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Limnogeology Division Newsletter

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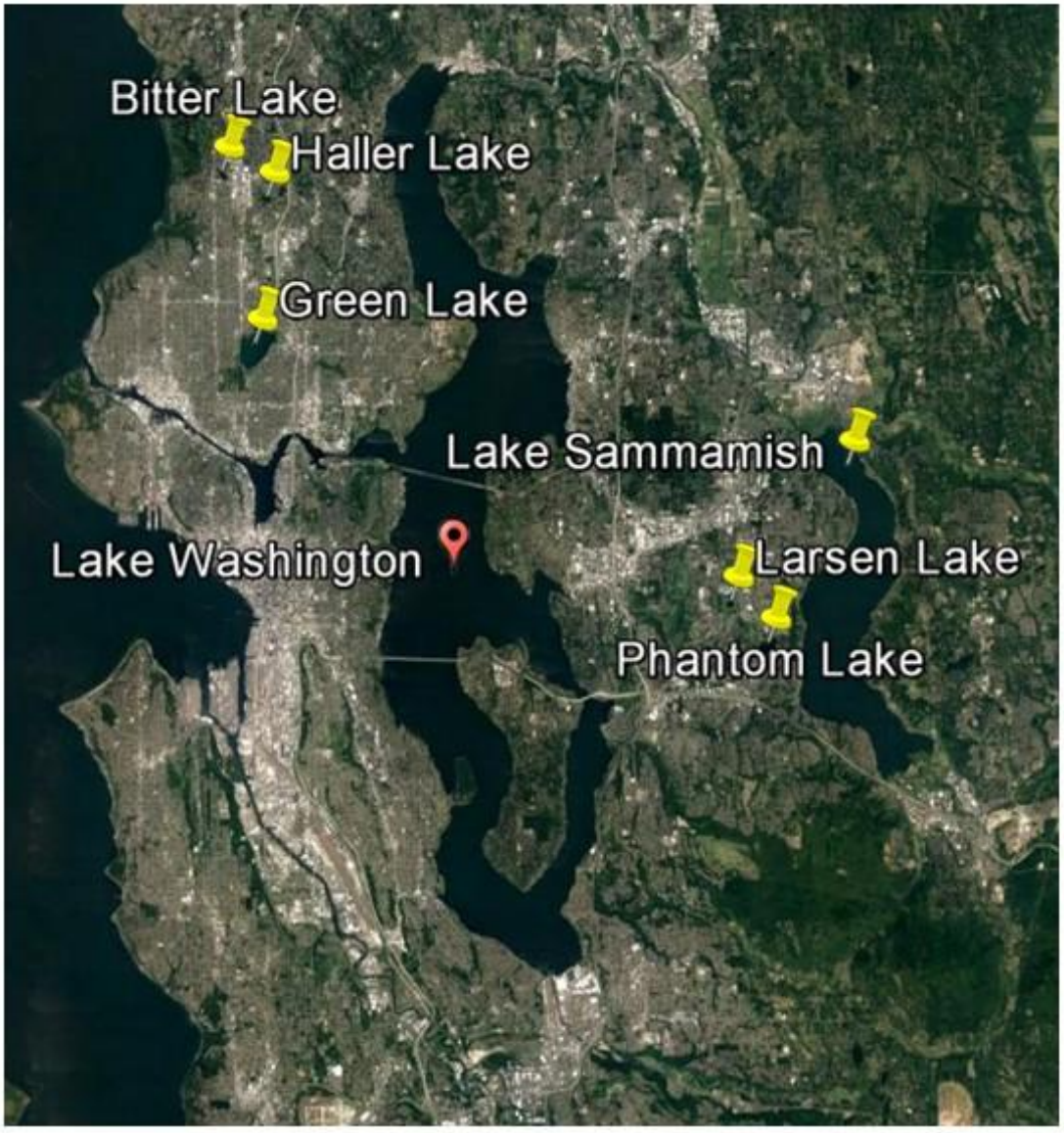

Selected Lakes of the Seattle Region

(Photo: *Google Earth)*

THE GEOLOGICAL SOCIETY OF AMERICA®

LIMNOGEOLOGY DIVISION

Limnogeology Division Newsletter

Volume 14 Number 2

June 2017

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CONTENTS

From the Editor

Michelle Goman

Sonoma State University, Rohnert Park, CA

This edition of the Newsletter contains many items of interest for members. In particular, Limnogeology students please be aware of the upcoming Kelts submission deadline as well as publishing advice from Past-Chair Varekamp.

