUS GLACIATION IN SOUTHERNMOST BRAZIL AND URUGUAY (PARANÁ AND CHACO-PARANÁ BASINS): ICE EXTENT AND PALEOClimaTE INDICATORS

SESSION NO. 186
T123. Cephalopods through Time (Posters) (Paleontological Society; EarthRates; Paleontological Research Institution)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

186-1 221 Fang, Xiang*; Zhang, Yumai: THE GIANT GUNNARITES FROM THE LATE DEVONIAN (FRASNIAN) ALAMO IMPACT AT DEVILS GATE, NEVADA: GEOLOGICALLY INSTANTANEOUS TRANSFER OF 13C-ENRICHED CARBON FROM THE LITHOSPHERE TO THE DISSOLVED INORGANIC CARBON POOL

186-2 222 Seuss, Barbara*; Nützel, Alexander: A CASE STUDY ON BIOEROSION IN FOSSIL CEPHALOPODS FROM THE UPPER CARBONIFEROUS BUCKHORN ASPHALT QUARRY LAGERSTÄTTE, OKLAHOMA, USA

186-3 223 Delnavaz, Vanessa*; Powell, Lindsey Renee; Novick, Isabel Andie; Uehling, Abigail Taylor; Larsen, Eva Marie V.: CURATION OF THE ROYAL H. AND GENE MAPES INVERTEBRATE PALEONTOLOGY COLLECTION AT THE AMERICAN MUSEUM OF NATURAL HISTORY: TYPE SPECIMENS, CURATION PROGRESS AND COMPLETION

186-4 224 Yacoubucci, Margaret M.*: CEPHALOPODS IN A GREENHOUSE: DIVERSIFICATION AND EXTINCTION IN RESPONSE TO ENVIRONMENTAL PERTURBATIONS IN THE EARLY LATE CRETACEOUS

186-5 225 Rosensaat, Marcelo*: Landman, Neil H.; Hussaini, Bushra M.; O’Leary, Ruth; Ketelsen, Sara; Rashkova, Anastasia: GEOREFERENCING CRETACEOUS MOLLUSCA OF THE WESTERN INTERIOR SEAWAY IN A GIS FRAMEWORK

186-6 226 Ifrim, Christina*: Stennesbeck, Wolfgang: THE GIANT PARAPUZOSIA OF NORTHEASTERN MEXICO AND THEIR RELATION TO THE WORLD'S LARGEST AMMONITE

186-7 227 Rouget, Isabelle; Kruta, Isabelle*: Mouchi, Vincent; Pazzé, Léo; Dauphin, Yannicke; Segalen, Loic; Landman, Neil H.; Baumgartner, Lukas: SCLEROCHRONOLOGICAL STUDY OF AMMONOID JAWS

186-8 228 Cochran, J. Kirk*: Landman, Neil H.; Gao, Yang; Henkes, Gregory A.: STRONTIUM, CARBON AND OXYGEN ISOTOPES IN WELL-PRESERVED AMMONITE SHELLS AND AUTHIGENIC CARBONATES IN COLD METHANE SEEP DEPOSITS FROM THE LATE CRETACEOUS WESTERN INTERIOR SEAWAY OF NORTH AMERICA: CLUES TO SEEP PALEOENVIRONMENT

186-9 229 Rashkova, Anastasia*: Garb, Matthew P.; Landman, Neil H.; Cochran, J. Kirk; Larson, Neal L.; Witts, James D.; Brezina, Jamie; Myers, Corinne; Brophy, Shannon K.; Rowe, Alison J.: TEMPORAL, SPATIAL, AND FAUNAL ANALYSIS OF METHANE SEEP DISTRIBUTION IN THE LATE CRETACEOUS WESTERN INTERIOR SEAWAY (WIS), USA


186-11 231 Tohin, Thomas S.*; Doughty, Caroline G.; White, Stephanie J.: POSSIBLE ANAGENETIC EVOLUTION WITHIN THE AMMONITE GENUS GUARNITIDES FROM THE LATE CRETACEOUS OF ANTARCTICA

186-12 232 Landman, Neil H.*; Slovacek, Mariah: COLOR PATTERNS IN RECENT NAUTILUS SPECIES
SESSION NO. 187

T124. Integrated Biostratigraphy (Posters)

9:00 AM, Indiana Convention Center, Hall J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

187-1 233 Wald, Christopher B.*: HIGH-RESOLUTION SUBSURFACE CORRELATIONS OF HIRNANIAN (LATE ORDOVICIAN) AND SHEINWOODIAN (WENLOCK, SILURIAN) STRATA IN SOUTHERN AND SOUTHEASTERN OHIO, USA

187-2 234 Fluegeman, Richard H.*; Khameiss, Belkasim; Buntin, Christopher; Jenkins, Jacob; Manney, Rodney; Rodeghero, Gina; Warkenthien, Reinhard: FORAMINIFERAL PALEEOLOGY OF THE MARIANNA LIMESTONE (OLIGOCENE; RUPELIAN) IN THE MOBIL-MISSISSIPPI CORES, WAYNE COUNTY, MISSISSIPPI


187-4 236 Gibbs Schnucker, Sara*: Tackett, Lydia S.; Vanderlaan, Anna L.: BIOSTRATIGRAPHIC CORRELATION OF ISOLATED LATE TRIASSIC (NORIAN/WAREFAN) MURHIKU SUPERGROUP OUTCROPS IN SOUTHERN SOUTH ISLAND, NEW ZEALAND

187-5 237 Kahanamoku, Sara S.; Meyer, Gregory D.; Finnegan, Seth: ASSEMBLING CALIFORNIA’S MARINE BIODIVERSITY: A NEW MICROFOSSIL DATA RESOURCE FOR THE CRETACEOUS-PLEISTOCENE OF CALIFORNIA


187-7 239 McLaughlin, Patrick I.*; Bancroft, Alyssa M.; Embsio, Poul; Brett, Carlton E.: TESTING MODELS OF LATERAL FACIES HETEROGENEITY IN THE UPPER SILURIAN (ILLINOIS BASIN, NORTH-CENTRAL ILLINOIS): FACIES MOSAIC, STRUCTURAL SAG, OR STACKED INCISED VALLEYS?


187-9 241 De Backer, Tim*: McLaughlin, Patrick I.; De Weirdt, Julie; De Boott, Charlotte; Embsio, Poul; Bancroft, Alyssa M.; Vandenbroucke, Thijs R.A.; Williams, Mark: MAQUOKETA GROUP HOLOSTRATIGRAPHY: INTEGRATION OF BIO-, CHEMO- AND LITHOSTRATIGRAPHY (UPPER ORDOVICIAN, MIDCONTINENT, USA)

187-10 242 McDonald, Neo E.B.*; Cramer, Bradley D.; Bancroft, Alyssa M.; Melchin, Michael; Devera, Joseph; Day, James E.: REGIONAL AND GLOBAL CHRONO- AND BIO-CHEMOSERIAL SIGNS OF THE 136Ma OLD CHRONOZONATION CONTOURS ON THE SCHLAMER #1 CORE (SILURIAN, ILLINOIS BASIN)

187-11 243 Young, Allison L.*; McLaughlin, Patrick I.; Sinnesael, Matthias; Brett, Carlton E.; Dattilo, Benjamin; Holtheroff, Peter F.: CHEMOSERIALITY OF δ18O(Ca) TREND AND ABNORMALITIES IN UPPER ORDOVICIAN (KATIAN) DEEP SUBTIDAL FACIES: “DIAGENETIC NOISE” OR RAPID LATERAL CHANGES IN TIME-ROCK FABRIC?

187-12 244 Rivera Rosario, Alexis D.: TAXONOMIC CLASSIFICATION OF FOSSIL REMAINS FROM CAVE DEPOSITS IN CIALÈS, PUERTO RICO: KEYWORDS: PUERTO RICO, CAVE DEPOSITS, TAXONOMY, ELASMODONTOMYS OBLIGUIUS, HOLLOW BONES, RADIOCARBON DATING

187-13 245 Morse, Aaron*: Day, Jed: UPPER ORDOVICIAN (LATE FRASIAN—EARLY FAMENNIAN) CONODONT BIOMETRIC AND δ18O(Ca) ISOTOPIC AND SUBTROPICAL NORTH AMERICAN SST RECORDS SPANNING THE KELLWASSER EXTINCTION EVENTS


187-17 249 Over, D. Jeffrey*: Mason, Charles E.: ACULEATUS ZONE AGE OF THREE LICK BED TYPE LOCALITY, OHIO SHALE, UPPER DEVONIAN, EASTERN KENTUCKY


187-20 252 Korpany, Chelsea A.: Courtillot, Margot; Deik, Hanaa; Potts, Donald; Reuning, Lars: SOLITARY, AZOOXANTHELLATE SCLERACTINIAN CORALS FOR QUERNARY RECONSTRUCTIONS OF THE INDONESIAN THROUGHFLOW, LEUWIJUN CURRENT, AND PALEOVENVIRONMENT ON AUSTRALIA’s NORTHWEST SHELF


187-22 254 Olatunji, Olajuwar Abdulrazaq*: PALYNOSERIALIZATION, CHRONOSTRATIGRAPHY AND PALEOVENVIRONMENT OF DEPOSITION OF THE ALBAN TO PILOCENE SEDIMENTS OF NZAM-1 WELL, ANAMBRA BASIN, SOUTHEASTERN NIGERIA

187-23 255 Ismael, Mohamed*: Zobia, Mohamed K.; Raymond, Anne: PALYNOMORPH IDENTIFICATION AND PRELIMINARY PALYNOSERIALIZATION OF THE SILURIAN TANNEZUFT AND AKAKUS FORMATIONS IN THE LIBYAN GHADAMES BASIN

SESSION NO. 188

T134. Echinoderm Paleobiology (Posters): In Honor of the Career of James Sprinkle (Paleontological Society)

9:00 AM, Indiana Convention Center, Hall J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

188-1 256 Carmona, Noelia B.*; Mángano, Gabriela; Buatois, Luis A.; Bromley, Richard; Ponce, Juan Jose; Asgaard, Ulla; Bellois, Eduardo: SCOLICIA AND ITS PRODUCER IN SHALLOW MARINE DEPOSITS OF THE LOWER MIocene CHENQUE FORMATION OF PATAGONIA, ARGENTINA: FUNCTIONAL MORPHOLOGY AND IMPLICATIONS FOR UNDERSTANDING BURROWING BEHAVIOR

188-2 257 Veitch, Margaret A.*; Zamora, Samuel: NEW RECORD OF STALKED BOURGUETOCRINIDS FROM NORTHEAST SPAIN

188-3 258 Cole, Selina R.; Pankowski, Mary K.: Baez-Alicea, Adrian: EVOLUTIONARY TRENDS IN PALEOZOIC CRINOID CALYX COMPLEXITY

188-4 259 Zachos, Louis G.*: A MATRIX POPULATION MODEL FOR GROWTH OF THE ECHINOID SKELETON

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188-5  260  Hanson, Kathryn E.*; Lester, Rachel; Deline, Bradley:
       DECIPHERING THE ROLE OF CRINOIDS IN LATE
       ORDOVICIAN ECHINODERM DISPARITY

188-6  261  Sultan, Ali*; Ranjha, Isa; Purcell, Jack Nathan; Deline,
       Bradley; Novack-Gottshall, Philip M.: ECOLOGICAL AND
       MORPHOLOGICAL DISPARITY BOTH INCREASE
       DURING THE EARLY PALEOZOIC DIVERSIFICATION
       OF ECHINODERMS

188-7  262  Purcell, Jack Nathan*; Ranjha, Isa; Sultan, Ali; Novack-Gottshall,
       Philip M.: EVOLUTION OF ECHINODERM BODY SIZES
       THROUGHOUT THEIR PHANEROZOIC HISTORY

188-8  263  Harris, Ann W.*; Ettenson, Frank R.; Carnahan-Jarvis, Jill:
       GEOLOGICAL AND STATISTICAL ATTRIBUTES OF TWO
       ECHINODERM-BEARING FAUNAS FROM THE UPPER
       MISSISSIPPIAN (CHESTERIAN) RAMEY CREEK MEMBER,
       SLA Formation, EASTERN KENTUCKY, U.S.A

188-9  264  Thomka, James R.*; Bissett, Donald L.; Bantel, Thomas E.;
       Davidson, Maxx D.; Brett, Carlton E.: MICROSTRATIGRAPHY
       AND MODES OF OCCURRENCE OF DIPLOPORTIAN
       ECHINODERMS IN THE NEAPELON QUARRY LAGERSTÄTTE
       (MIDDLE SILURIAN MASSIE FORMATION, SOUTHEASTERN
       INDIANA)

188-10 265  Brett, Carlton E.*; Thomka, James R.; Bissett, Donald L.:
       ANALYSIS OF DISARTICULATED PELMATOZOAN
       COLUMNS FROM THE SILURIAN OF INDIANA: A KEY
       TO ASSESSMENT OF BIODIVERSITY, TAPHONOMIC BIASES,
       AND PALEOECOLOGY

188-11 266  Chiarello, Josephine*; Wittmer, Jacalyn M.; Guensburg,
       Thomas E.; Stock, Carl W.; Darrough, Guy; Brett, Carlton E.:
       DETERMINING FAUNAL DIVERSITY AND THE ROLE OF
       KEY BIOTA FROM REEF-LIKE BUILDUPS IN THE LATE
       ORDOVICIAN (KATIAN) KIMMSWICK LIMESTONE, EAST-
       CENTRAL MISSOURI

188-12 267  Burgess, Sarah A.*; Thomka, James R.: PRESEvation
       OF CRINOIDS IN THE UPPER ORDOVICIAN "FLEXICLYMEN
       MINUENS BUTTER SHALE" OF SOUTHEASTERN INDIANA:
       PRELIMINARY RESULTS

188-13 268  Wright, David F.*: A CAMBRIAN ORIGIN FOR CRINOIDS?
       PROBABILISTIC MODELING OF EVOLUTIONARY TREES
       SUPPORTS A LONG FUSE OF LATENT DIVERSIFICATION
       ACROSS THE CAMBRIAN-ORDOVICIAN BOUNDARY

188-14 269  Grun, Tobias B.*; Nebelsick, James H.: STRUCTURAL
       MECHANICS OF GLYCEOSTEROID ECHINODERMS

188-15 270  Thompson, Jeffrey R.*; Petsios, Elizabeth; Godbold,
       Amanda Lynn; Botter, David J.: THE PERMIAN-TRIASSIC
       MACROEVOLUTIONARY HISTORY OF ECHINODERMS

SESSION NO. 189

D28. Petrology, Igneous (Posters)
9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM

189-1  271  Lopez, Nora V.*; Hudgins, Thomas R.: MAGMA MIXING
       USING GEOCHEMICAL DATA FROM THE TRANS-MEXICAN
       VOLCANIC BELT

189-2  272  Montour, Geoffrey*; Peate, David W.; Maruszczak, Alex D.:
       CLINOPYROXENE GEOBAROMETRY OF OFF-AXIS BASALTIC
       LAVAS FROM THE SNÆFELLSJÖKULL VOLCANO, ICELAND

189-3  273  Abbott, Jared R.*: THE USE OF PORTABLE X-RAY
       FLUORESCENCE, MAGNETIC SUSCEPTIBILITY, AND
       THE SCANNING ELECTRON MICROSCOPE TO CLASSIFY,
       CHARACTERIZE, AND DETERMINE THE REDOX STATE OF
       GRANITES

189-4  274  Reiner, Clayton*; Brown, Ken: PETROGRAPHIC AND
       GEOCHEMICAL INVESTIGATIONS OF THE MCCARTNEY MTN.
       STOCK, SW MONTANA

189-5  275  Peterman, Kenneth*; McCann, Veronica; Barton, Michael:
       DEVELOPING A METHOD TO CALCULATE OXYGEN
       FUGACITY BASED ON OLIVINE-MELT EQUILIBRIUM USING
       EXPERIMENTAL DATA

189-6  276  Dorais, Michael J.*; Buchs, David: MINERALOGICAL
       CHARACTERIZATION OF REJUVENATED MAGMATISM AT
       BURTON GUYOT, LOUISVILLE SEAMOUNT TRAIL

189-7  277  Casares, Heather*; Nicholson, Kirsten N.; Malone, Shawn J.:
       ZIRCON GEOCHEMISTRY AND GEOCHRONOLOGY OF THE
       SEVEN DEVILS MOUNTAINS, WESTERN IDAHO: TESTING
       PROPOSED TIES TO THE WRANGALIA TERRANE

189-8  278  Farag, Adel*; Nicholson, Kirsten N.; Malone, Shawn J.; Grigsby,
       Jeffry D.; Lange, Eric S.: WHOLE ROCK CHEMISTRY AND
       TECTONIC EVALUATION OF PERMIAN-TRIASSIC SEVEN
       DEVILS JUVENILE ARC, WESTERN IDAHO

189-9  279  Gevedon, Michelle L.*; Odlum, Margaret; Magumicia, Brian A.;
       Stockli, Daniel P.; Clemens-Knott, Diane: NEW ZIRCON U-PB
       AND (U-Th)/He AGES OF MIocene RHYOLITE FROM THE
       KERN VOLCANIC FIELD; KERN PLATEAU, SOUTHERN
       SIERA NEVADA, CALIFORNIA

189-10 280  Ishimwe, Felix*: Steiner, R. Alex; Rooney, Tyrone O.: VISOKE
       AND SABBYINO – UNDERSTUDIED POTASSIC VOLCANOES
       WITHIN THE VIRUNGA VOLCANIC PROVINCE

189-11 281  O’Sullivan, Katie*; Harvin, Stewart; Rodrigue, Virginia; Epuna,
       Favour; Pratt, Brandon: TEXTURAL CHARACTERIZATION
       OF THE CIMA VOLCANIC FIELD (CALIFORNIA) USING
       TRADITIONAL AND NOVEL APPROACHES

189-12 282  Hosseinzadehsabeti, Elham*; Ferre, Eric C.; Geissman, J.W.;
       Friedman, Sarah A.; Andersen, Torgeir B.; Spagnuolo, Elena;
       Di Toro, Giulio: THE KINEMATICS OF FRICATIONAL MELTS
       IN A SUBDUCTION ZONE: PILOT STUDY ON CORSICAN
       PSEUDOTACHYLITES

189-13 283  Steven, Cody J.*; Dyer, M. Darby; McCanta, Molly C.:
       DETERMINATION OF FERRIC-FERROUS RATIO IN
       PYROXENES WITH X-RAY ABSORPTION SPECTROSCOPY

189-14 284  Chaumba, Jeff B.*: PETROGENESIS OF THE MASHAVA
       IGNEOUS COMPLEX IN SOUTH CENTRAL ZIMBABWE
       BASED ON A STUDY OF ITS SILICATE MINERAL
       COMPOSITIONS

SESSION NO. 190 $

T139. Work on the Zircon, Highlight the Apatite (Posters): Wielding
       the Power of Accessory Minerals and Honoring the Contributions
       of Bruce Watson, 2018 Roebling Medalist (Mineralogical Society
       of America; Geological Society; GSA Mineralogy, Geochemistry,
       Petrology, and Volcanology Division; Volcanic and Magmatic
       Studies Group; American Geophysical Union)
9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM

190-1  285  Thurston, Olivia*; Guenthner, William R.; Garver, John L.:
       MAPPING AND QUANTIFICATION OF TOTAL ANNEALING
       OF ZIRCON ALPHA-DECAY RADIATION DAMAGE: REVISIONS
       TO ANNEALING KINETICS FOR ZIRCON-HE THERMAL
       HISTORIES

190-2  286  Murray, Kendra E.; Niemi, Nathan A.*: RAPID STEPPED-
       HEATING EXPERIMENTAL METHOD FOR ROUTINE
       MONAZITE (U-TH-SM)/He THERMOCHELON

190-3  287  Jiang, Peng*; Foster, David A.; Perfit, Michael; Trucco, Andres:
       APPLICATION OF HIGH SPATIAL RESOLUTION MAJOR AND
       TRACE ELEMENT ANALYSES OF ACCESSORY MINERALS IN
       METAMORPHIC TECTONITES BY ELECTRON MICROPROBE

190-4  288  Kylander-Clark, Andrew R.C.*; Clark, Chris: DEPTH-PROFILING
       PETROCHRONOLOGY OF TITANITE FROM THE SOLUND
       BASIN, WESTERN NORWAY

190-5  289  Martin, Alec J.*; Keith, Jeffrey D.; Christiansen, Eric H.; Kowallis,
       Bart J.; Jensen, Collin G.; Chadburn, Ryan; Henze, Porter; Martin,
       Samuel G.; Jordan, Lars; Kindred, Thane: TITANITE TRACE
       ELEMENT TRENDS IN A LOW-F PORPHYRY MO-W DEPOSIT
       IN THE OLIGOCENE LITTLE COTTONWOOD STOCK, UTAH
SESSION NO. 191

T142. Metamorphic Petrology Past, Present, and Future: Preparing for the Next 100 Years with the Mineralogical Society of America (Posters) (Mineralogical Society of America; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

191-1 296 PAN, Ruiguang*; Macris, Catherine A.; Menold, Carrie A.; Shahar, Anat: METAMORPHIC EVOLUTION AND METASOMATISM IN THE TSO MORARI UHP TERRANE, NW INDIA: CONSTRAINTS FROM GEOCHEMISTRY, FE ISOTOPES, AND THERMODYNAMIC MODELING

191-2 297 Fornasch, Katherine*; Whitney, Donna L.: THE SIGNIFICANCE OF LAWSONITE + CHLORITE ROCKS FOR TRACE ELEMENT AND WATER CYCLING IN SUBDUCTION ZONES: INSIGHTS FROM THE TAVSANLI ZONE, TURKEY

191-3 298 Berg, Christopher A.*: MINERALOGIC, TEXTURAL, AND GEOCHEMICAL EVALUATION OF METAGABBROIC ROCKS FROM THE GLADESVILLE COMPLEX, CENTRAL GEORGIA

191-4 299 Buzon, Marian E.; Reid, Robert*: A CHARACTERIZATION OF METAMORPHOSED ULTRAMAFIC LENSES IN CARROLLTON, GEORGIA

191-5 300 Hamelin, Clémentine*; Biedermann, Andrea R.; Whitney, Donna L.; Teyssier, Christian: A NOVEL APPROACH FOR EXTRACTING EARYER, HIGHER-P RECORDS FROM ROCKS OVERPRINTED AT HP-LT CONDITIONS: INTEGRATING METAMORPHIC PETROLOGY AND MAGNETIC FABRICS OF AMPHIBOLITES EXHUMED IN A MIGMATITE DOME


191-7 302 Nachlas, William G.*; Thomas, Jay B.: ALUMINUM SOLUBILITY IN QUARTZ AND APPLICATION OF THE SINGLE MINERAL CROSSING ISOPLETHS METHOD

191-8 303 Osborne, Andrew William*; Henry, Darrell J.: TRANSITIONAL GRANULITE-FACIES MAFIC XENOLITHS IN THE 2.8 GA

SESSION NO. 192

T157. Evolving Perspectives of the Precambrian World: Using Combined Theoretical and Applied Approaches to Tackle Problems at the Intersection of Geology, Geochemistry, and Geobiology (Posters) (Paleontological Society; GSA Geobiology & Geomicrobiology Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

192-1 309 Park, Kye-Hun*; Song, Yong-Sun; Ha, Youngji; Kim, Myoung Jung: EARLY AND LATE MESOPROTEROZOIC MAGMATISM, EARLY NEOPROTEROZOIC EXTENSION AND MIDDLE NEOPROTEROZOIC GLACIATION FOUND IN THE NORTHEASTERN OKCHEON METAMORPHIC BELT

192-2 310 Brengman, Latsasha Ashley*; Stewart, Esther K.; Stewart, Eric D.; Moy, Aurélie; Fournelle, John H.; Segue-Wright, George: REVIVING HISTORICAL DATA >100 YEARS LATER: A FRESH LOOK AT THE DEPOSITIONAL SETTING AND PETROGENESIS OF THE 1.71 GA FREEDOM FORMATION, BARABOO, WI

192-3 311 Brengman, Latsasha; Johnson, Kendall*; Trower, Elizabeth J.: GRAIN SIZE DISTRIBUTIONS AND MINERALOGY OF COATED GRAINS, DETRITAL SAND AND SILT WITHIN THE ~1.9 GA MESAIB IRON RANGE, MINNESOTA

192-4 312 Osterhout, Jeffrey T.*; Willford, Kenneth H.; Schopf, J. William: SIMS CARBON ISOTOPE ANALYSES OF FILAMENTOUS ORGANIC-WALLED MICROFOSSILS PERMINERALIZED IN PROTEROZOIC CHERTS

192-5 313 Zhang, Jiawei*; Dai, Yanan; Chen, Jianshu: AN INTEGRATED PROVENANCE AND TECTONIC SETTING STUDY OF THE NEOPROTHEROZOIC TONIAN SEDIMENTARY SEQUENCES IN EAST GUIZHOU PROVINCE, CHINA

192-6 314 Baker, Lindsey K.*; Stottler, Sara V.; Andronicos, Christopher L.; Daniel, Christopher G.: TESTING MODELS OF MAZATZAL (1650 MA) AND PICURIS AGE (1400 MA) METAMORPHISM IN NEAR-GRANULITE FACIES METAMORPHIC ROCKS OF THE NORTHERN TAOS RANGE, NEW MEXICO

192-7 315 Owens, Brent E.*; Hamilton, Michael A.: A REVIEW OF U-PB ZIRCON AGES FROM THE ROANOKE RAPIDS-TERRANE, EASTERN PIEDMONT PROVINCE, VIRGINIA, AND NEW Nd ISOTOPIC DATA BEARING ON THE NATURE OF CRATONIC BASEMENT
Tuesday, 6 November 2018

192-8 316 Miska, Meridith A.*; Mueller, Paul A.; Bermudez, Katherine: PALEOARCHAEOAN CRUST OF THE MINNESOTA-MICHIGAN CORRIDOR: EVIDENCE FROM THE WATERSMEET DOME, NORTHERN MICHIGAN


192-10 318 Okubo, Juliana*; Klyukin, Yury I.; Warren, Lucas V.; Bodnar, Robert J.; Xiao, Shuhai: THE ORIGIN OF BARITE IN THE BASAL EDIACARAN SETE LAGOAS CAP CARBONATE (BAMBUI GROUP, BRAZIL) AND ITS IMPLICATIONS


192-12 320 Klier, Joshua*; Malone, Shawn J.; Nicholson, Kirsten N.; Dowling, Carolyn B.: PRELIMINARY GEOCHEMISTRY ON THE MARSHFIELD TERRANE, WEST-CENTRAL WISCONSIN

SESSION NO. 193

T169. The Evolution of Continental Weathering through Geologic Time: Paleoclimate, Biogeochemistry, Diagenesis, and Clay Minerals (Posters) (GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Energy Geology Division; GSA Geoinformatics Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM

Booth #

193-1 321 Nowacki, Emily J.*; Clark, Christine M.: WEATHERING OF VOLCANIC ASH FROM DIFFERENT CLIMATES USING SECONDARY ELECTRON ANALYSIS

193-2 322 Conley, Ethan; Crandall, Kurt; Futterman, India; Vorster, Penelope; Robins, Colin*: PRELIMINARY, NEW INSIGHTS INTO THE EVOLUTION OF AN EXTANT, 4.5 MA SOIL-GEOMORPHIC SURFACE AND ITS UNIQUE PETROCALCIC HORIZONS, SOUTHERN NEVADA, USA

193-3 323 Andrzjejewski, Kate*; Tabor, Neil J.; Jacobs, Louis L.: PALEOENVIRONMENTAL AND PALEOCCLIMATIC RECONSTRUCTION OF CRETACEOUS TERRESTRIAL FORMATIONS OF TEXAS AND OKLAHOMA USING PEDOGENIC MINERALS

193-4 324 Perez, Marco*; Wronkiewicz, David J.; Lomelis, Marek; Bohannan, Eric: REWORKED CLAY AS A GEOCHEMICAL EXPLORATION TOOL FOR MAGMATIC-HYDROTHERMAL ORE DEPOSITS IN TROPICAL REGIONS

193-5 325 Zubi, Husamaldeen*; Platt, Brian F.; Khamis, Belkasim: MINERALOGICAL AND GEOCHEMICAL ANALYSES OF SAND AND SANDSTONE SAMPLES FROM THE MERIDIAN SAND MEMBER, GRENADA COUNTY, MISSISSIPPI; IMPLICATIONS TO INTERPRET PROVENANCE AND PETROLOGY OF THE MERIDIAN SAND

SESSION NO. 194

T174. Permian-Triassic Biotic Crisis: New Insights through Integrative Studies of Earth, Ocean, and Atmosphere (Posters) (GSA Sedimentary Geology Division; GSA Geobiology & Geomicrobiology Division; International Association of Sedimentologists; SEPM (Society for Sedimentary Geology); Paleontological Research Institution; GSA International Interdisciplinary Interest Group; Paleontological Society)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM

Booth #

194-1 326 Frank, Tracy D.*; Fielding, Christopher R.; Tevyaw, Allen; McLoughlin, Steve; Vajda, Viv; Mays, Christopher; Nicoll, Robert S.; Winguth, Arne; Winguth, Cornelia; Bocking, Malcolm; Crowley, James L.: GEOCHEMICAL RECORDS OF THE PERMIAN-TRIASSIC BOUNDARY INTERVAL IN A HIGH-LATITUDE, CONTINENTAL MARGIN SETTING (SYDNEY BASIN, AUSTRALIA)

194-2 327 Tevyaw, Allen P.*; Fielding, Christopher R.; Frank, Tracy D.: A SEDIMENTOLOGICAL EVALUATION OF THE PERMO-TRIASSIC BOUNDARY INTERVAL IN THE NORTHEAST SYDNEY BASIN, AUSTRALIA

194-3 328 Liu, Zeyang*; Selby, David; Zhang, Hua; Zheng, Quanfeng; Shen, Shuzhong; Sageman, Bradley B.: VOLCANISM DRIVEN CARBON ISOTOPE FRACTIONATION ACROSS THE WUCHAIPIANG-CHANGHSISHINGIAN BOUNDARY INTERVAL: IMPLICATIONS FROM 187OS/188OS ISOTOPE STRATIGRAPHY

194-4 329 McIntosh, Julia A.*; Tabor, Neil J.: STRATIGRAPHIC AND CLAY MINERAL ANALYSES OF PERMIAN-TRIASSIC BOUNDARY SECTIONS FROM THE CENTRAL TRANSANTARCTIC MOUNTAINS, ANTARCTICA

194-5 330 Stonesifer, Timothy R.*; Jia, Ruofei; Gastaldo, Robert A.; Neveling, Johann: USING DRONE TECHNOLOGY, PHOTOGRAMMETRY, AND VIRTUAL REALITY IN THE ANALYSIS OF REMOTE AND INACCESSIBLE CLASSIC LOCALITIES: THE VERTEBRATE-_DEFINED PERMIAN–TRIASSIC SECTION ON THE BETHEL FARM, FREE STATE PROVINCE, SOUTH AFRICA

194-6 331 Jia, Ruofei*; Stonesifer, Timothy R.; Gastaldo, Robert A.; Neveling, Johann: DRONES AND 3D MODELING OF THE KATBERG FORMATION IN A CLASSICAL PERMIAN–TRIASSIC BOUNDARY SITE

194-7 332 Harrison, Scott Daniel*; Gastaldo, Robert A.; Neveling, Johann: TESTING FOR CARBONATE-RICH PALEOSOLS IN THE LOWER LYSTROS AURUS ASSEMBLAGE ZONE, KAROO BASIN, SOUTH AFRICA

194-8 333 Johnson, Claire M*; Bottjer, David J.: IDENTIFYING METAZOAN ACTIVITY IN MICRIBIAL FACIES FROM THE EARLY TRIASSIC OF NW PANGEA

194-9 334 Han, Mingli*; Yang, Wang; Zhang, Xian; Wang, Jun: FOSSIL WOOD ASSEMBLAGE FROM THE UPPERMOST WUTONGGOU LOW-ORDER CYCLE (CHANGHSISHINGIAN-INDUAN) OF SOUTH TAO DON GOU, BOGDA MOUNTAINS, NORTHERN CHINA

194-10 335 Yang, Wang*; Wang, Mingli; Xian, Zhan: CYCLOSTRATIGRAPHY OF UPPERMOST PERMIAN-LOWER TRIASSIC TERRESTRIAL DEPOSITS IN BOGDA MOUNTAINS, GREATER TURPAN-JUNGGAR BASIN, NW CHINA – UPDATES FROM SEDIMENTARY, GEOCHEMICAL, AND PALEOBOTANICAL DATA

194-11 336 Zhan, Yang*; Wang, Zhan; Yajiao: EPISODES OF PERTURBATIONS OF CARBON AND NITROGEN CYCLES COUPLED WITH PERMO-TRIASSIC TERRESTRIAL MASS EXTINCTION IN NE PANGEA, BOGDA MOUNTAINS, NW CHINA

SESSION NO. 195

D60. Structural Geology (Posters)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM

Booth #

195-1 337 Little, Timothy A.*; Boulton, Carolyn; Niemeijer, André R.; Mizera, Marcel; Webber, Samuel McKeever; Boles, Austin; van der Pluijim, Ben: DOWN-DIP CHANGES IN DIP, FRICTIONAL STRENGTH, AND SLIP BEHAVIOR OF THE ACTIVE MA'IUU LOW-ANGLE FAULT, SUCKLING-DAYMAN METAMORPHIC CORE COMPLEX, PAPUA NEW GUINEA

195-2 338 Robins, Kathryn*; Sen, Pragnyadipa: PRELIMINARY STRAIN MEASUREMENTS WITHIN THE FEURA BUSH QUARRY DUPLEX IN THE NORTHERN HUDSON VALLEY FOLD-THRUST BELT, SELKIRK, NY
SESSION NO. 197
D40. Tectonics/Tectonophysics (Posters)

197-1 370 Zhu, Lu*: Fan, Majie; Yancey, Thomas E.; Smith, Jon J.: VOLCANIC GLASS HYDROGEN ISOTOPE EVIDENCE FOR LATEST EOCENE HIGH-ELEVATION OF THE SOUTHERN ROCKIES

197-2 371 White, Emily J.*; Cassel, Elizabeth J.; Breeceker, Daniel O.: THE TOPOGRAPHY OF THE MODERN AND ANCIENT CENTRAL ANDEAN OROCLINE: A COMPARISON USING VOLCANIC GLASS PALEALTMENTY, SOUTHERN PERU

197-3 372 McConnell, Brian; Riggs, Nancy*; Sevastopulo, George: INSIGHT INTO LATE-IAPETUS TECTONICS FROM NEW U-PB AND BIOSTRATIGRAPHIC AGE DATA FROM THE NAVAN AREA, EASTERN IRELAND

197-4 373 Riggs, Nancy*; Crowley, Quentin C.; McConnell, Brian: U-PB ZIRCON DATING OF THE SOUTH CONNEMARA GROUP, IRELAND, AND IMPLICATIONS FOR LATE STAGES OF THE IAPETUS OCEAN BASIN

197-5 374 Powell, Nicholas E.*; Levine, Jamie S.F.; Casale, Gabriele; Martin, Claire P.: CONDITIONS OF DEFORMATION AND METAMORPHISM IN THE TOXAWAY DOME, EASTERN BLUE RIDGE

197-6 375 Webber, Patricia*; Tholet, Andrew; Houlihan, Emily; McClelland, William C.; Mulcahy, Sean R.; Roeske, Sarah M.: ACCRETION AND TRANSLATION OF THE MARA TERRANE: INSIGHTS FROM U/PB CHARACTERIZATION OF SIERRA DE MAZ AND RAMADITAS

