



STRUCTURAL GEOLOGY AND TECTONICS DIVISION Newsletter

Volume 34, Number 1

July, 2014

Chair's Message

My turn to write the Chair's letter!

When I signed on for the Management Board, I had a fuzzy sense that the Division's mission was to promote the disciplines of Structural Geology and Tectonics within the Society and beyond, to support professional development, and to support students. When you become Chair you realize how the Division accomplishes those goals and I am pleased to report that it's been a good year.

In the realms of promotion and professional development, you and members of other GSA Divisions created more than 60 topical sessions identified as either Structural Geology or Tectonics for the Annual Meeting this fall in Vancouver. We began a partnership with the Tectonics and Structural Geology Division of the EGU that resulted in co-sponsorship of 2 sessions at the EGU conference in April and discussion about future meetings, workshops, and session development between Susanne Buiter (EGU TS Division Chair) and the SG&T. Yvette Kuiper (SGT Treasurer/Secretary Extraordinaire) and Chuck Kluth hosted the 3rd Biennial Structural Geology Symposium at the Colorado School of Mines in June. Our flagship awards, the Career Contribution and Outstanding Publication Awards, were presented to Peter Hudleston (CCA) and Jim Hibbard, Cees van Staal, Doug Rankin, and Hank Williams (OPA) at the Denver Meeting. Darrel Cowan (CCA) and John Tarduno et al. (OPA) will be honored in Vancouver.

Each year we call for nominations for the Career Contribution and Outstanding Publication Awards. Despite the fact that our members include many distinguished scientists and that we produce numerous influential and excellent papers, the number of nominations we receive each year is relatively low. Please take the time to nominate your colleagues – they deserve our recognition. As you think about the contributions of your colleagues, note that only 1 woman out of the 27 recipients has been recognized with the Career Contribution Award.

Student promotion continues to be a high priority for the Division. Our primary mechanisms for helping students are supplemental awards to student Research Grant recipients to allow them to travel to the Annual Meeting to present their research and via Short Course and Field Trip sponsorship. Last year we contributed \$3600 towards GSA Graduate Student Research Grants, made 5 supplemental travel awards and spent \$3000 for student participation in Short Courses and Field Trips during the Denver meeting. Demand for student support grows each year. Please consider making a gift to the

SG&T Division Student Fund, which will allow us to support students more. We are on our way to our \$80,000 goal, but not there yet!

I hope to see you all at our Reception, Awards, and Business Meeting, which will take place on Tuesday, 21 October 2014: 5:30 PM-9:00 PM during the Annual Meeting in Vancouver.

Andrew Meigs
SG&T Chair
Oregon State University

Seeking to strengthen GSA and EGU collaborations in Structural Geology and Tectonics

GSA and EGU signed a so-called memorandum-of-cooperation at the EGU meeting in Vienna this Spring. This document forms a practical basis on which divisions can structure collaborative efforts. The GSA-SGT and EGU-TS (Tectonics and Structural Geology) divisions have already paved the way! GSA-SGT co-sponsored two sessions in the EGU-TS programme of the 2014 EGU General Assembly, EGU-TS will co-sponsor sessions at the upcoming Vancouver Annual Meeting, and both divisions are looking forward to continue this type of mutual session co-sponsoring also at future meetings.

But we would like to take our collaboration a step further and encourage members of our SGT and TS divisions to organise sessions together. In particular, the EGU TS division would like to encourage GSA members to consider convening a session at EGU2015, which will be held in Vienna from 12-17 April. The call-for-sessions has just opened. Please have a look at the sessions suggested so far for Tectonics and Structural Geology to see where you could contribute with a session proposal:

meetingorganizer.copernicus.org/EGU2015/provisionalprogramme/TS

The only effort that is required at this stage is to provide a session title, the names of 2-3 conveners, and a short session description. Please try to have conveners from multiple countries (GSA and EGU!) with a balance in gender and age.

A second opportunity we would like to point to is the topical meetings that EGU co-sponsors and that can be eligible to limited financial support (<http://www.egu.eu/meetings/topical-meetings/>). We would look forward to suggestions for topical meetings that could be co-organised by EGU-TS and GSA-SGT members!

Susanne Buiter
President, Division on Tectonics and Structural Geology (TS)
European Geosciences Union

The SG&T Division Student Fund

Students represent the future of our division, and the board considers the support of students who are interested in structural geology and tectonics to be among our highest priorities. The student fund,

established within the GSA Foundation, will allow us to more effectively meet this priority. Our initial goal is to grow the fund to \$80,000 before drawing interest from it. We are getting close as we are at ~\$65,000! Once we reach our goal, the interest will provide more support for students than we have ever been able to offer in the history of the SG&T Division.

To really reflect the size and scope of the SG&T Division, in the future we hope to have \$200K in the fund. With this amount we will be able to greatly expand on our current level of support for students. So, we continue to ask those members who can do so to donate even more, and we are also looking for members who would be willing to match the donations of others. You can donate to the fund at the GSA Foundation web site (<http://www.gsafweb.org/makeadonation.html>) and then scroll down to SG&T Student Fund).