Other items of interest include information on a new interdisciplinary interest group of GSA focused on Continental Scientific Drilling AND a new Research Coordination Network called EarthRates.

Other items of significance:

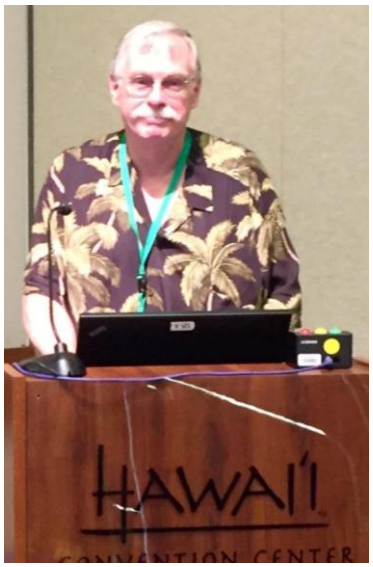
- The I.C. Russell Award Citation and Response
- A list of sessions sponsored by Limnogeology for the upcoming Annual GSA Meeting in Seattle.

If you would like to share your research or images from your field work please contact me. Don't forget to send me your news items!

Michelle (goman@sonoma.edu)

Message from the Chair

Scott Starratt
U.S. Geological Survey, Menlo Park, CA



Sometimes I feel a little out of place as chair of the Limnogeology Division. After all, two of the past division chairs are from the land of 10,000 (maybe more) lakes and I grew up in the state with the fewest lakes (six, if you count the brackish ones). The first lake I saw was Lake Michigan, which might as well have been just another ocean. I came to limnogeology indirectly, having started out in neuroscience, transferring to botany and igneous geochemistry for my bachelor degrees. Upon deciding I didn't want to be a corporate engineering geologist (which took a few weeks; money was pretty good, the job wasn't) I trained as a paleoceanographer, working on cores from the Bering Sea. My exposure to lakes was through the lens of paleontology, participating in fossil inventories of Miocene sites in the Great Basin. A week of diatom school in the wild corn fields of northwestern Iowa facilitated my migration into fresher waters. Now, depending on who is paying the bills, I spend time in the waters of the North Pacific, coastal marshes, and alpine lakes in the Great Basin.

In April I attended the annual division officers meeting in Boulder. The main purpose of the meeting was a discussion of the role that divisions play in the GSA. Most GSA members participate in at least one division and some are active in several (the record is 10). Overall membership in divisions has grown over the past few years. Divisions are responsible for the proposing and organizing the majority of topical and Pardee sessions at the section and annual meetings. The bottom line is that divisions are important in the functioning of the society, and the headquarters office and executive staff want to do more to facilitate division activities. For me, one of the values of this meeting is learning how other divisions work, and to get ideas on how to improve our division.

Speaking of division activities, it is time to start thinking about the annual meeting, this year in beautiful Seattle. The meeting may be larger than usual because, with AGU being held in New Orleans, this is the only large earth science meeting on the west coast. This October, you may find a whole new audience for your research. The Limnogeology Division is organizing six sessions covering topics from paleoseismology records in lacustrine system and the interpretation of lake levels to the interpretation of the environmental history through continental drilling and trans-Asian hydroclimates. There will also be a special session in honor of Beth Gierlowski-Kordesch, the first chair of the division. The division is co-sponsoring an additional 15 sessions. This year, you should have no problem finding a session that fits your research. So when it comes time for you to submit your abstract, please consider one of the many lake-oriented sessions as the place for you to showcase your research.

This year the division is organizing a pre-meeting short course entitled "What's in my Lake – The changing Face of Limnogeology". The purpose of the course is to introduce students and early career scientists to limnogeology research through a discussion of the tools, proxies,

and resources that are available for planning a project. Look for more information in the near future.