197-7 376 Reade, Nathan Z.*; Ricketts, Jason W.; Mubako, Stanley T.; Amato, Jeffrey M.; Gavel, Michelle M.: (U-TH)/HE THERMOCHRONOLOGIC INVESTIGATION OF THE LONG-TERM THERMAL HISTORY OF PROTEROZOIC ROCKS IN WEST TEXAS AND SOUTHERN NEW MEXICO

197-8 377 Camilleri, Phyllis A.*; Deibert, Jack E.; Schwartz, Joshua J.; Hoffman, David; Hensley, Robert; Hackett, Patrick: CENozoic EXHUMATION OF THE RUBY MOUNTAIN-EAST HUMBOLDT-WOOD HILLS-PEQUOP MOUNTAINS METAMORPHIC CORE COMPLEX: NEW CONSTRAINTS FROM REMNANTS OF PALEOGENE TO NEOGENE EXTENSIONAL BASINS

197-9 378 Smith, Iris M.*; Blythe, Ann E.: TECTONIC AND GEOMETRIC CONSTRAINTS FOR THE WIND CANYON BLOCK ON THE SOUTHEASTERN SIDE OF THE GARLOCK FAULT FROM APATITE FISSION TRACK ANALYSES

197-10 379 Olson, Amy*; Walker, Douglas; Andrew, Joseph E.; Moller, Andreas; Rolos, Brandon: GEOLOGIC EVOLUTION AND REGIONAL IMPLICATIONS OF SOUTHERN OLD DAD MOUNTAIN, MOJAVE DESERT, CALIFORNIA

197-11 380 Mattson, Adam*: Gani, M. Royhan; Gani, Nahid D.: STRUCTURAL EVOLUTION OF THE NORTH-CENTRAL GULF OF MEXICO: IMPLICATIONS FOR SALT TECTONIC MODELING

197-12 381 Pujol, Eduard G.*; Stockli, Daniel F.; Cavosie, Aaron J.; Roman, Yonayra A.; Santos, Hernán: EOCENE ARC-CONTINENTAL COLLISION, EXHUMATION, AND DETRITAL ZIRCON GEO-AND THERMOCHRONOMETRIC PROVENANCE RECORD IN WESTERN PUERTO RICO


197-14 383 Zhang, Jiren*: Xiao, Wenjiao; Chen, Yichao; Wakabayashi, John; Windley, Brian F.: SILURIAN-DEVONIAN INTERACTION OF SUB-PARALLEL SPREADING RIDGE AND TRENCH IN THE WESTERN JUNGGAR AND NORTH TIANSHAN, NW CHINA: IMPLICATION FOR THE MIDDLE PALEozoic OROGENIC ARCHITECTURE OF THE WESTERN ALTAIDS


197-16 385 Jesmok, Greg*: Upadhyay, Deepshikha; Jian, Xing; Herron-Rutland, Mahala; Tripathi, Aradhna: TEMPERATURE MEASUREMENTS AND PALEOCLIMATE ANALYSES OF SEDIMENTARY CARBONATES FROM THE CENOZOIC QAIMAD BASIN, QINGHAI PROVINCE, CHINA, USING STABLE ISOTOPES AND CLUMPED ISOTOPE THERMOMETRY

197-17 386 Richter, Fabiana*: Heer mann, Richard V.; Garzone, Carmela N.; Moe, Annelisa; Villas, Marius; Xu, Jianhong: TECTONICALLY FORCED CARBONATE OXYGEN AND CARBON ISOTOPE SHIFTS SINCE 15 MA IN THE TIAN SHAN FORELAND, TARIM BASIN CHINA

197-18 387 Pullen, Alex*: Kapp, Paul; Banaszynski, Matthew J.; Reiners, Peter W.: EXHUMATION HISTORY OF THE WESTERN CHINESE ALTAI MOUNTAINS, CENTRAL ASIA, FROM SINGLE-CRYSTAL APATITE U-TH/EHE THERMOCRONOLOGY


197-20 389 Patrick, Spencer T.*; Valentino, Cole; Blythe, Ann E.; McQuarrie, Nadine; Robinson, Delores: DOCUMENTING VARIATION IN EXHUMATION PATTERNS WITHIN CENTRAL AND FAR WESTERN NEPAL'S GREATER HIMALAYA WITH DETRITAL APATITE FISSION TRACK ANALYSES: A PRELIMINARY STUDY

197-21 390 Fan, Suoya*: Murphy, Michael A.: ALONG-STRIKE STRAIN VARIATIONS IN THE WESTERN AND CENTRAL HIMALAYAN OROGEN

197-22 391 Ren, Junjie*: Xu, Xiwei; Huang, Feipeng; Lv, Yanwu; Liang, Oubo; Zhao, Juxiang: DECREASED SLIP RATE ON THE KUNLUN FAULT ZONE SINCE ~100 KA, CONstrained BY OFFSET ALLUVIAL FAN AND COSMOGENIC NUCLIDE DATING

197-23 392 Weinberger, Mathew N.*; Boone, Samuel C.; Gleadow, Andrew; Foster, David A.; Kohn, Barry P.; Pepezhinskis, Nikita: SEDIMENT RECYCLING IN EAST AFRICAN RIFT BASINS: IMPLICATIONS FOR THE EVOLUTION OF THE TURKANA DEPRESSION

197-24 393 Destro, Nivaldo*: PLATE MODEL OF PLATE TECTONICS BASED ON EINSTEIN'S THEORY OF RELATIVITY

197-25 394 Han, Fei*: Yin, Gongming; Gu, Zhaoyan; Granger, Darryl E.: ISODRON 3U/3BE BURIAL DATING OF YELLOW RIVER GRAVEL TERRACES AT SHAPOTOU, CHINA

SESSION NO. 199
D23. Paleontology, Evolution and Development

199-1 395 Hegna, Thomas*: LINEAGE-THINKING, OR THE CONCEPTUAL NON-Necessity of SPECIES AND Its IMPLICATIONS

199-2 396 Lopez-Carranza, Natalia*: Carlson, Sandra J.: INTEGRATING MORPHOLOGICAL AND GENETIC DATASETS TO UNDERSTAND SPECIES DELIMITATION: A CASE STUDY ON TEREBrATULIDE BRACHIOPODS

199-3 397 Hunt, Gene*: Fernandes Martins, Maria João; Puckett, T. Markham: A TEST OF THE CORRESPONDENCE BETWEEN PALEONTOLOGICAL AND BIOLOGICAL SPECIES IN LATE CREtaceous Ostracodes

199-4 398 Erkenbrack, Eric M.*; Thompson, Jeffrey R.: CELLS, FOSSILS, AND EMBRYOS: USING PHYLOGENETIC
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<td>2:00 PM</td>
<td>Currano, Ellen D.; Jamieson Marsh, Lexi</td>
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<td>Shuller-Nickles, Lindsay; Lazar, Kelly Best; Fidler, Mary Kate; Lee, Cindy</td>
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<td>Marin-Spiotta, Erika; Barnes, Rebecca; Morris, Aisha R.</td>
<td>PEER MENTOR NETWORKS FOR INSTITUTIONAL AND CULTURAL CHANGE: LESSONS FROM THE EARTH SCIENCE WOMEN'S NETWORK (EWSN)</td>
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<td>Sack, Dorothy</td>
<td>THE PROMETHEUS CONNECTION: WHEN LIFE OF A GEOLOGIST IMITATES ART</td>
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**SESSION NO. 200**

**D43. History and Philosophy of Geology: Women in Geology and Geology in the Heartland**

1:30 PM, Indiana Convention Center, Room 133

Michael S. Smith, Beth A. Johnson and John A. Diemer, Presiding

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<tr>
<td>1:30 PM</td>
<td>Schneider, Blair B.; Cremeans, Mackenzie; Tranell, Lisa M.; Zeeck, Lauren</td>
<td>40 YEARS OF RECRUITMENT AND RETENTION OF WOMEN IN THE GEOSCIENCES: A PERSPECTIVE FROM THE ASSOCIATION FOR WOMEN GEOSCIENTISTS (AWG)</td>
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**SESSION NO. 201**

**T.9. Cultural Geology and Heritage Stone: Use, Petrology, Quarrying, Engineering Properties, and Other Aspects of Stone Used for Buildings, Monuments, Sculpture, or Otherwise Relating to the Interface of Stone with Human Culture Past and Present (GSA Environmental & Engineering Geology Division; GSA Geochronology Division; Heritage Stone Subcommission of the International Union of Geological Sciences; GSA Quaternary Geology and Geomorphology Division; GSA Geology and Society Division)**

1:30 PM, Indiana Convention Center, Room 133

Joseph T. Hannibal and Carol A. Grissom, Presiding

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<td>Dolan, Amanda J.; Wilson, Clare; Schröder, Christian; Lang, Carol</td>
<td>BURN HILLFORT, BURN – DUN DEARDAIL INFERNO</td>
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<td>1:45 PM</td>
<td>Litschi, Melissa A.</td>
<td>THE ROLE OF MATERIAL CHOICE IN REGIONAL SOCIO-POLITICAL NEGOTIATIONS – GEOCHEMICAL VARIATION BETWEEN RECUAY MONUMENTAL STONE SCULPTURES IN THE ANDEAN HIGHLANDS</td>
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<td>Glumac, Bosiljka</td>
<td>GEOLOGICAL ORIGIN AND CULTURAL SIGNIFICANCE OF SASCAB ON THE YUCATAN PENINSULA IN MEXICO</td>
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<td>2:15 PM</td>
<td>Sharma, Vinod; Cooper, Barry J.; Morrissey, Laura</td>
<td>CHRONOCTIKE: IMPORTANT HERITAGE STONE FROM INDIA</td>
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<td>2:30 PM</td>
<td>Jayawardena, Upali de Silva</td>
<td>A STUDY ON THE SOUNDNESS OF PARENT ROCKS IN SRI LANKA</td>
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<td>2:50 PM</td>
<td>Clemens, Hannah</td>
<td>INTRASAMPLE VARIATIONS IN STABLE ISOTOPE COMPOSITION OF CARRARA MARBLE: IMPLICATIONS FOR PROVENANCE STUDIES</td>
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<td>Glumac, Bosiljka</td>
<td>BLACK CARRARA MARBLE: PETROGRAPHIC AND STABLE ISOTOPE COMPARISONS WITH FAMOUS WHITE CARRARA MARBLE AND ONE CHINESE IMPORT (Invited Presentation)</td>
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**SESSION NO. 202**

**Comparative Methods to Understand How Specialized Cell Types Have Changed in Deep Time**

Deline, Bradley; Thompson, Jeffrey R.; Sumrall, Colin D.

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<td>Lipp, Jere H.; Ishtiani, Yoshi; Ujie, Yurika; Weber, Michele</td>
<td>ORIGIN OF SKELLETIZED PROTISTS AND METAZOA: GENOMIC AND FOSSIL EVIDENCE</td>
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Tuesday, 6 November 2018

201-8  3:35 PM  Kollar, Albert D.*; Hughes, Kay Ann; Fedosick, Rich: A REVIEW OF PITTSBURGH’S BUILDING STONES AND ARCHITECTURE STYLES FROM 1764 TO 1938

201-9  3:50 PM  Hannibal, Joseph T.*: A PARTICULAR FONDNESS FOR STONE: USE OF MARBLE AND OTHER STONE BY THE ARCHITECTURAL FIRM OF WALKER & WEEKS

201-10  4:05 PM  Kollar, Albert*; Fedosick, Rich; Hughes, Kay Ann: THE SIGNATURE DIMENSION STONES USED BY LONGFELLOW, ALDEN AND HARLOW, ARCHITECTS - IN CLASSICAL PITTSBURGH ARCHITECTURE FROM 1887 – 1910 (Invited Presentation)

201-11  4:20 PM  Mahany, Tylor*; Petras, Brigitte; Newby, Sean; Reuter, Katherine; Reinthaler, Elizabeth A.; Hannibal, Joseph T.: INVESTIGATING MIDWESTERN MILLSTONES: DISTRIBUTION AND CHARACTERIZATION OF MILLSTONES MADE OF LOCAL CHERT IN OHIO


4:50 PM DISCUSSION

SESSION NO. 202

T10. Environmental & Engineering Geology Division (GSA Environmental & Engineering Geology Division)

1:30 PM, Indiana Convention Center, Room 134

1:30 PM, Indiana Convention Center, Room 134

Jessica E. Witt, Stephen L. Slaughter and Anne C. Witt, Presiding

202-1  1:30 PM  Flege, Adam*: ASSESSMENT AND MITIGATION OF VAPOR INTRUSION FROM DRY CLEANERS - CASE STUDIES AND LESSONS LEARNED

202-2  1:45 PM  Rogers, David Brian*: QUANTIFYING DENITRIFICATION RATES IN A BIOMASS PRODUCTION AND NUTRIENT RECOVERY SITE

202-3  2:00 PM  West, Terry R.*; O’Connor, Erin: LANDFILL HISTORY REVEALED THROUGH SITE CHARACTERIZATION FOR CSO UNDERGROUND STORAGE TANK, LAFAYETTE INDIANA

202-4  2:15 PM  Hart, David J.*; Richmond, Susan; Christenson, Catherine; Fratta, Dante: USING THE ARDUINO MICRO-CONTROLLER TO BUILD CUSTOM INSTRUMENTATION FOR GROUNDWATER APPLICATIONS

202-5  2:30 PM  Whitaker, Justin*; Heagle, Dru; Wigston, Andrew; Vanapalli, Sai; Fortin, Danielle: TOWARDS REDUCING WELLBORE LEAKAGE VIA A NOVEL WELLBORE BIOMINERALIZATION TECHNOLOGY BASED ON MICROBALLY INDUCED CARBONATE PRECIPITATION (MICP)

202-6  2:45 PM  Frus, Rebecca J.*; Sanchez, Jeffrey: COMPARING IN SITU SAMPLING METHODS IN A DEEP GROUNDWATER WELL

202-7  3:00 PM  Parks, David S.*: BLUFF RECESSSION IN THE ELWHWA AND DUNGENESS LITTORAL CELLS, WASHINGTON, USA (Invited Presentation)

3:20 PM BREAK

202-8  3:35 PM  Miller, Jerry*; Walsh, Danvey; Villarroel, Lionel: UTILIZATION OF PALEOFLLOOD DEPOSITS TO DETERMINE TRACE METAL BACKGROUND CONCENTRATIONS IN ALLUVIAL DEPOSITS, RIO LOA BASIN, CHILE

202-9  3:50 PM  Ademoso, Odunyemi Anthony*: EVALUATION OF SUBSOIL COMPETENCE FOR FOUNDATION APPLICATIONS IN ALABAKA EXTENSION, AKURE, SOUTHWESTERN NIGERIA

202-10  4:05 PM  Hempen, Gregory L.*: NEGLCTED ADVERSE IMPACTS INDUCED BY BLASTING

202-11  4:20 PM  Okerefor, Godwin Uchenna*; Makhatha, Elizabeth; Mekuto, Lukhanyo; Mavumengwana, Vuyo: THE IMPACT OF MINING ACTIVITY ON THE SURROUNDING SOILS NEAR A GOLD MINE IN BLESBOKSPRUIT- EKUKHURENI, SOUTH AFRICA

202-12  4:35 PM  Hossain, A.T.M. Shakhawat*: CLIMATIC VARIATIONS, CHALLENGES AND ISSUES IN MANAGING LANDSLIDE HAZARDS OF BANGLADESH AND IMPORTANCE OF DEVELOPING AN EARLY WARNING SYSTEM FOR BANGLADESH

202-13  4:50 PM  Watts, Chester F.*; Bruckno, Brian S.; Stephenson, George C.; McClellan, Elizabeth: EVALUATION OF POTENTIAL NEW ROCK FALLS AT NATURAL BRIDGE STATE PARK, VIRGINIA, USING GEOPHYSICS, UAS 3-D PHOTOGRAMMETRY, LIDAR, AND VIBRATION ANALYSIS

5:05 PM SESSION NO. 203

T16. Advances in Agrohydrology: A Multidisciplinary Approach to Water Resources, Land Management, and Food Systems (GSA Geology and Society Division; GSA Hydrogeology Division; GSA Soils and Soil Processes Division; GSA Limnogeology Division; GSA Environmental & Engineering Geology Division)

1:30 PM, Indiana Convention Center, Room 138-139

Samuel J. Smidt, E.K. Haacker and Jillian M. Deines, Presiding

1:30 PM INTRODUCTORY REMARKS

203-1  1:35 PM  Ozotta, Ogochukwu*: Gerla, Phil: USING THERMAL IMAGING TO CHARACTERIZE GROUNDWATER SEEPAGE IN A NORTH DAKOTA FEN

203-2  1:50 PM  Thomas, Anooja*: Purkayastha, Kuntal; Yadav, Brijesh Kumar: SOIL MOISTURE MODELING USING HYDRAULIC REDISTRIBUTION AND ROOT COMPENSATION MECHANISMS OF PLANTS IN STRATIFIED VADOSE ZONE

203-3  2:05 PM  Gumidyala, Sajani; Konar, Megan*; Marston, Landon; Dalin, Carole; Wada, Yoshio: GROUNDWATER DEPLETION EMBEDDED IN DOMESTIC TRANSFERS AND INTERNATIONAL EXPORTS OF THE UNITED STATES (Invited Presentation)

203-4  2:25 PM  Whittemore, Donald O.*; Butler, James J.; Wilson, B. Brownie: PREDICTING IRRIGATION PUMPING REDUCTIONS TO ACHIEVE SUSTAINABILITY AT DIFFERENT SCALES IN THE HIGH PLAINS AQUIFER, KANSAS

203-5  2:40 PM  Dieter, Cheryl A.*; Caldwell, Rodney R.: ESTIMATED USE OF WATER IN THE UNITED STATES FOR 2015 - A CLOSER LOOK AT WATER USE FOR AGRICULTURE (Invited Presentation)

203-6  3:00 PM  Jiao, Wenzhe*; Wang, Lixin: USE OF SATELLITE SOLAR-INDUCED CHLOROPHYLL FLUORESCENCE FOR METEOROLOGICAL DROUGHT ASSESSING: MERITS AND LIMITATIONS

3:15 PM BREAK

203-7  3:30 PM  Quinn, John J.*; Negri, M. Cristina; Zumpf, C.; Cacho, J.; Campbell, P.; Mishra, S.K.; Svegge, H.: INTEGRATED LANDSCAPE MANAGEMENT FOR IMPROVING WATER QUALITY IN THE MIDWEST

203-8  3:45 PM  Grote, Katherine*, Jabbar, Fadhil K.: PREDICTING NONPOINT SOURCE POLLUTION IN AGRICULTURAL WATERSHEDS USING STATISTICAL ANALYSIS AND GIS TECHNIQUES IN LOWER GRAND RIVER WATERSHED, MISSOURI, USA

203-9  4:00 PM  Casillas Ituarte, Nadia*: Danner, Kelsey; Covault, Alexandra; King, Kevin; Sawyer, Audrey H.: LEGACY PHOSPHOROUS IN AGRICULTURAL DRAINAGE DITCHES OF THE LAKE ERIE WATERSHED
SESSION NO. 204

T29. New Voices in Geobiology II (GSA Geobiology & Geomicrobiology Division)

1:30 PM, Indiana Convention Center, Room 243

Victoria A. Petryshyn, Lydia S. Tackett, Rowan C. Martindale, Simon A.F. Darroch, Anna M. Weiss and Amanda Lynn Godbold, Presiding

1:30 PM

INTRODUCTORY REMARKS

204-1 1:35 PM Cadieux, Sarah Beth*; Schuette, Ursel M.E.; White, Jeffrey R.; Pratt, Lisa M.: UNDERSTANDING EXTREME ISOPORE ENRICHMENT CAUSED BY METHANE OXIDATION

204-2 1:50 PM Meyer, Katja M.*; Williams, Angus; Johnson, Jamie; Junium, Christopher K.; Jones, Clive: SULFUR ISOTOPE HETEROGENEITY IN FRAMBOIDAL PYRITES FROM A STRATIFIED EUXNIC LAKE

204-3 2:05 PM Swanner, Elizaabeth*; Lambrecht, Nicholas; Wittkop, Chad; Katsve, Sergei; Fakhraee, Mojtaba; Sheik, Cody: THE BIOGEOCHEMISTRY OF FERRUGINOUS LAKES, AND PAST FERRUGINOUS OCEANS (Invited Presentation)

204-4 2:25 PM Kirk, Matthew F.*; Jin, Qusheng; Flynn, Theodore M.; Zeglin, Lydia H.: PH DEPENDENT INTERACTIONS BETWEEN IRON REDUCTION AND METHANOGENESIS SUGGEST A NEW MODEL FOR METHANOGENESIS

204-5 2:40 PM DeMott, Laura M.*; Napieralski, Stephanie A.; Junium, Christopher K.; Teece, Mark; Scholz, Christopher A.: ASSESSING MICROBIAL INFLUENCE ON DEPOSITION OF FRONDOSIDE LACUSTRINE CARBONATE TUFOAS FROM WWINEMUCKETA DRY LAKE, NV, USA

204-6 2:55 PM Testa, Maurice P.*; Kirkland, Brenda E.: IMAGING ORGANOMINERALISATION OF THE VELMELHA MICROBIAL ALGAL MAT

Session Concluded

SESSION NO. 205

T32. Energy and Mineral Resources of the Illinois Basin II (GSA Geology Division; GSA Environmental & Engineering Geology Division; GSA Geology and Society Division; GSA Continental Scientific Drilling Division; Society of Economic Geologists)

1:30 PM, Indiana Convention Center, Room 145

Maria D. Mastalerz, Liliana Lefticariu and Allan Kolker, Presiding

205-1 1:30 PM Bowersox, J. Richard*; Williams, David A.; Harris, David C.; Hickman, John C.; Leetaru, Hannes E.: EVALUATION OF CO2 STORAGE CAPACITY IN AN UPPER KNOX GROUP SANDSTONE (CAMBRIO-OHORDOVICIAN KNOX GROUP), SOUTHERN ILLINOIS BASIN, KENTUCKY

205-2 1:45 PM Harris, David C.; Ellett, Kevin*; McLaughlin, Patrick I.; Rupp, John A.; Leetaru, Hannes E.: ADDRESSING THE CHALLENGE OF KNOX INTERVAL ROCKS IN THE ILLINOIS BASIN

205-3 2:00 PM Greenberg, Sallie E.*; Whittaker, Steve; McDonald, Scott; Leetaru, Hannes E.; Korose, Chris: CARBON STORAGE IN THE MT. SIMON: FIELD EXAMPLES OF REGIONAL DEPLOYMENT (Invited Presentation)

205-4 2:20 PM Andreasen, Jack*; Rupp, John A.; Medina, Cristian R.; Ellett, Kevin: REASSESSMENT OF THE 10,000 MG/L SALINITY BOUNDARY WITHIN POTENTIAL RESERVOIR TARGETS FOR CARBON SEQUESTRATION IN THE ILLINOIS BASIN

205-5 2:35 PM Kammer, Ryan*; Ellett, Kevin; Middleton, Richard S.; Korose, Chris: REDUCED-ORDER MODELING FOR ESTIMATING CO2 STORAGE AND ENHANCED COALBED METHANE OF UNCONVENTIONAL COAL SEAM RESERVOIRS

205-6 2:50 PM Keach, R. William*; McBride, John H.; Leetaru, Hannes E.: USING SEISMIC ATTRIBUTES TO EVALUATE LOWER PALEOZOIC AND PRECAMBRIAN STRUCTURE BENEATH A CARBON CAPTURE AND STORAGE SITE, ILLINOIS BASIN

Session Concluded
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205-10 4:05 PM Klitzing, Kyle L.*; Lefctariu, Liliana; Kolker, Allan; Mick, Angie: RARE EARTH ELEMENT AND YTTRIUM RESOURCES IN ACID MINE DRAINAGE IN THE ILLINOIS BASIN, USA


205-12 4:35 PM Frank, Mark R.*; Rock, Mariena J.: EXPERIMENTAL CONSTRAINTS ON LEAD-ZINC DEPOSITS OF THE ILLINOIS BASIN

205-13 4:50 PM Smith, Sarah Elisabeth*; Appold, Martin S.: DETERMINATION OF FLUORINE CONCENTRATIONS IN MISSISSIPPI VALLEY-TYPE ORE FLUIDS THROUGH SEM-EDS ANALYSIS OF FLUID INCLUSION DECREPITATES

SESSION NO. 206

T48. Fluvial Processes from Catchments to Coastlines (GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)

1:30 PM, Indiana Convention Center, Room 135

Douglas A. Edmonds and Brian J. Yanites, Presiding

1:30 PM YOUNG SCIENTIST AWARD (DONATH MEDAL) INTRO

206-1 1:35 PM Larsen, Laurel*: YOUNG SCIENTIST AWARD (DONATH MEDAL): PEERING THROUGH THE WEB OF COMPLEXITY WITHOUT GETTING CAUGHT: HOW TOOLS FROM COMPLEX-SYSTEMS THEORY HELP IDENTIFY DOMINANT DRIVERS AND FEEDBACKS OF CURIOUSLY BEHAVING AQUATIC LANDSCAPES

206-2 1:55 PM Rittenour, Tammy*: DYNAMIC RIVER SYSTEMS IN THE GRAND STAIRCASE, SOUTHERN UTAH: THE ROLE OF HIGH EROSION RATES, HYDROCLIMATE VARIABILITY AND GEOMORPHIC THRESHOLDS IN HOLOCENE ARROYO DYNAMICS (Invited Presentation)

206-3 2:10 PM Palucis, Marisa*; Ulizio, Thomas; Lamb, Michael P.: PREDICTING BEDFORM STABILITY IN STEEP GRAVEL-BEDDED STREAMS

206-4 2:25 PM Langston, Abigail L.*; Gonzalez, Ricardo: IDENTIFYING CONTROLS ON LATERAL BEDROCK EROSION RATES AND BEDROCK VALLEY WIDENING WITH FLUME EXPERIMENTS

206-5 2:40 PM Waterman, David M.*; Garcia, Maroelo H.: RE-EXAMINATION OF THE SCOUR FACTOR PRINCIPLE IN MEANDER BENDS WITH HIGHLY ERODIBLE ROCKS

206-6 2:55 PM Bosch, Rachel*: ABRASION, DISSOLUTION, AND THE EVOLUTION OF SCALLOPED FEATURES IN ROCKS

206-7 3:10 PM Constantine, José Antonio*; Ahmed, Joshua; Thomas, Summer-Solstice; Dunne, Thomas; Hales, T.C.: THE ROLE OF SEDIMENT SUPPLY IN THE ADJUSTMENT OF CHANNEL SINUOSITY ACROSS TROPICAL RIVER BASINS

206-8 3:25 PM Sutfin, Nicholas A.*; Rowland, Joel C.; Fratkin, Mulu; Stauffer, Sophie J.; Carroll, Rosemary; Brown, Wendy; Williams, Kenneth H.: RIVER BANK EROSION, FLOODPLAIN SEDIMENT DEPOSITION, AND A FLOODPLAIN SEDIMENT BUDGET OVER A 60 YEAR TIME PERIOD

206-9 3:40 PM Anders, Alison*; Lai, Jingtao; Cullen, Cecilia; Moore, Peter L.; Gran, Karen B.; Miller, Bradley A.: POST-GLACIAL FLUVIAL NETWORK EXPANSION IN THE CENTRAL LOWLANDS (Invited Presentation)

206-10 3:55 PM East, Amy*; Stevens, Andrew W.; Ritchie, Andrew C.; Barnard, Patrick L.; Campbell-Swarzenski, Pamela; Collins, Brian D.; Conaway, Christopher H.: LANDSCAPE RESPONSE TO HYDROCLIMATIC EXTREMES: A REGIME SHIFT IN SEDIMENT EXPORT FROM A COASTAL WATERSHED DURING A RECORD WET WINTER, CALIFORNIA

206-11 4:10 PM Shaw, John*; Ke, Wun-Tao; Mahon, Robert C.: COMPARING AND CONTRASTING TRIBUTARY AND DISTRIBUTARY CHANNEL NETWORKS (Invited Presentation)

206-12 4:25 PM Bomer, Edwin J.*; Wilson, Carol A.; Warmy, Sophie; Datta, Dilip K.: AN INTEGRATED APPROACH FOR CONSTRAINTING DEPOSITIONAL ZONES IN A SOUTHWEST BANGLADESH

206-13 4:40 PM Pizzuto, James E.*: A STRATEGICALLY INFORMED THEORY OF AQUILAVIAL SEDIMENT RESERVOIRS AND ITS USE IN ROUTING FINE SEDIMENT FROM SOURCE TO SINK

206-14 4:55 PM Wilson, Nicole; Holbrook, John*: IMPROVING SOURCE-TO-SINK SEDIMENT TRANSPORT ESTIMATES BY MERGING BIG DATA AND THE FULCRUM APPROACH TO BETTER UNDERSTAND FLUVIAL PROCESSES


SESSION NO. 207

T54. Quantifying Geomorphic Processes and Rates of Landscape Evolution II (GSA Quaternary Geology and Geomorphology Division)

1:30 PM, Indiana Convention Center, Room 136-137

Lydia M. Staisch, Arjun M. Heimsath and Paul R. Bierman, Presiding

1:30 PM INTRODUCTORY REMARKS

207-1 1:35 PM Schrade, Anna*: RECENT MAPPING OF THE CONCEPT OF THE PATTERNED TERAIN AND THE ROLE OF BLOODFLOW IN THE EVOLUTION OF IPARIEN LANDFORMS, BANGLADESH

207-2 1:50 PM Dethier, David P.*; Racela, Jason; Wieman, Scott T.: A CONTEMPORARY MASS-BALANCE APPROACH TO SMALL-CATCHMENT DENUDATION RATES IN GLACIATED NEW ENGLAND

207-3 2:05 PM Miller, Nari*: Heimsath, Arjun M.; Barton, C. Michael; Binnie, Steven A.: QUANTIFYING BEDROCK EROSION AND COARSE SEDIMENT TRANSPORT IN THE TECTONICALLY QUIESCENT, LESTONE LANDSCAPE OF SOUTHEASTERN SPAIN

207-4 2:20 PM Heimsath, Arjun M.*; Whipple, Kelin X.: STRENGTH MATTERS: RESISTING EROSION ACROSS UPLAND LANDSCAPES

207-5 2:35 PM Grant, Andrew J.*; Morgan, Daniel; Puitkonen, Jaakko; Balco, Greg: APPLICATION OF AEROSOL SALT ACCUMULATION IN SOIL CHRONOLOGIES IN ONG VALLEY, ANTARCTICA

207-6 2:50 PM Ben-Israel, Michal*; Matmon, Ari; Niedermann, Samuel: QUANTIFYING SEDIMENT TRANSPORT RATES IN THE LOWER CRETACEOUS KURNUB RIVER USING COSMOGENIC 10BE SURFACE EXPOSURE AGES

207-7 3:05 PM Lor, Charles*: TECTONIC PRESERVATION OF A SEDIMENTARY RECORD OF THE EASTERN BEND OF THE GRAND STAIRCASE, SOUTHERN UTAH

207-8 3:20 PM Datta, Dilip K.: AQUILAVIAL SEDIMENT TRANSPORT IN THE TECTONICALLY QUIESCENT, LESTONE LANDSCAPE OF SOUTHEASTERN SPAIN

SESSION NO. 208

T63. Earthquakes and Deformation in Eastern North America and Other Continental Interiors: What We Know, What We Don’t, What We Think, and Which Is Which? (GSA Geophysics and Geodynamics Division; GSA Structural Geology and Tectonics Division)

1:30 PM, Indiana Convention Center, Room 238-239

Leah Saliditch and James S. Neely, Presiding

208-1  1:30 PM Saltielich, Leah*; Stein, Seth A.; Liu, Mian; Spencer, Bruce D.; Brooks, Edward M.: DOES LONG-TERM FAULT MEMORY CONTRIBUTE TO THE SPACE-TIME VARIABILITY OF CONTINENTAL INTRAPLATE SEISMICITY?