Student Field Trip-Short Course Grants Deadline 5 August 2014

The SGT Management Board is currently accepting applications to support student participation in Field Trips and Short Courses at the GSA 2014 Annual Meeting in Vancouver. The deadline to apply is 5 August 2014. Details are reproduced below and are also available at the [link provided](#).

GSA Structural Geology and Tectonics Division Field Trip and Short Course Grants:

The purpose of the GSA Structural Geology and Tectonics Division Field Trip and Short Course Grants is to support student participation in field trips and short courses at the Annual GSA Meeting. Successful applicants will receive funds to pay all or part of the registration fee associated with the field trip or short course. GSA Structural Geology and Tectonics Division Field Trip and Short Course Grants do not support registration fees for short courses in which participants receive a coupon for the onsite GSA bookstore that is equivalent to the dollar value of the registration fee.

Eligibility:

Applicants must be student members of GSA. Preference is given to applicants who are student members of the GSA Structural Geology and Tectonics Division and who are applying for a field trip or short course that is broadly related to the fields of structural geology or tectonics.

Application Deadline:

The application deadline for the 2014 GSA Annual Meeting in Vancouver is 5 August 2014. Late applications will be considered on a first come and funds available basis. Applications will not be accepted after 15 September 2014.

Field Trip or Short Course Registration:

Applicants must register for the field trip or short course by the GSA Early Registration Deadline of 15 September 2014. Because GSA field trips and short courses often fill, applicants are encouraged to register for the field trip or short course well in advance of this deadline.

Grant Notification and Reimbursement:

Applicants who apply by the deadline will be notified by 26 August 2014. Applicants who apply late will be notified no later than 19 September 2014. Checks will be mailed to successful applicants after the close of the GSA Annual Meeting.

Application Instructions: Applications must include the following. Incomplete applications will not be considered.

1. Your name.
2. Your complete mailing address (this is for the grant check; address must be current).
3. Your GSA member number.
4. Your institution.
5. Your degree program status (degree sought and number of years in program).
6. Your research field of interest (described in a few words).
7. The field trip or short course you are applying for (title and number of field trip or short course).
8. A statement of purpose that describes how participation in the field trip or short course will contribute to your research and to your professional development. The statement of purpose should be no longer than about 500 words.

Applications should be sent to [Jean Crespi](mailto:jean.crespi@uconn.edu) <jean.crespi@uconn.edu>.

Jean Crespi
Second Vice Chair
GSA Structural Geology and Tectonics Division



The Structural Geology and Tectonics Division is sponsoring or co-sponsoring **44** sessions that review advances, examine paradigms, and celebrate the breadth, depth, and vigor of the many topics of interest to Division members. The Division is also sponsoring one pre-meeting and one post-meeting field trip. The sessions and field trips are described below:

T1. The Structure of Faults from Top to Bottom: Implication for Fluid Flow, Ore Deposits, and Seismic Hazard. Conveners: W. Ashley Griffith, Christie D. Rowe, Joseph Clancy White.

Description: We encourage contributions from diverse fields exploring the range of fault slip behaviors and the long and short term effects of active and ancient faults from the top to the bottom of the crust.

T3. Ridge to Trench Evolution of Oceanic Lithosphere and Its Accretion Tectonics in the Pacific Rim (Past and Present). Conveners: Yildirim Dilek, Yujiro Ogawa. Description: Marine/ophiolitic rocks in subduction-accretion systems record the travel history of oceanic lithosphere from ridge to trench and their evolution in/across different tectonic settings. This session explores case studies from the Pacific Rim and beyond.

T4. Circum-Arctic Lithosphere-Basin Evolution. Conveners: Larry S. Lane, Keith Dewing, Victoria Pease, Gordon Oakey, John Shimeld, Randell A. Stephenson. Description: This session highlights new results relevant to the geological evolution of the Circum-Arctic region over the past 700 Myr, with particular emphasis on linkages (e.g., inter-regional, temporal, onshore-offshore, interdisciplinary, lithosphere-basin, magmatism-tectonism, etc.).

T5. Tectonic and Magmatic Evolution of the Aleutian Arc in Space and Time. Conveners: Brian R. Jicha, Suzanne Mahlburg Kay. Description: The Aleutian arc is arguably the best place on Earth to investigate several fundamental questions about arc magmatism and tectonism. We seek contributions that highlight the geochemical, geophysical, and temporal evolution of this dynamic setting.

T6. Birth and Death of Supercontinents. Conveners: Daniel Pastor-Galán, J. Brendan Murphy, William J. Collins. Description: Earth's landmasses amalgamate altogether into supercontinents following a quasi-periodic cycle since the origin of tectonics. This session will review the tectonic evolution of supercontinents from amalgamation to break up at every level of Earth's structure.

T7. Great Earthquakes, the Cascadia Subduction Zone, and Society (Posters). Conveners: Andrew Meigs, Chris Goldfinger. Description: The Cascadia subduction zone is arguably one of the biggest seismic hazards in North America. This session explores new advances in subduction zone dynamics, earthquake recurrence, tsunami hazards, and societal exposure.

T8. Cordilleran Ophiolites: Tectonic Significance and Comparisons with Other Orogenic Belts. Conveners: Alexandre Zagorevski, John Wakabayashi. Description: This session will focus on recent advances in the understanding of ophiolites through multidisciplinary studies of Cordilleran ophiolites and their analogues in modern and ancient settings.

