



Fall 2016

Newsletter of the

Archaeological Geology Division of the

Geological Society of America

EDITOR:

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UPCOMING MEETINGS

NATIONAL MEETING OF THE GEOLOGICAL SOCIETY OF AMERICA

September 25-28, 2016
Denver, Colorado

<http://www.geosociety.org/meetings/>

GSA Archaeological Geology Division Business Meeting & Awards Ceremony: *Monday, 26 September at 5:45 PM in Room 301 of the Colorado Convention Center*

ARCHAEOLOGICAL GEOLOGY SESSIONS:

Session 70 Sunday, September 25 (9am-5:30pm)
Exhibit Hall E/F

T96. The Geology of Art: The use of Earth-derived materials in the manufacture of modern and ancient Art Forms (POSTERS)

Session 42 Sunday, September 25 (1:30pm-5:30pm)
Room 207

T123. From outcrop to core: integrating paleoenvironmental and paleoclimatic records across time and space.

Session 147 Monday, September 26 (9am-6:30pm)
Exhibit Hall E/F
Recent advances in archaeological geology (POSTERS)

Session 91 Monday, September 26 (8am-12pm)
Room 301
T2. Reconstructing environmental controls on societal change from prehistory to the present day I

Session 168 Monday, September 26 (9am-6:30pm)
Exhibit Hall E/F

T194. The context of our origins: Geological studies of Old World fossil primate and hominin sites (POSTERS)

Session 111 Monday, September 26 (8am-12pm)
Room 401

T194. The context of our origins: geological studies of Old World fossil primate and hominin sites

Session 116 Monday, September 26 (10am-12pm)
Room 404

T1. Pluvials, atmospheric rivers, monsoons, and water availability in western North America from the Quaternary into the future: modeling, observations, and paleo reconstructions of hydroclimate extremes

Session 124 Monday, September 26 (1:30pm-5:30pm)
Room 301

T2. Reconstructing environmental controls on societal change from prehistory to present day II

Session 143 Monday, September 26 (1:30pm-5:30pm)
Mile High Ballroom 2B

T221. Plate tectonics, arch-trench systems, Cordilleran tectonics, sedimentary basins, sandstone provenance, and geoarchaeology: a celebration of William R. Dickson's career

Session 267 Tuesday, September 27 (9:00am-6:30pm)
Exhibit Hall E/F

T221. Plate tectonics, arch-trench systems, Cordilleran tectonics, sedimentary basins, sandstone provenance, and geoarchaeology: a celebration of William R. Dickson's career (POSTERS)

Session 203 Tuesday, September 27 (8:00am-12:00pm)
Mile High Ballroom 2B

T221. Plate tectonics, arch-trench systems, Cordilleran tectonics, sedimentary basins, sandstone provenance, and geoarchaeology: a celebration of William R. Dickson's career

Session 198 Tuesday, September 27 (8:00am-12:00pm)
Room 405

T179. Quaternary geochronometers: applications of multi-technique approaches in geomorphology and archaeology

Session 233 Tuesday, September 27 (9:00am-6:30pm)
Exhibit Hall E/F

T2. Reconstructing environmental controls on societal change from prehistory to present day III (POSTERS)

Session 291 Wednesday, September 28 (8am-120pm)
Room 407

T180. The legacy of Herbert E. Wright, Jr.: seminal contributions toward understanding interactions among Quaternary climate, landscape processes, vegetation, and human society

CONFERENCES AND WORKSHOPS

2017 Developing International Geoarchaeology (DIG)
Newcastle, UK

<http://www.developinginternationalgeoarchaeology.org/first.html>

2017 Archaeological Institute of America Meeting

Toronto, Canada; January 5-8, 2017

<https://www.archaeological.org/>

2017 Society for American Archaeology Meeting

Vancouver, BC, Canada; March 29-April 2, 2017

<http://saa.org/AbouttheSociety/AnnualMeeting/tabid/138/Default.aspx>

GEOLOGICAL SOCIETY OF AMERICA REGIONAL SECTION MEETINGS

South-Central Section Meeting

March 13-14, 2017 San Antonio, Texas

<http://www.geosociety.org/Sections/sc/2017mtg/>

Southeast Section Meeting

March 30-31, 2017 Richmond, Virginia

<http://www.geosociety.org/Sections/se/2017mtg/>

Northeastern/North-Central Joint Section Meeting

March 19-21, 2017 Pittsburg, Pennsylvania

<http://www.geosociety.org/Sections/ne/2017mtg/>

Cordilleran Section Meeting

May 23-25, 2017 Honolulu, Hawaii

<http://www.geosociety.org/Sections/cord/2017mtg/>

Rocky Mountain Section Meeting

June 9-10, 2017 Calgary, Alberta, Canada

<http://www.geosociety.org/Sections/rm/2017mtg/>

SAA Geoarchaeology Interest Group Notes from the Chair (Ian Buvit)