208-2  1:45 PM Liu, Mian*; Chen, Yuxuan; Luo, Gang: TEMPORAL PATTERNS OF LARGE INTRAPLATE EARTHQUAKES AND THE POSSIBLE CAUSES (Invited Presentation)

208-3  2:05 PM Brooks, Edward M.*; Stein, Seth; Spencer, Bruce D.; Saltielich, Leah; Neely, James S.; Petersen, Mark David; McNamara, Daniel E.: THE PERFORMANCE OF THE USGS’S 2017 ONE-YEAR SEISMIC HAZARD FORECAST FOR THE CENTRAL AND EASTERN UNITED STATES (Invited Presentation)

208-4  2:20 PM Ebel, John E.*: PAST AND FUTURE LOCATIONS AND RATES OF STRONG EARTHQUAKES IN CENTRAL AND EASTERN NORTH AMERICA (Invited Presentation)

208-5  2:40 PM Wise, Kurt*: MEGASEISMITES IN THE TYPE AREA OF THE LANCE FORMATION (MAASTRICHTIAN, CRETACEOUS; NIOBARRA COUNTY, WYOMING) (Invited Presentation)

208-6  2:55 PM Li, Jiangtao*; Song, Xiaodong: TEARING OF INDIAN MANTLE LITHOSPHERE FROM HIGH-RESOLUTION SEISMIC IMAGES AND ITS IMPLICATIONS FOR LITHOSPHERE COUPLING IN SOUTHERN TIBET

208-7  3:10 PM Gellen, Sean F.*; Thigpen, J. Ryan: AN EROSIONAL MECHANISM TO EXPLAIN THE ORIGIN AND ONGOING ACTIVITY OF THE INTRAPLATE EASTERN TENNESSEE SEISMIC ZONE

208-8  3:25 PM BREAK

208-9  3:40 PM Gold, Ryan D.*; DuRoss, Christopher B.; Delano, Jaime; Jibson, Randall W.; Briggs, Richard W.; Mahan, Shannon A.; Williams, Robert: FOUR MAJOR HOLOCENE EARTHQUAKES ON THE REELFOOT FAULT, NEW MADRID SEISMIC ZONE (Invited Presentation)

208-10  4:00 PM Marlow, Christopher S.*; Cox, Randall T.: STRAIN ACCUMULATION IN THE EASTERN REELFOOT RIFT MARGIN: SURFICIAL EVIDENCE NEAR FORT PILLOW, TENNESSEE

SESSION NO. 209


1:30 PM, Indiana Convention Center, Room 235

Robert J. Stern and Jeffrey Ryan, Presiding

209-1  1:30 PM Johnson, Jenda*; Butler, Robert F.; Bohon, Wendy; Hubenthal, Michael; Taber, John: EARTHQUAKE! AN ANIMATION IS WORTH A THOUSAND WORDS

209-2  1:45 PM Stern, Robert J.*; Wang, Ning: A PROJECT-ORIENTED UPPER DIVISION GEOSCIENCE CLASS TEACHING HOW TO MAKE GEOSCIENCE ANIMATIONS AND VIDEOS

209-3  2:00 PM Johnson, Elizabeth A.*; Liu, Juhong Christie; Mao, Jin; Kansal, Ritu: DEVELOPING A PROTOCOL FOR FILMING, EDITING, AND CATIONING VIDEOS IN THE LABORATORY

209-4  2:15 PM Contreras, Juan*: TWO-DIMENSIONAL ANIMATIONS OF SOURCE-TO-SINK SEDIMENTARY SYSTEMS IN FOLD AND THRUST BELTS

209-5  2:30 PM Willis, Silja*: Stern, Robert; Vaughn, Lochlan; Ryan, Jeffrey; Ricchezza, Victor J.: A NEW ANIMATION OF CONTINENTAL RIFTING AND FORMATION OF NEW OCEANS AND CONTINENTAL MARGINS FOR UNDERGRADUATES

209-6  2:45 PM BREAK

209-7  3:00 PM McConnell, David A.*; Jones, Jason P.; Wiggen, Jennifer; Bedward, John: AN INSTRUCTOR-FRIENDLY GUIDE TO CREATING AND ASSESSING VIDEOS FOR GEOSCIENCE COURSES

209-8  3:15 PM Roemmele, Christopher*: LIVE FROM MERION SCIENCE CENTER: CREATING AND USING DEMONSTRATION VIDEOS AND VR FIELD TRIPS FOR INTRODUCTORY GEOLOGY CLASS TO SUPPORT STUDENT CONCEPTUAL UNDERSTANDING AND IMPROVE AFFECT (Invited Presentation)

209-9  3:30 PM Kurtz, Nicole*: ANIMATING MICROBES: USING FORENSIC ANIMATION AND HUMOR TO EDUCATE THE PUBLIC

209-10  3:45 PM Wang, Ning*: Stern, Robert J.: GEOSENSITIVE EDUCATIONAL VIDEO DESIGN, ASSESSMENT AND DISSEMINATION: AN EXAMPLE USING THE PERMIAN BASIN OF W. TEXAS AND SW NEW MEXICO

209-11  4:00 PM Vaughn, Lochlan*: Stern, Robert J.; Ryan, Jeffrey; Pearce, Julian A.: AN ANIMATED EXPLANATION OF
SESSION NO. 210

T72. Integrating Active Learning Strategies into College-Level Geoscience Classrooms: Implementation, Effects, and “Lessons Learned” (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)

1:30 PM, Indiana Convention Center, Room 233

Jason P. Jones, Katherine Ryker, LeeAnna Young Chapman and C. Doug Czajka, Presiding

1:30 PM INTRODUCTORY REMARKS

210-1 1:35 PM Barbosa, Alayne A.*; Abercrombie, Mary I.: A GRAPHIC SYLLABUS

210-2 1:50 PM Skinner, Lisa A.*; Bratton, Donald: REPLACING THE PASSIVE TEXTBOOK: DIGITAL ACTIVE LEARNING TO ENHANCE A LARGE ENROLLMENT, LIBERAL STUDIES GEOSCIENCE COURSE

210-3 2:05 PM Terry, Dylan*: FLIPPING A LECTURE CLASSROOM TO IMPROVE STUDENT ENGAGEMENT

210-4 2:20 PM Kortz, Karen M.*; Smay, Jessica J.: IMPROVING STUDENT OUTCOMES IN Introductory Geoscience Courses With Lecture Tutorials (Invited Presentation)

210-5 2:40 PM van der Hoeven Kraft, Katrien J.*; Teasdale, Rachel: PUTTING TOGETHER PIECES OF THE PUZZLE: STUDENT LEARNING IN JIGSAW ACTIVITIES

210-6 2:55 PM Knauger, Bailey Zo*; LaDue, Nicole: PREDICT-OBSERVE-EXPLAIN (POE): A QUASI-EXPERIMENTAL STUDY TO ASSESS THE IMPACT OF POE ON CONCEPTUAL UNDERSTANDING, SELF-EFFICACY, AND INTEREST IN Introductory Geology

210-7 3:10 PM Idstein, Peter J.*: EXPLOSIVE VOLCANIC ERUPTION EXERCISE: A WAY TO GET STUDENTS COLLECTING DATA, WORKING TOGETHER AND INTERPRETING THE PLOTTED VALUES

2:25 PM BREAK

210-8 3:40 PM Bitting, Kelsey S.*: CLEARING A PATH TOWARD CHANGE: ENCOURAGING OUR COLLEAGUES TO ADOPT ACTIVE LEARNING (Invited Presentation)

210-9 4:00 PM Tomkin, Jonathan H.*; Beilstein, Shereen O.; Morpew, Jason W.; Herman, Geoffrey L.: GETTING FACULTY TO ADOPT ACTIVE LEARNING: A NEW APPROACH

210-10 4:15 PM Owen, Athena M.*; Clary, Renee M.: ACTIVE LEARNING STRATEGIES IN Introductory Geosciences Courses: Successes and Challenges with Online Course Development

210-11 4:30 PM Teasdale, Rachel*; Ryker, Katherine; Viskupic, Karen; Manduca, Cathryn: ACTIVE LEARNING PRACTICES IN THE GEOSCIENCES: LEARNING FROM 300+ CLASSROOM OBSERVATIONS (Invited Presentation)

210-12 4:50 PM Viskupic, Karen*; Ryker, Katherine; Teasdale, Rachel; Manduca, Cathryn: EVIDENCE THAT TEACHING WITH INTEGRATE RESULTS IN ACTIVE LEARNING PRACTICES

210-13 5:05 PM Lally, Diane*; Forbes, Cory; McNeal, Karen S.; Solits, Nick: NATIONAL SURVEY OF GEOSCIENCE TEACHING PRACTICES 2016: CURRENT TRENDS IN GEOSCIENCE INSTRUCTION OF SCIENTIFIC MODELING AND SYSTEMS THINKING

5:20 PM DISCUSSION
SESSION NO. 212

T120. Cushman Foundation Symposium: Hothouse to Coldhouse Transitions at Southern High Paleolatitudes during the Cretaceous and Cenozoic (Cushman Foundation; Geochemical Society; Paleontological Society; GSA Sedimentary Geology Division; GSA International Interdisciplinary Interest Group)

1:30 PM, Indiana Convention Center, Room 140
Brian T. Huber, Sietske J. Batenburg, Kenneth G. MacLeod and Gabriel Tagliaro, Presiding

212-1  1:30 PM  Poulsen, Christopher J.*; Zhu, Jiang; Vande Guchte, Andrew: PROGRESS TOWARD SIMULATION OF WARM SOUTHERN HEMISPHERE HIGH-LATITUDE CLIMATE DURING PAST WARM CLIMATES (Invited Presentation)

212-2  1:45 PM  Tagliaro, Gabriel*; Watkins, David K.; Brumsack, Hans J.; Richter, Carl; Fulthorpe, Craig; Xu, Zhaokai; Expedition 369 Scientists, International Ocean Discovery Program: MIOLCE HISTORY OF PRODUCTIVITY, CARBONATE BURIAL AND TERRIGENOUS INPUT IN THE SOUTHERN INDIAN OCEAN

212-3  2:00 PM  Kamran, Muhammad*; Wan, Xiaojiao; Xi, Dangpeng; Frontalini, Fabrizio; Mirza, Kamran: THE DIVERSITY PATTERN OF LARGER BENTHIC FORAMINIFERA DURING THE MIDDLE EOCENE CLIMATIC OPTIMUM IN THE NORTHERN INDIAN PLATE MARGIN (PAKISTAN, EASTERN TETHYS)

212-4  2:15 PM  Keating-Bitonti, Caitlin*; Hunt, Gene; Huber, Brian: INVARIANT SIZES IN DEEP-SEA BENTHIC FORAMINIFERA AND OSTRACODCES ACROSS THE EOCENE-OOLIGOCENE BOUNDARY IN THE SOUTHERN OCEAN

212-5  2:30 PM  MacLeod, Kenneth G.*; Edgar, Kirsty Marie; Batenburg, Sietske J.; Expedition 369 Scientists, International Ocean Discovery Program: THE EOCENE-OOLIGOCENE TRANSITION IN MENTELLE BASIN, SOUTHEAST INDIAN OCEAN

212-6  2:45 PM  Hupp, Brittany N.*; Kelly, D. Clay; Zachos, James C.; Brawerok, Timothy J.: EFFECTS OF SIZE-SELECTIVE SEDIMENT MIXING ON DEEP-SEA RECORDS OF THE PALEOCENE-EOCENE THERMAL MAXIMUM

212-7  3:00 PM  Miller, Kenneth G.*; Browning, James V.; Wright, James D.: SEA-LEVEL CHANGES DURING CRETACEOUS TO CENOZOIC HOTHOUSE, COOL GREENHOUSE AND ICEHOUSE WORLDS

212-8  3:15 PM  Woodhouse, Adam D.*; Mâlié, Pierre; Crundwell, Martin P.; Shepherd, Clair L.; Robinowitz, Hannah S.; Hollis, Chris; Aze, Tracy L.; Wallace, Laura; Saffer, Demian; Pecher, Ingo; Barnes, Philip M.; Petronotis, Katerina; LeVay, Leah J.: HIGH SOUTHERN LATITUDE RECORD OF CRETACEOUS OCEAN ANOXIC EVENT (OAE) IN THE HIKURANGI PLATEAU (SOUTHWEST PACIFIC)

212-9  3:45 PM  Pettrizzo, Maria Rose*; Huber, Brian T.; Falzoni, Francesca: BIOGEOGRAPHY OF LATE CRETACEOUS PLANKTONIC FORAMINIFERA AT SOUTHERN HIGH PALEOLATITUDES: THE COMPLEX INTERPLAY BETWEEN CLIMATE AND BIOGIC INTERACTIONS (Invited Presentation)

212-10  4:00 PM  O’Brien, Charlotte L.*; Ingles, Gordon N.; Robinson, Stuart A.; Pancost, Richard D.; Huber, Brian T.; Farnsworth, Alexander; Lunt, Daniel J.: CRETACEOUS-PALEOGENE-EOCENE SEA SURFACE TEMPERATURE EVOLUTION AT HIGHER LATITUDES: CONSTRAINTS FROM TEXo AND PLANKTONIC FORAMINIFERAL OXYGEN ISOTOPES (Invited Presentation)

212-11  4:15 PM  Huber, Brian T.*; MacLeod, Kenneth G.; Goughnour, Rebecca; Expedition 369 Scientists, International Ocean Discovery Program: PRELUDE TO THE TURONIAN THERMAL MAXIMUM: CENOANIAN FORAMINIFERAL OXYGEN ISOTOPE TEMPERATURE RECORDS FROM SOUTHERN HIGHT LATITUDES

SESSION NO. 213

T129. Evolution of Terrestrial Ecosystems: Community Assembly through Time II (Paleontological Society; Paleontological Research Institution)

1:30 PM, Indiana Convention Center, Room 143-144
Laura C. Soul, Danielle Fraser and Joshua H. Miller, Presiding

213-1  1:30 PM  Soto, Nora*; Yanes, Yuren; Pearce, Timothy A.; Miller, Arnold I.: ANTHROPGENIC AND ENVIRONMENTAL INFLUENCE ON LAND SNAIL ASSEMBLAGES IN WOODLANDS FROM SW OHIO

213-2  1:45 PM  Graham, Linda*: EVOLUTIONARY ASSEMBLY OF CAMBRIAN-MESOZOIC TERRESTRIAL PLANT MICROBIOMES INFERRED FROM METAGENOMIC ANALYSIS OF MODERN ANALOGS

213-3  2:00 PM  Kravit, Katherine*: Jiao, Ruohong; Braun, Jean: LINKING CLIMATE, GEOLOGY AND LANDSCAPE EVOLUTION TO UNDERSTAND HABITAT DISTRIBUTION AND MICRO-ENDEMSIM IN MADAGASCAR

213-4  2:15 PM  Schachat, Sandra*: CHANGING OXYGEN LEVELS THROUGHOUT THE PHANEROZOIC: IMPLICATIONS FOR THE ORIGIN OF TERRESTRIAL ANIMALS

213-5  2:30 PM  Stiles, Elena*; Wilf, Peter; Iglesias, Ari; Gandolfo, Maria A.; Cüneo, N. Ruben: MORPHOSPACE ANALYSIS OF CRETACEOUS-PALEOGENE LEAVES IN ARGENTINE PATAGONIA REVEALS RAPID SHIFT IN MORPHOSPACE OCCUPATION, COOLING, AND STABLE BUT DIVERSE DANIAN ASSEMBLAGES

213-6  3:00 PM  Currano, Ellen D.*: ANCIENT BUG-BITTEN LEAVES REVEAL THE IMPACTS OF CLIMATE AND PLANT NUTRIENT CONCENTRATIONS ON INSECT HERBIVORE COMMUNITY ASSEMBLY (Invited Presentation)

213-7  3:15 PM  Azevedo Schmidt, Lauren E.*; Dunn, Regan E.; Mercer, Jason; Dechesne, Marieke; Currano, Ellen D.: PLANT AND INSECT HERBIVORE COMMUNITY VARIATION ACROSS THE PALEOCENE-EOCENE BOUNDARY, HANNA BASIN WY

213-8  3:30 PM  Dunn, Regan E.; Currano, Ellen D.; Dechesne, Marieke; Foreman, Brady Z.: FOREST CANOPY RESPONSE TO GREENHOUSE WARMING AT THE PALEOCENE-EOCENE THERMAL MAXIMUM

213-9  3:45 PM  Labandeira, Conrad C.*: GYMNOSPERMS, ANGIOSPERMS AND INSECT POLLINATORS TRANSLATING THE ALBIAN-APTIAN GAP

213-10  4:00 PM  Simpson, Andrew G.*: DOES SEED DISPERAL AFFECT RATE OF SPREAD DURING PLEISTOCENE CLIMATE CHANGE?

213-11  4:30 PM  McCoy, Victoria E.*; Tremblay, Susan L.; Looy, Cindy V.; Boom, Arnoud; Labandeira, Conrad C.: CHEMICAL ANALYSIS OF PRESERVED OIL-BODY CELLS IN DEVONIAN LIVERWORTS

213-12  4:45 PM  Hernández González, Paola N.*; Santos, Hernán: PALEOBOTANY OF THE GUATEMALA GROUP IN THE SAN SEBASTIAN FORMATION, PUERTORICO: TAXONOMY OF PLANTS BASED IN LEAF PHYSIOGONOMY

213-13  5:00 PM  Hayes, Reilly*; Puggioni, Gavino; Fastovsky, David E.: BAYESIAN CHARACTERIZATION OF THE LATE TRIASSIC ADAMANIAN-REVUELTIAN FAUNAL TURNOVER, PETRIFIED FOREST NATIONAL PARK, AZ, USA

Tuesday, 6 November 2018
Tuesday, 6 November 2018

SESSION NO. 214

T131. Phylogenetic Paleoecology; Macroecology within an Evolutionary Framework (Paleontological Society; Paleontological Research Institute)

1:30 PM, Indiana Convention Center, Room 142

Curtis R. Congreve and James C. Lamsdell, Presiding

214-1  1:30 PM  Bykova, Natalia*; Ye, Qin; Grazhdankin, Dmitriy; Xiao, Shuhai: MACROALGAE THROUGH PROTEROZOIC MORPHOLOGICAL AND PALEEOECOLOGICAL ANALYSES

214-2  1:45 PM  Shell, Ryan*; Ciampaglio, Charles N.: EARLY PERMIAN MARINE VERTEBRATE COMMUNITIES OF THE NORTH AMERICAN GREAT PLAINS

214-3  2:00 PM  Scalfani, Judith A.*; Congreve, Curtis R.; Christie, Max; Bourne, Audrey; Gazzé, Caroline; Roselle, Brooke; Patzkowsky, Mark E.: USING PHYLOGENETIC TREES AND 3D MORPHOMETRICS TO UNDERSTAND ECOLOGICAL CHANGE DURING THE LATE ORDOVICIAN MASS EXTINCTION AND RECOVERY

214-4  2:15 PM  Christie, Max*; Scalfani, Judith A.; Bourne, Audrey; Cone, Marjean; Gazzé, Caroline; O’Brien, Monika; Roselle, Brooke; Patzkowsky, Mark E.: THREE-DIMENSIONAL CHANGES IN MORPHOLOGICAL DIVERSITY OF BRACHIOPODS ACROSS THE RICHMONDIAN INVASION, LATE ORDOVICIAN

214-5  2:30 PM  BREAK

214-6  2:45 PM  Van Valkenburgh, Blaine*; Balisi, Mairin; Juhn, Mark: MORPHOLOGICAL SPECIALIZATION AS A MACROEVOLUTIONARY RATCHET IN CARNIVORES (Invited Presentation)

214-7  3:00 PM  Lamsdell, James C.*: AN ENVIRONMENTAL DRIVER FOR HETEROCHRONICALLY MEDIATED MORPHOLOGICAL CHANGE IN AQUATIC CHERICERATE ARTHROPODS

214-8  3:15 PM  Anderson, Brendan M.*; Sang, Stephanie; Friend, Dana S.; Allmon, Warren D.: PROTOONCH ENLARGEMENT IN WESTERN ATLANTIC TURRITELLINE GASTROPOD SPECIES FOLLOWING THE CLOSURE OF THE CENTRAL AMERICAN SEAWAY

214-9  3:30 PM  Chang, Lucy M.*; Skipwith, Phillip L.: EXAMINING PREDICTORS OF INVASION SUCCESS USING A MOLECULAR PHYLOGENY AND THE LATE CENOZOIC FOSSIL RECORD OF BIVALVA

214-10  3:45 PM  BREAK

214-11  4:00 PM  Lawing, A. Michelle*: INTEGRATING FOSSILS, PHYLOGENIES, AND PALEOCLIMATE MODELS TO BETTER UNDERSTAND SPECIES AND COMMUNITIES RESPONSE TO CLIMATE CHANGE (Invited Presentation)

214-12  4:15 PM  Baurer, Jennifer E.*: ASSESSING EVOLUTIONARY PALEEOECOLOGICAL PATTERNS IN A LONG-LIVED PALEOZOIC CLADE

214-13  4:30 PM  Congreve, Curtis R.; Patzkowsky, Mark E.: THE IMPACT OF BIOGEOGRAPHY ON DIVERSIFICATION AND SURVIVORSHIP DURING THE ORDOVICIAN MASS EXTINCTION

214-14  4:45 PM  Woodhouse, Adam D.*; Aze, Tracy L.; Dunhill, Alexander M.; Wignall, Paul B.; Saupe, Erin E.; Fenton, Isabel S.: HOW HAVE MACROPERFORATE PLANKTONIC FORAMINIFER BIOGEOGRAPHIES VARIED THROUGH THE CENOZOIC?

SESSION NO. 215

T151. The G.K. Gilbert Award Session: Planetary Surface Processes from Mars to the Outer Solar System (GSA Planetary Geology Division)

1:30 PM, Indiana Convention Center, Room 236-237

James J. Wray, Sharon A. Wilson and Bradley Thomson, Presiding

1:30 PM  INTRODUCTORY REMARKS

215-1  1:35 PM  Moore, Jeffrey M.*; Howard, Alan D.; Barnhart, Charles; McKinnon, William B.; Morgan, Alexander M.; Schenk, Paul M.; Umurhan, Orkan M.; White, Oliver L.; Williams, Rebecca M.E.; Wilson, Sharon A.: GSA PLANETARY GEOLOGY DIVISION G.K. GILBERT LECTURE: DEGRADATION ACROSS THE SOLAR SYSTEM


215-3  2:15 PM  Morgan, Alexander M.*; Wilson, Sharon A.; Howard, Alan D.: GLOBAL DISTRIBUTION OF ALLUVIAL FANS AND DELTAS ON MARS

215-4  2:30 PM  Williams, Rebecca M.E.*; Nelson, William; Hynek, Brian M.; Di Achille, Gaetano; Vaz, David A.: MORPHOLOGICAL DIFFERENCES IN MARTIAN STEPPED FANS (Invited Presentation)

215-5  2:50 PM  Craddock, Robert A.*: THE CLIMATE HISTORY OF MARS AS RECORDED BY THE GEOLOGIC RECORD

215-6  3:05 PM  Crumpler, Larry S.*; Arvidson, Raymond E.; Farrand, William H.; Grant, John A.; Mittefehldt, David W.: FIRST FIELD EXAMINATION OF THE NEAR-SURFACE RIM STRUCTURE ON A LARGE IMPACT CRATER, OPPORTUNITY ROVER, ENDEAVOUR CRATER, MARS

215-7  3:20 PM  Mittefehldt, David W.*; Crumpler, Larry S.; Grant, John A.; Arvidson, Raymond E.; Farrand, William H.: NOACHIAN-AGED PRE-IMPACT LITHOLOGY EXPOSED IN ENDEAVOUR CRATER RIM: MARS EXPLORATION ROVER OPPORTUNITY OBSERVATIONS

215-8  3:35 PM  Hansen, Candice J.; Portyankina, Ganna: DRY ICE–DRIVEN EROSION: A UNIQUELY MARTIAN PROCESS


215-10  4:05 PM  Schenk, Paul M.*; Moore, Jeffrey M.: ROAMING THE HILLS AND VALLEYS OF THE SOLAR SYSTEM: TOPOGRAPHIC MAPPING FROM THE MOON TO PLUTO (AND BEYOND)


215-12  4:40 PM  Zahnie, Kevin*: IO AND THE XENOLITHS OF EUROPAA

SESSION NO. 216

T157. Evolving Perspectives of the Precambrian World: Using Combined Theoretical and Applied Approaches to Tackle Problems at the Intersection of Geology, Geobiology, and Geochemistry (Paleontological Society; GSA Geobiology & Geomicrobiology Division)

1:30 PM, Indiana Convention Center, Room 242

Latisha Ashley Brengman and Geoffrey J. Gilleaudeau, Presiding

1:30 PM  INTRODUCTORY REMARKS

216-1  1:35 PM  Spalding, Christopher*; Fischer, Woodward W.: THE ROLE OF ROTATION RATE IN EARTH’S CLIMATE UNDER A FAINT EARLY SUN

216-2  1:50 PM  Fedo, Christopher M.*; Brengman, Latisha Ashley: GEOCHEMISTRY OF MULTIPLE CARBONATE UNITS FROM THE ~3.7 GA ISUA GREENSTONE BELT, SW GREENLAND

216-3  2:05 PM  Pivarunas, Anthony F.*; Katsins, Karastin D.; Meert, Joseph G.; Craver, Aubrey; Miller, Scott R.; Roderus, Kelli; Pandit, M.K.; Sinha, Arup K.: MAGNETIZATION, REMAGNETIZATION, AND COMPLICATION IN SINGHBHUM CRATON, INDIA
SESSION NO. 217

**T174. Permian-Triassic Biotic Crisis: New Insights through Integrative Studies of Earth, Ocean, and Atmosphere** (GSA Sedimentary Geology Division; GSA Geobiology & Geomicrobiology Division; International Association of Sedimentologists; SEPM (Society for Sedimentary Geology); Paleontological Research Institution; GSA International Interdisciplinary Interest Group; Paleontological Society)

1:30 PM, Indiana Convention Center, Sagamore Ballroom 7

Christopher R. Fielding, Tracy D. Frank, Steve McLoughlin, Vivi Vajda and Arne Winguth, Presiding

**216-4** 2:20 PM Lageson, David; Bowen, David*: AEOLIAN SILICICLastic DEPOSITIONAL HYPOTHESIS FOR PRECAMBRIAN EARTH AND NOACHIAN MARS

**216-5** 2:35 PM Johnson, Jena E.;* Hinz, Isaac L.; Ellison, Eric T.; Templeton, Alexis S.: EXPERIMENTAL INSIGHTS INTO THE FORMATION OF IRON SILICATES IN BANDED IRON FORMATIONS (Invited Presentation)

**216-6** 2:55 PM Matos, Ramiro*: GEOLOGICAL EVOLUTION OF THE BOLIVIAN PRECAMBRIAN SHIELD, SW AMAZONIAN CRATON: UP-B ISOTOPIC CONSTRAINTS

**216-7** 3:10 PM Eyster, Athena*; Ramezani, Jahandar; Grove, Timothy; Bergmann, Kristin: PALEOPROTEROZOIC CONDITIONS INITIATING DEPOSITION OF IRON FORMATION

**216-8** 3:40 PM Trower, Elizabeth J.*; Cantine, Marjorie; Bergmann, Kristin; Lamb, Michael P.; Fischer, Woodward W.: REVISITING PRECAMBRIAN CARBONATE MUD PRODUCTION: EVIDENCE THAT ABRASION PLAYED A KEY ROLE (Invited Presentation)


**216-10** 4:15 PM Dunham, J.I.*; Kah, L.C.: CRYSTALLIZATION OF OPAL TO LENGTH-FAST CHALCEDONY WITHIN PROTEROZOIC MICROFOSSILIFEROUS CHERT

**216-11** 4:30 PM Gibson, Timothy M.*; Wörndle, Sarah; Agi, Heda; Crockford, Peter; Bui, Thi Hao; Hodgskiss, Malcolm W.; Halverson, Galen P.: A TERMINAL MESOPROTEROZOIC RECORD OF ENVIRONMENTAL AND BIOLOGICAL DISRUPTION TO THE BORRION BILLION FROM THE BYLOT SUPERGROUP, ARCTIC CANADA (Invited Presentation)

4:50 PM DISCUSSION

**216-12** 5:00 PM Hodgkin, Eben Blake*; Macdonald, Francis A.: TESTING THE PRIMARY expression OF THE SHURAM ISOTOPE EXCURSION ACROSS A BASIN TRANSPECT OF THE SAN JUAN FORMATION, SOUTHERN PERU

**216-13** 5:15 PM Ding, Weiming*; Dong, Lin; Sun, Yuanlin; Shen, Bing: TERMINAL EDIACARAN MICROBIAL MATS CREATE SEAFLOOR O2 OASES FOR EARLY ANIMAL EVOLUTION FROM THE PERSPECTIVE OF NEW PROXY, FE3+_CAB

**217-1** 1:30 PM Wignall, Paul B.*: THE PERMO-TRIASSIC MASS EXTINCTION: SEARCHING FOR THE CULPRIT (Invited Presentation)


**217-3** 2:10 PM Looi, Cindy Y.*; Benca, Jeffrey P.; Dujnstee, Ivo A.R.: IMPLICATIONS OF OZONE SHIELD FAILURE DURING THE END-PERMIAN BIOTIC CRISIS (Invited Presentation)

**217-4** 2:30 PM Isozaki, Yukio*: REPEATED EXTINCTIONS BY COSMOCLIMATOLOGICAL DRIVER: EXTRATERRESTRIAL FLUX AND GLOBAL COOLING

**217-5** 2:45 PM Onoue, Tetsuj*: Takahata, Naoto; Miura, Mutsutaka; Sato, Honami; Ishikawa, Akira; Soda, Katsuhito; Sano, Yui; Isozaki, Yukio: EXTRATERRESTRIAL HELIUM-3 FLUX ACROSS THE PERMIAN/TRIASSIC BOUNDARY

**217-6** 3:00 PM Benison, Kathleen C.*; Knopp, Jonathan P.; Andeskie, Anna Sofia: DID PANGEAN SALT, WIND, AND ACID CONTRIBUTE TO THE PERMO-TRIASSIC MARINE BIOTIC CRISIS?

**217-7** 3:15 PM Winguth, Arne*: Bocking, Malcolm; Crowley, James L.; Fielding, Christopher R.; Frank, Tracy D.; Gautam, Mitali D.; Mays, Chris; McLoughlin, Stephen; Teyyaw, Allen P.; Vajda, Vivi; Winguth, Cornelia: PANGEAN SEASONALITY CHANGES ACROSS THE PERMIAN-TRIASSIC BOUNDARY INFERRED FROM CLIMATE MODELING IN CONJUNCTION WITH FOSSIL AND SEDIMENT DATA

3:30 PM BREAK

**217-8** 3:45 PM Gastaldo, Robert A.*; Neveling, Johann; Tabor, Neil J.; Geissman, John W.: ASSESSING PERMO-TRIASSIC TERRESTRIAL PALEOClimatic TRENDS OF CALCIC PALEOVERTISOLS WHEN STRATIGRAPHICALLY ABSENT IN THE KAROO BASIN, SOUTH AFRICA

**217-9** 4:00 PM Tobita, Tomoyo*; Isozaki, Yukio; Tahata, Miyuki; Matsu, Yohei; Sakai, Saburo; Nishizawa, Manabu; Yoshida, Naohiro; Zakharov, Yuri: THE KAMURA EVENT DETECTED IN A SHELF FACIE OF NE S. CHINA BLOCK: CARBON ISOTOPE STRATIGRAPHY OF THE CAPITANIAN (PERMIAN) LIMESTONES IN NE JAPAN AND PRIMORYE (FAR EAST RUSSIA)

**217-10** 4:15 PM Bercovici, Antoine*; Cui, Ying; Forei, Marie-Béatrice; Yu, Jianxin; Vajda, Vivi: PALYNOLOGY AND PALEOENVIRONMENT OF THE TERRESTRIAL PERMIAN-TRIASSIC TRANSITION IN WESTERN GUIZHOU AND EASTERN YUNNAN, SOUTH CHINA

**217-11** 4:30 PM Fielding, Christopher R.∗; Frank, Tracy D.; McLoughlin, Steve; Vajda, Vivi; Mays, Christopher; Teyyaw, Allen; Winguth, Arne; Winguth, Cornelia; Nicoll, Robert S.; Bocking, Malcolm; Crowley, James: A UNIQUE MULTIPROXY RECORD FROM THE SYDNEY BASIN, AUSTRALIA, CONSTRAINTS THE AGE AND PATTERN OF THE CONTINENTAL END-PERMIAN MASS EXTINCTION AT HIGH SOUTHERN LATITUDES

**217-12** 4:45 PM Mays, Chris*; Vajda, Vivi; McLoughlin, Stephen; Fielding, Christopher R.; Frank, Tracy D.; Nicoll, Robert S.: EXTINCTION, EVOLUTION AND RECOVERY OF THE GONDWANAN FLORA THROUGH THE PERMIAN-TRIASSIC BIOTIC CRISIS IN SOUTHERN HIGH PALEOALTITUDES, AUSTRALIA

**217-13** 5:00 PM McLoughlin, Stephen*; Vajda, Vivi; Mays, Christopher; Fielding, Christopher R.; Frank, Tracy D.; Nicoll, Robert S.: EXTINCTION AND RECOVERY OF GONDWANAN PLANT AND HERBIVOROUS ARTHROPOD COMMUNITIES THROUGH THE PERMIAN-TRIASSIC BIOTIC CRISIS IN SOUTHERN HIGH PALEOALTITUDES

**217-14** 5:15 PM Vajda, Vivi*; McLoughlin, Stephen; Mays, Chris; Frank, Tracy D.; Fielding, Christopher R.; Bocking, Malcolm; Teyyaw, Allen P.; Winguth, Arne; Winguth, Cornelia; Nicoll, Robert S.: CONSEQUENCES OF THE SUDDEN COLLAPSE OF FORESTS ACROSS THE END-PERMIAN EVENT (252.3 MYA) – EVIDENCE FROM THE SYDNEY BASIN, AUSTRALIA

Tuesday, 6 November 2018

4–7 November • Indianapolis, Indiana, USA

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SESSION NO. 218

T181. Recent Advances and Future Directions in Paleolimnology and Paleoclimate (GSA Structural Geology and Tectonics Division; GSA Sedimentary Geology Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; GSA International Interdisciplinary Interest Group)

1:30 PM, Indiana Convention Center, Room 240-241
Lily J. Jackson, Kurt E. Sundell and Miquela Ingalls, Presiding

218-1  1:30 PM  San José, Malwina*; Caves Rugenstein, Jeremy K.; Fellin, Maria Giuditta; Cosentino, Domenico; Ghinassi, Massimiliano; Martini, Ivan; Facenna, Claudio: UPLIFT HISTORY OF THE CENTRAL APENNINES (ITALY): COMBINING STABLE ISOTOPES AND THERMOCHEMISTRY

218-2  1:45 PM  Quade, Jay*: THE SERIOUS CHALLENGE OF OBTAINING PRIMARY RECORDS OF PALEOLATITUDE IN TIBET (Invited Presentation)

218-3  2:05 PM  Richter, Fabiana*; An, Zhisheng; Liu, Weiguo; Garzione, Carmala N.; Qiang, Xiaoke; Chang, Hong; Li, Xiangzhong: 5-2 MA HIGH-RESOLUTION STABLE ISOTOPE RECORD FROM CARBONATES FORMED IN THE QINGHAI LAKE DURING OUTWARD GROWTH OF THE QILIAN SHAN- NAN SHAN OROGENIC BELT AND GLOBAL COOLING

218-4  2:20 PM  Li, Leyi*; Chang, Hong; Niemi, Nathan A.; Qiang, Xiaoke; Jin, Chunsheng; Sun, Jimin; Guan, Chong; Zhang, Peng; Miao, Yunfa; An, Zhisheng: AGES OF CENOZOIC STRATA DEPOSITED IN THE TUOTUOHE BASIN AND IMPLICATIONS FOR THE EARLY OLIGOCENE PALEOELEVATION OF THE NORTHERN TIBETAN PLATEAU


218-6  2:50 PM  Sundell, Kurt E.*; Saylor, Joel E.; Lapen, Thomas J.; Horton, Brian K.: VARIABLE LATE CENOZOIC SURFACE UPLIFT ACROSS THE PERUVIAN CENTRAL ANDES DOCUMENTS MULTIPLE UPLIFT MECHANISMS

218-7  3:05 PM  Cassel, Elizabeth J.*; Smith, M. Elliot; Fricke, Henry; Jicha, Brian R.: RECORDS FROM COAST TO COAST: NEW TOPOGRAPHIC INSIGHTS ACROSS THE PALEOGENE CORDILLERAN HINTERLAND PLATEAU

3:20 PM  BREAK

218-8  3:35 PM  Snell, Kathryn E.*: HOW MUCH DATA DO WE NEED TO RECONSTRUCT PALEOELEVATION FROM PALEOClimATE DATA? (Invited Presentation)

218-9  3:55 PM  Fricke, Henry*: SOIL GEOCHEMISTRY-BASED PROXIES FOR INTRA-ANNUAL VARIABILITY IN EVAPORATION MINUS PRECIPITATION, AND AN EXAMPLE OF THEIR APPLICATION TO PALEOSOLS SPANNING THE PETM IN THE BIGHORN BASIN OF WYOMING

218-10 4:10 PM  Kukla, Tyler*; Winnick, Matthew J.; Chamberlain, C. Page: THE ISOTOPIC COMPOSITION OF RAINFALL FROM AN ENERGY BALANCE PERSPECTIVE

218-11 4:25 PM  Colwyn, David*; Brandon, Mark T.; Hren, Michael T.: THE EFFECT OF TIME-AVERAGING ON PALEO-WATER ISOTOPE RECORDS

218-12 4:40 PM  Brandon, Mark T.*: OPI: A FULL PROCESS-BASED MODEL FOR STUDYING PRECIPITATION ISOTOPES AS A FUNCTION OF OROGRAPHIC LIFTING AND CLIMATE

218-13 4:55 PM  Farnsworth, Alexander; Valdes, Paul*; Spicer, Robert; Su, Tao; Lunt, Dan J.; Lin, Ding: HOW ACCURATE ARE STABLE ISOTOPES BASED ESTIMATES OF PALEOLIMNOMETRY: RESULTS FROM ISOTOPE ENABLED CLIMATE MODELS

SESSION NO. 219

Mineralogical Society of America (MSA) Awards Lectures, Presidential Address, and Annual Business Meeting

3:00 PM, Indiana Convention Center, Sagamore Ballroom 5
Mickey E. Gunter, Presiding

219-1  3:00 PM  Hermann, Jörg*: MSA DANA MEDAL LECTURE: MINERALOGICAL AND PETROLOGICAL CONSTRAINTS ON THE EARTH’S DEEP WATER CYCLE

219-2  3:40 PM  Watson, E. Bruce*; Cherniak, Daniele J.; Drexl, Maxwell S.; Schaller, Morgan F.; Hervig, Richard L.: MSA ROEBLING MEDAL LECTURE: NITROGEN DIFFUSION IN MINERALS, WITH IMPLICATIONS FOR N CYCLING IN THE SOLID EARTH

219-3  4:20 PM  Brown, Michael*: MSA PRESIDENTIAL ADDRESS: METAMORPHISM, SECULAR CHANGE AND GEODYNAMICS

5:00 PM  ANNUAL MSA BUSINESS MEETING

SESSION NO. 220

GSA Hydrogeology Division: Birdsall-Dreiss Distinguished Lecture

4:30 PM, Indiana Convention Center, Sagamore Ballroom 6
Stephen Van der Hoven, Presiding