T9. Reconstruction of East Asian Blocks in Pangea. Conveners: Guochun Zhao, Wenjiao Xiao, Baochun Huang. Description: This session encourages contributions that highlight recent geological, paleogeographic, paleontological, and paleomagnetic advancements in understanding where, when, and how East Asian blocks were assembled and whether they had become part of Pangea.

T10. Development and Destruction of Accretionary Complexes in Time and Space: Evolving Evidence from Modern Techniques and Structural Analysis of the Rock Record. Conveners: Sarah M. Roeske, Terry L. Pavlis, John I. Garver. Description: Developments in detrital, metamorphic, and cooling ages, combined with petrology and field studies, are providing new insight into how accretionary complexes are assembled and destroyed through improved understanding of their material pathways and thermal evolution.

T11. Pan-Pacific Subduction Zone Hazards: Tectonic and Gravitational Effects. Conveners: Peter Bobrowsky, Yujiro Ogawa. Description: We will summarize recent work on tectonic and gravitational effects for natural hazards and disasters in subduction zones of Pan-Pacific and other regions, particularly on earthquakes, active faults, landslides, tsunamis, and related socio-economic implications.

T12. Contrasting Styles of Phanerozoic Intracontinental Tectonics: North America versus Asia. Conveners: Dickson Cunningham, Stephen Marshak. Description: This session will explore Phanerozoic tectonism, at all scales, in the continental interiors of North America and Asia, to characterize similarities and differences in the way continents respond to distant orogenic stress and/or mantle dynamics.

T13. Tectonics of the Northwest Cordillera: A Session in Honor of the Career Contributions of Ned Brown, Jim Monger, and Glenn Woodsworth. Conveners: Robert B. Miller, G.E. Gehrels, Margaret E. Rusmore, Elizabeth R. Schermer. Description: This session honors fundamental contributions by Ned Brown, Jim Monger, and Glenn Woodsworth on the tectonics of the Coast Mountains and North Cascades. We seek submissions providing new insights and syntheses of this orogen.

T14. Feedbacks among Tectonics and Surface Process during Cenozoic Growth of Topography in Asia. Conveners: Eric Kirby, Peter D. Clift. Description: This session will highlight research on the spatio-temporal evolution of topography throughout the Indo-Asian collision zone and illustrate the linkages among erosion, exhumation, and transport of detritus. We welcome both observational and theoretical contributions.

T15. Continental Arcs #1: Tectonopetrologic Processes Controlling Arc Tempos and Evolution. Conveners: Alan D. Chapman, David Pearson, Robert B. Miller, Mark Behn. Description: This session seeks a range of contributions aimed at understanding the influence of mantle and crustal melt interactions on the composition and productivity of batholiths and the tectonic processes that introduce mantle and supracrustal components.

T18. Landscape Records of Earthquake Deformation. Conveners: Colin Amos, Andrew Meigs. Description: High-resolution topographic data provide an unparalleled means for characterizing deformation along active faults. We seek contributions capitalizing on geomorphic, paleoseismic, stratigraphic, or other high-quality archives and methodologies for characterizing earthquake slip in active tectonic landscapes.

T19. The Geodynamics of Flat-Slab Subduction and Its Influence on Upper Plate Deformation, Magmatism, and Basin Evolution. Conveners: Jeff A. Benowitz, Brian K. Horton, Meghan S. Miller. Description: We seek to stimulate discussion of the causes and consequences of flat-slab subduction, a

fundamental tectonic process influencing deformation, magmatism, lithospheric dynamics, thermal structure, surface uplift, exhumation, and basin subsidence along convergent margins.

T20. Magmatism, Tectonics, and Metallogeny of the Central Asian Orogenic Belt. Conveners: Wenjiao Xiao, Bo Wan. Description: This session will provide an international forum for interdisciplinary discussions on accretionary orogenic belts, specifically on the Central Asian Orogenic Belt (CAOB).

T21. Phanerozoic Geology of the Southeastern Tibetan Plateau Region: Setting the Stage for Plateau Rise. Conveners: Amy L. Weislogel, Delores Robinson. Description: Geoscientists from diverse disciplines will assess the complicated geologic record produced by successive Phanerozoic tectonic systems of the southeastern Tibet region, aiming to piece together the geologic history that culminated in the modern Tibetan plateau.

T23. Exploring the Development of the Himalayan-Karakorum- Tibet Orogenic System from the Mantle to Mountain Peaks. Conveners: Delores M. Robinson, Soumyajit Mukherjee, Barun Kumar Mukherjee. Description: This session will unite geoscientists from diverse disciplines working on the Himalayan-Karakorum-Tibet (HKT) orogenic system. We will focus on controversies and evolution of the HKT using tectonics, geomorphology, geophysics, geodesy, geochemistry, sedimentology, petrology, and modeling.

T24. Forearc Basin Tectonics and Sedimentation. Conveners: Marwan A. Wartes, Robert J. Gillis, Jeffrey M. Trop. Description: The structural and stratigraphic evolution of the forearc region reflects dynamic processes along convergent margins. This multidisciplinary session will explore datasets that improve our understanding of tectonic processes recorded in modern and ancient forearc basins.