We are excited to announce two GIG events at the annual meeting in Vancouver. First, the Geoarchaeology Interest Group (GIG) invites students attending the 2017 meeting to "ask the experts" in Vancouver. Students at all levels are welcome to ask questions at its Friday evening interest group meeting. Serious feedback will be provided on any topic, but thesis and dissertation themes are especially encouraged. Up to three PowerPoint slides can accompany the questions.

We are also organizing a series of three forums celebrating the GIG's 20th anniversary:

Advancements and Prospects in Geoarchaeology Today: The SAA GIG at 20 (pts. 1, 2, and 3).

In celebration of 20 years of the Geoarchaeology Interest Group (GIG) in the Society for American Archaeology, we seek to clarify the present and future contributions of geoarchaeology, in terms of practical techniques, analytic and interpretive methods, and theoretical approaches. Whether as its own field or hybridized multi-disciplinary endeavor, geoarchaeology has grown over the last decades to encompass a multitude of research themes and operational procedures, but what unifies this diversity under the name of geoarchaeology? Furthermore, what are the current and emerging new challenges for practicing geoarchaeologists as relevant for today's concerns of sustainable development, values of landscapes as heritage resources, and the place of human societies within a changing environment?

AWARDS

THE DOUGLAS C. KELLOGG AWARD FOR GEOARCHEOLOGICAL RESEARCH

The Douglas C. Kellogg Award provides support for dissertation research, with emphasis on the field and/or laboratory aspects of this research, for graduate students in the earth sciences and archaeology. Under the auspices of the SAA's Geoarchaeology Interest Group, family, friends, and close associates of Douglas C. Kellogg formed a memorial in his honor.

Eligibility: Recipients of the Kellogg Award will be students who are (1) actively pursuing the Ph.D. degree in earth sciences or archaeology; (2) applying earth science methods to archaeological research and (3) seeking to engage in a career in geoarchaeology.

Materials Required: The application should consist of a research proposal no more than three pages long that describes the research and its potential contributions to American archaeology, a curriculum vita, and two letters of support, including one from the chair that certifies that the student is conducting the proposed research along with the expected date of completion of the degree. Electronic submissions as pdfs sent to the committee chair are preferred. File names must include the applicants surname or last name and the award (Douglas C. Kellogg Fund for Geoarchaeological Research) must be clearly indicated in the proposal.

For more information contact:
Susan M. Mentzer (susan.mentzer@ifu.uni-tuebingen.de)

Application guidelines:
<http://www.saa.org/AbouttheSociety/Awards/DouglasCKelloggFellowshipforGeoarchaeologica/tabid/174/Default.aspx>

Submission Deadline: December 4, 2016

Congratulations to our 2016 awardee: Jennifer Kielhofer (University of Arizona)!

***GEOARCHAEOLOGY INTEREST GROUP
PAUL GOLDBERG RESEARCH AWARD
(formerly the M.A./M.S. RESEARCH AWARD)***

The Geoarchaeology Interest Group Paul Goldberg Research Award provides support for thesis research, with emphasis on the field and/or laboratory aspects, for graduate students in the earth sciences and archaeology.

Eligibility: Recipients of the Geoarchaeology Interest Group Paul Goldberg Research Award will be students who are (1) actively pursuing the M.A. or M.S. degree in earth sciences or archaeology (please indicate which on application); and (2) applying earth science methods to archaeological research.

Materials Required: The application should consist of a research proposal no more than three pages long that describes the research and its potential contributions to American archaeology, a curriculum vita, and two letters of support, including one from the committee chair that certifies that the student is conducting the proposed research along with the expected date of completion of the degree. Electronic submissions as pdfs sent to the

committee chair are preferred. File names must include the applicants surname or last name and the award you are applying for must be clearly indicated in the proposal.