220-1  4:30 PM  Boutt, David F.*: WATER AND LITHIUM - THE NEXUS OF HYDROGEOSCIENCES AND GREEN ENERGY IN THE TRANSITION FROM FOSSIL FUELS

WEDNESDAY, 7 NOVEMBER 2018

MORNING ORAL TECHNICAL SESSIONS

SESSION NO. 221

D34. Sediments, Clastic

8:00 AM, Indiana Convention Center, Room 130-131
Leonard R. Brand and Anne Raymond, Presiding

221-1  8:00 AM  Englert, Rebecca G.*; Hubbard, Stephen M.; Coutts, Daniel; Jobe, Zane; Cartigny, Matthieu J.B.; Hage, Sophie: UPSLOPE-MIGRATING-BEDFORM DEPOSITS IN SUBMARINE CHANNELS: INTEGRATING SEAFLOOR OBSERVATIONS AND THE STRATIGRAPHIC RECORD (Invited Presentation)

221-2  8:15 AM  Egenhoff, Sven O.*: PROXIMAL BAKKEN FACIES – FLOODING THE WILLISTON BASIN IN THE LATE DEVONIAN-EARLY MISSISSIPPIAN, NORTH DAKOTA, USA

221-3  8:30 AM  Novak, Aleksandra*; Egenhoff, Sven O.: SLUMP STRUCTURES AS A TOOL TO RECOGNIZE SYNSEDIMENTARY FAULT ACTIVITY IN THE MIDDLE MEMBER OF THE BAKKEN FORMATION, WILLISTON BASIN, NORTH DAKOTA

221-4  8:45 AM  Hess, Anya V.*; Trop, Jeffrey M.: SEDIMENTOLOGY AND CHEMOSTRATIGRAPHY OF UPPER SILURIAN–LOWER DEVONIAN MARINE STRATA AT WINFIELD QUARRY, CENTRAL PENNSYLVANIA

221-5  9:00 AM  Hess, Richard M.*; Holland, Steven M.: FACES AND SEQUENCE STRATIGRAPHIC ARCHITECTURE OF THE
SESSION NO. 223

P4. Human Evolution and Environmental History in Africa: 25 Years of Transformative Research (GSAILMogeology Division; GSA Geoarchaeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division; GSA Continental Scientific Drilling Division; EarthRates)

8:00 AM, Indiana Convention Center, Sagamore Ballroom 5

Andrew S. Cohen and Gail M. Ashley, Presiding

8:00 AM INTRODUCTORY REMARKS

222-1 8:05 AM Foley, Robert A.*: PULSES, COURT JESTERS AND RED QUEENS: THE EFFECT OF CLIMATE CHANGE, SPECIES ECOLOGY AND DIVERSITY ON EVOLUTIONARY DYNAMICS

222-2 8:25 AM Dommain, R.; García, Y.; Potts, R.; Riedl, S.; Streek, M.R.*: RIFT-BASIN COMPARTMENTALIZATION, FLUVIAL CONNECTIVITY AND CHANGING ENVIRONMENTS: TECTONIC AND CLIMATIC FORCING OF ENVIRONMENTAL CONDITIONS DURING HOMININ EVOLUTION IN THE EAST AFRICAN RIFT SYSTEM (EARS)

222-3 8:45 AM deMenocal, Peter*; Polissar, Pratigya J.; Tierney, Jessica; Uno, Kevin T.; Phelps, Samuel R.; Rose, Cassandura A.: PALEOENVIRONMENTAL CONTEXTS OF HOMININ EVOLUTION: RECONCILING AFRICAN WET-DRY CYCLES AND SECULAR VARIATION OVER THE NEogene

222-4 9:05 AM Levin, Naomi E.*; Bedaso, Zelalem K.; Beverly, Emily J.; Cerling, Thure E.; Lehmann, Sophie B.; Mooreman, Jessica W.; Passsey, Benjamin H.; Quade, Jay: HOTTER, DRIER, AND MORE OPEN? GEOCHEMICAL PERSPECTIVES ON 10 MYR OF ENVIRONMENTAL CHANGE AND HUMAN EVOLUTION IN AFRICA

222-5 9:25 AM Ashley, Gail M.*: HOMININ SURVIVAL DURING PRECESSIONALLY-PACED WET/DROUGHT CYCLES AND CHANGING HABITATS: THERE IS NO SUBSTITUTE FOR FRESH WATER

9:40 AM BREAK
SESSION NO. 224

T31. Environmental Impacts Studies for Energy Resources (GSA Energy Geology Division; GSA Environmental & Engineering Geology Division)

8:00 AM, Indiana Convention Center, Room 135

Marc L. Buursink, Laura S. Ruhl, Travis L. McLing and J. Fred McLaughlin, Presiding

224-1 8:00 AM Morrison, Jean M.*; Campbell, Kate M.; Fuller, Christopher C.; Gallegos, Tanya J.; Walton-Day, Katie: PROCESSES CONTROLLING THE NATURAL ATTENUATING CAPACITY OF AN AQUIFER DOWNGRADE FROM A URANIUM ROLL-FRONT DEPOSIT, WYOMING, USA

224-2 8:15 AM Ebrahimi, Pouyan*; Borrok, David: SORPTION OF AS, SE, SR, AND BA IN PETROLEUM PRODUCED ON THE SURFACE OF DOLOMITE

224-3 8:30 AM Barrett, Mary L.*; ARSENIC CORROSION INHIBITOR USAGE IN OILFIELDS: ITS HISTORY AND A MODERN SHALLOW GROUNDWATER IMPACT EXAMPLE

224-4 8:45 AM Graney, Joseph R.*; Edgerton, Eric S.; Landis, Matthew S.; ATOMS LATE CENOZOIC ECOSYSTEM CHANGES ACROSS 7 MYR OF HOMININ EVOLUTION IN EASTERN AFRICA

224-5 9:00 AM Vilcaez, Javier*: A FIELD-SCALE SIMULATION OF BARIUM TRANSPORT IN CLASS II WASTEWATER INJECTION WELLS

224-6 9:15 AM Buursink, Marc L.*; Hunt, Andrew G.: NOBLE GAS GEOCHEMISTRY FOR CHARACTERIZING GEOLLOGIC CO2 SOURCES IN SELECTED CALIFORNIA BASINS

224-7 9:45 AM Campbell, Amanda E.*; Lautz, Laura K.; Hoke, Gregory D.: ARE POINT-IN-TIME OBSERVATIONS OF METHANE IN DOMESTIC WELL WATER REPRESENTATIVE OF YEAR-ROUND CONDITIONS? RESULTS OF YEAR-LONG MONTHLY WATER QUALITY SAMPLING IN THE MARCELLUS PLAY

224-8 10:00 AM Elwaraky, Mohamed*; Slater, Gregory F.; Nelson, Robert K.; Reddy, Christopher M.; Warren, Lesley A.: ASSESSMENT OF THE IDENTITY AND BIODEGRADATION POTENTIAL OF HYDROCARBONS IN AN OIL SANDS PIT LAKE

224-9 10:15 AM Gianoutos, Nicholas J.*; Haines, Seth S.; Varela, Brian A.; Whidden, Katherine J.: QUANTIFYING FRESH WATER AND PROPPANT REQUIREMENTS FOR OIL AND GAS PRODUCTION FROM THE EAGLE FORD GROUP, GULF COAST, TEXAS

SESSION NO. 225

T56. From Alpine Glaciers to Ice Sheets: Understanding Glacial Dynamics, Landscapes, and Environmental Change (GSA Quaternary Geology and Geomorphology Division; Paleoclimatology/Paleoceanography)

8:00 AM, Indiana Convention Center, Room 136-137

Elizabeth Orr, Jason M. Cesta, Michelle Fane and Sarah E. Crump, Presiding

225-1 8:05 AM Baclawski, Diane K.*: THE MACKINAC ISLAND CONNECTION – FRANK B. TAYLOR’S FIRST PROFESSIONAL GLACIAL PUBLICATION IN 1892

225-2 8:20 AM Kelley, Samuel E.*; Ross, Martin; Hodder, Tyler J.; Gauthier, Michelle; Elliott, Barrett; Normandieu, Philippe: THE SUBGLACIAL MOSAIC: EXAMINING THE GEOLOGIC RECORD OF SUBGLACIAL LANDSCAPE EVOLUTION (Invited Presentation)

225-3 8:40 AM Blackburn, Terrence*: Siman-Tov, Shailev; Brodsky, Emily E.; Stock, Greg M.; Coble, Matthew: SILICATE CHEMICAL WEATHERING BENEATH GLACIERS RECORDED BY THE COATING LAYER OF GLACIAL POLISH

225-4 8:55 AM Lai, Jingtao*: Anders, Alison: CLIMATIC CONTROLS ON GLACIAL EROSION – INSIGHTS FROM NUMERICAL GLACIAL LANDSCAPE EVOLUTION MODELING

225-5 9:10 AM MacGregor, Kelly*: GLACIAL EROSION, SEDIMENT TRANSPORT, AND ENVIRONMENTAL CHANGE IN THE GRINNELL AND SWIFTCURRENT VALLEYS, GLACIER NATIONAL PARK, MONTANA, USA (Invited Presentation)

225-6 9:30 AM Mark, Bryan G.*; Stansell, Nathan D.; Zeballos Castellon, Gabriel: THE LAST DEGLACIATION OF PERU AND BOLIVIA

225-7 9:45 AM Linge, Henriette*: Dahl, Svein Olaf; Fabel, Derek; Xu, Sheng; Olsen, Jesper: FORMATION OF GLACIAL LANDFORMS DURING MIS 3-1 ON ANDOYA (69°N, 16°E), COASTAL NORTHERN NORWAY (Invited Presentation)

10:05 AM BREAK

225-8 10:20 AM Goerling, Brent*: Menounos, Brian; Osborn, Gerald; Hawkins, Adam C.; Ward, Brent C.: CLUES TO ENIGMATIC MORaine EXPOSURE AGES USING COSMOGENIC CARBON-14 EXPOSURE DATING

225-9 10:35 AM Fleming, Kaitlyn C.; Laabs, Benjamin J.; Munroe, Jeffrey S.: COSMOGENIC 10BE SURFACE EXPOSURE DATING AND NUMERICAL MODELING OF LATE PLEISTOCENE GLACIERS AND LAKES IN NORTHEASTERN NEVADA

225-10 10:50 AM Thackray, Glenn D.*; Rittenour, Tammy M.; Shulmeister, James: THE KAMES OF ROHAN: LUMINESCENCE AGES OF ICE MARGINAL ACTIVITY IN MIDDLE EARTH (RANGITATA VALLEY, NEW ZEALAND) THROUGH THE LAST GLACIATION

225-11 11:05 AM Wells, Greta H.*: GEOMORPHOLOGIC EVIDENCE AND TIMELINE RECONSTRUCTION OF HOLOCENE JOKULHALUPS ALONG THE HVITA RIVER AND GULLFOSS, ICELAND
SESSION NO. 226

T60. Revolutions in Remote Sensing: Applications of UAVs to Field Mapping and Surface Analytics (GSA Quaternary Geology and Geomorphology Division; GSA Structural Geology and Tectonics Division; GSA Environmental & Engineering Geology Division; GSA Geochronology Division; GSA Geoinformatics Division; GSA Geophysics and Geodynamics Division)

8:00 AM, Indiana Convention Center, Room 141

Dylan Blumentritt and Toby Dogwiler, Presiding

226-1 8:00 AM Wilcox, Douglas A.*: WHAT HAPPENS WHEN LAKE LEVELS ARE REGULATED?

226-2 8:15 AM Cox, Rónadh*: Dias, Frederic; Cytrynbaum, Jacob; Nagle-McNaughton, Timothy P.; Herterich, James G.; Schmitt, Pat; O’Boyle, Louise: MULTI-PRONGED INVESTIGATION USES COASTAL BOULDER DEPOSITS TO UNDERSTAND STORM WAVE AMPLIFICATION ALONG STEEP SHORELINES

226-3 8:30 AM Wernette, Philippe A.; Houser, Chris; Lehner, Jacob; Evans, Andrew: BARRIER ISLAND RESILIENCY AND HUMAN IMPACTS: LESSONS FROM HURRICANE HARVEY


226-5 9:05 AM Quinn, Daven P.*; Ehmann, Bethany L.: A STATISTICAL FRAMEWORK FOR DETERMINING REMOTELY-SENSED GEOLOGICAL SURFACE ORIENATIONS AND THEIR ERROR DISTRIBUTIONS

226-6 9:20 AM Meghani, Nooreen A.*; Yoder, Andrew; Miller, Doug; Naberezny, Brian; Holderman, Brennan: ACCURACY ASSESSMENT OF SUAS- AND LOW-COST-GNSS ALONG A FORESTED ROAD IN CENTRAL PENNSYLVANIA

226-7 9:35 AM Ilesanmi, Olufeyisayo Bisayo*: Xu, Xiang; Abdelsalam, Mohamed G.; Obouch-Kuenobe, Francisca; Feight, Jordan: UAS-DERIVED CLOUD POINT ANALYSIS FOR THE 5.8-MAGNITUDE PAWNEE OKLAHOMA EARTHQUAKE

9:50 AM BREAK

226-8 10:05 AM Dehm, Dustin*: Becker, Richard H.: SMALL UNMANNED AERIAL SYSTEM (SUAS) BASED ANALYSIS OF EMERGENT VEGETATION & WATER INUNDATION EXTENT AT OLD WOMAN CREEK

226-9 10:20 AM Brigham, Cassandra A.P.*; Crider, Juliet G.: A PARTIALLY AUTOMATED WORKFLOW TO ANALYZE FAULT SCARP MORPHOLOGY USING UAV-ACQUIRED IMAGERY


226-11 10:50 AM Arrowsmith, J. Ramon*: Crosby, Christopher J.; Scott, Chelsea Phipps; Scott, Tyler; Lao-Davila, Daniel A.; DiMaggio, Erin N.: FROM CRASHING KITES AND FRANKENMODELS TO EFFICIENT LARGE-SCALE UAV ACQUISITIONS AND BEAUTIFUL SHARED 3D MODELS (Invited Presentation)

226-12 11:05 AM Hostens, Daniel S.*; Dogwiler, Toby: DETERMINING THE EFFECT OF MISSION DESIGN AND FLIGHT PATTERNS ON THE QUALITY AND ACCURACY OF DMS AND ORTHOPHOTOS DERIVED FROM UAV IMAGERY

11:25 AM DISCUSSION

SESSION NO. 227

T66. The Twenty-First–Century Geoscience Workforce: What Is It? Who Is In It? Who is Missing? (GSA Geology and Society Division; GSA Diversity in the Geosciences Committee; International Association for Geoscience Diversity; GSA Geoinformatics Division; GSA Environmental & Engineering Geology Division)

8:00 AM, Indiana Convention Center, Room 145

Stephen K. Boss, Aisha R. Morris and Ivan G. Carabajal, Presiding

227-1 8:15 AM Keane, Christopher*: IMMERSIVE INTEGRATION OF GEOSCIENCE ON THE WAY TO THE NEW WAY OF WORK (Invited Presentation)

227-2 8:35 AM Wilson, Carolyn*: Keane, Christopher: EMERGING ISSUES FACING THE GEOSCIENCE WORKFORCE AS WE ENTER THE NEXT DECADE

227-3 8:50 AM Asher, Pranoti M.*; Keane, Christopher; Cantner, Kat: GEOSCIENCE WORKFORCE PATHWAYS: A HOLISTIC APPROACH AT PREPARING FOR CAREERS IN THE GEOSCIENCES

227-4 9:05 AM Boss, Stephen K.*: OCCUPATIONAL DIVERSITY AND WORKFORCE DIVERSITY IN THE GEOSCIENCES - WHO REPRESENTS GEOSCIENCE LABOR?

9:20 AM DISCUSSION

9:35 AM BREAK

227-5 9:50 AM Suiter, Marilyn J.*; Smith, Paige E.; Jesse, Jolene K.; Jones, M. Brandon: AN UPDATE ON NSF INCLUDES

227-6 10:05 AM Brock, John C.*; Carter, Mark W.; Burns, Robert C.; Bunse, Emily G.; Palaseanu-Lovejoy, Monica; Blake, Mitch; Guala, Gerald “Stinger”; Leveque, Jonas; Nugent, Barnes L.; Ashton, Kenneth C.; Britton, James Q.; Harlan, Nathan; Marketti, Michael: LESSONS LEARNED FROM THE INAUGURAL WVU-USGS APPALACHIAN GEOSCIENCE GEOCAMP


227-8 10:35 AM Fortner, Sarah K.*; Wilson, Carolyn: CIVIC ENGAGEMENT IN OUR CLASSES, PROGRAMS, AND OUTREACH PRACTICES: IMPLICATIONS FOR SUPPORTING SCIENCE LITERACY AND OUR WORKFORCE

227-9 10:50 AM Barnes, Brandt*: CREATING OPPORTUNITIES AND GROWTH FOR YOUNG PROFESSIONAL GEOScientists

SESSION NO. 228

T69. Innovations in Using Fossil Collections for Deep Time Education and Outreach (GSA Geoscience Education Division; Paleontological Society; Paleontological Research Institution)

8:00 AM, Indiana Convention Center, Room 233

Amy Bolton, Bruce J. MacFadden, Peggy Fisher Keller and Dallas Evans, Presiding

228-1 8:00 AM Menlove, Rebecca*: Irmis, Randall B.; Leonard, Geoffrey; Green, Todd; Sertich, Joseph: OLD BONES AND NEW TOOLS: ENGAGING FAMILY AUDIENCES IN THE DISCOVERY OF A NEW CRETACEOUS CROCODILIANS THROUGH ORIGINAL FOSSILS AND TOUCH SCREEN ACCESS TO CT SCAN DATA

228-2 8:15 AM Wing, Scott L.*: PLAYING WITH MODELS IN DEEP TIME – OLD-FASHIONED AND INNOVATIVE

228-3 8:30 AM Dineen, Ashley A.; Garcia, Christine N.*; Roopnarine, Peter D.: MERGING COLLECTIONS-BASED SCIENTIFIC RESEARCH AND PUBLIC EDUCATION AT THE CALIFORNIA ACADEMY OF SCIENCES
Wednesday, 7 November 2018

228-4  8:45 AM  Bolton, Amy*; Popson, Colleen; Robertson, Gale: ENGAGING FAMILY GROUPS IN LEARNING ABOUT EVOLUTION USING 3D PRINTED FOSSILS

228-5  9:00 AM  Brandt, Danita S.; Abraczinskas, Laura; Fick, Julie A.; Gottfried, Michael D.; Harding, James; Lundrigan, Barbara L.; Parsons, Gary L.; Rasmussen, Pamela C.; DARWIN DISCOVERY DAY: A COLLECTIONS-BASED, INTERACTIONS-FOCUSED, ANNUAL PUBLIC OUTREACH OPPORTUNITY

228-6  9:15 AM  Santos, Gabriel-Philip*; Stoneburg, Brittney; Barboza, Michelle M.; Magallanes, Isaac: COSPLAY FOR SCIENCE: CONNECTING PALEONTOLOGY, EDUCATION, AND POP CULTURE

228-7  9:30 AM  Manning, Phillip L.*; Egerton, Victoria M.; Evans, Dallas; Ripley, William R.; Taylor, Jessica; Anné, Jennifer E.: MY T. REX IS BIGGER THAN YOUR T. REX

228-8  9:45 AM  Bex, Richard T.; Crippen, Kent J.; Lundgren, Lisa; Mills, Sadie M.; MacFadden, Bruce J.: USING A MOBILE APP TO CONNECT TEACHERS TO THE SCIENCE OF PALEONTOLOGY

228-9  10:00 AM  Sturgeon, Polly Root*; Cook, Kimberly J.; Motz, Gary J.: INCORPORATING GEOLOGIC COLLECTIONS IN THE CLASSROOM

228-10  10:15 AM  Pirlo, Jeanette*; MacFadden, Bruce J.; Gardner, Eleanor E.; Perez, Victor J.; Porcello, Denise: FOSSILS4TEACHERS – CONNECTING FOSSIL CLUBS WITH K-12 TEACHERS

228-11  10:30 AM  Hendricks, Jonathan R.*; Hermens, Elizabeth J.; Hauf, Emily: THE DIGITAL ENCYCLOPEDIA OF ANCIENT LIFE (DEAL): AN OPEN ACCESS PALEONTOLOGY TEXTBOOK

228-12  11:00 AM  MacFadden, Bruce J.*: DIGITAL VOUCHERS AND EXPANDING ACCESS IN PALEONTOLOGY COLLECTIONS

229-4  8:45 AM  Campbell, Seth*; Boucher, Annie; Jennings, Carrie E.: 72 YEAR LEGACY OF ACADEMIC RESEARCH AND TRAINING IN POLAR AND MOUNTAIN EARTH SYSTEMS SCIENCE: JUNEAU ICEFIEF RESEARCH PROGRAM

229-5  9:00 AM  Armour, Mary-Helen*; Lederman, Jerusha Isabel: STUDENT EXPERIENCE IN FULLY ONLINE FIRST YEAR GEOSCIENCE GENERAL EDUCATION COURSES

229-6  9:15 AM  Bursztyn, Natalie*; Gutierrez, Joseph Anthony; Quinto, Isabel; Memeti, Vali; Ardill, Katie E.: “YOSEMITE: A STORY OF FIRE AND ICE” ROADSIDE GEOLOGY AND VIRTUAL FIELD TRIP

229-7  9:45 AM  Ross, Robert M.*; Duggan-Haas, Don; White, Lisa D.; Citles, Erica C.: VIRTUAL FIELDWORK EXPERIENCES TO ALLOW ONLINE EXPLORATION OF CLASSIC CENOZOIC PACIFIC COAST MARINE FOSSIL LOCALITIES

229-8  10:15 AM  Cho, Youngwoo*: Clary, Renee M.: EXTENDING STUDENT LEARNING GAINS THROUGH VIRTUAL FIELD TRIPS WITHIN TRADITIONAL FIELD COURSES

SESSION NO. 230

T99. Five Decades of Impactful Ideas in Hydrogeology: Recognizing the Contributions of Frank Schwartz (GSA Hydrogeology Division; National Ground Water Association)

8:00 AM, Indiana Convention Center, Room 132
Alan E. Fryar and Chen Zhu, Presiding

230-1  8:00 AM  Hendry, M.*: LESSONS FROM A LEGEND – FRANK SCHWARTZ (Invited Presentation)

230-2  8:15 AM  Sudicky, Edward A.*: MY FORTY YEARS OF MENTORING BY FRANK SCHWARTZ: HIS WISE ADVICE, FRIENDSHIP AND ASSORTED STORIES (Invited Presentation)

230-3  8:30 AM  Schwartz, Franklin W.*; Ibaraki, Motomu; Zhang, Yiding: WHY IS THE INFLUENCE OF GROUNDWATER/VADOSE-ZONE RESEARCH IN THE HYDROLOGIC SCIENCES DECLINING? (Invited Presentation)


230-5  9:00 AM  Sharp, John M.*; Schindel, Geary M.; Green, Ronald T.: THE EDWARDS AQUIFER

230-6  9:15 AM  Darrah, Thomas H.*; Vengosh, Avner; Schwartz, Frank W.: TIME TO SETTLE THE FRACKING DEBATE: BUT HOW?

230-7  9:30 AM  Yan, Eugene*: Zhou, Zhi; Betrie, Getnet; Veselka, Thomas: DEVELOPMENT OF MODELING FRAMEWORK FOR ASSESSMENT OF ENERGY-WATER NEXUS

SESSION NO. 229

T76. Beyond the Road-Cut: Virtual, Local, and Nontraditional Field Teaching and Learning Experiences (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)

8:00 AM, Indiana Convention Center, Room 234

Lauren Neitzke Adamo, Julia Criscione, Jacob Setera and Kelsey S. Bitting, Presiding

229-1  8:00 AM  Neitzke Adamo, Lauren*: Huffman, Louise; Rousseau, Teresa: FROZEN IN TIME: A HANDS-ON ICE CORE, POLLEN, AND CLIMATE CHANGE LESSON PLAN FOR MIDDLE SCHOOL, HIGH SCHOOL, AND INTRODUCTORY COLLEGE CLASSES

229-2  8:15 AM  Kozachek, Camryn*; Neitzke Adamo, Lauren; Irizarry-Barreto, Patricia; Criscione, Julia: EXPLORING THE ICE AGE PERIOD AT THE RUTGERS GEOLOGY MUSEUM: AN INFORMAL LEARNING EXPERIENCE

229-3  8:30 AM  Adamaki, James C.*: CREATING EARTH-SCIENCE LEARNING EXPERIENCES OUTSIDE THE CLASSROOM AT 2- AND 4-YEAR COLLEGES

229-9  8:00 AM  Liu, Ganming*: Schwartz, Franklin W.: MACROSYSYEMECOLOGY AND HYDROLOGY: WHAT WE HAVE LEARNED AND WHAT WE NEED TO LEARN

229-10  8:15 AM  Chin, Yu-Ping*: McAdams, Brandon C.: PROPERTIES AND REACTIVITY OF DISSOLVED ORGANIC MATTER FROM PRAIRIE POTHOLE WETLANDS

229-11  8:30 AM  Mori, Hiroko*: Ibaraki, Motomu; Schwartz, Franklin W.: EXPLORING THE LINKS BETWEEN HYDROLOGY,
SESSION NO. 231

T107. Arsenic, Manganese, Chromium, and Other Geogenic Contaminants, Including Radionuclides in Hydrological Systems—Source, Biogeochemical Cycling, Toxicity, and Removal I (GSA Hydrogeology Division; GSA Geology and Health Division; GSA International Interdisciplinary Interest Group; International Society of Groundwater for Sustainable Development (ISGSD); International Water Association (IWA); Specialist Group Metals and Related Substances in Drinking Water (METRELS))

8:00 AM, Indiana Convention Center, Room 133
Presiding: Prosun Bhattacharya, Saugata Datta, Madeline Schreiber, Manish Kumar, Arslan Ahmad, Abhijit Mukherjee and David Lampe

8:00 AM INTRODUCTORY REMARKS

231-1 8:05 AM Spindler, Kevin M.*: OCCURRENCES OF ARSENIC IN INDIANA GROUND WATER

231-2 8:20 AM Gotkowitz, Madeline*: Mathematics, Madeleine; Ginder-Vogel, Matthew: AQUIFER CHARACTERIZATION TECHNIQUES FOR AVOIDING RADIUM-ENRICHED GROUNDWATER

231-3 8:35 AM Erickson, Melinda L.*; Malenda, Helen F.; Berquist, Emily; Ayotte, Joseph D.: ARSENIC CONCENTRATIONS AFTER DRINKING WATER WELL INSTALLATION: TIME-VARYING GEOCHEMICAL EFFECTS ON ARSENIC MOBILIZATION (Invited Presentation)


231-5 9:10 AM McKinley, Kristen L.*; Coyle, Rachel M.; Karr, Jonathan; Vengosh, Avner: THE OCCURRENCE AND DISTRIBUTION OF HEXAVALENT CHROMIUM IN GROUNDWATER ACROSS NORTH CAROLINA

231-6 9:25 AM Quino, Israel*: Ramos, Oswaldo; Ormachea, Mauricio; Bhattacharya, Prosun; Quintanilla, Jorge: HYDROCHEMICAL ASSESSMENT AND SPATIAL VARIABILITY OF TRACE ELEMENTS IN GROUNDWATER IN THE LOWER KATARI BASIN, BOLIVIAN ALTIPLANO

9:40 AM BREAK

231-7 9:55 AM Killough, Madeleine Becker*: Scanlan, Katharine; Mailloux, Brian; Chowdhury, Tashiha; van Geen, Alexander; Bostick, Benjamin C.; Mozumder, M. Rajib Hassan; Ellis, Tyler; Chowdhury, Intiaz; Ahmed, Kazi Matin; Bucuolz, Bruce: RADIOCARBON ANALYSIS OF MICROBIAL RNA TO DETERMINE CARBON SOURCES IN ARSENIC

SESSION NO. 232

T112. Coastal Wetland Feedbacks: Interconnecting Processes That Lead to Wetland Building and Sustainment (GSA Quaternary Geology and Geomorphology Division)

8:00 AM, Indiana Convention Center, Room 238-239
Presiding: Elizabeth Ann Olliver and Alejandra Ortiz

232-1 8:00 AM Hughes, Zoe J.*; FitzGerald, Duncan M.; Black, Sarah; Ryerson, Owen; Georgiou, Ioannis Y.; Howes, Nick: ASSESSING THE EXTENT AND IMPORTANCE OF SEDIMENTATION FROM A 100 YEAR WINTER STORM ON SALT MARSH RESILIENCE (Invited Presentation)

232-2 8:20 AM Horton, Benjamin P.*; Shennan, Ian; Bradley, Sarah L.; Cahill, Niamh; Kirwan, Matthew L.; Kopp, Robert E.; Shaw, Timothy A.; Walker, Jennifer: PREDICTING TIDAL MARSH SURVIVAL OR SUBMERGENCE TO FUTURE SEA-LEVEL RISE USING PALEO SEA-LEVEL DATA

232-3 8:35 AM Aponte, Mercedes J.*; Barber, Donald C.; Perez, Sierra B.: RESPONSE OF NORTH CAROLINA SALT MARSHES TO HYDRAULIC MODIFICATIONS, AGRICULTURAL RUNOFF AND ACCELERATED SEA LEVEL RISE

232-4 8:50 AM Cytrynbaum, Jacob*: Cox, Rónadh; O’Boyle, Louise: WAVE TANK INVESTIGATIONS OF LARGE-BOULDER TRANSPORT BY STORM WAVES

232-5 9:05 AM Silveira Meyers, Joao*: Cornell, Sean; Oakley, Adrienne: CHARACTERIZING MAGNETIC SUSCEPTIBILITY SIGNATURES OF MODERN BARRIER ISLAND AND BACK BARRIER DEPOSITIONAL ENVIRONMENTS FROM ASSATEAGUE, CHINCOTEAGUE, AND WALLOPS ISLANDS, VIRGINIA

232-6 9:20 AM Zhang, Xiaoying*: Hu, Bill; Dall, Zhenxue: HOW DOES SALINITY SHAPE ABUNDANT AND RARE BACTERIAL SUBCOMMUNITY STRUCTURES IN ESTUARINE GROUNDWATER?

9:35 AM BREAK

232-7 9:50 AM Wilson, Carol A.*; Bentley, Samuel J.; Shull, Sam: IS SHORELINE CANONICALIZATION SUSTAINING LOUISIANA MARSHES? INSIGHTS FROM VERTICAL ACCRETION, MINERAL ACCUMULATION, AND LAND LOSS PATTERNS IN BARATARIA BASIN (Invited Presentation)
Wednesday, 7 November 2018

232-8 10:10 AM Bedwell, Caroline J.; Ortiz, Alejandra; Edmonds, Douglas A.: THE CONNECTION BETWEEN WIND, WAVES, AND POND EXPANSION ON THE MISSISSIPPI RIVER DELTA, LOUISIANA

232-9 10:25 AM Guttardi, Raphael*; O'Leary, Matthew: RELATIONSHIP BETWEEN GROWTH FAULT AND SUBSIDENCE: IMPACT ON COASTAL EROSION, AN EXAMPLE FROM CAMERON PRAIRIE, SOUTHERN LOUISIANA

232-10 10:40 AM Kolker, Alexander S.; Amer, Reza: CONTROVERSIES AND CONNECTIONS IN THE RESTORATION OF RIVER-DOMINATED DELTAS (Invited Presentation)

232-11 11:00 AM Olliver, Elizabeth Ann*; Edmonds, Douglas A.; Shaw, John: WHAT CONTROLS SEDIMENT RETENTION IN A PROGRADING RIVER DELTA?

SESSION NO. 233 $

T114. Apatite, from Magma to Medicine: In Honor of John M. Hughes (GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Mineralogical Society of America; GSA Geobiology & Geomicrobiology Division)

8:00 AM, Indiana Convention Center, Room 242

John Rakovan and Jessica J. Barnes, Presiding

8:00 AM INTRODUCTORY REMARKS

233-1 8:05 AM Schwarz, Henry P.*: NANOmeter-SCALE POLycrystalline APATITE PLATES are the RE-bars of bone (Invited Presentation)

233-2 8:25 AM Hoeher, Alexandria*; Mergelsberg, Sebastian T.; Borkiewicz, Olaf; Michel, F. Marc: NOVEL IN SITU METHOD FOR PAIR DISTRIBUTION FUNCTION ANALYSIS MEASURES STRUCTURE AND EVOLUTION OF HYDROXYPATITE PRECURSOR PHASES

233-3 8:40 AM Conde, Adele*; Hellmann, Roland; Michel, F. Marc; Perdrial, Nicolas: EFFECTS OF CRYSTAL CHEMISTRY, HABITUS, AND EXPERIMENT APARATUS ON APATITE DISSOLUTION ACROSS SCALES

233-4 8:55 AM Chappell, J. Caleb*; Rakovan, John: UNIQUE CRYSTAL CHEMICAL ASPECTS OF FLUORAPATITE FROM MONT SAINT-HILAIRE


233-6 9:25 AM Hughes, John M.; Harlov, Daniel; Rakovan, John*: THE ATOMIC ARRANGEMENT OF CALCIUM PHOSPHATE APATITES ALONG A PORTION OF THE F-OH BINARY

9:40 AM BREAK

233-7 9:55 AM Brydon, RJ*; McLeod, Claire; Shaulis, Barry; Haley, Maureen Y.; Tronnes, Reidar: ACCESSORY PHASES AS TRACERS OF MAGMATIC PROCESSES IN PLUTONIC ENVIRONMENTS: INSIGHTS FROM EPB

233-8 10:10 AM Bruseke, Matthew E.*; Dodd, Zachary C.; Benowitz, Jeffrey A.: PETROGENESIS and RARE EARTH ELEMENT ECONOMIC POTENTIAL of PILOT KNOB, AN APATITE-RICH, PLIOocene ALKALINE INTRUSIVE BODY in the UPPER WIND RIVER BASIN VOLCANIC FIELD, WY (U.S.A.)