T25. Megathrusts: 50 Years after the 1964 Great Alaska Earthquake—In Honor of George Plafker. Conveners: Ray Wells, Peter J. Haeussler, Kelin Wang. Description: On the 50th anniversary of the M 9.2 Great Alaska Earthquake, we will examine advances in coastal geology, paleoseismology, geodetic monitoring, seismology, and geophysical surveys that illuminate processes and source structure of great subduction earthquakes.

T26. Deformation Localization throughout the Crust. Conveners: Nicholas Perez, Graham Lederer. Description: This session will explore the rheological implications of preexisting structures, partial melting, and lithology on localizing strain within the crust of orogenic systems, emphasizing the potential links or decoupling between lower and upper crustal deformation.

T27. Triassic-Jurassic Tectonics and Tectonic-Structural Controls on Porphyry and Related Mineralization in the Northern Cordillera. Conveners: JoAnne Nelson, James J. Ryan. Description: This session aims to integrate tectonic models with district- and deposit-scale studies to enhance understanding of the rich metallogenic episode immediately preceding initial accretion of offshore island arc terranes to the North American continental margin.

T28. Reconciling Geodetic/Seismological Estimates and Geological Observations of Permanent Deformation at Subduction Plate Boundaries. Conveners: Rob Govers, Kevin P. Furlong. Description: This session seeks papers on the correlation between strain acquired during the seismic cycle and long-term geological strain near convergent plate boundaries.

T29. Geologic Processes That Influence the Tectonic Development and Economic Resources of the Northern North American Cordillera. Conveners: James V. Jones III, Emily S. Finzel, Brian A. Hampton, Jeffrey M. Trop. Description: This cross-disciplinary session will bring together diverse geoscientists studying processes that shaped the northern Cordillera, including deformation,

exhumation, glaciology, magmatism, seismicity, and sedimentation. Studies from Alaska, western Canada, the Pacific Northwest, and California are encouraged.

T38. Geology of Earthquakes, Faults, and Fault Systems. Conveners: Kathleen M. Haller, Ryan D. Gold, Anke Friedrich. Description: Large earthquakes disrupt society in many ways. The past behavior of faults is key to forecasting future behavior. We encourage papers that describe the results of identifying and characterizing potential sources of future seismicity.

T57. Digital Geology Sandpit (Digital Posters). Conveners: Declan G. De Paor, Steven J. Whitmeyer, Callan Bentley. Description: Get hands-on experience with the latest greatest digital technologies—hardware and software. Present on flat screens, sit at tables, and share your favorite mobile apps for geoscience education and research. (DIGITAL POSTER SESSION)

T59. A Grand Tour of the World's Most Important Geological Sites on Google Earth. Conveners: Declan G. De Paor, Steven J. Whitmeyer, Callan Bentley. Description: The question we will pose in this session is this: given limited class time, what are the most important places that a literate student of the geosciences should visit on the Google Earth virtual globe?

T61. Spatial Thinking in Geoscience Teaching, Learning, and Professional Practice. Conveners: Heather L. Petcovic, Carol J. Ormand, Robert W. Krantz. Description: Skills in spatial thinking and visualization are considered integral to geoscience learning and practice. This session considers research across educational settings and professional practice, as well as teaching aimed at enhancing spatial-visual skills.

T89. Structural and Tectonic Controls on Gold Mineralization from the Roots of Mountain Belts to Hot Springs. Conveners: Julie V. Rowland, David Rhys. Description: We solicit submissions that advance our ability to vector to mineralized structures within alteration halos or increase understanding of structural traps at regional or deposit scale and at any crustal level. Cross-disciplinary submissions particularly welcome.

T90. Honoring the Diverse Career of Eric S. Cheney: From Ore Deposits and Sequence Stratigraphy to Pacific Northwest Geology and Citizen Responsibility. Conveners: Andrew M. Buddington, George H. Shaw, K. Brock Riedell. Description: The session will present on the geology of ore deposits; siting of major energy or industrial facilities; stratigraphy, structure, and tectonics of the Pacific Northwest; stratigraphy and geology of South Africa; and geology's societal relevance.

T122. Magmatism and Geodynamics within the Cascadia Subduction Zone. Conveners: S.M. DeBari, Patricia A. McCrory, A.J. Calvert, Nathalie Vigouroux. Description: This session promotes an interdisciplinary approach to understanding the links between lithospheric plate dynamics, slab metamorphism and dehydration, melt generation, and magmatism within the Cascadia subduction margin since its inception about 40 million years ago.

T126. Stable and Clumped Isotope Record of Topography, Climate, and Environments: Challenges and Recent Advances. Conveners: Majie Fan, Andrew Leier, Joel E. Saylor. Description: Stable and clumped isotopes in sedimentary records provide critical insights into orogenic evolution, paleoclimate, and paleoenvironments. We encourage presentations that discuss the challenges and uncertainties in these systems as well as novel applications.

T138. Geoscience Investigations of the Polar Regions. Conveners: Samantha E. Hansen, Kevin L. Mickus, Audrey D. Huerta. Description: This session will bring together an international and interdisciplinary group of scientists focused on geophysical and geological investigations of the Arctic and Antarctic. Presentations will focus on lithospheric structure, geologic evolution, and ice sheet dynamics.