For more information contact:
Susan M. Mentzer (susan.mentzer@ifu.uni-tuebingen.de)

Application guidelines:
<http://saa.org/AbouttheSociety/Awards/GeoarchaeologyInterestGroupMAMSResearchAward/tabid/1505/Default.aspx>

Submission Deadline: December 4, 2015

**Congratulations to our 2016 awardee:
Kendall R. Jackson (University of South Florida)!**

***SOCIETY FOR ARCHAEOLOGICAL SCIENCES
STUDENT RESEARCH INTERNATIONAL TRAVEL
AWARD***

The Society for Archaeological Sciences is pleased to announce the creation of the SAS Student Research International Travel Award. Up to \$1000 is now available to help with costs of international travel for laboratory or field research to students who have been SAS members for more than one consecutive year.

Eligibility: Applications will be accepted from undergraduates in their final year of study who are planning to attend graduate school as well as Masters degree and PhD students. Research must be undertaken in a different country than that of their home institution. Funds may not be used to attend at conferences, field schools, classes and/or training courses.

For more information contact:
Dr. Michael W. Gregg (greggmw@sas.upenn.edu)

Application guidelines:
<http://www.archaeological.org/grants/6473>

Submission deadline: February 1 & September 1, annually

***FRYXELL AWARD FOR INTERDISCIPLINARY
RESEARCH***

The Fryxell Award is presented in recognition for interdisciplinary excellence of a scientist who need not be an archaeologist, but whose research has contributed significantly to American archaeology. The award is made possible through the generosity of the family of the late Roald Fryxell, a geologist whose career exemplified the crucial role of multidisciplinary cooperation in archaeology. The award cycles through

zoological sciences, botanical sciences, earth sciences, physical sciences, and general interdisciplinary studies. The Fryxell Award for 2015 will be presented in the 'general interdisciplinary' category.

Eligibility: Any professional archaeologist may submit nominations for this award. Nominees must be SAA members by the time of their nomination.

Materials Required: Nominators must submit a letter describing the nature, scope, and significance of the nominee's contributions to American archaeology, as well as the nominee's curriculum vita. Support letters from other scholars are helpful. 4-6 are suggested. Please send submissions to the committee chair.

For more information contact:
Ben Fitzhugh (fitzhugh@uw.edu)

Application guidelines:
<http://www.saa.org/AbouttheSociety/Awards/FryxellAwardforInterdisciplinaryResearch/tabid/172/Default.aspx>

Nomination/Submission Deadline: Feb. 4, annually

Congratulations to our 2016 awardee:
Elizabeth Reitz (University of Georgia)!

RIP RAPP AWARD

George "Rip" Rapp, Jr. was one of the primary individuals responsible for establishment of the division and generously established a division award fund with the GSA Foundation. The award is given for outstanding contributions to the interdisciplinary field of archaeological geology.

Materials Required: Nominations should include a biographical sketch, a statement of outstanding achievements, and a selected bibliography of the nominee.

For more information contact:
Rolfe D. Mandel (mandel@ku.edu)

Nomination deadline: February 15, annually

Congratulations to our 2016 awardee, Dr. Daniel Sandweiss, University of Maine!! Nominated by Dr. Fred Andrus, University of Alabama.

CLAUDE ALBRITTON, JR. AWARD

Under the auspices of the Archaeological Geology Division, family, friends and close associates of Claude

C. Albritton, Jr., have formed a memorial fund in his honor at the GSA Foundation.

Eligibility: Recipients of the award are students who have (1) an interest in achieving a Master's or Ph.D. degree in earth sciences or archaeology; (2) an interest in applying earth science methods to archaeological research; and (3) an interest in a career in teaching and academic research.

For more information contact:
Rolfe D. Mandel (mandel@ku.edu)

Application guidelines:
<http://www.geosociety.org/arch/studentawards.html>

Submission deadline: March 5, annually

Funding & Contributions: Initially, the fund was set up with a gift of several thousand dollars. Members of the division, other GSA members, and those who know Claude are being asked to consider contributing to this fund. To contribute to the Albritton Fund, send your gift to the GSA Foundation, indicating that the gift should go toward this award.

Congratulations to our 2016 awardee, Justin A. Holcombe from the Archaeology Department at Boston University! His dissertation project is entitled Towards a Chronostratigraphic Framework of the Aegean Paleolithic: A Geoarchaeological Approach."

R.E. TAYLOR STUDENT POSTER AWARD

This prestigious award acknowledges innovative student contributions to archaeological research through the use of scientific methods, and has enhanced the careers of prominent young scholars and professionals for more than a decade. The award is named in honor of Professor Emeritus R. Ervin Taylor of the University of California at Riverside for his outstanding contributions in the development and application of radiocarbon dating in archaeological research and his dedication to the founding of the Society for Archaeological Sciences; his leading role as President (1980) and General Secretary (1981-2002) of the Society; and his committed service as editor of the SAS Bulletin.