233-9 10:25 AM Tailby, Nicholas D.*; Traill, Dustin; Watson, E. Bruce: A NEW EU VALENCE CALIBRATION for APATITE in BASALTIC SYSTEM: AN EXPERIMENTAL STUDY COMBINING XANES, EU/EU* and LATTICE STRAIN

233-10 10:40 AM McBubin, Francis M.*; Barnes, Jessica J.; Boyce, Jeremy W.; Vander Kaaden, Kathleen E.: APATITE IN ASTROMATERIALS: A WINDOW INTO the DISTRIBUTION and BEHAVIOR of VOLATILES within the SOLAR SYSTEM (Invited Presentation)

233-11 11:00 AM Konecke, Brian A.; Fiege, Adrian; Simon, Adam C.: SULFIDE, SULFITE and SULFATE in APATITE: A NEW OXYBAROMETER

233-12 11:15 AM Barnes, Jessica J.; McCubbin, Francis M.; Santos, Alison R.; Anand, Mahesh; Franchi, Ian A.; Boyce, Jeremy W.; Agee, Carl B.: APATITE AS A TOOL for INVESTIGATING the EVOLUTION of HYDROGEN in the MARTIAN CRUST

SESSION NO. 234

T117. Greenhouse to Icehouse Transition: Global Events of the Devonian, Carboniferous, and Early Permian I (GSA Sedimentary Geology Division; International Association of Sedimentologists; Geochronological Society; GSA International Interdisciplinary Interest Group; Paleontological Society)

8:00 AM, Indiana Convention Center, Room 140

Thomas J. Algeo and Isabel P. Montañez, Presiding

234-1 8:00 AM Gilleaudeau, Geoffrey J.*; Erlick, Maya; Romaniello, Stephen J.; Morford, Jennifer; Cheng, Keyi; Algeo, Thomas J.: ON SET of MAJOR OCEAN OXYGENATION DURING the EARLY MIDDLE DEVONIAN PERIOD RECORDED BY URANIUM ISOTOPES in MARINE LIMESTONES FROM the WESTERN U.S.A

234-2 8:15 AM Edwards, Cola*; Goyert, Daniel J.; Lamb, William A.: WHERE is THE LATE DEVONIAN ANOXIC KELLWASSER EVENT ACROSS the FRASNIAN-FAMENNIAN BOUNDARY?: NEW INSIGHTS FROM the GREAT BASIN REGION, USA

234-3 8:30 AM Baird, Gordon C.*; Hannibal, Joseph T.; Boyer, Diana L.: LARGE-MAGNITUDE EROSION EVENTS and ANOMALOUS, SPARSELY FOSSILIFEROUS, LATE FAMENNIAN SEDIMENTARY RECORD in OHIO: REGIONAL PROXIES for GLOBAL BIOCRISIES and ASSOCIATED PALEOClimatic PERTURBATIONS on the END-DEVONIAN EARTH

234-4 8:45 AM Cui, Yixin*; Sun, Yuanlin; Chang, Jieqiong; Li, Fangbing; Peng, Yongbo; Shen, Bing: SEAFLOOR OXYGENATION in THE LATE DEVONIAN FRASNIAN-FAMENNIAN BOUNDARY EVENT

234-5 9:00 AM LaMaskin, Todd A.*; Schantz, Krysden A.; Koster, Olivia A.; Perry, Amelia A.; Lane, Chad S.; Over, D. Jeffrey; Nolan, Jack T.; Elwood, Brooks B.: THE LATE DEVONIAN (FRASNIAN) PUNCTA EVENT in THE GREAT BASIN, U.S.A.: A NEW HIGH-RESOLUTION $^{13}$CO$_3$ RECORD and MAGNETIC SUSCEPTIBILITY RECORD

234-6 9:15 AM Broussard, David*: Treaster, Cayla; Trop, Jeffrey M.; Rygel, Michael C.; Benowitz, Jeffrey A.; Daeschler, Ted: TEMPORAL CHANGES in LATEST DEVONIAN VERTEBRATE FOSSIL ASSEMBLAGES in NORTH-CENTRAL PENNSYLVANIA: A CONSEQUENCE of MOUNTAIN BUILDING, GLACIATION, and ENVIRONMENTAL CHANGE?

234-7 9:30 AM Cecil, C. Blaine*; D'Michele, William A.; Rahl, Jeffrey M.; Eble, Cortland; Stamm, Robert G.: THE DEVONIAN-MISSISSIPPIAN CLIMATE TRANSITION in SOUTHEASTERN LAURENTIA (EASTERN USA): LATE FAMENNIAN GLACIATION, KINDERHOOKIAN COAL, OSAGEAN LOESS

234-8 9:45 AM Algeo, Thomas J.*; Liu, Jianguo; Jaminsky, Jacek; Kuhn, Thomas; Joachimski, Michael M.: INSIGHTS on DEPOSITIONAL PROCESSES of DEVONIAN-MISSISSIPPIAN BLACK SHALES (CENTRAL APPALACHIAN BASIN, U.S.A.) FROM C-S-FE ANALYSIS WITHIN AN OPTIMIZED CYCLOSTRATIGRAPHIC FRAMEWORK

10:00 AM BREAK

234-9 10:15 AM Zhang, Feifei*; Algeo, Thomas J.; Dahl, Tais W.; Cui, Ying; Luo, Genming; Liu, Jianguo; Romaniello, Stephen J.; Anbar, Ariel D.*: RAPID OSCILLATIONS of GLOBAL MARINE REDOX CONDITIONS on THE DEVONIAN-CARBONIFEROUS TRANSITION
**SESSION NO. 235**

**T127. Earth-Life Transitions: Critical Information from Deep Time to Manage Future Environmental Change (Paleontological Society; SEPM (Society for Sedimentary Geology); GSA Limnogeology Division; EarthRates; GSA Sedimentary Geology Division)**

8:00 AM, Indiana Convention Center, Room 143-144

David J. Bottjer and Lisa E. Park Boush, Presiding

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<th>Time</th>
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<td>INTRODUCTORY REMARKS</td>
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<td>8:10 AM</td>
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<td>Smart, Matthew*; Filippelli, Gabriel M.; Gilhooly, William; Whiteaside, Jessica H.*</td>
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<td>8:25 AM</td>
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<td>Yao, Le*; Aretz, Markus; Chen, Jitao; Qie, Wenkun; Saltzman, Matthew R.*</td>
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<td>8:45 AM</td>
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<td>Coates, Michael I.<em>; Olsen, Aaron M.; Tietjen, Kristen; Voegele, Kristyn K.</em></td>
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<td>8:50 AM</td>
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<td>Sageman, Bradley B.*; Jones, Matthew M.; Arthur, Michael A.; Sepulveda, Julio; Boudinot, F. Garrett</td>
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<td>9:00 AM</td>
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<td>Voegele, Kristyn K.<em>; Wilson, Jonathan P.</em>; DiMichele, William A.<em>; Lacovara, Kenneth J.</em></td>
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<td>Seaburg, Thomas; Sageman, Bradley B.; Jones, Matthew M.</td>
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<td>De Boets, Kenneth*; Kiesling, Wolfgang; Ecological and Evolutionary Drivers of Temporal Variations in Body Size</td>
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<td>9:40 AM</td>
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<td>Polly, P David*; Earth-life Transitions, Organismal-Environmental Interactions, and the Key Role of Functional Traits</td>
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<td>Clapham, Matthew E.; Greene, Sarah E.; Farnsworth, Alexander; Lunt, Dan J.; Butler, Richard; Close, Roger A.; Dunne, Emma; The Influence of Seasonal Temperature Variability on Survival During Background and Mass Extinctions</td>
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<td>10:15 AM</td>
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<td>Whiteside, Jessica H.*; Yager, Joyce; Olsen, Paul; Palmer, Martin; Schaller, Morgan F.; A Mesozoic Prelude to the Anthropocene: Intensification of the Hydrological Cycle Driven by Camp-Induced CO&lt;sub&gt;2&lt;/sub&gt; Injection</td>
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ATTACHED TO BACK OF THE SKULL IN EXTINCT CARTILAGINOUS FISHES (INOPERTYGIANS) TO UNDERSTAND FUNCTION

9:45 AM BREAK

236-8 10:00 AM Johnson, Eyrnn H.; Allmon, Warren D.; Jerolmack, Douglas J.; Sipnzer, Dan; Sallan, Lauren: 3D PRINTING REVEALS STRENGTHS AND WEAKNESSES OF PREY SHAPE DURING THE MESOZOIC MARINE REVOLUTION

236-9 10:15 AM DiMarco, Briana*: Johnson, Eyrnn H.; Carter, Aja M.; Sime, John A.; Sallan, Lauren: EXPLORING THE FUNCTION OF SUTURE COMPLEXITY WITH EXPERIMENTAL COMPRESSION OF 3D PRINTED AMMONOIDS

236-10 10:30 AM Banker, Roxanne*: Sumner, Dawn Y.: STRUCTURE AND DISTRIBUTION OF CHALKY DEPOSITS IN OYSTER SHELLS USING X-RAY COMPUTED TOMOGRAPHY (CT)

236-11 10:45 AM Dievert, Rylan V.*; Barclay, Kristina M.; Molinaro, Darrin J.; Leighton, Lindsey R.: EVALUATING ATRYPIIDE BRACHIOPOD FEEDING USING 3D PRINTED MODELS

236-12 11:00 AM Morse, Aaron; Dattilo, Benjamin*: Dewing, Keith; Hagadorn, James W.: MIND THE GAPE: THE SOLUTION TO THE LIFE HABITS OF RAPINESSQUARNA ALTERNATA MAY TURN ON A 3D-PRINTED HINGE

236-13 11:15 AM Hebden, Nicholas*: Ritterbush, Kathleen A.; Jenkins, Olivia: NEW METHODS FOR FLUID DYNAMIC TESTS OF AMMONOIDS SHELL HYDRODYNAMICS

11:30 AM DISCUSSION

SESSION NO. 237 **

T136. Tick Tock in the Rock: Elucidating the Time Scales of Geologic Processes and Honoring the Contributions of Bruce Watson, 2018 Roebling Medalist (Mineralogical Society of America; Geochemical Society; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Volcanic and Magmatic Studies Group; American Geophysical Union)

8:00 AM, Indiana Convention Center, Room 240-241

Frederick J. Ryerson, Mark Harrison, Julia E. Hammer, Sumit Chakraborty and Calvin F. Miller, Presiding

8:00 AM INTRODUCTORY REMARKS

237-1 8:05 AM Huguet, Ludovic; Van Orman, James*: Hauck, Steven A.; William, Matthew: NUCLEATION AND GROWTH OF EARTH’S INNER CORE (Invited Presentation)

237-2 8:25 AM Baker, Don R.*: MODELING NUCLEATION DELAY IN IGNEOUS SYSTEMS

237-3 8:40 AM Calentti, Manlio*: Hammer, Julia E.; Welch, Benoît; Johnston, A. Dana: AN EXPERIMENTAL AND ANALYTICAL INVESTIGATION OF CLINOPYROXENE SECTOR ZONING IN TWO HAWAIIAN MAGMAS

237-4 8:55 AM Zhang, Youxue*: Guo, Chenghuan: KINETICS OF MINERAL DISSOLUTION: ROLE OF INTERFACE REACTION, DIFFUSION, AND CONVECTION, AND DEALING WITH DIFFUSION OF ALL COMPONENTS

237-5 9:10 AM Chakraborty, Sumit*: Berkeles, Dennis; Fockenberg, Thomas: LIFETIME OF PHASES VS. LIFETIME OF CRYSTALS – AN UPPER LIMIT TO TIMESCALES ACCESSIBLE BY DIFFUSION CHRONOMETRY

237-6 9:25 AM Cherniak, Daniele J.*: DIFFUSION IN ACCESSORY MINERALS AND CONSTRAINTS ON TIMESCALES OF GEOLOGIC PROCESSES (Invited Presentation)

9:45 AM BREAK

237-7 10:00 AM Baldwin, Suzanne L.*: TIMESCALES AND RATES OF SUBDUCTION CHANNEL PROCESSES: INSIGHTS FROM THE (U)HP TERRANE OF SOUTHEAST PAPUA NEW GUINEA

237-8 10:15 AM Holycross, Megan*: Watson, E. Bruce: LJ DIFFUSION IN PLAGIOCLASE: A GEOSPEEDOMETER FOR RAPID HEATING EVENTS

SESSION NO. 238

T143. The Age of Small World Exploration: Major Results from Minor Planets and Other Small Solar System Bodies (GSA Planetary Geology Division; GSA Geophysics and Geodynamics Division)

8:00 AM, Indiana Convention Center, Room 236-237

Kynan H.G. Hughson, David A. Williams and Jennifer E.C. Scully, Presiding

238-1 8:00 AM Sugita, Seiji*: Honda, Rie; Morota, Tomokatsu; Kameda, Shingo; Sawada, Hirotsuka; Tatsumi, Eri; Chikatohsi, Honda; Yokota, Yasuhiro; Yamada, Manabu; Koyama, Toru; Sakatani, Naoy; Ogawa, Kazunori; Suzuki, Hidehiko; Yoshoiak, Kazuo; Masahiko, Hayakawa; Cho, Yuichiro; Matsuoka, Moe; Hirata, Naru; Hirata, Naoyuki; Domigwe, Deborah L.; Miyanoto, Hiday; Kikuchi, Hiroshi; Hemmi, Ryood; Michikami, Tatsuhito; Barnonin, Olivier S.; Ernst, Carolyn M.; Palmer, Eric; Gaskell, Robert W.; Michel, Patrick; Hirabayashi, Masatoshi; Jaumann, Ralf; Otto, Katharina A.; Schmitz, Nicole; Schroeder, Stefan E.; Hiroi, Takehiro; Nakamura, Tomoki; Komatsu, Goro; Tsuda, Yuich; Yoshikawa, Makoto; Tanaka, Satoshi; Watababe, Sei-ichiro: THE GEOLOGIC PROPERTIES OF ASTEROID RYUGU REVEALED BY HAYABUSA2 VISIBLE MULTI-BAND IMAGING OBSERVATIONS AT MULTI-SCALES

238-2 8:20 AM Palmer, Elizabeth M.*; Heggy, Essam: ASSESSING SURFACE ROUGHNESS VARIABILITY AND POTENTIAL VOLATILE OCCURRENCE ON MOONS AND SMALL-BODIES USING OPPORTUNISTIC FORWARD-SCATTER BISTATIC RADAR EXPERIMENTS

238-3 8:35 AM Yingst, R. Alleen*: Mest, Scott C.; Garry, W. Brent; Williams, David A.; Berman, Daniel C.: GEOLOGICAL MAPPING METHODS FOR SMALL, ROCKY BODIES: THE VESTA EXAMPLE

238-4 8:50 AM Scully, Jennifer E.C.*; Poston, Michael J.; Carey, Elizabeth M.; Raymond, Carol A.; Castillo-Rogez, Julie C.: A GEOMORPHOLOGICAL AND EXPERIMENTAL ANALYSIS OF THE BEHAVIOR OF VOLATILES ON VESTA AND CERES

238-5 9:05 AM Williams, David A.*; Mest, Scott C.; Chieckowski, Debra L.; Scully, Jennifer E.C.; Raymond, Carol A.; Rausei, Christopher T.: GEOLOGICAL MAPPING OF DWARF PLANET CERES FROM NASA’S DAWN MISSION
9:00 AM Turcivici, Michael A.; Neal, C.R.: FERROAN ANORTHOSITE 60025: A HETEROGENEOUS SAMPLE OF THE LUNAR CRUST

9:15 AM Liu, Yang*; Ma, Chi: SPECIES OF VAPOR DEPOSITED ZN ON THE SURFACES OF ORANGE GLASS BEADS

9:35 AM BREAK

9:50 AM Cronberger, K.*; Neal, Clive R.: KREEP BASALTS: ORIGIN(S) AND EVOLUTION

10:05 AM Fagan, Amy L.; Burney, David; Neal, Clive R.; Zeigler, Ryan A.; Kring, David A.: LUNAR MANTLE HETEROGENEITY IN THE VICINITY OF OR BEHIND THE APOLLO 17 SITE EMPHASIZED BY NEW BASALT CLAST IN 79135

10:20 AM Prissel, Tabb C.*; Gross, Juliane: RECONCILING THE FORSTERITE CONTENT OF LUNAR TROCTOLITES WITH THE MAGMA OCEAN AND CUMULATE MANTLE OVERTURN HYPOTHESES

10:35 AM Neal, Clive R.*: NEXT STEPS IN EXPLORING THE LUNAR MANTLE

10:50 AM DISCUSSION

11:05 AM Burney, D.*; Neal, C.R.: USING MODERATELY VOLATILE ELEMENTS TO EXPLORE THE LUNAR AND MARTIAN MANTLES

11:20 AM Udry, Arya*; Gazel, Esteban; McSween, Harry Y.: FORMATION OF FELSIC MARTIAN ROCKS AT GALE CRATER THROUGH FRACTIONAL CRYSTALLIZATION

11:35 AM Filiberto, Justin*; Herd, Christopher D.K.; Beatty, David W.; McSween, Harry Y.; Setton-Nash, Elliott; Carrier, brand; Schwenzer, Susanne P.; Grady, Monica; IMOST, Team: THE IMPORTANCE OF SAMPLES DELIVERED TO EARTH BY MARSS SAMPLE RETURN FOR UNDERSTANDING THE MARTIAN MANTLE: A REPORT FROM THE IMOST TEAM

11:50 AM CONCLUDING REMARKS

SESSION NO. 240

TI172. Critical Zone Science—Bio-Geo Interactions across Environmental Gradients and Time (GSA Soils and Soil Processes Division; GSA Geobiology & Geomicrobiology Division; GSA Hydrogeology Division; GSA Quaternary Geology and Geomorphology Division)

8:00 AM, Indiana Convention Center, Room 134
Bryan G. Moravec and Zsuzsanna Balogh-Brungardt, Presiding

240-1  8:00 AM Hasiotis, Stephen T.*: EVOLUTION OF THE CRITICAL ZONE BASED ON THE TRACE FOSSIL-PALEOSOL RECORD OF CONTINENTAL LANDSCAPES THROUGH TIME (Invited Presentation)

240-2  8:20 AM Dreese, Steven G.*; Gopon, Phillip; Kirsimae, Kalle; Johnson, Brooke; Somelar, Peeter: FOSSIL EUKARYOTES IN TERRESTRIAL PALEOENVIRONMENTS: EXAMPLES FROM NEOPROTEROZOIC TO CAMBRIAN PALEOSOLS AND PALEOAPROLITES

240-3  8:35 AM Henson, Harvey; Seaman, Zachariah; Aggar, Alexander; Burkett, Francesca: GROUND PENETRATING RADAR IMAGING OF SOIL STRATIGRAPHY AND PATTERNS FROM BURROWING CRAYFISH

240-4  8:50 AM Hasenmueller, Elizabeth A.*; Gu, Xin; Weitzman, Julie N.; Adams, Thomas S.; Stinchcomb, Gary E.; Eissenstat, David M.; Drohan, Patrick J.; Brantley, Susan L.; Kaye, Jason P.: EXPLORING HOW DEEP ROOTS IN BEDROCK FRACURES TURN ROCK INTO REGOLITH (Invited Presentation)

240-5  9:10 AM Moravec, Bryan G.*; White, Alissa; Root, Robert A.; McIntosh, Jennifer C.; Chorover, Jon: DECONVOLVING LEGACY AND CONTEMPORANEOUS WEATHERING IN A PORPHYRTIC RHYOLITE AND RHYOLITIC TUFF DOMINATED UPLAND CATCHMENT, VALLES CALDERA, NEW MEXICO

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SESSION NO. 239

T147. Planetary Mantles—Using Samples to Explore Earth, the Moon, and Mars: Memorial Session in Memory of Lawrence A. Taylor (GSA Planetary Geology Division; GSA Geophysics and Geodynamics Division)

8:00 AM, Indiana Convention Center, Room 235
Clive R. Neil, Molly C. McCanta, Amy L. Fagan and Bradley J. Thomson, Presiding

8:00 AM INTRODUCTION REMARKS

239-1  8:10 AM Howarth, Geoffrey H.*; Gross, Juliane: DIFFUSION VERSUS CRYSTAL GROWTH PRESERVED IN PHOSPHORUS AND CHROMIUM ZONING IN KIMBERLITIC OLIVINE


239-3  8:45 AM Rutherford, Malcolm*: PHASE EQUILIBRIA AND CONDITIONS OF SILICATE LIQUID IMMICIBILITY IN SILICIC LUNAR MAGMAS AT MID-LOWER CRUSTAL PRESSURES AND VARIOUS H2O CONTENTS; ORIGIN OF LUNAR RED SPOT VOLCANISM
Wednesday, 7 November 2018

240-6 9:25 AM Kubicki, James D.*; Guo, Jiye; Ma, Lin; Ohno, T.; Hatcher, Patrick: MODELING COMPETITIVE ADSORPTION OF PHOSPHATE AND SALICYLATE ON THE GOETHITE (210) SURFACE

240-7 9:40 AM Balogh-Brunstad, Zsuzsanna*: PLANT-DRIVEN ECTOMYCORRIZHAL WEATHERING OF SILICATE MINERALS

9:55 AM BREAK

240-8 10:10 AM Phillips, Richard P.*; Terrer, César; Sulman, Benjamin N.; Craig, Matthew A.: PLANT-MICROBE-MINERAL MEDIATION OF ECOSYSTEM RESPONSES TO ELEVATED CO₂, NEW UNDERSTANDING THROUGH SYNTHESIS AND MODELING (Invited Presentation)

240-9 10:30 AM Amann, Eleanor*: Dabys, Edward; North, Gretchen; Oze, Christopher: VEGETATION STRESS IN RELATION TO ELEVATED DIFFUSE CO₂ AREAS AT MAMMOTH MOUNTAIN, CA

240-10 10:45 AM Ferguson, Benedict W.*; Stinchcomb, Gary E.; El Masri, Felix M.:

SESSION NO. 241

9:00 AM Ogg, James G.*; Huang, Chunju; Hinnov, Linda A.; Selen Esmeray-Senlet, Felix M. Gradstein and James G. Ogg, Presiding

8:00 AM, Indiana Convention Center, Sagamore Ballroom 7

INSTITUTION; Paleontological Society)

T175. Late Jurassic through Early Cretaceous Geologic Time Scale (Cushman Foundation; Paleontological Research Institution; Paleontological Society)

8:00 AM, Indiana Convention Center, Room 243

Jorge Gomez Tapias and Andrés Pardo-Trujillo, Presiding

241-1 8:00 AM Ogg, James G.*; Huang, Chunju; Hinnov, Linda A.; Gradstein, Felix M.: AGE MODEL FOR LATE JURASSIC THROUGH EARLY CRETACEOUS USED IN THE GEOLOGIC TIMESCALE 2012/2016 REFERENCES

241-2 8:15 AM Aguirre-Urreta, Beatriz*; Martinez, Mathieu; Lescano, Marina; Schmitz, Mark; Tunik, Maisa A.; Vennari, Verónica V.; López Martinez, Rafael; Concheyro, Andrea; Ramos, Victor A.: FILLING THE GAP: NEW TITHONIAN-EARLY CRETACEOUS DATA FROM THE NEUQUEN BASIN, ARGENTINE ANDES (Invited Presentation)

241-3 8:35 AM Schmitz, Mark D.*: NEW GEOCHRONOLOGICAL DATA AND AGE MODEL APPROACHES FOR THE LATE JURASSIC THROUGH EARLY CRETACEOUS GEOLOGIC TIME SCALE (Invited Presentation)

241-4 8:55 AM Gradstein, Felix M.*; Watkins, David K.; Friis, Henrik: PLANKTONIC MICROFOSSIL EVOLUTION AND BIOSTRATIGRAPHY ACROSS THE JURASSIC-CRETACEOUS BOUNDARY

241-5 9:10 AM Gale, Andrew S.*; Batenburg, Sietske; Martinez, Mathieu: A MILANKOVITCH TIMESCALE FOR THE CRETACEOUS (Invited Presentation)

241-6 9:30 AM Huang, Chunju; Ogg, James G.*: REVIEW OF THE ASTRONOMICAL TIME SCALE FOR LATE JURASSIC THROUGH EARLY CRETACEOUS

9:45 AM DISCUSSION

10:00 AM BREAK
SESSION NO. 243

D2. Economic Geology (Posters)
9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM

Booth #

243-1 1 Kepezhinskas, Pavol*; Kepezhinskas, Nikita; Kamenevetsky, Vadim; Berdnikov, Nikolai: MULTI-STAGE MAGMATIC MINERALIZATION IN A SUBDUCTION-RELATED SETTING: A CASE STUDY OF THE ILDEUS-LUCHA INTRUSIVE COMPLEX (STANOVY MOBILE BELT, SE SIBERIA)

243-2 2 Kepezhinskas, Nikita*; Foster, David A.; Kepezhinskas, Pavel; Kamenevetsky, Vadim; Kamenev, George: ON THE NATURE OF METAMORPHIC SULFIDE MELT INCLUSIONS IN A SUBDUCTION-RELATED ULTRAMAFIC ROCKS

243-3 3 Rupp, Kevin D.; Thakurta, Joyashish: PETROGENESIS OF THE EAST EAGLE INTRUSION GABBR AND IT'S RELATIONSHIP TO THE EAGLE NI-CU-PEGE MAGMATIC SULFIDE DEPOSIT, MARQUETTE COUNTY, MICHIGAN

243-4 4 Reo, George A.; Frank, Mark R.; Ehlich, Joshua J.: AN EXPERIMENTAL ASSESSMENT OF PLATINUM, PALLADIUM AND NICKEL PARTITIONING BETWEEN COEXISTING SULFIDE AND BASALIC T Melts

243-5 5 Haroldson, Erik L.*; Brown, Philip E.; Bodnar, Robert J.: ASSORTED ROLES OF DIVERSE VARIABLY-SOURCED FLUIDS DURING THE PROTRACTED FORMATION HISTORY OF A AU-CU DEPOSIT: A FLUID INCLUSION ASSEMBLAGE PERSPECTIVE

243-6 6 Han, Chunming*; Xiao, Wenjiang; Song, Dongfang: GEOLOGY, RE-OS AND U-HP GEOCHRONOLOGY AND SULFUR ISOTOPE OF THE DONGGEJI PORPHYRY MO DEPOSIT, XINJIANG, NW CHINA, CENTRAL ASIAN OROGENIC BELT

243-7 7 Chen, Mengting*; Wei, Junhao; Zhan, Xiaofei: DEPOSITION AND SPECIATION OF GOLD AT THE EARLY CRETACEOUS EPITHERMAL GOLD DEPOSITS IN THE DONGKENG VOLCANIC BASIN, SOUTH CHINA: IN-SITU TRACE ELEMENT COMPOSITION CONSTRAINTS

243-8 8 Piukowsky, Stephen E.*; MacIntyre, Timothy J.; Gysi, Alexander P.; Hitzman, Murray W.: PETROLOGIC CHARACTERIZATION OF METASEDIMENTS AT THE KANSANSHE MINE, ZAMBIA

243-9 9 Li, Martin Yan He*; Zhou, Mei-Fu: MINERALOGICAL AND GEOCHEMICAL CONSTRAINTS OF THE ZUDONG REGOLITH-HOSTED HREE DEPOSIT IN SOUTH CHINA

243-10 10 Martin, Samuel G.*; Keith, Jeffrey D.; Palke, Aaron C.; Shiley, James E.; Chadburn, Ryan; Martin, Alec J.; Kindred, Thane; Jordan, Lars: INSIGHTS INTO SAPPHIRE FORMATION PROCESSES FROM YOGO GULCH, MONTANA AND BINGHAM CANYON, UTAH

243-11 11 Rosenberg, Philip E.*; Wilkie, Curtis M.: ISOTOPIC EVIDENCE FOR CRETACEOUS-PALAEocene UPWELLING FROM ARCHAI CRUST IN SNOWBIRD-TYPE DEPOSITS

243-12 12 Jensen, Collin G.*; Christiansen, Eric H.; Martin, Michael J.; Chadburn, Ryan; Martin, Alec J.; Kindred, Thane; Martin, Samuel G.; Jordan, Lars; Stearns, Michael A.: MULTI-STAGE CONSTRUCTION OF THE LITTLE COTTONWOOD STOCK, UTAH: INTRUSION, VENTING, MINERALIZATION, AND MASS MOVEMENT

243-13 13 Foub Mbindi, Mireille*; McLeod, Claire; Krekeler, Mark P.S.: INITIAL STEPS IN EXPLORING UNCONVENTIONAL RARE EARTH ELEMENT RESOURCES IN THE UNITED STATES: FORAYS INTO GLACIOGENIC, SILICICLASTIC AND VOLCANIC SEDIMENTS

243-14 14 Warbritton, Daniel Joseph*; Locmelis, Marek: EXPLORATION FOR ALTERATION HALOS AROUND THE AG-W DEPOSITS IN SOUTHEASTERN MISSOURI

243-15 15 Aceijas, Jeam Paul*: GREENFIELD EXPLORATION IN AU-CU-AG DEPOSIT THE CHICCHE – CAJAMARCA – PERÚ

POSTER TECHNICAL SESSIONS

SESSION NO. 244

D3. Environmental and Engineering Geology (Posters)
9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM

Booth #

244-1 16 Roman-Hemera, Jose Carlos*; Rodriguez-Peces, M.J.; Delgado, J.; Tsige, M.: GIS TOOL FOR SEMI-AUTOMATIC HAZARD ASSESSMENT OF EARTHQUAKE-TRIGGERED LANDSLIDES

244-2 17 Juarez-Hernandez, Argelia Esperanza*; Angeles-Islas, Jorge Fernando; Zepeda-Bautista, Rosalba: COMPARATIVE STUDIO FOR COMPUTE OF PROGNOSIS FOR EXTREME RAINFALL OBTAINED BY GUMBEL EXTREME VALUE METHOD VERSUS UNCONVENTIONAL METHOD BASED ON TIME SERIES AND IDW METHOD USING RETURN PERIOD

244-3 18 Yu, Bin*; Yang, Linwei; Liu, Qinghua; Chang, Ming: THE RAINFALL PREDICTION MODEL OF DEBRIS FLOWS TRIGGERED BY RUNOFF MECHANISM

244-4 19 Benimoff, Alan I.*; Kress, Michael; Fritz, William J.: GO TO HIGH GROUND: HURRICANE EVACUATION, TRANSPORTATION STRATEGIES AND COMMUNITY OUTREACH FOR STATEN ISLAND, NY
THE EF3 MEETS UINDY

Wednesday, 7 November 2018

244-5 20 Ruehl, Sarah*; Courtland, Leah M.: THE EF3 MEETS UINDY

244-6 21 Roman-Herrera, Jose Carlos*; Rodriguez-Peces, M.J.: INFLUENCE OF GEOLOGICAL AND GEOTEchnICAL CHARACTERISTICS DURING THE REDUCTION OF TUNNEL PROJECTS

244-7 22 Ahmed, Malitha N.*; Chowdhury, Quammuzzaman; Fatema, Kaniz: CHARACTERIZATION OF THE STRESS-STRAIN RELATIONSHIP OF THE HARD ROCKS OF MADDAPARA GRANITE MINE, DINAJPUR, BANGLADESH

244-8 23 Flett, Lonnie*; McLeod, Claire; Krekeler, Mark P.S.: THE DIVERSITY OF POTENTIALLY TOXIC ATMOSPHERIC PARTICULATE ASSOCIATED WITH THE MIDNIGHT URANIUM MINE. SPOKANE INDIAN RESERVATION: A SCANNING ELECTRON MICROSCOPY INVESTIGATION OF PINUS PONDEROSA BARK

244-9 24 Khalequzzaman, Md. Md.*; Wolf, Scott Q.; Fehlman, David J.; Nicolls, Angelo C.: ANALYZING SOFT SEDIMENT CORES TO DECIPHER POST-DAM ACCUMULATION HISTORY IN KELLER RESERVOIR, CLINTON COUNTY, PENNSYLVANIA

244-10 25 Chacko, Michael*: GLACIER VARIABILITY IN THE DHAULIGANGA BASIN, CENTRAL HIMALAYA

244-11 26 Dong, Shuning; Dai, Zhenxue; Xu, Bin*; Wang, Hao; Soltanian, Mohamad Reza: EXPERIMENTAL INVESTIGATION OF CEMENT-BASED SLURRY TRANSPORT PROCESSES IN FRACTURED LIMESTONE

244-12 27 Ord, Samara*; Buckel, Jonathan; Pruitt, Shelby; McCormick, Jordan; Faraci, Olivia; Krekeler, Mark P.S.: A CLASSROOM DATA EVALUATION PROJECT REVEALS SOME POLLUTION TRENDS IN RIVERS IN SOUTHWEST OHIO: RESULTS FROM A DETAILED CLASSROOM EXERCISE

244-13 28 Crowley, Brooke*; Haak, Bruce; Bataille, Clément: STRONTIUM AND HYDROGEN ISOTOPES CAN EFFECTIVELY ESTIMATE NATAL ORIGIN FOR MIGRATORY RAPTORS

244-14 29 Fahima, Jenat*: EFFECTIVENESS OF NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION RESTORATION PLANTING REQUIREMENTS

244-15 30 Welch, Emily*; Das, Padmini; Murphy, Jacob; Zamule, Stephanie; Ahern, Aubrey; Bronson, Kyle; Syed, Salman; Marwah, Rohit; Parvathaneni, Sharrya; Park, Keren; Loui, Alicia; Klepes, Nathan; Baggett, Mia; Corwin, Rachel; Ganesh, Arjun; Kim, Hannah; Moon, Katherine; Smith, Grayson; Giacherio, David: TROPHIC PROFILING OF LAKE ONTARIO AT THE MOUTH OF THE GENESSEE RIVER IN THE SUMMERS OF 2016, 2017, and 2018 and Its Correlation with Algae Blooms and Weather Conditions

244-16 31 Brown, Emily A.*; Carlson Mazur, Martha; Hauswald, Cassie: HOW DO LOW-HEAD DAMS AFFECT SEDIMENT DEPOSITION AND TOXICITY IN INDIAN CREEK IN SOUTHERN INDIANA?