T140. Magnetic Surveys for Imaging the Geology of Earth and Other Planetary Bodies: A Session Honoring the Legacy of Isidore Zietz. Conveners: Michael Purucker, J. Wright Horton Jr, Anjana K. Shah. Description: This session explores applications of airborne and satellite magnetic methods for imaging surface and subsurface geology of Earth and other planetary bodies. The session honors and builds on the legacy of Isidore Zietz.

T141. Measuring and Modeling Aseismic Transient Slip along Plate Boundaries (Posters). Conveners: Kathleen Hodgkinson, Evelyn Roeloffs, David Schmidt. Description: This session focuses on identifying and modeling aseismic transients along plate boundaries using strainmeter, GPS, tilt, and seafloor pressure gauge data. Presentations on operation of subduction zone and other plate boundary geophysical networks are welcome.

T189. Geothermal Energy, Geothermics, and Tectonics of Western Canada. Conveners: Martyn Unsworth, Catherine Hickson. Description: This session will review crustal structure using geology and geophysical data, including magnetotellurics and seismics, to develop an updated geodynamic structure and foundation to understand the geothermal energy potential in western Canada.

T190. Applications of Structural Geology and Geomechanics in the Petroleum Industry. Conveners: Peter Hennings, J. Steve Davis, S.E. Laubach. Description: This session highlights structural geology and geomechanics research with strong petroleum industry applicability. Topics include regional structural analysis, computational and kinematic deformation modeling, fracture and fault characterization, and interaction of buoyant fluids with geologic structures.

T215. Chikyu Meets Lithoprobe: Can We Connect Modern Arcs and Ancient Continental Crust? Conveners: Paul Mueller, M.E. Bickford, Robert Stern, Sally Pehrsson, Ronald Clowes. Description: The session will focus on the extent to which the geochemical, geophysical, and tectonic characteristics of modern arc systems are pertinent to understanding the formation of Hadean and Archean crust.

T218. Subduction Zone HP-UHP Metamorphism and Its Relation to the Coeval Magmatism. Conveners: Lifei Zhang, Yaoling Niu, Yilin Xiao, Jinghui Guo, Shuguang Song. Description: This session focuses on current work on HP-UHP metamorphism and its relationship to the coeval magmatism. We seek contributions from petrology, geochemistry, and tectonics that expand our understanding of subduction-related metamorphism and magmatism.

T227. From the Inside Out: Ceres to Pluto and Satellites in Between. Conveners: D. Alex Patthoff, Emily S. Martin. Description: We encourage abstracts relating to surface, structural, and tectonic processes; interior, and thermal evolution of icy bodies; and planetary analogs. This includes observational and theoretical approaches.

T229. The Holey Solar System. Conveners: Jeffrey Plescia, Christian Koeberl, Gordon R. Osinski, Angela Stickle. Description: This session focuses on impact processes. Terrestrial craters provide ground-truth for remote sensing of planetary craters. We solicit contributions regarding shock processes, materials, modeling, structure, and airburst. Comparisons of craters among different bodies are encouraged.

T233. Tectonics and Volcanism in the Solar System. Conveners: Debra L. Buczkowski, Danielle Y. Wyrick. Description: We encourage abstract submissions related to the description, mapping, modeling, and subsequent analysis of tectonic and volcanic structures on rocky bodies, including planets, moons, and asteroids.

T234. Precambrian Geology of the North American Cordillera: An Exploration of New Developments in Laurentia's Ancient History. Conveners: Justin V. Strauss, Marcus Kunzmann,

Galen P. Halverson, Rob Rainbird, Alan D. Rooney. Description: The North American Cordillera is host to an exceptional record of Precambrian tectonism, sedimentation, and historical geobiology. This session provides a forum to share progress in our understanding of western Laurentia's ancient history.

Pre-meeting field trip:

411. The Cretaceous-Cenozoic Coast-Cascade Orogen Chilliwack Valley–Harrison Lake Connection

Leaders: Dan Gibson, Simon Fraser Univ.; James W.H. Monger

Trip Description:

The Chilliwack–Harrison Lake region occupies an important position in a Cretaceous to early Cenozoic (110-45 Ma) orogen whose southern extent coincides with the Coast and Cascade Mountains of southwestern B.C., and the Cascade Ranges of Washington State. We informally refer to it as the “Coast-Cascade orogen” (CCO). In this region there is excellent preservation of allochthonous terranes that were sandwiched in mid-Cretaceous time between terranes to the east accreted to the pre-Cordilleran continental margin of North America in the Jurassic, and Wrangellia terrane to the west that underlies most of Vancouver Island. The CCO in this region is characterized by the mid-Cretaceous to early Cenozoic interplay between tectonism and magmatism that reflects a geodynamic shift in convergence along the western margin of North America from sinistral to dextral transpression. The southernmost CCO is overprinted by the Eocene to Neogene (ca. 34-0 Ma) Cascade magmatic arc whose volcanic rocks bury the CCO south of 47°N. This 2-day field trip will examine the CCO in two areas to compare and contrast their geological relationships and consider their paleogeographic affinities. Day 1 will be in and around the Chilliwack Valley south of the Fraser River within the Cascade Mountains looking at late Paleozoic to Mesozoic rocks and structures of the Vedder complex, Cultus Formation and Chilliwack Group. Day 2 will be north of the Fraser River, along the east side of Harrison Lake within the southeastern Coast Mountains, to examine Mesozoic granitic intrusions, associated metamorphic rocks, folds, thrusts and oblique strike-slip structures.