Eligibility: Entries will be judged on the significance of the archaeological problem, appropriate use of methods, soundness of conclusions, quality of the poster display, and oral presentation of the poster by the student, who should be the first author in order to be considered.

For more information contact:
Destiny Crider (cridde01@luther.edu)

Application guidelines:

<http://www.socarchsci.org/awards.html>

Submission deadline: March 17, 2017

Congratulations to our 2016 awardee, James A. Davenport (University of New Mexico)!

***RICHARD HAY STUDENT PAPER/POSTER
AWARD***

Richard Hay was a long-standing member of the Archaeological Geology Division and had a long and distinguished career in sedimentary geology, mineralogy, and archaeological geology. He is particularly well known for his work on the Olduvai Gorge and Laetoli hominid-bearing sites and was awarded the Division's Rip Rapp award in 2000. The grant is competitive and will be awarded based on the evaluation of the scientific merit of the research topic and the clarity of an expanded abstract for the paper or poster prepared by a student for presentation in the Division's technical session at the meeting.

Eligibility: The Richard Hay Student Paper/Poster Award is a travel grant awarded to a student presenting a paper or poster at the GSA's annual meeting.

For more information contact:

Rolfe D. Mandel (mandel@ku.edu)

Application guidelines:

<http://www.geosociety.org/arch/studentawards.html>

Submission deadline: September 1, annually

Funding & Contributions: To contribute to the Hay Award, send your gift to the GSA Foundation, designating the gift for the Archaeological Geology Division Fund.

GEOARCHAEOLOGY: AN INTERNATIONAL JOURNAL

Geoarchaeology is an interdisciplinary journal published six times per year that presents the results of original research at the methodological and theoretical interface between archaeology and the geosciences. It remains the premier peer-reviewed publication emphasizing our discipline. Virtual issues are currently accessible on-line

at the journal's website - all virtual issue articles are free for downloading.

You are invited to submit your research to Geoarchaeology. There are three submission categories: research articles, short contributions, and review papers. Manuscripts should examine the interrelationship between archaeology and the various disciplines within Quaternary science and the Earth Sciences more generally, including, for example: geology, geography, geomorphology, pedology, climatology, oceanography, geochemistry, geochronology, and geophysics. We also welcome papers that deal with the biological record of past human activity through the analysis of faunal and botanical remains and palaeoecological reconstructions that shed light on past human-environment interactions.

The journal also welcomes manuscripts concerning the examination and geological context of human fossil remains as well as papers that employ analytical techniques to advance understanding of the composition and origin or material culture such as, for example, ceramics, metals, lithics, building stones, plasters, and cements. Manuscripts reporting on research conducted in Africa, Australia, and South America are especially encouraged.

Manuscript submission and review is fully electronic and processed through Manuscript Central, a web-based program for managing documents in the peer-review process.

Journal Website & Submission Guidelines:

[http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1520-6548](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1520-6548)

Co-editors: Gary Huckleberry & Jamie C. Woodward

For more information contact:

Gary Huckleberry (ghuck@email.arizona.edu)

****NEW PUBLICATION****

The Encyclopedia of Geoarchaeology will be released in September 2016. The handy electronic edition of the encyclopedia is already available (<http://www.springer.com/us/book/9789400748279>), and the hard copy will be available around September 15, 2016. The 1000 page encyclopedia will be your first stop for specialists who need geoarchaeological information. The book is edited by Allan S. Gilbert, with associate editors Paul Goldberg, Vance T. Holliday, Rolfe Mandel, and Robert S. Sternberg.

The encyclopedia defines terms, introduces problems, describes techniques, and discusses theory and strategy, all in a format designed to make specialized details accessible to the public as well as practitioners. It covers subjects in environmental archaeology, dating, materials analysis, and paleoecology, all of which represent different sources of specialist knowledge that must be shared in order to reconstruct, analyze, and explain the record of the human past.