244-17 32 Yerby, Cooper J.*; Blatter, Maxime; Nealon, Kenneth H.; Comminells, Christos; Fischer, Fabian: USING LOW CURRENT DENSITY ARSENIC ELECTROCOAGULATION KINETICS TO MODEL MICROBIALLY MEDIATED ARSENIC ELECTROCOAGULATION

244-18 33 Hernandez, Elisandra*: Obrist-Farner, Jonathan; Kenney, William: HEAVY METAL CONTAMINATION IN LAKE IZABAL, GUATEMALA: PRELIMINARY STUDY OF A SHORT TERM CORE

244-19 34 Wolf, Scott Q.*; Khalequzzaman, Md.: ASSESSMENT OF GROUNDWATER VULNERABILITY IN OHIO RESERVOIR WATERSHED USING A GIS-BASED MODIFIED DRASTIC MODEL

244-20 35 Zuniga, LeAnn X.; Johnson, Nathan; Giraldo Perez, Myrna N.; Liscomb, Bruce; Swenson, John: AN EXPERIMENTAL INVESTIGATION OF THE EFFECTS OF SEICHE ACTIVITY ON SULFUR-CONTAINING SEDIMENT AND SEDIMENT POREWATER

244-21 36 Fehlman, David J.*; Nicolls, Angelo C.; Khalequzzaman, Md.; Wolf, Scott Q.: ASSESSING THE WATER QUALITY IN BIG FISHING CREEK WATERSHED IN RELATION TO THE TMDL FOR THE CHESAPEAKE BAY

244-22 37 Das, Padmini; Wessel, Jack*; Gergi, Ivan; Spiller, Aelis; Struzyk, Ariel; Zamule, Stephanie; Giacherio, David: POTENTIAL OF A ZERO-WASTE IN-SITU IMMOBILIZATION TECHNOLOGY USING DRINKING WATER TREATMENT RESIDUALS (WTR) TO REDUCE THE RISK OF LEAD (PB) EXPOSURE IN PB CONTAMINATED RESIDENTIAL PROPERTIES IN ROCHESTER, NY: A SORPTION DESORPTION STUDY

244-23 38 Nicolls, Angelo C.*; Fehlman, David J.; Wolf, Scott Q.: Khalequzzaman, Md.: APPLICATION OF THE WATER QUALITY INDEX TO EVALUATE THE UPTAKE OF THE LOCK HAVEN PUBLIC DRINKING WATER SUPPLY, CLINTON COUNTY, PENNSYLVANIA

244-24 39 Okereofor, Godwin Uchenna*; Makaththa, Elizabeth; Mekuto, Lukhanyo; Mavumengwana, Vuyo: MOBILITY OF CONTAMINANTS FROM ABANDONED GOLD MINE DUMPS TO STREAM WATERS IN AN AGRICULTURAL ACTIVITY AREA

244-25 40 Mujumdar, Avishek*; Defabio, Darlene; Dhar, Ratan: COMPARING THE EFFECTS OF CHEMICAL ELEMENTS IN FRESHWATER SOIL AND WETLAND SOIL

244-26 41 Tian, Chao*; Wang, Lixin; Beyens, Daniel; Kaseke, Kudzai Farai: ANALYSIS OF DEW "O-O EXCESS VARIATIONS AND FORMATION CHARACTERISTICS IN THREE DIFFERENT CLIMATIC ENVIRONMENTS

244-27 42 Buskirk, Reid E.*; Malzone, Jonathan M.; Kelley, Laura; Borowski, Walter S.: NUTRIENT TRANSPORT IN SMALL EPHEMERAL AGRICULTURAL WATERSHEDS IN KENTUCKY

244-28 43 Smolinski, Rachel A.*; Bell, Elizabeth Wilhelmina; Ogora, Larissa V.; Ricketts, Jeremy S.; Ryan, Sarah; Silko, Jennifer L.; Clark, Shirley: RIPARIAN ZONE VEGETATION AND IMPROVEMENT OF STREAM WATER QUALITY IN AN AGRICULTURALLY-DOMINATED WATERSHED

244-29 44 Cadavid, Luz A.*; Saju, Alex; Dhar, Ratan: A STORM-WATER MANAGEMENT STUDY: FLOOD IMPACTS ON THE RESIDENTS OF SOUTH JAMAICA, QUEENS

SESSION NO. 245

D46. Advances in Geoscience Data Discovery, Delivery, and Use—Geoinformatics (Posters)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

245-1 45 DiMaggio, Erin N.*; Fontijn, Karen; Mana, Sara: DOCUMENTING AND ANALYZING EXPLOSIVE VOLCANIC ASH EJECTED FROM ERUPTING VOLCANOES IN EAST AFRICA USING EARTH

245-2 46 Wade, Oliver*; Robbins, Natalie; Asante, Joseph: DETECTING GALAMSEY ACTIVITIES IN GHANA, WEST AFRICA USING REMOTE SENSING TECHNIQUES AND LANDSAT IMAGERY

245-3 47 Baccus, Turner A.*; Platt, Brian F.: QUANTIFYING BURROW-RELATED LEAKAGE AND FAILURE OF EARTHEN DAMS AND LEVEES

245-4 48 Namin, Haid*; Aly, Mohamed H.: HAZARD ASSESSMENT FOR THE CONSTRUCTION SITE OF THE GRAND ETHIOPIAN RENAISSANCE DAM

245-5 49 Zimmerman, Alex*; Johnson, Claudia C.; Bussberg, Nicholas; Roberson, Reagan: TEMPORAL TRENDS IN DEEP-SEA CORAL BIODIVERSITY AND BIogeography OF LAMPEDUSA AND THE EASTERN MEDITERRANEAN

245-6 50 Rosensaat, Marcos*; Feldman, Howard R.: PROGRESS REPORT ON AN INTERACTIVE DESCRIPTIVE MAP OF KEY GEOLOGICAL AND FOSSIL LOCALITIES ALONG THE SOUTHERN TETHYAN MARGIN

245-7 51 Curl, Douglas C.*; Evans, Steven J.: KENTUCKY WATER QUALITY REPORT CARDS: INTERACTIVE MAPPING TOOLS AND GRADING ALGORITHMS TO COMMUNICATE SCIENCE TO THE GENERAL PUBLIC
SESSION NO. 246

T40. Machine-Learning and Artificial-Intelligence Applications in the Geosciences (Posters) (GSA Geoinformatics Division; GSA Geoenergy Geology Division; GSA Sedimentary Geology Division; GSA Hydrogeology Division; GSA Geophysics and Geodynamics Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

246-1 53 Berry, Michael*; Lin, Youzuo; Rinehart, Alex; Coblenz, David; vanWijk, Jolante W.: DATA-DRIVEN APPROACH TO OBSERVING THE ELUSIVE ERODIBILITY COEFFICIENT

246-2 54 Anand, Srinivas*; Ward, Adam S.: APPLICATION OF MACHINE LEARNING TECHNIQUES TO PREDICT NITROGEN LEVELS IN THE MISSISSIPPI RIVER BASIN

246-3 55 Yang, Wan*; Ju, Ziuye; Shi, Hui; Wang, Zhongnan; Lu, Yiran; Luo, Xiaorong: PRELIMINARY RESULTS ON CHARACTERIZING STRATIGRAPHIC, COMPOSITIONAL, AND TEXTURAL HETEROGENEITY OF LACUSTRINE SANDBSTONE RESERVOIRS, UPPER TRIASSIC YANCHANG FORMATION, ORDOS BASIN, CHINA

246-4 56 Stephan, Tobias*; Kroner, Uwe; Romer, Rolf L.: MULTIPLE-SAMPLE COMPARISON OF DETRITAL ZIRCON AGE SPECTRA OF LOWER PALEOZOIC UNITS FROM THE VARISCAN-APPALACHIAN OROGENIC BELT

246-5 57 Xie, Zhiyuan*; Haritasysy, Umesh K.; Asari, Vijayan K.: GLACIERNET: A NOVEL CONVOLUTIONAL NEURAL NETWORK APPLICATION FOR DEBRIS-COVERED GLACIER MAPPING

246-6 58 Momm, Henrique; McBride, Miranda*; El Kadrir, Racha; Porter, Wesley: CROP-TYPE CLASSIFICATION BASED ON TIME-SERIES OF SPECTRAL INDICES AND MACHINE LEARNING FOR HYDROLOGICAL STUDIES

SESSION NO. 247

T48. Fluvial Processes from Catchments to Coastlines (Posters) (GSA Quaternary Geology and Geomorphology Division; GSA Sedimentary Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

247-1 59 Rhoads, Bruce L.; Lindroth, Evan*; Czuba, Jonathan A.; Edmonds, Douglas A.; Gunerel, Inci; Castillo, Cesar; Cain, Molly; Ward, Adam S.: RECONSIDERING THE CONCEPT OF BANKFULL FLOW: DO SINGLE-THREAD MEANDERING RIVERS OVERTOP THEIR BANKS AT A DISTINCT BANKFULL STAGE?

247-2 60 Carrigan, James H.*; Anastasio, David; Berti, Claudio; Pazzaglia, Frank J.: POST-MIOCENE DRAINAGE REORGANIZATION IN AN ACTIVE OROGEN, SIERRA NEVADA, BETIC CORDILLERA, SPAIN

247-3 61 Jurotich, Marcella*; Sweeney, Mark R.: INCREASE IN SUSPENDED LOAD CONTRIBUTIONS FROM TRIBUTARIES TO THE MISSOURI RIVER, SOUTHEAST SOUTH DAKOTA

247-4 62 Wiest, Logan A.*; Forman, Steven L.; Kocurek, Gary; Mayhak, Connor; Tew, Victoria; Marin, Liliana; Money, Griffin: NEW INSIGHTS OF AN ANCESTRAL PECOS (?) RIVER VALLEY BELOW MONAHANS DUNES, WARD AND WINKLER COUNTIES, WEST TEXAS

247-5 63 Larimer, Jeffrey E.*; Yanites, Brian J.: VARIATIONS IN CROSS-CHANNEL BEDROCK ERODIBILITY: A PHYSICAL EXPRESSION OF ABRASION PROCESSES AND BEDROCK PROPERTIES

SESSION NO. 248

T56. From Alpine Glaciers to Ice Sheets: Understanding Glacial Dynamics, Landscapes, and Environmental Change (Posters) (GSA Quaternary Geology and Geomorphology Division; Paleoclimatology/Paleosanography)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #
SESSION NO. 252

**T76. Beyond the Road-Cut: Virtual, Local, and Nontraditional Field Teaching and Learning Experiences (Posters)** (GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geoscience Education Research Division)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

**Booth #**

252-1 112 Criscione, Julia*; Neitzke Adamo, Lauren; Irizarry-Barreto, Patricia: CRAFTING FOR SCIENCE EDUCATION

252-2 113 Ellins, Katherine K.*; Thomas, Dana L.; Campos, Daniel; George, Sarah W.M.; Goldfarb, Eric; Kotowski, Alissia; McCail, Linda; Soltis, Nick; Stocks, Eric; Wright, Vanshan: USING THE STAR LEGACY CYCLE TO PROMOTE STUDENT-CENTERED FIELD LEARNING IN GEOFORCE AND STEMFORCE 12TH GRADE SUMMER ACADEMIES

252-3 114 Thomas, Dana L.*; Ellins, Katherine K.; Campos, Daniel; George, Sarah W.M.; Goldfarb, Eric; Kim, Wonsuck; Kotowski, Alissia; McCail, Linda; Wright, Vanshan: STUDENT EXPLORATION OF GEOSCIENCE CAREERS THROUGH CHALLENGE-BASED FIELD LEARNING IN GEOFORCE AND STEMFORCE 12TH GRADE SUMMER ACADEMIES

252-4 115 Locke, Sharon*: Bracey, Georgia; Pryor, Caroline: PRESERVE TEACHERS’ BELIEFS ABOUT FIELD-BASED TEACHING AND LEARNING

252-5 116 Frankel, Shelley A.*; Garcia, Andrew; Christie, Max: VIRTUAL FIELD EXPERIENCE OF STARVED ROCK STATE PARK FOR THE CLASSROOM

252-6 117 Garcia, Andrew*; Frankel, Shelley A.; Christie, Max: VIRTUAL FIELD EXPERIENCE OF MATTHEISEN STATE PARK FOR THE CLASSROOM

252-7 118 Cho, Youngwoo*; Clary, Renee M.: CREATING VIRTUAL FIELD TRIPS USING 3D MODELS, GIANTPIXEL IMAGES, AND 360-DEGREE PANORAMAS IN SAGUACHE COUNTY, COLORADO

252-8 119 Stephenson, Brady*; Sumrall, Jeanne Lambert; Kambeiss, Patricia N.: SEA CLIFF AND CAVE MAPPING: A FUN AND INTERACTIVE WAY TO ADVANCE STUDENT KNOWLEDGE IN GEOGRAPHIC INFORMATION SYSTEMS AND MAPPING TECHNIQUES

252-9 120 Prissel, Kelsey B.*; Pratt, Martin J.; Skemer, Philip: PILOT STUDY ON THE USE OF AUGMENTED REALITY IN AN UNDERGRADUATE FIELD GEOLOGY COURSE

252-10 121 Huysken, Kristin T.*; Olivey, Harold; McElmurry, Kevin: USING LOCAL GEOLOGY TO FOSTER A COLLABORATIVE, PROJECT-BASED CURRICULUM IN INTERRODOCTORY GEOLOGY LABORATORIES: IMPACT ON STUDENT PERFORMANCE; BENEFITS AND CHALLENGES ON A FOUR-YEAR URBAN COMMUTER CAMPUS

252-11 122 Tutty, Lisa Ann*: WALKING TOUR OF DOWNTOWN TORONTO FOR UNDERGRADUATE GEOSCIENTISTS

252-12 123 Beno, Carl J.*; Chan, Marjorie A.; Cerling, Thure E.; Lipper, Peter C.: AESTHETIC COUNTERGEOLOGY DISPLAYS FOR INTRODUCTORY TO ADVANCED GEOSCIENCE CLASSES

SESSION NO. 253

**T79. Five Decades of Impactful Ideas in Hydrogeology (Posters): Recognizing the Contributions of Frank Schwartz (GSA Hydrogeology Division; National Ground Water Association)**

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

**Booth #**

253-1 124 Hu, Bin*; Teng, Yanguo; Zhang, Yilun; Zhu, Chen: THE PROJECTED HYDROLOGIC CYCLE UNDER THE SCENARIO OF 936 PPM CO2 IN 2100: A SYNTHESIS

253-2 125 Zhu, Chen*: Liu, Gaoming; Wang, Jingrui: A HYDROLOGICAL MODEL OF WABASH WATERSHED FOR ASSESSING AND MANAGING WATER RESOURCES IN INDIANA

253-3 126 Smith, Devin*; Moore, Myles T.; Anderson, Rebecca L.; Carey, Anne E.: WATER CYCLING ON CULTIVATED LAND: AN INVESTIGATION OF THE TWO WATER WORLDS HYPOTHESIS IN CENTRAL OHIO

253-4 127 Shelters, Alexandria*: Ritzi, Robert W.; Bottomley, Michael: WHAT CAUSES PARADOXICAL BEHAVIOR IN GROUNDWATER LEVELS IN RESPONSE TO PRECIPITATION EVENTS?

253-5 128 Zhang, Yiding*: Ji, Xiaonan; Ibaraki, Motomu; Schwartz, Franklin W.: MINING INFORMATION FROM COLLECTIONS OF PAPERS: ILLUSTRATIVE ANALYSIS OF GROUNDWATER AND DISEASE

253-6 129 Allen-King, Richelle M.*; Dishman, Rory; Kiekhaefer, Rebecca L.: FIELD TESTS YIELD DIFFUSION COEFFICIENTS AND TRICHLOROETHENE (TCE) DEGRADATION RATES FOR A FRACTURED SEDIMENTARY ROCK AQUIFER

SESSION NO. 254

**T107. Arsenic, Manganese, Chromium, and Other Geogenic Contaminants, Including Radionuclides in Hydrological Systems—Source, Biogeochemical Cycling, Toxicity, and Removal (Posters) (GSA Hydrogeology Division; GSA Geology and Health Division; GSA International Interdisciplinary Interest Group; International Society of Groundwater for Sustainable Development (ISGSD); International Water Association (IWA); Specialist Group Metals and Related Substances in Drinking Water (METRELS))**

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

**Booth #**

254-1 130 Ma, Funing*: Dai, Zhennuo; Wang, Chaomei; Soltanian, Mohamad Reza: EXPERIMENTAL AND SIMULATION INVESTIGATION OF RADIONUCLIDE MIGRATION IN FRACTURED GRANITE

254-2 131 Cao, Yang*: Dai, Zhennuo; Ren, Wanli; Ma, Ziqi: EXPERIMENTAL STUDY OF CHROMIUM ADSORPTION IN UNCONSOLIDATED SEDIMENTS

254-3 132 Dietrich, Matthew*: Patton, Brooke; Ayers, John C.: TRACE METAL GEOCHEMICAL CYCLING IN SHRIMP PONDS IN SOUTHWEST BANGLADESH: INSIGHT INTO MOBILITY AND POTENTIAL UPTAKE BY SHRIMP

254-4 133 Elwood Madden, Andrew S.*; Bachman, Emma E.; Westrop, Jeffrey P.; Elwood Madden, Megan E.; Maples, Brandon L.: LINKS BETWEEN CA/MG MOLAR RATIOS AND CR(VI) DISTRIBUTION IN THE CENTRAL OKLAHOMA AQUIFER

254-5 134 Chen, Huaqing*: Gao, Yongli; Sun, Ruirui: HYDROGEOCHEMICAL CHARACTERISTICS AND HIGH LEAD GROUNDWATER FORMATION IN A VILLAGE OF SOUTHEAST CHINA

254-6 135 Freeman, Surya Margaret*: Lenczewski, Melissa: INVESTIGATION OF TEXTILE DYES AS A GROUNDWATER CONTAMINANT IN MANDALAY MYANMAR
254-7 136 Rahman, Md Mahfujur*; Uddin, Asraf; Lee, Ming-Kuo; Saunders, James A.; Billor, Mehmet Zeki; Sutton, Collin R.: FIELD-SCALE BIOREMEDIATION OF NATURALLY OCCURRING ARSENIC CONTAMINATED GROUNDWATER USING SULFATE REDUCING BACTERIA IN MACON COUNTY, ALABAMA

SESSION NO. 255

D13. Marine/Coastal Science (Posters)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

255-1 137 Lehner, Jacob*; Wernerette, Phillip A.; Houser, Chris: MACHINE LEARNING APPROACH TO COASTAL LANDFORM CLASSIFICATION

255-2 138 Houser, Chris*; Wernerette, Phillip A.; Weymer, Bradley Allen: SCALE DEPENDENT BEHAVIORS OF THE BEACH AND DUNE: IMPLICATIONS FOR BARRIER ISLAND RESPONSE TO SEA LEVEL RISE

255-3 139 Cho, Sung-Ju*: IMPLICATION OF LATE HOLOCENE WAVE-CUT BENCHES IN THE SINAN ARCHIPELAGO, SOUTHWEST KOREA

255-4 140 Cohen, Michael*; Geyer, Alan W.; Rees, Garret; Nikitina, Daria: GEOMORPHIC ANALYSIS OF DELAWARE BAY SALT MARSH POOLS

255-5 141 Spector, Ashlyn B.*; Jaeger, John M.: A QUANTITATIVE COMPARISON OF HORIZONTAL UNCERTAINTY IN ORTHOIMAGE- AND LIDAR-ESTABLISHED ESTUARINE SHORELINES IN NORTHEAST FLORIDA

255-6 142 Stack, Mary Elizabeth*; Woods, Madelyn; Shaw, Susan: INVESTIGATING POTENTIAL IMPACTS OF CLIMATE CHANGE ON THE GULF OF MAINE THROUGH WATER QUALITY MONITORING AND MYTILUS EDULIS AS BIO-INDICATORS

SESSION NO. 256

T122. Oceans and Climates through Earth History: From Proxy Reconstructions to Model Assessments (Posters) (Cushman Foundation; Paleontological Research Institution; Geochemical Society; Paleontological Society; GSA Limnogeology Division; GSA Sedimentary Geology Division; GSA International Interdisciplinary Interest Group)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

256-1 143 Wang, Ping*; Yu, Wenchao; Algeo, Thomas J.; Du, Yuansheng; Xu, Yuan; Pan, Wen: CRYOGENIAN PALEOCOLOUR FLUCTUATIONS AND ITS INFLUENCE ON MANGANESE DEPOSITS IN SOUTH CHINA

256-2 144 Zhao, Pingping*; Maloof, Adam; Higgins, John: LOCAL BUT PRIMARY ORIGIN OF THE EARLY CARIANIAN CARBON ISOTOPE RECORD FROM MOROCCO

256-3 145 Avila, Teresa D.*; Saltzman, Matthew R.; Griffith, Elizabeth M.: REFINING THE TIMING OF THE MIDDLE-LATE ORDOVICIAN INFLECTION POINT IN SEAWATER 818O/816O USING CONODONT APATITE

256-4 146 Ice, Bryan*; Williams, Jeremy C.: RECONSTRUCTING THE MIDDLE DEVONIAN PALEOCOLOUR USING MARCELLUS SHALE GEOCHEMICAL SIGNATURES

256-5 147 Song, Yi*; Gilleaudeau, Geoffrey J.; Algeo, Thomas J.; Over, D. Jeffrey; Anbar, Ariel D.; Xie, Shucheng: BIOMARKER EVIDENCE OF LATE DEVONIAN MARINE ALGAL-MICROBIAL COMMUNITY CHANGES DRIVEN BY RIVERINE NUTRIENT INPUTS (CHATTANOOGA SHALE, TENNESSEE, U.S.A.)

256-6 148 Hodges, Montana*; Stanley, George D.; Hodges, Christopher L.; Bledgett, Robert B.: REEVALUATING REEFAL RECOVERY: EVIDENCE FOR ROBUST EARLY JURASSIC CORAL POPULATIONS IN NORTH AMERICA
SESSION NO. 257

D16. Paleontology, Macroevolution and Biogeography (Posters)
9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

257-1 171 Scotese, Christopher*: THE TRIASSIC WORLD: PLATE TECTONICS, PALEOECOGRAPHY, PALEOClimATE & PALEOBIOGRAPHY

257-2 172 Garcia, William J.*: BIOGEOGRAPHIC PATTERNS OF AGELEODUS ACROSS THE END-DEVONIAN MASS EXTINCTION

257-3 173 Loch, James D.*; Taylor, John F.; Repetski, John E.; Strauss, Justin V.; Kamerer, Wesley T.: PALEONENVIRONMENTAL DISTRIBUTION OF THE LATE CAMBRIAN (FURONGIAN) AGNOSTOID ARTHROPOD LOTAGNOSTUS IN WESTERN LAURENTIA

257-4 174 Zimmt, Joshua B.*; Holland, Steven M.; Finneghan, Seth; Marshall, Charles R.: ONE PULSE OR TWO? COMBINING SIMULATIONS OF SEQUENCE-STRATIGRAPHIC ARCHITECTURE AND DIVERSIFICATION PROCESSES TO MODEL THE EXPRESSION OF THE LATE ORDOVICIAN MASS EXTINCTION


257-6 176 Nolan, Rhiannon Z.*; Smith, Emily F.; Pruss, Sara B.: THE ABUNDANCE OF ANIMALS IN LOWER CAMBRIAN CARBONATES OF THE WESTERN UNITED STATES: THE EFFECTS OF THE ARCHAEOCYATHAN EXTINCTION ON BENTHIC COMMUNITIES

257-7 177 Jordan, Katherine J.*; Theodor, Jessica M.; Fox, Jeremy W.: USING THE PRICE EQUATION TO QUANTIFY SPECIES SELECTION AND OTHER MACROEVOLUTIONARY FORCES IN CRETACEOUS GASTROPODS

257-8 178 Shoraka, Madison H.*; Zavecz, Melissa J.; Sen, Harsha; Nguyen, Tuan; Moore, John L.; Porter, Susannah M.; Malod, Adam C.; Wang, Steve C.: ESTIMATING THE DURATION OF THE CAMBRIAN EXPLOSION

257-9 179 Hoenig, Matthew M.J.*; Shell, Ryan; Ciampaglio, Charles N.: SPATIAL VARIATION AND DIVERSITY IN CHORDICHTHYAN ASSEMBLAGES WITHIN THE BURLINGTON-KEOKUK BONE BED (MISSISSIPPIAN, VISÉAN)

SESSION NO. 258

T127. Earth-Life Transitions: Critical Information from Deep Time to Manage Future Environmental Change (Posters)
(Paleontological Society; SEPM (Society for Sedimentary Geology); GSA Limnogeology Division; EarthRates; GSA Sedimentary Geology Division)
9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

258-1 181 Kono, Sena*; Izozaki, Yuki; Sato, Tomohiko; Zhang, Xingliang; Liu, Wei: HIGH-RESOLUTION FORTUINIAN (LOWER CAMBRIAN) SSF STRATIGRAPHY IN EASTERN YUNNAN

258-2 182 Cordie, David R.*; Dombros, Stephen Q.; Marenco, Pedro J.: SEARCHING FOR FRAMEWORK BUILDERS AFTER THE REGIONAL EXTINCTION OF ARCHAEocyathAN REEFS IN THE CAMBRIAN MULE SPRING LIMESTONE NEAR SPLIT MOUNTAIN, NEVADA, USA

258-3 183 Bandy, Terry L.*; Owens, Jeremy D.; Them, Theodore; Young, Seth; Soreghan, Gerilyn: ENVIRONMENTAL CONTROLS ON ORGANIC CARBON PRODUCTIVITY IN THE MIDDLE BASIN

258-4 184 Kacur, Sean M.*; Marbndale, Rowan C.; Ettinger, Nicholas P.; Loewy, Staci L.; Banner, Jay; Kosir, Adrian: STRONTIUM ISOTOPE PROFILE FROM A LOWER JURASSIC SHALLOW WATER CARBONATE PLATFORM IN THE DINARIDES, SLOVENIA: A HIGH-RESOLUTION PICTURE OF THE TOARCIAN OCEANIC ANOXIC EVENT

258-5 185 Olsen, Paul E.*; Whiteside, Jessica H.; Kent, Dennis; Fang, Yanan; Chang, Clara; Kinney, Sean T.; Hemming, Sidney; Sues, Hans-Dieter; Schaller, Morgan F.; Sha, Jingeng: ARCTIC ICE AND THE TRIASSIC ORIGIN AND ECOCLOGICAL ASCENT OF THE DINOSAURS

258-6 186 Khameiss, Belkasim*; Hastings, Alexander; Hubbard, David; Grady, Fred; Vidden, Raymond: THE QUATERNARY VERTEBRATE FAUNA OF THE STARR CHAPEL CAVE, NORTHERN VIRGINIA, USA
SESSION NO. 259

T129. Evolution of Terrestrial Ecosystems: Community Assembly through Time (Posters) (Paleontological Society; Paleontological Research Institution)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

259-1 193 Conley, Cait*; Koll, Rebecca A.; DiMichele, William: A SEED PROFILE FROM THE EARLY PERMIAN RED BEDS OF TEXAS

259-2 194 Hunt, Adrian P.; Lucas, Spencer G.: BIOGEOGRAPHY OF PLEISTOCENO-VERTEBRATE COPROLITES

259-3 195 Lucas, Spencer G.*: RE-EVALUATION OF THE ORIGINAL ICHNOASSEMBLAGE OF THE "ENTRADICHIUSS ICHNOFACIES". JURASSIC OF UTAH

259-4 196 Hurey, David R.; McKenzie, Scott C.: THE FIRST OCCURRENCE OF A LEPOSPONDYL AMPHIBIAN IN THE PENNSYLVANIAN CONCRETIONS OF KNOB NOSTER, MISSOURI

259-5 197 Treaster, Cayla*; Broussard, David; Rygel, Michael C.; Trop, Jeffrey M.; Daeschler, Ted: BLOSSBURG REVISITED: PALEOENVIRONMENTAL VARIATION OF AN ESPECIALLY FOSSILIFEROUS LATE DEVONIAN ALLUVIAL PLAIN DEPOSIT IN THE CATSKILL FORMATION OF NORTH-CENTRAL PENNSYLVANIA

259-6 198 Carlini, Dylan V.; Reuter, Dana M.; Hopkins, Samantha S.B.: MAMMALIAN BODY MASS COMMUNITIES IN THE MIocene OF OREGON

259-7 199 Fortner, John David*: PETROGRAPHIC AND ISOTOPIC ANALYSIS OF PHYTOSAUR TOOTH DENTIN REVEALS ARIDIFICATION-RELATED TRENDS IN THE DIAGENETIC ENVIRONMENT OF THE CHINLE FORMATION

259-8 200 Adams, Ashley*: EXPLORING THE PALEOENVIRONMENT OF THE MORRISON FORMATION IN THE BIGHORN BASIN


259-10 202 Fanning, Sarah N.*; Curran, Ellen D.; Wing, Scott L.: CLIMATIC AND PALEOBOTANICAL ANALYSIS OF THE EOCENE THERMAL MAXIMUM 2 IN THE BIGHORN BASIN, WYOMING, USA

259-11 203 Cleveland, Claire*; Patzkowsky, Mark; Graham, Russell W.: DOES OREDOND MORTALITY AND THEIR EXTINCTION CORRELATE WITH GRASSLAND EXPANSION IN NORTH AMERICA'S CENTRAL-WESTERN GREAT PLAINS?

259-12 204 Mai, Bohao*; Thomas, M. Jared; Heads, Sam; Christie, Max: A NEW EARWIG (DERMAPTERA) FROM EARLY MIocene DOMINICAN AMBER

259-13 205 Bailey, Jessica*: Bertog, Janet L.: NEW GENUS OF SPHENDONTIA FROM THE MORRISON FORMATION (LATE JURASSIC, UTAH) WITH IMPLICATIONS ON MIGRATION PATTERNS AND DIVERSITY

259-14 206 Lindner, Jacob*: Bertog, Janet L.: UPDATES TO THE TAPHONOMY OF THE AARON SCOTT QUARRY (LATE JURASSIC, MORRISON FORMATION, UTAH)

259-15 207 Olivan, Alex*: Bertog, Janet L.: STRATIGRAPHY AND GEOCHEMISTRY OF THE BRUSHY BASIN MEMBER OF THE MORRISON FORMATION NEAR THE AARON SCOTT QUARRY (UTAH) INDICATING AN ENVIRONMENTAL CHANGE FROM LACUSTRINE TO FLUVIAL DEPOSITIONAL SYSTEM

259-16 208 Drazan, Jacqueline L.*; Moers, Howard D.; Moen, Ron; Pastor, John; Larson, Phillip; Swartz, Jennifer A.; David, Mady K.; Bopray, Croix K.; Jaksa, Michael P.; Messer, Blake S.: MASTODONOS (MAMMUT AMERICANUM) AND THE LATE-GLACIAL VEGETATION OF THE EASTERN USA

259-17 209 Hardy, Fabian*; Humphrey, Rebecca; Bonde, Joshua W.; Lanan, Michele: A REVISED LATE-MIOCENE FAUNAL ASSEMBLAGE, INCLUDING AN OCCURRENCE OF EXCEPTIONAL

SESSION NO. 260

T132. Applications of 3D Printing and Other 3D Methods to Experimental Paleontology (Posters) (Paleontological Research Institution; Cushman Foundation; Paleontological Society)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

260-1 214 Grant, Claudia*: Hastings, Alex; Ziegler, Michael J.: IDIGFOSSILS: ENGAGING K-12 STUDENTS IN INTEGRATED STEM USING 3D MODELS OF TRIASSIC DINOSAUR FOOT PRINTS FROM CULPEPER, VIRGINIA (USA)

260-2 215 Jacquet, Sarah M.*; Brock, Glenn A.; Seily, Tara; Schiiffbauer, James D.: X-RAY MICROSCOPY OF ARMORED WORMS: THE PLATE ASSEMBLY AND PROTECTIVE SYSTEM OF EARLY DEVONIAN ARTICULATED MACHAERIDANS FROM AUSTRALIA

260-3 216 Clark, Timothy*: THE VARYING DENTITION OF ALlosaurus: A FUNCTIONAL MORPHOLOGY EXPERIMENT


260-5 218 Gibson, Michael*: Gibson, Kesley; Gibson, Brandt M.: A WELL-PRESERVED PROBABLE SQUIRRELISH FROM THE COON CREEK FORMATION (LATE CRETACEOUS), WESTERN TENNESSEE

260-6 219 Snyder, Kelli*: Hegna, Thomas; Snyder, Daniel; Darroch, Simon A.F.: EDS AND CT ANALYSIS OF A TRIASSIC SILICIFIED PTERONISCUΣ SP. NODULE FOUND IN NORTHERN MADAGASCAR

260-7 220 Robinson, Christopher*: Lobegeier, Melissa K.: THE POTENTIAL APPLICATIONS OF 3D MODELING IN TAXONOMIC ANALYSES OF TESTATE AMOEBAE

260-8 221 Kouhia, Safia C.; Edie, Stewart M.; Collins, Katie S.; Jablonski, David: BIVALVES UNHINGED: HINGE MORPHOLOGY AND BIOMECHANICS IN THE VENERIDAE

260-9 222 Cherpa, Michelle E.*, ENTERING ANOTHER DIMENSION: 2D AND 3D SHAPE ANALYSIS OF CLASSES RHYNCHONELLATA AND STROPHOMENATA (PHYLUM BRACHIOPODA)

SESSION NO. 261

D29. Petrology, Metamorphic (Posters)

9:00 AM, Indiana Convention Center, Halls J-K

Authors will be present from 4:30 to 6:30 PM

Booth #

261-1 223 Shields, Jessie E.*, Wakabayashi, John: EVALUATING THE RANGE OF PEAK PRESSURE AND TEMPERATURE CONDITIONS WITHIN A SINGLE MELANGE
SESSION NO. 263

T147. Planetary Mantles—Using Samples to Explore Earth, the Moon, and Mars (Posters): Memorial Session in Memory of Lawrence A. Taylor (GSA Planetary Geology Division; GSA Geophysics and Geodynamics Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #


263-2 243 Rahib, Rachel R.*; Udry, Arya; Howarth, Geoffrey H.; Gross, Juliane; Paquet, Marine; Day, James M.D.: PETROGENESIS OF ENRICHED AND INTERMEDIATE POIKILITIC SHERGOTTITES: FROM MAGMATIC SOURCE TO EMLACEMENT

263-3 244 Logvinova, A.M.*; Wirth, R.; Ugap'eva, S.S.; Tomilenko, A.A.; Sobolev, N.V.: \( K_2\text{Ca}(\text{CO}_3) \) AND \( Na_2\text{Mg}(\text{CO}_3) \) IN DIAMOND FROM YAKUTIAN KIMBERLITE: THE FIRST OBSERVATION

263-4 245 zur Loe, Tim E.*; Macris, Catherine A.; Farmer, Alison; Dorfman, Susannah M.: DEVELOPING LEVITATION LAVATRANSFERED GLASSES AS PROXIES FOR LOWER MANTLE EXPERIMENTS: A METHODOLOGICAL APPROACH

263-5 246 Lehnert, Kerstin A.; Carter, Megan*; Markey, Kelsey; Ji, Peng; Cai, Merry Yue; Evans, Cynthia A.; Zeigler, Ryan A.: MOONDB: IMPROVING ACCESS TO LUNAR SAMPLE DATA AND BEYOND

SESSION NO. 264

D31. Precambrian Geology (Posters)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

264-1 247 Zhao, Chen*; Zhang, Jason J.; Liu, Jin; Yin, Changqing; Peng, Youbo; Cui, Yusong; Yang, Chenghui; Liu, Wenbin: GEOCHRONOLOGICAL AND GEOCHEMICAL STUDY OF THE METASEDIMENTARY ROCKS OF THE GAIXIAN REGION: NEW CONSTRAINTS ON THE PALEOPROTEROZOIC EVOLUTION OF THE JIAO-LIAO-JI BELT, NORTH CHINA CRATON

264-2 248 Liu, Xiaoguang*; DETRITAL ZIRCON CHARACTERISTICS OF THE MESOPROTEROZOIC SERIES IN TAIHANG AND XIONG’ER MOUNTAIN: IMPLICATIONS FOR BASIN EVOLUTION IN THE CENTRAL AND SOUTHERN NORTH CHINA CRATON

264-3 249 Wencel, Robert William*; Stein, Carol A.; Stein, Seth A.; Craddock, John P.; Malone, David H.: DETRITAL ZIRCON U-PB GECHRONOLOGY OF THE NEOPROTEROZOIC JACOBSSVILLE SANDSTONE ON THE EASTERN END OF LAKE SUPERIOR, ONTARIO, CANADA

264-4 250 Thompson, M.D.*; Crowley, J.L.: AVALONIAN ARC-TO-PLATFORM TRANSITION IN SOUTHEASTERN NEW ENGLAND, USA: NEW U-PB ZIRCON AGE CONSTRAINTS, MORE QUESTIONS

264-5 251 Spencer, Brandon M.*; Dulin, Shannon A.: A PALEOMAGNETIC AND PETROGRAPHIC ANALYSIS OF UNCONFORMITY SURFACES IN NEVADA AND MISSOURI: POSSIBLE IMPLICATIONS FOR PALEOWEATHERING PROCESSES

264-6 252 Li, Dinghua*: ZIRCON U-PB GECHRONOLOGY, HF ISOTOPIC COMPOSITION AND GEOLOGICAL IMPLICATIONS OF THE NEOPROTEROZOIC SEDIMENTARY ROCKS IN THE WESTERN JIANGNAN OROGEN, SOUTH CHINA

264-7 253 Farooqui, Muhammad A.*; LITHEOCHRONOLOGY OF THE JIAO-LIAO-JI BELT, NORTH CHINA CRATON

SESSION NO. 262

D30. Planetary Geology (Posters)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

262-1 234 Malcuit, Robert J.*; A RETROGRADE CAPTURE MODEL FOR EXPLAINING SOME OF THE ENVIRONMENTAL CONDITIONS OF OUR “SISTER” PLANET VENUS

262-2 235 Baker, Samantha R.*; Scully, Jennifer E.C.; Borden, Chester S.: AN ANALYSIS OF POSSIBLE LANDING SITES ON CERES

262-3 236 Sobolewska, Sara*; Oppenheimer, Julie C.; Lindo, Amanda: HOW CAN ANALOG EXPERIMENTS HELP UNDERSTAND CORE SEGREGATION IN SMALL PLANETARY BODIES?