Post-meeting field trip:

420. Tertiary Stratigraphy and Structure of the Eastern Flank of the Cascade Range, Washington

This trip begins at the Vancouver Pacific Central Railroad Station in Vancouver, British Columbia, and ends in Seattle, Washington, USA.

Leader: Eric S. Cheney, Univ. of Washington

Trip Description

Eocene sedimentary and volcanic rocks on the eastern flank of the Cascade Range consist of five regional, unconformity-bounded formations. These formations define a series of northwesterly striking folds. Five anticlines are 9 to 28 km apart, have pre-Tertiary crystalline rocks in their cores, have high-angle reverse faults on their steeper northeastern limbs, and pass down-plunge to the SE into more gentle folds in the Neogene Columbia River Basalt Group (CRBG). Such northwesterly trending folds extend from east of the Columbia River, across the Cascade Range, to the Puget Lowland. The Chiwaukum graben and the Sauk basin, which commonly are thought to be local, extensional, depositional basins, are, instead, the major northwesterly trending synclines in the series of folds. Dextral N-S faults cut the reverse faults and the pre-CRBG portion of some folds. The post-CRBG folds control the regional distribution of the Eocene formations. The Cascade Range is a southerly plunging, post-CRBG anticline. Clasts in the Thorp Gravel indicate that the anticline began to rise about four million years ago. The anticline has an amplitude of about 3.5 km, and it causes the plunges of the northwesterly striking post-CRBG folds. The northwesterly and northerly post-CRBG folds form a regional interference pattern, or “egg-crate,” that dominates the present topography of Washington.

2014 Structural Geology and Tectonics Forum



Field trip participants discuss Laramide deformation with Eric Erslev.

The Third Biennial Structural Geology and Tectonics Forum was held at the Colorado School of Mines, June 16-18, 2014, under the lovely sunny skies of a surprisingly green Golden, Colorado. Four field trips and nine short courses/workshops were held in the two days before and after the Forum. Some 110 geoscientists attended the meeting and/or field trips and short courses. The National Science Foundation provided support for the Forum, resulting in zero registration fees, and support towards travel and accommodation for numerous attendees, especially graduate students and participants from four-year colleges. In addition, the GSA Structural Geology and Tectonics Division made a generous donation, and other forms of support came from the Colorado School of Mines Department of Geology and Geological Engineering and the Colorado College Department of Geology.

The Forum provided an excellent environment for discussion of a wide variety of research and educational topics. The Forum itself was held as six one-session-at-a-time oral and poster sessions, giving plenty of time for discussion. Posters were up for the entire Forum. An hour of discussion time was included each day to discuss the future of the Forum, our newly approved bylaws, and general topics of interest to the Structural Geology and Tectonics community. Field trips took participants to various places in Colorado, including the Garden of the Gods, the Homestake Shear Zone, Big

Thompson Canyon and Eldorado Canyon. Short courses included topics such as teaching using various strain analysis programs, Google Earth, Visible Geology, GPS data, and linear algebra, as well as microstructures, Ar/Ar illite geochronology and LiDAR. One evening during the Forum was dedicated to graduate student networking and advising and on another evening, participants had the opportunity to visit the Colorado School of Mines Geology museum. Participants mostly stayed and dined at the University residences, close to downtown Golden providing additional opportunity for discussion over a meal, during a stroll along Clear Creek or over a beer at one of our local breweries.

Abstracts, field trip and short course materials and other useful materials are available at: http://serc.carleton.edu/NAGTWorkshops/structure/2014_Forum_index.html (and links). Thank you to the organizing committee, short course and field trip leaders, keynote speakers, and other contributors and volunteers for making this an excellent Forum. Matty Mookerjee kindly volunteered to organize the next Structural Geology and Tectonics Forum in 2016 at Sonoma State University in Rohnert Park, California.

Yvette Kuiper and Chuck Kluth
SGT Forum Organizers
Colorado School of Mines



The view from Storm Mountain on the Big Thompson Canyon trip with Kevin Mahan, Graham Baird, and Julien Allaz.

Highlights from the Structural Geology & Tectonics Banquet at the 2013 Annual Meeting in Denver, Co.