FEATURED RESEARCH

Recent Field Work at the Lagernaia Paleolithic Site, Southern Siberia

Ian Buvit

Department of Anthropology and Museum Studies,
Central Washington University, Ellensburg

Globally, humans reacted to the Last Glacial Maximum (LGM, 26-20,000 cal bp) in different ways. In the Transbaikal Region of southern Siberia (Figure 1), there were clear shifts

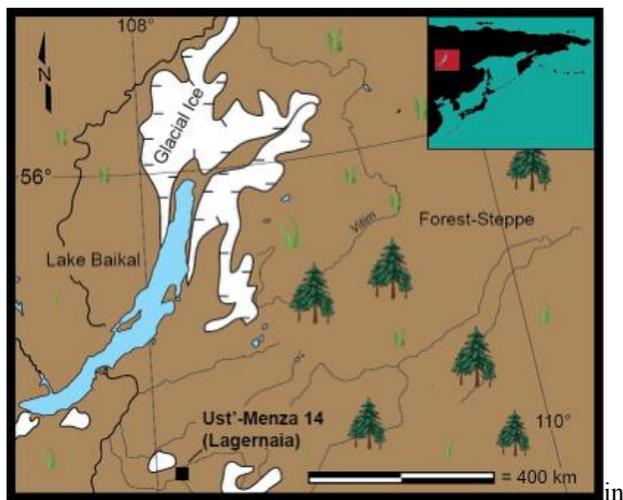


Figure 2. Map of the Transbaikal region

technology and social organization. There is notable debate among scholars whether humans left the Transbaikal and other parts of Siberia during the LGM. Several especially relevant questions are: Were conditions so harsh that humans abandoned the area at that time? If so, where did they go? And, when and where did microblade technology first emerge?

To address these questions in 2015 and 2016, Central Washington University archaeologists Ian Buvit and Steve Hackenberger along with five CWU students traveled abroad to begin a project planned through 2018 at Lagernaia, a Paleolithic site in the Transbaikal promising clues to understand LGM puzzles (Figures 2 & 3). In 2015, the seven flew from Seattle to Moscow, Russia, from where they traveled another 20 hours to the confluence of the Menza and Chikoi rivers (Ust' Menza) near Lake Baikal, joining Drs.



Figure 1. Author with student at Lagernaia post-depositional disturbance (Figures 4 & 5).

Irina Razgil'deeva, Mikhail Konstantinov, and Aleksander Konstantinov from Zabaikal State University, along with around 70 Russian archaeologists, students, and other scientists in a remote Siberian field camp. Fieldwork has been directed at understanding and dating depositional environments, and



Figure 3. Excavations at the Paleolithic Lagernaia Site



Figure 4. Excavations at Lagernaia

The oldest of three cultural layers at Lagernaia, located in a sandy matrix, produced many informal, mostly expedient flaked-stone lithic tools, datable charcoal flecks, a few bones, and several hundred river cobbles. Stratigraphy exhibits classic fining upward sequences typical of a large meandering stream where artifacts were recovered about 4 m below the modern surface.



Figure 5. Stratigraphy at Lagernaia

Based on radiocarbon dating, the site appears to have been first occupied around 32-30,000 cal bp, just before the LGM. Prehistoric occupants would have inhabited a low sandy fluvial formation such as a point bar. In addition to cryoturbation, which is apparent in at least one large ice-wedge pseudomorph affecting the northwest part of the excavation, the site appears to have been disturbed



Figure 6. Note erosional contact above cultural layer

by an erosional event. A single bed of well-sorted medium to coarse sand covers the cultural material and separates planar bedded from cross-bedded sand and silt (Figure 6).

Some artifacts manufactured on weakly metamorphosed siltstone exhibit highly rounded edges and nearly unrecognizable features, which is considered evidence of fluvial transport. It is argued, however, that the distance, if any, was minimal. Other artifacts are highly angular and show no evidence of transport. Also, an intact hearth feature

discovered in 2016 supports the argument that post-depositional disturbance was limited.

The work is also showing that the pre-microblade *Kunaleiskii* Culture with an abundance of flake tools and "micro-cores," is somewhat older than previously thought, on par with the age of the *Mal'ta* Culture west of Lake Baikal. Other work shows that the Transbaikal appears to have witnessed highly reduced human population levels, or complete abandonment, around 25,000. Moreover, when people returned at 23,000 years ago, they brought a full suite of developed microblades, one of the most efficient ways of utilizing precious stone material.

Questions remain: Were conditions so harsh that humans abandoned the area at that time? If so, where did they go? And, when and from where did microblade technology arrive? These questions have guided work until now and will be further addressed in the coming years to understand the archaeological evidence for how the occupants coped with drastic changes. In a broad sense, whether or not humans were able to maintain populations in southern Siberia during the LGM has implications for human migration through northeast Siberia, Beringia, and eventually the Americas.