262-4 237 Dabys, Edward*; Beisel, Joshua; North, Gretchan; Scott, Allan N.; Oze, Christopher: BIOGEOCHEMISTRY OF PERCHLORATE IN MARTIAN ROGULITH

262-5 238 Holmwood, Alexander P.*; Righter, Kevin: MINERALOGY AND PETROLOGY OF DARK CLASTS IN POLYMICT EUCRITES

262-6 239 Wilbur, Zoë E.*; Udry, Arya; Coleff, Daniel M.; Vander Kaaden, Kathleen E.; McCubbin, Francis M.; Zeigler, Ryan A.; McCoy, Timothy J.; Ziegler, Karen; Gross, Juliane; DeFelice, Christopher: INVESTIGATION OF AUBRITES THROUGH INTEGRATION OF 3D MODAL MINERALOGY WITH X-RAY MICRO-COMPUTED TOMOGRAPHY AND GEOCHEMISTRY

262-7 240 Darling, Emilee A.*; Macris, Catherine A.: PRODUCTION OF SYNTHETIC METEORITE SPHERES USING AERODYNAMIC LEVITATION COMBINED WITH LASER HEATING

262-8 241 Condon, Thomas*; Arvidson, Raymond E.; Wolff, M.J.; Morris, Richard V.: A NEURAL NETWORK APPROACH FOR SINGLE
SE PENNSYLVANIA: IMPLICATIONS FOR PALEO-LANDSCAPE RECONSTRUCTION

267-1 287 Rosenblume, Justin A. *; Finzel, Emily S.; Garber, Kacey L.: SEDIMENTOLOGY AND PROVENANCE OF THE UPPER CRETACEOUS (CENOMANIAN TO SANTONIAN) FRONTIER FORMATION, SOUTHWEST MONTANA AND EAST-CENTRAL IDAHO

268-2 288 Jones, Adam *; Sturmer, Daniel M.: TECTONIC SUBSIDENCE ANALYSIS AND SEDIMENT PROVENANCE EVOLUTION OF THE LATE PALEOZOIC OQUIRHR BASIN, UTAH

268-3 289 Garber, Kacey L. *; Finzel, Emily S.; Rosenblume, Justin A.: SEDIMENTOLOGY AND DETRITAL GEOCHEMISTRY OF THE LATE CRETACEOUS BEAVERHEAD GROUP, SOUTHWEST MONTANA

268-4 290 Orme, Devon A. *; Massar, Sarah; Yaeger, Matthew: LATE CRETACEOUS-CENOZOIC SEDIMENT DISPERSAL PATTERNS IN SOUTHWEST MONTANA

268-5 291 Dechesne, Marieke *; Trexler, James H.; Cole, James C.; Cashman, Patricia H.; West, Jenna: TECTONIC AND CLIMATIC SIGNALS? AN INTEGRATED STRATIGRAPHIC FRAMEWORK FOR THE PALEOCENE TO EOCENE SYNORGENIC STRATA OF THE COALMONT AND MIDDLE PARK FORMATIONS, NORTH PARK – MIDDLE PARK, COLORADO

268-6 292 Jackson, William T. *; McKay, Matthew P.; Spurgeon, Derek L.; Bartholomew, Mervin J.: ZIRCON U-PB GEOCHEMISTRY OF LATE CRETACEOUS STRATA IN THE ELK BASIN ANTICLINE, NORTHERN BIGHORN BASIN: UNDERSTANDING THE TIMING OF PALEOEISMITE DEVELOPMENT ASSOCIATED WITH LARAMIDE DEFORMATION

268-7 284 Hubbard, Victoria L. *; LeDonne, Kevin J.; Piefer, Abdulw; Chorover, Jon; Balogh-Brustnad, Szuzanna: HOW DO WATER AVAILABILITY IMPACT MINERAL WEATHERING BY MYCORRHIZAL FUNGI?

268-8 285 Gianniny, Gordon *; Alexander, Kevin; Marchetti, David W.: HYDROLOGIC AND SOIL CHARACTERISTICS OF UNCOMPAGHRE F RITILLARY BUTTERFLY (CLOSSIANA IMPROBA) HABITAT, SAN JUAN MOUNTAINS, COLORADO

269-1 286 Zhao, Lulu *; Fang, Qian; Olshansky, Yaniv; Root, Robert A.; Sun, Angela; Hong, Hanlie; Chorover, Jon: CONTINUOUS MONITORING OF SOIL AND ECOSYSTEM RESPIRATION IN A SEMI-ARID HIGH-ELEVATION CRITICAL ZONE OBSERVATORY

SESSION NO. 268 $

T176. Evolution of Rocky Mountain Basins—Ancestral Rocky Mountains through the Laramide (Posters) (GSA Sedimentary Geology Division; GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

268-1 287 Rosenblume, Justin A. *; Finzel, Emily S.; Garber, Kacey L.: SEDIMENTOLOGY AND PROVENANCE OF THE UPPER CRETACEOUS (CENOMANIAN TO SANTONIAN) FRONTIER FORMATION, SOUTHWEST MONTANA AND EAST-CENTRAL IDAHO

268-2 288 Jones, Adam *; Sturmer, Daniel M.: TECTONIC SUBSIDENCE ANALYSIS AND SEDIMENT PROVENANCE EVOLUTION OF THE LATE PALEOZOIC OQUIRH BASIN, UTAH

268-3 289 Garber, Kacey L. *; Finzel, Emily S.; Rosenblume, Justin A.: SEDIMENTOLOGY AND DETRITAL GEOCHEMISTRY OF THE LATE CRETACEOUS BEAVERHEAD GROUP, SOUTHWEST MONTANA

268-4 290 Orme, Devon A. *; Massar, Sarah; Yaeger, Matthew: LATE CRETACEOUS-CENOZOIC SEDIMENT DISPERSAL PATTERNS IN SOUTHWEST MONTANA

268-5 291 Dechesne, Marieke *; Trexler, James H.; Cole, James C.; Cashman, Patricia H.; West, Jenna: TECTONIC AND CLIMATIC SIGNALS? AN INTEGRATED STRATIGRAPHIC FRAMEWORK FOR THE PALEOCENE TO EOCENE SYNORGENIC STRATA OF THE COALMONT AND MIDDLE PARK FORMATIONS, NORTH PARK – MIDDLE PARK, COLORADO

268-6 292 Jackson, William T. *; McKay, Matthew P.; Spurgeon, Derek L.; Bartholomew, Mervin J.: ZIRCON U-PB GEOCHEMISTRY OF LATE CRETACEOUS STRATA IN THE ELK BASIN ANTICLINE, NORTHERN BIGHORN BASIN: UNDERSTANDING THE TIMING OF PALEOEISMITE DEVELOPMENT ASSOCIATED WITH LARAMIDE DEFORMATION

SESSION NO. 269 $(

T183. The Geology of Colombia (Posters) (GSA International Interdisciplinary Interest Group; GSA Sedimentary Geology Division)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

269-1 293 Weber, Marion *; Duque-Trujillo, Jose Fernando; Hoyos, Susana; Cardenas, Andres L.; Gomez Tapiais, Jorge; Wilson, Rob: MIOCENE THOLEITIC AND CALK-ALKALINE MAGMATISM FROM THE NORTHERN COLOMBIAN ANDES – IMPLICATIONS FOR MAGMA PETROGENESIS IN THE NORTHERN VOLCANIC ZONE

269-2 294 Genaro Corcho, Andrés Felipe; Rojas-Agramonte, Yamilka *; Barrera González, Johanna Andrea; Guarin Estrada, Daniel; Barca, Maria Emili; Delgado Balaquera, Sofia Margarita; Marroquin Gomez, Maria Paula; Corrales Garcia, Alejandro; Diaz Meza, Sergio Ar; Reyes Martinez, Daniel; Rodriguez Ruiz, Marco Antonio; Laverde Martinez, Andres Felipe; Carvajal Martinez, Alba Sofia; Izquierdo Camacho, David; Delgado Guerrero, Maria Jose; Palacios Murillo, Nicolas Ernesto; Duran Mendez, Sebastian; Cuervo Gomez, Aura Maria; Muñoz Granados, Maria Daniela; Marin Jaramillo, Juan Pablo; Esquivel Arenales, Laura Carolina; Duran Torres, Juan Sebastian; Salazar Cuellar, Darlyng Nicole; Caranton Mateus, William Guillermo; Cartwright Bultrago, David; Solano Acosta, Juan David; Bonilla Correa, Sarah; Alvarez Gallo, Daniela; Montes, Camilo; Cardona, Agustin; Bayona, German: THE COLOMBIAN GEOCHRONOLOGICAL DATABASE (CGD)

269-3 295 Garcia-Ramos, Daniela *; Restrepo-Moreno, Sergio A.; Zuluaga, Carlos A.: PETROGRAPHY AND THERMOBAROMETRY OF CRETACEOUS PLUTONISM ACROSS A CENTRAL-WESTERN CORDILLERA TRANSFLECT, NORTHERN ANDES, COLOMBIA

269-4 296 Sandy, Michael R. *; Rojas, Alex: PALEOBIOGEOGRAPHIC AFFINITIES, BIOSTRATIGRAPHIC POTENTIAL, AND TAXONOMY OF CRETACEOUS TEREBRATULIDE BRACHIPODS FROM COLOMBIA

269-5 297 Jimenez, Giovanni *; Geissman, John W.; Garcia, Helbert: PRELIMINARY PALEOMAGNETIC RESULTS FROM LOWER MESOZOIC SEDIMENTARY ROCKS EXPOSED IN THE NORTHERN ANDES, COLOMBIA

269-6 298 Reed, Mia-Hana J. *; Wagqueeck, Jade V.: STRUCTURAL AND TECTONIC EVIDENCE OF THE ORIGIN OF CRESTONES AT CHIRRIPO NATIONAL PARK, COSTA RICA

SESSION NO. 270

D41. Volcanology (Posters)

9:00 AM, Indiana Convention Center, Halls J-K
Authors will be present from 4:30 to 6:30 PM
Booth #

270-1 299 McClure, Andrea N. *; Hidalgo, Paloo; Alvarado, Guillermo; Guerrier, Anjelica A.; Kinn III, Russell Walter: DECIPHERING THE ERUPTIVE HISTORIES AND HAZARDS OF OVERLAPPING TEPHRAS DEPOSITs BETWEEN THE BARVA AND POÁS VOLCANOES, COSTA RICA

270-2 300 Goland, Camden *; Grogan, Kelly; Al-Ateeqi, Salem; Hollyday, William; Huff, Warren D.; Jacobs, Luke; Jones, Adam; Norris, Nathaniel: LATE ORDOVICIAN EXPLOSIVE VOLCANISM IN SIBERIA

270-3 301 Goldman, Robert Trevor *; Albright, John; Gravely, Darren M.; Grosflis, Eric B.; Gregg, Patricia; Hampton, Samuel J.: CHARACTERIZATION OF FLANK EROSIONS USING PALEO-STRESS FIELDS: AKAROA, NEW ZEALAND

270-4 302 Robbes, Anne-Sophie *; Moret, Mona Pierreet; Henderson, Carl: EPMA ANALYSIS OF FLUID INCLUSIONS IN VOLCANIC ROCKS

270-5 303 Lang, Otto I. *; Barrera González, Johanna Andrea; Guarin Estrada, Daniel; Ardanuy, Maria; Delgado Balaquera, Sofia Margarita; Marroquin Gomez, Maria Paula; Corrales Garcia, Alejandro; Diaz Meza, Sergio; Reyes Martinez, Daniel; Rodriguez Ruiz, Marco Antonio; Laverde Martinez, Andres Felipe; Carvajal Martinez, Alba Sofia; Izquierdo Camacho, David; Delgado Guerrero, Maria Jose; Palacios Murillo, Nicolas Ernesto; Duran Mendez, Sebastian; Cuervo Gomez, Aura Maria; Muñoz Granados, Maria Daniela; Marin Jaramillo, Juan Pablo; Esquivel Arenales, Laura Carolina; Duran Torres, Juan Sebastian; Salazar Cuellar, Darlyng Nicole; Caranton Mateus, William Guillermo; Cartwright Bultrago, David; Solano Acosta, Juan David; Bonilla Correa, Sarah; Alvarez Gallo, Daniela; Montes, Camilo; Cardona, Agustin; Bayona, German: THE COLOMBIAN GEOCHRONOLOGICAL DATABASE (CGD)

270-6 304 Ettersohn, Frank R. *; Whalen, Patrick James; Stork, Allen: A DEBRIS-VALANCE ORIGIN FOR THE OLIGOCENE WEST ELK BRECCIA IN THE EASTERN GUINNESS AREA, COLORADO, U.S.A

270-7 305 Klug, Jacob D.; Singer, Bradley S.; Ichia, Brian R.; Ramírez, Adán; Sruoga, Patricia: *AR/AR GEOCHEMISTRY AND GEOCHEMICAL EVOLUTION OF PLANCHA-PETERSOA VOLCANIC COMPLEX
270-8  306  Giachetti, Thomas*; Hudak, Michael R.; Bindeman, Ilya N.; Shea, Thomas: DEGASSING AND REHYDRATION OF EXPLOSIVE PRODUCTS OF THE 900 BP GLASS MOUNTAIN RHYOLITIC ERUPTION OF MEDICINE LAKE VOLCANO, CALIFORNIA

270-9  307  Daly, George E.*; Widom, Elisabeth: MAGMA MINGLING AND MAGMA SOURCE HETEROGENEITY AT MORNE PARATES VOLCANO, DOMINICA, LESSER ANTILLES

270-10  308  Robson, Amy*; Rodriguez, Angelica; Teasdale, Rachel: HYDROTHERMAL ALTERATION OF ANCIENT MT. TEHAMA: VARIATIONS FROM SULPHURWORKS TO BOILING SPRINGS LAKE, IN THE MODERN Lassen VOLCANIC CENTER

270-11  309  Ryan, Peter C.*; Alvarado, Guillermo E.; McCanta, Molly; Barca, Malia; Davis, Gabrielle; Huot, Sebastien: IDENTIFICATION AND CORRELATION OF VOLCANIC DEPOSITS BY MINERALOGY, GEOCHEMISTRY, AND LUMINESCENCE AGE ANALYSIS, WITH IMPLICATIONS FOR ASSESSING VOLCANIC ACTIVITY AND RISK: THE CASE OF TWO DORMANT VOLCANOES IN COSTA RICA

270-12  310  Ohrmundt, Sierra C.*; Hanson, Richard E.; Caves, Lindsay R.: PEPPERITES, STEAM-EXPLOSION BRECCIAS, INTRUSIVE PYROCLASTIC ROCKS AND PHREATOMAGMATIC DIATREMES FORMED DURING INTRUSION OF ANDESITIC MAGMA INTO WET LACUSCRINE STRATA IN A 1.2 GA INTRA-ARC BASIN (BABY FORMATION, NW NAMIBIA)

270-13  311  Caves, Lindsay R.*; Hanson, Richard E.; Ohrmundt, Sierra C.: INTERACTIONS BETWEEN THICK RHYOLITE SILLS AND WET, UNLITHIFIED LACUSCRINE SEDIMENTS IN A MESOPROTEROZOIC VOLCANIC ARC SETTING, NW NAMIBIA

270-14  312  Andersen, Maya M.*; Borch, Annie; Quane, Steve: A RE EXAMINATION OF PRESSURE RIDGES ON LAVA FLOWS

270-15  313  Rodriguez, Angelica*; Robson, Amy; Teasdale, Rachel: OXYGEN ISOTOPE VARIATIONS AT SULPHUR WORKS AND BOILING SPRINGS LAKE IN THE Lassen VOLCANIC CENTER

270-16  314  Herbst, Thomas*; Whittington, Alan; Pistone, Mattia; Schiffbauer, James D.; Sely, Tara: EXPERIMENTAL VESICULATION AND OUTGASSING OF CRYSTAL-BEARING DACITE

270-17  315  Lundblad, Steven R.; Garnecki, Cheryl; Anderson, James Lee: LONG-TERM GEODETIC AND GEOCHEMICAL MONITORING OF THE LOWER EAST RIFT ZONE, KILAUEA VOLCANO, HAWAII: A FRAMEWORK FOR INTERPRETING ERUPTION BEHAVIOR OF EARLY PHASES OF THE 2018 ERUPTION

271-5  2:30 PM Nolan, Joseph*; Murowchick, James B.: RIPENING KINETICS OF IRON SULFIDES IN THE PRESENCE/ABSENCE OF A CARBONYL GROUP

271-6  3:00 PM Farron, Thomas D.*; Hunt, A.M.: THE OCCURRENCE OF IRIUM IN AMBER: A NEW DISCOVERY

271-7  3:15 PM Saminpanya, Seriwat*: MINERALOGY OF PETRIFIED TREES IN THE PETRIFIED FOREST PARK, TAK PROVINCE, THAILAND

271-8  3:30 PM Xing, Chaocha*: Nie, Ting; Wang, Zhe; Ning, Meng; Shen, Bing: A REVERSED WATER-SEDIMENT REDOX GRADIENT IN THE EVE OF CAMBRIAN EXPLOSION

271-9  3:45 PM Zhao, Yuehua*: Chen, Shouyu: LA-ICPMS U-PB AGE AND GEOCHEMISTRY OF CASSITERITES IN LAOCHANG SN-CU POLYMETALLIC DEPOSIT, GEJIU DISTRICT, CHINA

271-10  4:00 PM Hagni, Richard D.*; Hagni, Ann M.: MINERALOGICAL CHARACTER OF HIGH-PHOSPHORUS JAMAICA BAUXITES ORES

272-1  1:30 PM Rosbach, Stephanie A.*; Muscente, A. Drew; Wittmer, Jacalyn M.; Fike, David A.; Shelton, Kevin L.; Schiffbauer, James D.: PYRITE SULFUR ISOTOPE ANALYSIS OF MAZON CREEK FOSSILS MAY PROVIDE CLUES ON NODULE FORMATION

272-2  1:45 PM Tyler, Carrie L.*; Kowalewski, Michal: QUANTIFYING THE FIDELITY OF THE MACRO-INVERTEBRATE FOSSIL RECORD ACROSS MULTIPLE HIGHER TAXA IN NEARSHORE MARINE ASSEMBLAGES

272-3  2:00 PM Harnik, Paul G.*: LIFE HISTORIES IN CHANGING SEAS: LIVE-DEAD MISMATCH REVEALS BIOTIC RESPONSE TO RECENT ENVIRONMENTAL CHANGE


272-5  2:30 PM Downen, Matthew R.*; Selden, Paul A.: DIVERSITY AND TAPHONOMIC BIAS IN THE SPIDER FOSSIL RECORD

272-6  2:45 PM Paul, Sharmistha*; Gangopadhyay, Tapas Kumar: DISCOVERY OF A JUVENILE MASS MORTALITY BED OF FRESHWATER VIVIPARID GASTROPODS IN DECCAN INTERTRAPPean horizon of BARGA, MADHYA PRADESH, INDIA

272-7  3:00 PM Hageman, Steven J.*: PYWACKIA IS NOT A CAMBRIAN BRYOZOAN: EVIDENCE FROM SKELETAL MICROSTRUCTURE AND TAPHONOMY

272-8  3:15 PM Wilson, Mark A.*; Buttlar, Caroline J.; Taylor, Paul D.: BRYOZOANS AS TAPHONOMIC ENGINEERS, WITH EXAMPLES FROM THE UPPER ORDOVICIAN (KATIAN) OF MIDWESTERN NORTH AMERICA

272-9  3:30 PM Kusnerik, Kristopher M.*; Means, Harley; Portell, Roger W.; Kowalewski, Michal: TAPHONOMY AND TIME AVERAGING OF MOLLUSCAN DEATH ASSEMBLAGES IN FLORIDA SPRINGS AND RIVERS

272-10  3:45 PM Evans, Scott D.*; Droser, Mary L.; Gehling, James G.: MOBILE ORGANISMS IN AN ORGANIC MAT DOMINATED EDIACARAN WORLD

272-11  4:00 PM Anderson, Evan P.*; Schiffbauer, James D.; Jacquet, Sarah M.: REEVALUATING TAPHONOMIC WINDOWS: EXCEPTIONAL PRESERVATION PATHWAYS IN THE
SESSION NO. 273

D17. Paleontology, Paleoecology B

1:30 PM, Indiana Convention Center, Room 142

Lee Hsiang Liow and Jill S. Leonard-Pingel, Presiding

273-1  1:30 PM  Novack-Gottshall, Philip M.*: COMPARATIVE FUNCTIONAL DIVERSITY OF MARINE ANIMALS: A NOVEL RANKING OF BIOLOGICAL INNOVATION

273-2  1:45 PM  Mendonca, Steven E.; Pruden, Matthew J.; Dievert, Rylan V.; Leighton, Lindsey R.*: A REASSESSMENT OF DUROPHAGOUS PREDATION ON BRACHIOPODS THROUGH THE PALEOZOIC

273-3  2:00 PM  Liow, Lee Hsiang*; Taylor, Paul D.: ZOOD SIZE VARIATION IN CHEILOSTOME BRYOZOANS THROUGH 100 MILLION YEARS

273-4  2:15 PM  Gannon, Michelle*: PHOTOSYMBIOSIS IN HEART COCKLES: DO MICROSTRUCTURAL WINDOWS VARY ACROSS GENUS CORCULUM?

273-5  2:30 PM  Bulinski, Katherine V.*; Burman, Aspen A.; Hall, M.Sierra; Laughlin, Zoe; Sadler, Kendra; Summerlin, Tonya; Wilcox, Alma: RE-EVALUATION OF BIOSTROME PALEOECOLOGY AT THE FALLS OF THE OHIO (MIDDLE DEVONIAN), CLARKSVILLE, INDIANA

273-6  2:45 PM  Dineen, Ashley A.*; Roopnarine, Peter D.; Sorman, Melanie; Tyler, Carrie L.: MARINE MESOZOIC REVOLUTION (MMR): COMMUNITY STRUCTURE DURING A TIME OF BIOTIC ESCALATION AND EVOLUTIONARY DIVERSIFICATION

273-7  3:00 PM  Pietsch, Carlie*; Gigliotti, Michael; Anderson, Brendan M.; Alimon, Warren D.: PATTERNS AND PROCESSES IN THE HISTORY OF BODY SIZE IN TURRITELLINE GASTROPODS, JURASSIC-TO-RECENT

273-8  3:15 PM  Laird, Joshua D.; Belanger, Christina*: COMMUNITY SUCCESION IN CRETACEOUS COLD-SEEP FAUNAS: USING A GUILD-BASED MODERN-ANALOG APPROACH TO RECOGNIZE ECOLOGICAL PARALLELS WITH MODERN SEEPS

273-9  3:30 PM  Leonard-Pingel, Jill S.; Stemmann, Thomas; Jackson, Jeremy B.C.: DEPOSITIONAL SETTING AND PALEOECOLOGY OF THE BOWDEN SHELL BEDS, SOUTHEASTERN JAMAICA

273-10 3:45 PM  Lewis, Ronald D.*; Tichenor, Hal Ray; Smith, Christopher Wayne; Eubanks, Eric M.; Gilley, Sara Elizabeth; Asher, Sarah; Sundbeck, Sally: ENCROUSTING FORAMINIFERA FROM THE BAHAMIAN OUTER ISLANDS: FINDINGS FROM THE LAST DECADE AND PROSPECTS FOR FUTURE RESEARCH

SESSION NO. 274

D26. Geoscience Education

1:30 PM, Indiana Convention Center, Room 242

Darryl Reano and Angel A. Garcia, Presiding

274-1  1:30 PM  Reano, Darryl*; Harbor, Jon: VIEWING THE WORLD DIFFERENTLY: CONNECTIONS BETWEEN PLACE, CULTURE, AND GEO SCIENCE

274-2  1:45 PM  Reano, Darryl; Hasara, Carena*: Harbor, Jon: “IT TURNS INTO SOMETHING I ALREADY KNOW…”

274-3  2:00 PM  Garcia, Angel A.*; Semken, Steven; Brandt; Elizabeth: ETHNOGEOLOGY IN PUERTO RICO AND DOMINICAN REPUBLIC: THE USE OF LOCAL, CULTURAL MODELS FOR THE INTERPRETATION OF GEOLOGICAL FEATURES AND PROCESSES

274-4  2:15 PM  Dalibotten, Diana*; Neville, Melinda; Cloud, Anita; Castillo, Viviana; Eagle, Colin; Miller, Rayven; Mooers, Howard D.; Breckenridge, Rachel B.: AZHEGIWE BAGWA JAYA II-(HE/SHE RETURNS TO NATURE)—IMPLEMENTING EARTH SYSTEMS SCIENCE AT LEELA TRIBAL COLLEGE (Invited Presentation)

274-5  2:30 PM  Semken, Steven*: IS THERE A PEDAGOGICAL SENSE OF PLACE? (Invited Presentation)

274-6  3:00 PM  Chinn, Pauline W.U.*: DEVELOPING PLACE-BASED, CULTURALLY SUSTAINING EARTH SCIENCE TEACHERS: STRATEGIES TO INTEGRATE TRADITIONAL ECOLOGICAL KNOWLEDGE INTO GEOSCIENCE INSTRUCTION (Invited Presentation)

274-7  3:15 PM  Peterman, Emily M.*: AN ANALYSIS OF THREE MODELS TO DEVELOP PROFICIENCY IN COLLEGE TEACHING (Invited Presentation)

274-8  3:30 PM  Jolley, Alison*; Gilley, Brett H.; Holland, Tara; Sherman, Sarah Bean; Scribner, Emily; McMillan, Rhy: TEACHING AND LEARNING ABOUT TEACHING AND LEARNING: UBC’S GRADUATE COURSE IN EVIDENCE-BASED PEDAGOGY

274-9  3:45 PM  Ryker, Katherine*; Teasdale, Rachel; Bitting, Kelsey S.: TRAINING GRADUATE TEACHING ASSISTANTS IN THE GEO SCIENCES: WHERE ARE WE AND WHAT DO WE NEED TO KNOW? (Invited Presentation)

274-10 4:00 PM  Smith, Hayley Joyell*; Arnójrónsson, Olafur Jón; Hunter, Kenna: MAKING THE MOST OF GEOTOURISM: GEOCAMP ICELAND’S INTEGRATION OF THE EARTH SCIENCES LITERACY PRINCIPLES INTO ITS PLACE-BASED PROGRAMMING

SESSION NO. 275

D42. Advances in Geoarchaeology

1:30 PM, Indiana Convention Center, Room 135

Justin A. Holcomb and Brendan Fenerty, Presiding

275-1  1:30 PM  Powers, Monica C.*; Anastasio, David J.; Pares, Josep M.*; Allman, Warren D.*: D42. Advances in Geoarchaeology


275-3  2:00 PM  Daniel, Matthias E.; Zohdy, Mohamad M.: RE-EVALUATION OF BIOSTRATIGRAPHY OF THE KOHAT FORMATION, NORTHERN KOHAT BASIN, HIMALAYAN FOLD AND THRUST BELT, NORTHERN PAKISTAN

275-4  2:15 PM  Laughlin, Zoe; Sadler, Kendra; Summerlin, Tonya; Wilcox, Alma: RE-EVALUATION OF BIOSTROME PALEOECOLOGY AT THE FALLS OF THE OHIO (MIDDLE DEVONIAN), CLARKSVILLE, INDIANA

275-5  2:30 PM  Pietsch, Carlie*; Gigliotti, Michael; Anderson, Brendan M.; Alimon, Warren D.: PATTERNS AND PROCESSES IN THE HISTORY OF BODY SIZE IN TURRITELLINE GASTROPODS, JURASSIC-TO-RECENT

275-6  3:00 PM  Novack-Gottshall, Philip M.*: COMPARATIVE FUNCTIONAL DIVERSITY OF MARINE ANIMALS: A NOVEL RANKING OF BIOLOGICAL INNOVATION

275-7  3:15 PM  Mendonca, Steven E.; Pruden, Matthew J.; Dievert, Rylan V.; Leighton, Lindsey R.*: A REASSESSMENT OF DUROPHAGOUS PREDATION ON BRACHIOPODS THROUGH THE PALEOZOIC

275-8  3:30 PM  Liow, Lee Hsiang*; Taylor, Paul D.: ZOOD SIZE VARIATION IN CHEILOSTOME BRYOZOANS THROUGH 100 MILLION YEARS

275-9  3:45 PM  Gannon, Michelle*: PHOTOSYMBIOSIS IN HEART COCKLES: DO MICROSTRUCTURAL WINDOWS VARY ACROSS GENUS CORCULUM?

275-10 4:00 PM  Bulinski, Katherine V.*; Burman, Aspen A.; Hall, M.Sierra; Laughlin, Zoe; Sadler, Kendra; Summerlin, Tonya; Wilcox, Alma: RE-EVALUATION OF BIOSTROME PALEOECOLOGY AT THE FALLS OF THE OHIO (MIDDLE DEVONIAN), CLARKSVILLE, INDIANA

275-11  4:15 PM  Dineen, Ashley A.*; Roopnarine, Peter D.; Sorman, Melanie; Tyler, Carrie L.: MARINE MESOZOIC REVOLUTION (MMR): COMMUNITY STRUCTURE DURING A TIME OF BIOTIC ESCALATION AND EVOLUTIONARY DIVERSIFICATION

275-12  4:30 PM  Pietsch, Carlie*; Gigliotti, Michael; Anderson, Brendan M.; Alimon, Warren D.: PATTERNS AND PROCESSES IN THE HISTORY OF BODY SIZE IN TURRITELLINE GASTROPODS, JURASSIC-TO-RECENT

275-13  4:45 PM  Laird, Joshua D.; Belanger, Christina*: COMMUNITY SUCCESION IN CRETACEOUS COLD-SEEP FAUNAS: USING A GUILD-BASED MODERN-ANALOG APPROACH TO RECOGNIZE ECOLOGICAL PARALLELS WITH MODERN SEEPS

275-14  5:00 PM  Leonard-Pingel, Jill S.; Stemmann, Thomas; Jackson, Jeremy B.C.: DEPOSITIONAL SETTING AND PALEOECOLOGY OF THE BOWDEN SHELL BEDS, SOUTHEASTERN JAMAICA

275-15  5:15 PM  Lewis, Ronald D.*; Tichenor, Hal Ray; Smith, Christopher Wayne; Eubanks, Eric M.; Gilley, Sara Elizabeth; Asher, Sarah; Sundbeck, Sally: ENCROUSTING FORAMINIFERA FROM THE BAHAMIAN OUTER ISLANDS: FINDINGS FROM THE LAST DECADE AND PROSPECTS FOR FUTURE RESEARCH

Wednesday, 7 November 2018

269
D55. From Argon to Zircon: New Approaches to Understanding Crustal Magmatism

1:30 PM, Indiana Convention Center, Room 240-241

Craig Lundstrom and Michael R. Ackerson, Presiding

1:30 PM INTRODUCTION

276-1 1:40 PM Singer, Brad S.*; Andersen, Nathan; Le Mevel, Helene; Thurber, Clifford; Wespestad, Crystal: PETROCHRONOLOGY, GEOPHYSICS, AND GEOMORPHOLOGY REVEAL DYNAMICS OF AN EXTENSIVE, THERMALLY HETEROGENEOUS, SHALLOW SILICIC MAGMA SYSTEM BENEATH LAGUNA DEL MAULE VOLCANIC FIELD, SOUTHERN ANDES (Invited Presentation)

276-2 1:55 PM Coleman, Drew S.*; Glazner, Allen F.; Bartley, John M.; Boudreau, Alan E.: ARE PLUTONS IGNEOUS OR METAMORPHIC ROCKS? YES. THEY ARE MELTAMORPHIC (Invited Presentation)

276-3 2:10 PM Cooper, Kari M.*; Schrengost, Kevin L.; Schlieder, Tyler; Bradshaw, Richard W.; Kent, Adam J.R.; Huber, Christian: DOES SIZE MATTER? WHAT VARIABLES CONTROL THE THERMAL HISTORY OF MAGMAS? (Invited Presentation)

276-4 2:45 PM Glumac, Bosiljka; Clemens, Hannah; Fitzpatrick, Scott M.*; Duane; Rainbird, Robert: ASSESSING THE POTENTIAL OF STABLE ISOTOPE AND X-RAY FLUORESCENCE (XRF) ANALYSES IN PROVENANCE STUDIES OF YAPESE STONE MONEY AND X-RAY FLUORESCENCE (XRF) ANALYSES IN ARID ENVIRONMENT

276-5 3:00 PM Workman, T. Race*; Rech, Jason A.; Gayó, Eugenia M.; Santos, Calogero; Latorre, Claudio; Ugalde, Paula C.: PALEO-ENVIRONMENTS AND THE HUMAN OCCUPATION OF QUEBRADA MANI, NORTHERN ATACAMA DESERT, CHILE

3:15 PM BREAK

276-6 3:30 PM Fry, Holli M.*; Manon, Matthew R.F.: THE USE OF MIXING MODELS TO CONSTRAIN ZIRCON CRYSTALLIZATION HISTORIES

276-7 3:45 PM Hill, Christopher L.*; Kabacinski, Jacek; Czakaj-Zastawny, Agnieszka: QUATERNARY GEOLOGY AND GEOMORPHOLOGY IN SOUTHERN EGYPT: SEDIMENTARY AND STRATIGRAPHIC EVIDENCE FOR ENVIRONMENTAL CHANGE AND LANDSCAPE EVOLUTION AT BIR TAFAWI, BIR SAHARA, AND GEBEL RAMLAH

SESSION NO. 277

D56. Clastic - Floodplains as Repositories of Information on Climate, Hydrology, and Human Activities (GSA Soils and Sediment Processes Division; GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Limnogeology Division)

1:30 PM, Indiana Convention Center, Room 234

Larry D. McKay, Gary E. Stinchcomb and Steven L. Forman, Presiding

1:30 PM INTRODUCTION

277-1 1:35 PM Munoz, Samuel*: FLOODPLAIN LAKES AS A ROSETTA STONE FOR PALEOHYDROLOGY, PALEOECOLOGY, AND PALEOClimatOLogy

277-2 1:55 PM Kerr, Matthew T.; Tran, Liem: A 1000-YEAR PALEOFLOOD RECORD FROM THE TENNESSEE RIVER NEAR DECATUR, TENNESSEE

277-3 2:10 PM Perilla-Castillo, Paula J.*; Cyr, Howard J.; Horn, Sally P.; McKay, Larry D.; Driese, Steven G.: FLOOD HISTORY FROM PALEOFLOOD DEPOSITS IN CUT BANK SOIL PROFILES IN CHICKAMAUGA RESERVOIR, TENNESSEE RIVER, U.S.A

277-4 2:25 PM Fritz, Bridgette*: REID, Liem; Horn, Sally P.; McKay, Larry D.: IDENTIFYING SINKHOLES WITH THE POTENTIAL FOR THE ACCUMULATION AND PRESERVATION OF...
## SESSION NO. 278

### T6. Critical Zone Science in Karst and Carbonate Terrains (GSA Karst Division; GSA Hydrogeology Division; GSA Soils and Soil Processes Division; GSA Geobiology & Geomicrobiology Karst Division; GSA Hydrogeology Division; GSA Soils and Soil Processes Division; GSA Geobiology and Geomicrobiology Division; National Cave and Karst Research Institute)

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<td>2:40 PM</td>
<td>Wenhold, Leah*; McKay, Larry D.</td>
<td>INVESTIGATIONS OF URBAN FLOODPLAIN SEDIMENT TEXTURE, DEPOSITIONAL RATE AND CONTAMINATION IN KOINVILLE, TN</td>
</tr>
<tr>
<td>2:55 PM</td>
<td>Blackaby, Emily*; Hookaday, William C.; Forman, Steven L.; Stinchcomb, Gary E.; Stewart, C. Lance; Craven, Owen</td>
<td>THE PRE-DEPOSITIONAL AGE OF ORGANIC MATTER IN FLOOD DEPOSITS: INSIGHTS TO THE TIMESCALE OF BIOGEOCHEMICAL PROCESSES</td>
</tr>
<tr>
<td>3:25 PM</td>
<td>Steward, C. Lance*; Stinchcomb, Gary E.; Forman, Steven L.; Davis, Lisa; Lombardi, Rachel; Leigh, David S.; Blackaby, Emily; Hookaday, William C.</td>
<td>PALEOFLOODS AND GRAIN-SIZE VARIABILITY ALONG THE MIDDLE TENNESSEE RIVER IN NORTHERN ALABAMA</td>
</tr>
<tr>
<td>3:40 PM</td>
<td>Stinchcomb, Gary E.*; Stewart, C. Lance; Blackaby, Emily; Lombardi, Rachel; Davis, Lisa; Forman, Steven L.; Hookaday, William C.; Leigh, David S.</td>
<td>FLOODPLAINS AS REPOSITORIES OF INFORMATION ON CARBON ADDITION RATES IN DEPOSITIONAL SOIL PROFILES</td>
</tr>
<tr>
<td>3:55 PM</td>
<td>Noah Geological Problems (GSA Geophysics and Geodynamics Division; GSA Geobiology and Geomicrobiology Division; GSA Karst Division; GSA Environmental &amp; Engineering Geology Division; GSA Geoarchaeology Division)</td>
<td>LITERALLY: HUNTING FOR PALEOFLOOD DEPOSITS IN KNOXVILLE, TN</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>Evans, Kevin Ray*; Kenning, Brett M.; Dogwiler, Toby J.</td>
<td>INFLUENCE WATER CHEMISTRY IN THE BLUE RIVER, SOUTHERN INDIANA</td>
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### SESSION NO. 279