GEOLOGICAL SOCIETY OF AMERICA STRUCTURAL GEOLOGY AND TECTONICS 2013 CAREER CONTRIBUTION AWARD

Presented to Peter J. Hudleston

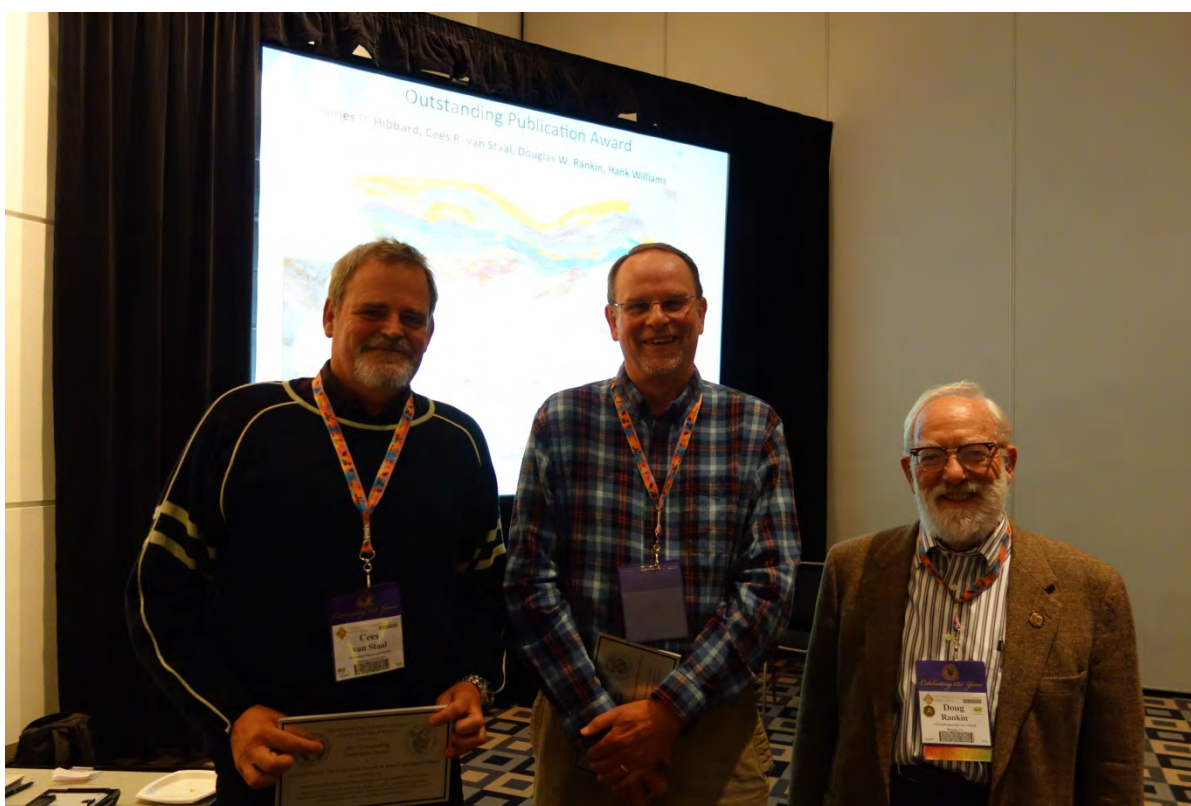


The Geological Society of America Structural Geology and Tectonics Division 2013 **Career Contribution** Awardee Peter J. Hudleston at the SG&T Awards Ceremony in Denver, Colorado. Peter is flanked by Award Citationist Basil Tikoff. The full text of Basil's citation and Peter's acceptance speech can be found on the SG&T website (click [here](#)).

**GEOLOGICAL SOCIETY OF AMERICA
STRUCTURAL GEOLOGY AND TECTONICS
2013 OUTSTANDING PUBLICATION AWARD**

**Presented to Jim Hibbard, Cees van Staal, Doug Rankin and
Hank Williams**
for the following paper

(2006) Lithotectonic Map of the Appalachian Orogen, Canada-United States of America.
Geological Survey of Canada, "A" Series Map 2096A, 2 sheets (1:1,500,000), doi:
10.4095/221912.



The Geological Society of America Structural Geology and Tectonics Division 2013 **Outstanding Publication Award** winners. From left Cees van Staal, Jim Hibbard and Doug Rankin. The full text of the citation and responses can be found on the SG&T website (Click [here](#)).

**GEOLOGICAL SOCIETY OF AMERICA
STRUCTURAL GEOLOGY AND TECTONICS
2013 Stephen E. Laubach Structural Diagenesis Research Award**

Presented to Peter Mozeley

**GEOLOGICAL SOCIETY OF AMERICA
STRUCTURAL GEOLOGY AND TECTONICS
Student Research Awards**



The Geological Society of America Structural Geology and Tectonics Division 2013 Research Grant Award is presented to Lee McAuliffe (right) by 2013 SG&T Chair Donna Whitney. Current SG&T Chair Andrew Meigs looks on.

Each year the SG&T division recognizes graduate students for excellent research proposals in the annual GSA solicitation. In addition to Lee McAuliffe, 2013 winners included:

Omero Orlandini, University of Colorado Boulder
Deborah Shulman, University of Maine
Rachelle Warren, Central Washington University

GSA SG&T Division Management Board Meeting Minutes

Tuesday, 29 October 2013, 11:30 AM-1.30 PM

Hyatt Regency Colorado Convention Center, Limestone Room

Prepared by Yvette Kuiper, Secretary/Treasurer of the GSA SG&T Division

Attending:

Kurt Burmeister, Jonathan Caine, Elizabeth Catlos, Jean Crespi, Levi Crooke, Dan Gibson, Yvette Kuiper, Andrew Meigs, Sarah Roeske, Christine Siddoway, Kevin Smart, Dave West, Donna Whitney and Steven Wojtal; George Davis and Wesley Hill stopped by briefly.