### T65. Recent Advances in Using Near-Surface Geophysics to Solve Geological Problems (GSA Geophysics and Geodynamics Division; GSA Quaternary Geology and Geomorphology Division; GSA Environmental & Engineering Geology Division; GSA Hydrogeology Division; GSA Soils and Soil Processes Division; GSA Karst Division; GSA Geoarchaeology Division)

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<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Title</th>
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<tbody>
<tr>
<td>1:30 PM</td>
<td>White, William B.*</td>
<td>A CRITICAL ZONE OBSERVATORY IN KARST: WHAT PROBLEMS WOULD BENEFIT (Invited Presentation)</td>
</tr>
<tr>
<td>1:50 PM</td>
<td>Macpherson, G.L.*; Sullivan, Pamela L.; Brookfield, Andrea E.; Barry, Emily R.</td>
<td>THIN LIMESTONES, A MISSING KARST END MEMBER IN UNDERSTANDING CRITICAL ZONE DYNAMICS (Invited Presentation)</td>
</tr>
<tr>
<td>2:10 PM</td>
<td>Cao, Jianhua*; Yang, Hui</td>
<td>THE CARBON CYCLE INDUCING BY CARBONATE ROCK WEATHERING IN A KARST CRITICAL ZONE—AN CASE STUDY IN ZHUIJIAN RIVER BASIN, SOUTH CHINA (Invited Presentation)</td>
</tr>
<tr>
<td>2:30 PM</td>
<td>Li, Li; Xiaoxuan, Lu</td>
<td>TRACING DISSOLVED ORGANIC MATTER FLUORESCENCE IN WULIXIA KARST RESERVOIR - A CASE STUDY IN GUANGXI, CHINA</td>
</tr>
<tr>
<td>2:45 PM</td>
<td>Barna, Joshua*; Fryar, Alan E.; Peng, Tao; Cao, Le; Zhu, Chen</td>
<td>VARIABILITY IN GROUNDWATER FLOW AND CHEMISTRY IN THE HOUZHAI KARST BASIN, GUZHOU PROVINCE, CHINA</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>Florea, Lee; Banks, Sarah M.*; Forray, Ferenc</td>
<td>CARBON EXPORTS IN THE CRITICAL ZONE OF KARST AQUIFERS: THE PĂDUREA CRAIULUI MOUNTAINS OF NORTHWEST ROMANIA</td>
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<tr>
<td>3:15 PM</td>
<td>Break</td>
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<tr>
<td>3:30 PM</td>
<td>Panno, Samuel V.*; Kelly, Walton R.; Scott, John; Zheng, Wei; McNeish, Rachael; Holm, Nancy; Hoeleine, Timothy; Baranski, Elizabeth L.</td>
<td>MICROPLASTICS IN KARST GROUNDWATERS OF ILLINOIS</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>Carlson Mazur, Martha*; Hauswald, Cassie; Copler, Colin</td>
<td>SINKHOLES AND THEIR RIPARIAN BUFFERS</td>
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### T76. Critical Zone Dynamics (Invited Presentation)

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<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Title</th>
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<tr>
<td>4:00 PM</td>
<td>Evans, Kevin Ray*; Kenning, Brett M.; Dogwiler, Toby J.</td>
<td>INFLUENCE WATER CHEMISTRY IN THE BLUE RIVER, SOUTHERN INDIANA</td>
</tr>
<tr>
<td>4:15 PM</td>
<td>Blackwood, Kevin W.*; Harris, Justin C.; Edens, Laramie J.; Gantt-Blackwood, Stacy L.; Woodring, Kay D.</td>
<td>USING STYGOFAUNA AS BIOLOGICAL TRACERS TO DETERMINE HYDROGEOLOGICAL PARAMETERS IN DEFORMED KARST TERRANES</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>Engel, Annette Summers*; Hutchins, Benjamin; Nowlin, Weston; Schwartz, Benjamin F.</td>
<td>PROFILING THE FUNCTIONAL DIVERSITY OF MICROBIAL COMMUNITIES TO UNDERSTAND THE DEVELOPMENT AND MAINTENANCE OF THE EDWARDS AQUIFER ECOSYSTEM</td>
</tr>
<tr>
<td>4:45 PM</td>
<td>Paterson, Audrey*; Long, Brooke L.; Kokesh, Broc S.; Anderson, Laurie C.; Engel, Annette Summers</td>
<td>ANCHIALINE LAKES SERVE AS NOVEL HABITATS FOR RELICT TAYA, INCLUDING CHEMOSYMBIOTIC MARINE BIVALVES</td>
</tr>
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## WEDNESDAY PM
Wednesday, 7 November 2018

SESSION NO. 280

T100. Applications and Advances in Groundwater Flow Modeling (GSA Hydrogeology Division; GSA Karst Division)
1:30 PM, Indiana Convention Center, Room 132
Daniel B. Abrams, Daniel R. Hadley, Rene Therrien and John W. Molson, Presiding

1:30 PM INTRODUCTORY REMARKS

280-1 1:35 PM Gust, Spencer Paul*: Hampton, Duane: THE EFFECTS OF CHANGES OF LONG-TERM PUMPING ON WETLANDS AND A RIVER IN MICHIGAN

280-2 1:50 PM Zhan, Chuangjun*; Dai, Zhenxue; Ritzi, Robert W.; Zhang, Xiaoying; Soltanian, Mohammad Reza: SPATIAL CORRELATION STRUCTURES OF MULTIMODAL PERMEABILITY IN HIERARCHICAL MEDIA WITH MARKOV CHAIN APPROACH

280-3 2:05 PM Brown, Megan R.M.*; Barba, Magali; Ge, Shemin; Tiampo, Kristy: CALIBRATION OF PORE PRESSURE MODELS THROUGH THE INTEGRATION OF INSAR RESULTS AND VERTICAL DEFORMATION ESTIMATES

280-4 2:20 PM Reeves, Donald M.*; Pham, Hai; Sund, Nicole; Parashar, Riahi: DEFINING NETWORK CONNECTIVITY IN COMPLEX, THREE-DIMENSIONAL FRACTURE NETWORKS

280-5 2:40 PM Mullis, Donald J.*: OPTIMIZATION OF LNAFL RECOVERY FROM A SEMI-CONFINED AQUIFER: THE IMPORTANCE OF AN ACCURATE SITE CONCEPTUAL MODEL AND UNDERSTANDING LNAFL RECOVERABILITY TECHNIQUES

280-6 2:55 PM Bédir, Mourad*; Gabtini, Hakim; Houatmia, Faten; Jallalia, Dallia; Redhaounia, Belgacem; Thebli, Sourour; Azaiez, Hajar; Khoms, Sami: HYDROGEOPHYSICAL INVESTIGATIONS AND MODELLING OF THE TUNISIAN NORTH AFRICAN PLATE BASINS

280-7 3:10 PM Mannix, Devin H.*: MULTI-AQUIFER SIMULATIONS AND PLANNING FOR SUSTAINABLE YIELD IN THE CAMBRIAN-ORDOVICIAN SANDSTONE AQUIFERS OF NORTHERN ILLINOIS

3:25 PM BREAK

SESSION NO. 281

T107. Arsenic, Manganese, Chromium, and Other Geogenic Contaminants, Including Radionuclides in Hydrological Systems—Source, Biogeochemical Cycling, Toxicity, and Removal II (GSA Hydrogeology Division; GSA Geology and Health Division; GSA International Interdisciplinary Interest Group; International Society of Groundwater for Sustainable Development (ISGSD); International Water Association (IWA); Specialist Group Metals and Related Substances in Drinking Water (METRELS))
1:30 PM, Indiana Convention Center, Room 133
Prosun Bhattacharya, Saugata Datta, Madeline Schreiber, Manish Kumar, Arslan Ahmad, Abhijit Mukherjee and David Lampe, Presiding

1:30 PM INTRODUCTORY REMARKS

281-1 1:35 PM Goswami, Ritusmita*: Baruah, Pankaj; Kumar, Manish: PROVENANCE, PREVALENCE AND HEALTH PERSPECTIVE OF ARSENIC, FLUORIDE AND URANIUM IN THE GROUNDWATER OF THE LARGEST INHABITED RIVER ISLAND (MAJULI, INDIA), IN THE WORLD

281-2 1:50 PM Ijumulana, Julian*; Ligate, Fanuel J.; Irunde, Regina; Bhattacharya, Prosun; Mtalo, Felix: HYDROGEOLOGICAL CONTROLS OF SPATIAL VARIABILITY OF ARSENIC IN THE VOLCANO-SEDIMENTARY COMPLEX OF GEITA DISTRICT, NORTHERN TANZANIA

281-3 2:05 PM Patel, Arbind Kumar*: Dolkar, Thines; Kumar, Manish: HEALTH RISK AND CARCINOGENIC VULNERABILITY ASSOCIATED WITH ORAL, DERMAL AND DIETARY INTAKE OF ARSENIC IN THE BRAHMAPUTRA FLOODPLAIN, INDIA

281-4 2:20 PM Van de Watering, Stephan*: EFFECT OF CALCIUM AND BICARBONATE ON IRON REMOVAL DURING GROUNDWATER TREATMENT (Invited Presentation)

281-5 2:40 PM Ahmad, Arslan*; Cornelissen, Emilie; Wål, Albert van der; Bhattacharya, Prosun: ARSENITE REMOVAL IN GROUNDWATER TREATMENT PLANTS BY SEQUENTIAL PERMANGANATE—FERRIC TREATMENT

281-6 2:55 PM Chakraborty, Madhumita*: Ahmed, Kazi Matin; Bhattacharya, Prosun; Mtalo, Felix: CONTROL OF DELTA SEDIMENT GEOMETRY ON ARSENIC DISTRIBUTION WITHIN THE GANGES RIVER DELTA, INDIA AND BANGLADESH

3:10 PM BREAK

281-7 3:25 PM Lucca, Enrico*: Ijumulana, Julian; Ligate, Fanuel J.: Bhattacharya, Prosun; Mtalo, Felix: ARSENIC AND OTHER GEOGENIC CONTAMINANTS IN DRINKING WATER
IN THE REGIONS AROUND THE LAKE VICTORIA GOLDFIELDS, TANZANIA

281-8 3:40 PM San Pedro, Reisa Joy G.*; Whaley-Martin, Kelly J.; Bostick, Benjamin C.; Mailloux, Brian J.; van Geen, Alexander; Mozumder, M. Rajib Hassan; Ellis, Tyler; Slater, Greg F.: FURTHER INVESTIGATION OF THE RELATIONSHIP BETWEEN POPULATION DENSITY, UNSEWERED WASTE INPUTS AND AS IN BANGLADESH GROUNDWATER

281-9 3:55 PM Kumar, Manish*; Patel, Arbind Kumar; Das, Nilopal; Goswami, Ritusmita: MULTILEVEL GROUNDWATER MONITORING: A PREDICTIVE TOOL FOR MULTIMETAL ENRICHMENT AND HEALTH IMPLICATIONS IN THE ALLUVIUM PLAIN OF BRAHMAPUTRA RIVER, INDIA

281-10 4:10 PM Sharma, Sanjeev*: Bhattacharya, Prosun; Kumar, Debraj; Perugupalli, Prashanth; van Brömssen, Mattias: ENHANCED COLLABORATIVE PLATFORM ASMITAS – DIGITAL APPLICATION BASED ON THE SASMAT GROUNDWATER COLOR TOOL FOR TARGETING AQUIFERS FOR SAFE DRINKING WATER SUPPLIES

281-11 4:25 PM Niazi, Nabeel Khan*; Bibi, Irshad; Shahid, Muhammad; Shakoor, Muhammad Bilal; Naidu, Ravi; Bhattacharya, Prosun; Rahman, Mohammad Mahmudur; Ahmad, Arslan: HYDROGEOCHEMICAL BEHAVIOR OF ARSENIC IN AQUIFERS OF PUNJAB, PAKISTAN: INFLUENCE OF WELL DEPTH

281-12 4:40 PM Mailloux, Brian*; Bakker, Mark; Nguyen, Khue; Choudhury, Imtiaz; Ahmed, Kazmi Matin; Ellis, Tyler; Bostick, Benjamin C.; van Geen, A.: TIME SERIES ANALYSIS OF ARSENIC CONCENTRATIONS IN 24 MONITORING WELLS IN ARAIHAZAR, BANGLADESH

4:55 PM CONCLUDING REMARKS

SESSION NO. 282 $ $

T113. Gemological Research in the Twenty-First Century—Characterization, Exploration, and Geological Significance of Diamonds and Other Gem Minerals (Mineralogical Society of America; Gemological Institute of America; Society of Economic Geologists; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division)

1:30 PM, Indiana Convention Center, Room 145

Caroline Nelms, James E. Shigley, Wuyi Wang, Barbara L. Dutrow and John Valley, Presiding

1:30 PM INTRODUCTORY REMARKS

282-1 1:35 PM Breeding, Christopher M.*: NATURAL COLOR IN GEM DIAMONDS: FROM THE LOWER MANTLE TO THE UPPERMOST CRUST

282-2 1:50 PM Eaton-Magana, Sally*: Breeding, Christopher: PHOTOLUMINESCENCE FEATURES OF NATURAL PINK DIAMONDS

282-3 2:05 PM Sundell, Tyler*: Michelfelder, Gary S.: CHEMICAL IMAGING OF DIAMONDS BY TIME OF FLIGHT SECONDARY IONIZATION MASS SPECTROMETRY

282-4 2:20 PM Smit, Karen V.*; Myagkaya, Elina; Persaud, Stephanie; Wang, Wuyi: NATURALLY IRRADIATED BLACK DIAMONDS FROM MARANGE (ZIMBABWE)

282-5 2:35 PM Smith, Evan M.*; Smit, Karen V.: CARBONATITIC MELT INCLUSIONS WITH CO2 AND CH4 IN HEALED CRACKS IN A DIAMOND


282-7 3:05 PM Smith, Rod*: KIMBERLITE INDICATOR MINERAL (KIM) STUDIES IN THE WESTERN CANADIAN ARCTIC: ASSESSING THE POTENTIAL FOR UNDISCOVERED DIAMOND-BEARING KIMBERLITE AND THE IMPLICATIONS OF KIM BEDROCK INHERITANCE

282-8 3:20 PM Gu, Tingting*: Valley, John; Kitajima, Kouki; Spicuzza, Michael J.; Fourmelle, John H.; Stern, Richard; Ofuruji, Hiroaki; Wang, Wuyi: EVIDENCE OF SUBDUED ALTERED OCEANIC CRUST INTO DEEP MANTLE FROM INCLUSIONS OF IAB DIAMONDS

282-9 3:35 PM Krebs, Mandy Y.*; Pearson, D. Graham; Fagan, Andrew J.; Sarkar, Chiranjeeb: GEOGRAPHIC ORIGIN DETERMINATION OF RUBY AND SAPPHIRE USING SR- PB ISOTOPES

282-10 4:05 PM Turnier, Rachelle B.*; Valley, John W.; Palke, Aaron: RAMAN SPECTRA OF ZIRCON INCLUSIONS IN SAPPHIRE

282-11 4:20 PM Nachlas, William O.*; Thomas, Jay B.: MULTIPLE MECHANISMS TO RUTILATE QUARTZ

282-12 4:35 PM Heaney, Peter J.*; Post, Jeffrey E.; Chen, Si Athena; Clark, Trevor; Wenzel, Tobias; Jacucci, Gianni; Vignolini, Silvia: PAINTING A RAINBOW WITH OCHRE: IRIDESCENCE IN BOTRYOIDAL GOETHITE

282-13 4:50 PM Dutrow, Barbara L.*; Henry, Darrell J.; Sun, Ziyin: METASOMATIC ORIGIN FOR TOURMALINE-SAPPHIRE-PHLOGOPITE ROCKS OF THE BADAKSHAN PROVINCE, NE AFGHANISTAN

282-14 5:05 PM Zhou, Chunhui*: Orland, Ian J.; Myagkaya, Elina; Homkraya, Arttaya; Valley, John: SEASONAL VARIATION IN OXYGEN ISOTOPE RATIOS FROM FRESHWATER PEARLS CULTURED IN KENTUCKY LAKE, TENNESSEE

5:20 PM CONCLUDING REMARKS

SESSION NO. 283

T117. Greenhouse to Icehouse Transition: Global Events of the Devonian, Carboniferous, and Early Permian II (GSA Sedimentary Geology Division; International Association of Sedimentologists; Geochemical Society; GSA International Interdisciplinary Interest Group; Paleontological Society )

1:30 PM, Indiana Convention Center, Room 140

Thomas J. Algeo and Isabel P. Montañez, Presiding

283-1 1:30 PM Montañez, Isabel P.*; Olsagher, Dillon J.; Chen, Jiaozhao; Wortham, Barbara E.; Stamm, Robert G.; Nemyrovska, Tamara I.; Griffin, Julie M.; Polettaev, Vladislav I.; Wardlaw, Bruce R.: CARBONIFEROUS CLIMATE TELECONNECTIONS ARCHIVED IN COUPLED BIOAPATITE δ18OPO4 AND SR87/86Sr, DONETS BASIN, UKRAINE

283-2 1:45 PM Fielding, Christopher R.*; Frank, Tracy D.; Ahern, Justin P.: INSIGHTS INTO THE ONSET OF THE LATE PALEOZOIC ICE AGE FROM THE PALEOTROPICAL REALM OF NORTH AMERICA AND WESTERN EUROPE (Invited Presentation)

283-3 2:05 PM Isbell, John L.*; Moxness, Levi D.; Pauls, Kathryn N.; Limarino, Carlos O.; Schencman, L. Jazmin: THE MID-CARBONIFEROUS OLTA PALEOVALLEY, EASTERN PAGANZO BASIN, ARGENTINA: IMPLICATIONS FOR GLACIATION AND CONTROLS ON DIACHRONOUS DEGLACIATION IN WESTERN GONDWANA DURING THE LATE PALEOZOIC ICE AGE

283-4 2:20 PM Griffis, Neil*: Montañez, Isabel P.; Mundil, Roland; Isbell, John L.; Fedorchuk, Nick; Iannuzzi, Roberto; Vesely, Fernando; Mottin, Thammy; Yin, Qing-zhu: A REVISED STRATIGRAPHIC FRAMEWORK FOR THE SOUTHEAST MARGIN OF THE PARANA BASIN – EVIDENCE FOR GLACIO-EUSTATIC FORCING ACROSS THE LATEST CARBONIFEROUS THROUGH EARLY PERMIAN

283-5 2:35 PM Ivany, Linda C.*; Jimenez, Marie Y.; Henkes, Gregory A.: DEPLETED AND SEASONAL PRECIPITATION IN THE PENNSYLVANIAN INTERGLACIAL TROPICS INFERRRED FROM SERIAL OXYGEN ISOTOPE VALUES OF MOLLUSK ARAGONITE (Invited Presentation)

2:55 PM BREAK
SESSION NO. 284

T154. Coordinated Microanalysis as a Tool for Increasing the Scientific Yield of Returned Planetary Materials (GSA Planetary Geology Division; GSA Mineralogy, Geochemistry, Petrology, and Volcanology Division; Microanalysis Society)

1:30 PM, Indiana Convention Center, Room 236-237

Jessica J. Barnes and Michelle Thompson, Presiding

INTRODUCTORY REMARKS

284-1 1:45 PM Vander Kaaden, Kathleen E.*; McCubbin, Francis M.; Byrne, Paul K.; Chatbot, Nancy L.; Hauck, Steven A.; Blewett, David T.; Mazurico, Erwan: UNLOCKING MYSTERIES OF OUR SOLAR SYSTEM VIA ANALYSIS OF A SAMPLE FROM MERCURY

284-2 2:00 PM Norman, Marc D.*: IMPACT AGES, COMPOSITIONS, AND BIO-TECTONIC IMPLICATIONS OF LUNAR REGOLITH GLASSES

284-3 2:15 PM Valencia, Sarah N.*; Carpenter, Paul K.; Jolliff, Bradley L.: QUANTITATIVE X-RAY COMPOSITIONAL MAPPING BY ELECTRON PROBE MICROANALYSIS OF COMPLEX LUNAR SAMPLES

284-4 2:30 PM Morrison, Shannauna M.;* Elesh, Ahmed; Prabhu, Anirudh; Pan, Feifei; Zhong, Hao; Fox, Peter; Ralph, Jolynn; Golden, Joshua J.; Downs, Robert T.; Liu, Chao; Runyon, Simone E.; Krivovich, Sergey V.; Hazen, Robert M.: APPLICATIONS IN COMPARATIVE PLANETOLOGY: ADVANCED ANALYTICS AND VISUALIZATION OF MINERAL SYSTEMS (Invited Presentation)

284-6 2:50 PM Koziol, Andrea M.*; Treiman, A. H.: ELECTRON MICROPROBE ANALYSIS OF CARBONATES FROM MARTIAN METEORITE ALLAN HILLS 84001 AND 84002

SPITSBERGEN NORWAY: IMPLICATIONS OF CHEMICAL HETEROGENEITY

3:05 PM BREAK

284-7 3:20 PM Stroud, Rhonda M.*; De Gregorio, Bradley; Burgess, Katherine: COORDINATED LABORATORY ANALYSIS OF COMETARY AND INTERSTELLAR MATERIALS: STARDUST AND BEYOND (Invited Presentation)

284-8 3:40 PM Burgess, Katherine*; Bour, David; Stroud, Rhonda M.; Bardyn, Anais; Nittler, Larry R.; Alexander, Conel M. O.D.; Lever, James; Taylor, Susan: IDENTIFICATION AND ANALYSIS OF INTERPLANETARY DUST PARTICLES FILTERED FROM ANTARCTIC AIR

284-9 3:55 PM Hobart, Catherine E.*: GEOCHEMISTRY AND PETROLOGY OF MIL 07001 AND GRA 98108: COMPARING TEXTURES OF TWO UNBRECCIATED DIODGENES

284-10 4:10 PM Jadhav, Manavi*; Holt, Martin; Wlnarski, Robert: COMBINED NANO-COMPUTED TOMOGRAPHY AND X-RAY FLUORESCENCE EXPERIMENTS: A POWERFUL, NON-DESTRUCTIVE TECHNIQUE FOR THE IN-SITU CHEMICAL ANALYSES OF EXTRATERRESTRIAL MATERIALS

284-11 4:25 PM Thompson, Michelle S.*; Keller, Lindsay P.; Leeffler, Mark J.; Morris, Richard V.; Clemett, Simon J.; Christoffersen, Roy: PREPARING FOR SAMPLE RETURN: COORDINATED ANALYSIS OF EXPERIMENTALLY SPACE WEATHERED CARBONACEOUS CHONDRITES

284-12 4:40 PM Tachibana, Shogo*; Yurimoto, Haiso; Nakamura, Tomoku; Noguchi, Taakaik; Okazaki, Ryui; Yahuta, Hikaru; Naraoka, Hiroshi; Abe, Masanao: INITIAL ANALYSIS PLAN OF JAXA HAYABUSA2 RETURNED RYUGU REGOLITH (Invited Presentation)

5:00 PM DISCUSSION

SESSION NO. 285

T161. Examining Big Questions or Paradigms with Geochronology (GSA Quaternary Geology and Geomorphology Division)

1:30 PM, Indiana Convention Center, Room 136-137

B. Brandon Curry, Kenneth Lepper, Shannon Mahan and Michelle Summa Nelson, Presiding

285-1 1:30 PM Orr, Elizabeth*: Owen, Lewis; Saha, Sourav; Caffee, Marc W.: TIMING AND NATURE OF ALLUVIAL/ DEBRIS FLOW FAN FORMATION IN THE NW HIMALAYA OF NORTHERN INDIA

285-2 1:45 PM Bidgoli, Tandis S.;* Wang, Wei; Yang, Xinghua; Ye, Jiaran: DETRITAL ZIRCON GEOCHRONOLOGICAL CONSTRAINTS ON INTRA- AND EXTRABASINAL SEDIMENT SOURCES, PALEogene PEARL RIVER MOUTH BASIN, NORTHERN SOUTH CHINA SEA

285-3 2:00 PM Ward, Brent C.*; Clague, John; McNeely, Roger: A BLIND COMPARISON OF RADIOCARBON LABS


285-5 2:30 PM Lowell, Thomas V.*; Breckenridge, Andy J.; Kelly, Meredith A.: MATCHING THE DATING RESOLUTION OF GLACIER BEHAVIOR TO DATING RESOLUTION OF POTENTIAL FORCING (Invited Presentation)

285-6 2:50 PM Sweeney, Mark R.*; Bolles, Kassey; Forman, Steven L.: REVISITING THE DUST BOWL: EVALUATING NATURAL VERSUS ANTHROPOGENIC DUST SOURCES (Invited Presentation)

285-7 3:10 PM Chamberlain, Elizbeth*; Mehta, Jayar; Reimann, Tony; Tornqvist, Torbjorn E.; Wallinga, Jakob: LIFE IN THE
SINK; USING OSL TO ASSESS PAST, PRESENT, AND FUTURE HUMAN HABITATION IN THE DOWNSTREAM PORTION OF A MAJOR CONTINENTAL RIVER (Invited Presentation)

3:30 PM BREAK

285-8 3:45 PM Mahan, Shannon A.; Gray, Harrison; Springer, Kathleen B.; Pigati, Jeffrey S.: REFINING THE PROCEDURES FOR PORTABLE LUMINISCENCE READER MEASUREMENTS BY CALIBRATION WITH KNOWN AGE SAMPLES: PROTOCOLS AND NEXT STEPS

285-9 4:00 PM Torres, Julie A.; Kulp, Mark A.; Georgiou, Ioannis; FitzGerald, Duncan M.; Lepper, Kenneth: USING OPTICALLY STIMULATED LUMINISCENCE DATING OF BEACH RIDGES TO MEASURE BARRIER PROGRADATION OF GRAND ISLE, LA

285-10 4:15 PM Huot, Sebastien*; Sipe, Ryan: LUMINISCENCE DATING OF COASTAL DUNES IN GEORGIA ASSOCIATED WITH ARCHAIC ARTIFACTS: SHOULD BE EXCITING. RIGHT?

285-11 4:30 PM Valachovics, Thomas R.; Fisher, Timothy; Antinao, José Luis; Loope, Henry M.; Monaghan, G. William: OSL CONSTRAINTS ON GLACIAL AND POST GLACIAL LANDFORMS OF TERRAIN PREVIOUSLY OCCUPIED BY THE SAGINAW LOBE IN NORTHERN INDIANA AND SOUTHERN MICHIGAN

285-12 4:45 PM Atae, Nina*; Spencer, Joel Q.G.; Lacroix, Brice; Owen, Lewis A.: DATING SEISMIC-RELATED FANGLomerates IN THE COACHELLA VALLEY, SOUTHERN CALIFORNIA

285-13 5:00 PM Curry, B. Brandon*; Kim, Jin Cheul; Dorale, Jeffrey A.: CONFIRMATION OF WIGGLE-MATCHED U-SERIES-TUNED δ¹⁸O SPELEOTHEM RECORD WITH POLLEN ASSEMBLAGES OF THE LAST INTERGLACIAL TO GLACIAL TRANSITION, CENTRAL ILLINOIS, USA

SESSION NO. 286 $

T176. Evolution of Rocky Mountain Basins—Ancestral Rocky Mountains through the Laramide (GSA Sedimentary Geology Division; GSA Structural Geology and Tectonics Division; GSA Geophysics and Geodynamics Division)

1:30 PM, Indiana Convention Center, Room 243

Jessica A. Thompson Jobe and Theresa M. Schwartz, Presiding

1:30 PM INTRODUCTORY REMARKS

286-1 1:35 PM Smith, Tyson Michael*; Lambert, Kenneth J.; Saylor, Joel; Lapen, Thomas; Karsky, Noah J.; Saadeh, Crystal; Casturri, Lokin; Rasmussen, Donald L.: TECTONIC ISOLATION AND DRAINAGE REORGANIZATION IN THE WESTERN ANCESTRAL ROCKY MOUNTAINS (Invited Presentation)

286-2 1:50 PM Abbey, Alyssa*; Niemi, Nathan A.: INHERITED STRUCTURE FROM THE ANCESTRAL ROCKY MOUNTAIN AND LARAMIDE OROGENIES INFLUENCE RIO GRANDE RIFT DEVELOPMENT


286-5 2:35 PM Copeian, Peter*; Lawton, Timothy; Hall, Stuart A.; de los Santos, Marie: PALEOGENE BASEMENT THRUST REACTIVATION OF MESOZOIC NORMAL FAULTS: EVIDENCE FROM THE LOBO FORMATION, SOUTHWEST NEW MEXICO

286-6 2:50 PM Zellman, Kristine*; Plink-Björklund, Piret; Fricke, Henry: FLUVIAL FAN PROGRADATION IN RESPONSE TO EXTREME SEASONALITY IN PRECIPITATION: AN EXAMPLE FROM THE EARLY EOCENE OF THE SAN JUAN BASIN, NEW MEXICO

3:05 PM BREAK

286-7 3:20 PM Thacker, Jacob D.*; Kelley, Shari; Karlstrom, Karl E.; Kendall, Jerry; Crow, Ryan S.: REGIONAL ONSET OF LARAMIDE DEFORMATION TIMING AND INFERRED TECTONIC PROCESSES AS EVIDENCED BY INTEGRATED ARCH-BASIN THERMOCHRONOLOGY AND STRATIGRAPHY


286-9 3:50 PM Carroll, Alan R.*; Smith, Michael Elliot: LACUSTRINE XENOCONFORMITIES IN THE EOCENE GREEN RIVER FORMATION (Invited Presentation)

286-10 4:05 PM Bowers, Timothy C.; Livaccari, Richard; Feil, Michael J.; Trumbo, Adam L.: LARAMIDE-AGE FAULTING & SYNKNEMATIC MINERALIZATION IN UNAWEEP CANYON, CO


286-12 4:35 PM Howlett, Caden; Laskowski, Andrew K.*: DETERMINING THE SOURCE OF PLACER GOLD IN THE ANACONDA METAMORPHIC CORE COMPLEX SUPRADETACHMENT BASIN USING DETRITAL ZIRCON GEOCHRONOLOGY, PIONEER DISTRICT, WESTERN MONTANA

4:50 PM CONCLUDING REMARKS

SESSION NO. 287

T182. The Cenozoic Evolution of Tibet—How Do We Unify Seemingly Contradictory Evidence? (GSA International Interdisciplinary Interest Group; GSA Quaternary Geology and Geomorphology Division; GSA Geophysics and Geodynamics Division; GSA Sedimentary Geology Division)

1:30 PM, Indiana Convention Center, Room 243

Nadine McQuarrie, Gregory D. Hoke and Eric Kirby, Presiding

1:30 PM INTRODUCTORY REMARKS

287-1 1:35 PM Ingalls, Miquela*; Rowley, David B.; Currie, Brian S.; Colman, Albert: PROXY FIDELITY ASSESSMENT IN ROBUST ENVIRONMENTAL AND TECTONIC RECONSTRUCTIONS: A CASE STUDY FROM THE HIGH ELEVATION NORTHERN MARGIN OF THE LHASA TERRANE (Invited Presentation)

287-2 1:55 PM Su, Tao; Farnsworth, Alexander*; Spicer, Robert; Huang, Jian; Wu, Feixiang; Liu, Jia; Li, Shufeng; Xing, Yao-Wu; Huang, Yong-Jiang; He, Tang; Xu, Cong-Li; Zhao, Fan; Srivastava, Gurav; Deng, Tao; Valdes, Paul: NO HIGH TIBETAN PLATEAU UNTIL THE NEOGENE

287-3 2:10 PM Cheng, Feng*; Garzione, Carmela N.; Mitra, Gautam; Guo, Zhaojie; Lu, Huayu; Li, Xiangzhong; Zhang, Bo; Zhang, Daowei; Zhang, Changhao; Zhang, Hanzhi; Zhang, Qiuquan: THE INTERPLAY BETWEEN CLIMATE AND TECTONICS DURING THE UPWARD AND OUTWARD GROWTH OF THE QILIAN SHAN OROGENIC WEDGE, NORTHERN TIBETAN PLATEAU

287-4 2:25 PM Acosta, R. Paul*: Huber, Matt: DRAWBACKS OF USING THE THERMODYNAMIC PALEOCALTIMETRY METHOD

287-5 2:40 PM Wu, Meng-Xiao*: Huang, Jian; Su, Tao; Leng, Qin; Zhou, Zhe-Kun: TSUGA SEED CONES FROM THE LATE PALEOGENE OF SOUTHWESTERN CHINA AND THEIR EVOLUTIONAL AND PALEOENVIRONMENTAL IMPLICATIONS

287-6 2:55 PM Gourbet, Loraine*: Mahé, Gweltaz; Leclercq, P.H.; Fellin, Marie; Giuditta, Maria F.; Rong, Yang; Sorrel, Philippe; Pigati, Jeffrey S.: THE THERMODYNAMIC PALEOALTIMETRY METHOD

287-7 3:15 PM Huang, Xue meng*: Xu, Zhiqin: TWO STAGES OF CENOZOIC DEFORMATION IN WESTERN YUNNAN AND IMPLICATIONS FOR THE TECTONIC TRANSITION
287-8  3:30 PM  van Hinsbergen, Douwe J.J.*: RECONCILING CONTRADICTIONS IN KINEMATIC RECONSTRUCTIONS OF GREATER INDIA AND TIBET, AND THE GEODYNAMICS OF PLATEAU RISE AND PLATE MOTION CHANGE

287-9  3:45 PM  Rowley, David B.*: A CASE STUDY AND PALEOMAGNETIC TEST OF THE GREATER INDIA VERSUS GREATER INDIAN BASIN HYPOTHESES: STATISTICALLY RIGOROUS TESTS COMPARING PALEOMAGNETIC STUDY MEANS WITH APPARENT WANDER PATHS

287-10  4:00 PM  Zuza, Andrew V.*; Gavillot, Yann; Haproff, Peter J.; Wu, Chen: KINEMATIC EVOLUTION ACROSS NORTHERN TIBET AND IMPLICATIONS FOR THE HIMALAYAN-TIBETAN OROGEN

287-11  4:15 PM  Orme, Devon A.*; Laskowski, Andrew, K.; Cai, Fulong; Ding, Lin: DISCOVERY OF TWO NEW SEDIMENTARY SUCCESSIONS ALONG THE INDIA-ASIA COLLISION ZONE, TIBET


287-13  4:45 PM  Nie, Junsheng*; Ruetenik, Gregory; Gallagher, Kerry; Hoke, Gregory D.; Garzione, Carmala; Stockli, Daniel F.; Stevens, Thomas; Danisik, Martin; HU, Xiaofei; Wang, Zhao: MIDDLE Miocene CLIMATE OPTIMUM RESULTS IN RAPID DOWNCUTTING OF THE MEKONG RIVER (Invited Presentation)

5:05 PM  DISCUSSION