1. Welcome and Introductions – Donna Whitney

2. Financial status of the Division – Yvette Kuiper

The fiscal year ended (June 30) with ~\$20K in our operating account and ~\$55K in the Student Fund. Our income will be lower next year as student members will not pay fees any longer. This year the number of student applicants for GSA Field Trips and Short Courses increased so much that we will need to discuss whether we want to keep funding all requests fully in the future. The trade-off is that if we do that, we will not move money over in the Student Fund. We discussed possible solutions later in this meeting (see below).

Interest Groups

George Davis stopped by to inform us that GSA is trying to establish interest groups across boards (special sessions, field trips, etc.) that will last five years or so. These interest groups are meant to have more cross-discipline discussion and could possibly evolve into a division.

3. Student Membership and Awards – Donna Whitney, Andrew Meigs, Sarah Roeske, Yvette Kuiper

- This year is the first year we have a (non-voting) student member on the board. We welcome Levi Crooke and his excellent ideas!
- Starting this coming year, students do not pay division dues any longer unless it is their second division.
- As in the past few years, we spent \$3600 on GSA Graduate Student Research Awards (by moving it into the general GSA pool). We awarded 4 travel awards of \$500 each to the best four award winners.
- This year the number of applications for student funding for GSA field trips and short courses increased so that the estimated expense is ~\$2850, as opposed to the \$732 we spent last year. The expectation is that the number of applications will keep increasing and that we might not be able to fund all fully in the future. Possible solutions to the problem:
 - (1) Prioritize and fully fund a selection of applications, e.g. based on merit, or on a first-come first-serve basis;
 - (2) Solicit funding from other divisions;
 - (3) Fund field trips but not short courses;
 - (4) Raise membership dues from \$10 to \$15;
 - (5) Raise more funds through merchandise, e.g. through a custom-printing website where one can order a selection of merchandise with the SGT logo.
- This year the problem arose that the field trip and short course fees increased before some of the students registered, so that the division ended up paying higher fees than the (intended) early registration fees. It was decided that from now on applications will be due earlier than last year, but

late applications will be considered until the preregistration deadline. This way the students can be notified of their award and register prior to the early registration deadline.

4. Status of Division's Website, Facebook and Newsletter Efforts – Donna Whitney, Kevin Smart, Kurt Burmeister, Dave West

- Sadly but truly, after five years, Dave West is retiring as our Newsletter Editor in order to focus his efforts on the GSA Northeastern Section. Thank you Dave! Recruiting efforts for a successor are on their way.
- Our website is in good shape.
- Facebook participation is growing, and most participation is from international students.
- We discussed whether we really need to keep all of our communication methods (e-blasts, newsletter, website and Facebook) and concluded that we do want to keep them all. We may go to one newsletter per year instead of two, which will be up to the new editor.
- Elizabeth Catlos (GSA Liaison) suggested that we become part of the GSA 'connected community'

5. Joint Technical Program Committee (JTPC) – Christine Siddoway

JTPC committee members are Christine Siddoway (2013) and Dan Gibson (2014). Chuck Bailey is the 2015 JTPC member. We need to advertise topical sessions better and encourage people early to submit topical session proposals. This year numerous abstracts were submitted to the general sessions that could have fit into a topical session. The deadline for session proposals is January 14, 2014 and for field trips and short courses it is December 2, 2013.

6. Outstanding Publication Award (OPA) committee – Jonathan Caine

Committee members are Jonathan Caine (outgoing chair), Dyanna Czeck (incoming chair) and Paul Karabinos. We need a new member.

7. Career Contribution Award (CCA) committee – Steve Wojtal

The committee consists of Steve Wojtal (outgoing chair), Jane Gilotti (incoming chair) and Daniel Stöckli. We need a new member.

8. Stephen E. Laubach Structural Diagenesis Research committee – Donna Whitney

Members are: Christie Rowe, Whitney Behr and two Sedimentary Geology Division members. The award alternates between the two divisions. This year the Sedimentary Geology Division awarded it and next year it will be part of our awards ceremony.

9. Other topics

An effort is made to have more interaction with our peer divisions and communities in other organizations, such as EGU and GAC. For example, Donna met with Susanne Buiter (chair of the Tectonics/Structure program of EGU) last spring and has exchanged emails with her since then. GSA and EGU have signed (or are about to sign) a Memorandum of Understanding between the two divisions. At the SGT/TS level, we plan to co-sponsor some EGU sessions at their meeting next spring, and they will co-sponsor some GSA sessions at the Vancouver 2014 meeting. Andy should work with Susanne and the respective management boards to coordinate this.

10. Adjourn

The meeting was adjourned at 1.10 pm.

SG&T is on Facebook!

SG&T Facebook page now has more than 66,000 likes! Everyone can access our page at www.facebook.com/GSA.SGT. This page will be used for announcements between newsletter publication times, and for the sharing of news, deadlines, and up to the minute updates on forthcoming conferences, workshops, and short courses that would be of interest to SG&T members. The Division web site will remain the place for all official SG&T information <http://rock.geosociety.org/sgt/index.htm>

SG&T 2013 Annual Business and Awards Meeting



Join us for more fun in Vancouver (Oct. 19-22)!
The SG&T Reception Business and Awards Meeting is scheduled for
Tuesday, 21 October 2014: 5:30 PM-9:00 PM.

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