The division will sponsor a booth at the GSA Exposition. This will be the place to meet other limnogeologists, learn about academic programs in lake studies, find out about division activities, and pick up some division swag.

There are a couple of collections of papers on lakes currently being prepared for publication in the next year. A GSA Special Paper on lakes in the western US, containing more than 20 papers on topics ranging from the Eocene Green River and Florissant Formations to modeling lake levels in Walker Lake, Nevada and recent research on Lake Bonneville. The proceedings of the 6th Limnogeology Congress will be published in two special issues of the Journal of Paleolimnology. Papers on Mesozoic lakes in South America and India to modern lacustrine delta studies are featured.

A couple of reminders for students 1) the deadline for submitting your application for the Kerry Kelts Student Research Award is June 30th, and 2) students get one free division membership with their student membership.
Make your choice the Limnogeology Division.

See you in Seattle.

~*~

Message from the Vice-Chair

Lisa Park-Boush
University of Connecticut

As we prepare for the Annual meeting in Seattle, the Limnogeology Division has a lot of exciting sessions, including one that is a tribute to the late Elizabeth Gierlowski-Kordesch entitled: **T94. Limnogeology—Progress, Challenges, and Opportunities on Earth and Beyond: A Tribute to Beth Gierlowski-Kordesch.**

Other sessions include—
T39. Cushman Foundation Symposium: Microfossil Mayhem—Murder, Misfortune, and More
T88. Mudstone Facts: Deposition, Diagenesis, and Source of Basin Fluids
T93. Lacustrine Systems across Space and Time
T95. Monsoons and Westerlies in Asia: Quantifying Trans-Asia Hydroclimates Since the LGM
T96. Understanding African Environmental History through Continental Scientific Drilling: Past Successes and Future Opportunities
T97. Will My Boat Float?—Physical and Biological Proxies for Lake Level Variability
T98. Windows into the Crust: Paleo-Earthquake Records from Lacustrine Sediments
T248. Microbialite Textures and Chemical Signatures in Continental Settings: Forging the Link between the Modern and Ancient.

We thank all of the conveners for organizing such diverse and interesting sessions. Don't forget the abstract deadline is **August 1, 2017**.
There will also be some important workshops that people might want to attend. Please watch for announcements. EarthRates will have a townhall at GSA, so please attend.

Coring network
One of the projects that we are trying to organize is a sediment coring network for data sharing and best practices. If you are interested, please contact either me at lisa.park_boush@uconn.edu or Anders Noren at noren021@umn.edu.

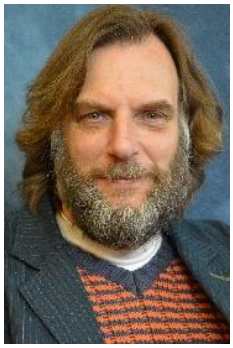
Finally—please plan to attend the Limnogeology Division Business Meeting and Awards presentation!

~*~

Message from the Past-Chair

Joop Varekamp
Wesleyan University, Middletown CT

Publishing Your Limnological Research



We all love working on our lakes or ancient lake beds during the summer, and know that writing-up the results in a thesis or publication is simply the next step. We clean our hands from the mud, put on dry clothes, and then start writing. The first question then is – where shall we submit this paper? There are the stallwarts of limnological research such as the *ASLO* publications (Limnology and Oceanography) (http://aslo.org/publications.html) which provide a wide variety of venues to publish (Wiley). Then there is the *Journal of Paleolimnology* (Springer), which covers the reconstruction of lake histories, but also accepts papers on river coves and estuarine environments, many with a paleoclimate angle. The *Journal of Limnology* is published in Italy (http://www.ise.cnr.it/products/journals/journal-of-limnology) and the journal *Limnology* is another Springer journal with an emphasis on ecology, co-published with the Japanese Society of Limnology. Then there is the *International Journal of Limnology*, published in France (https://www.limnology-journal.org/) and the *Journal of Limnology and Fisheries Research* (http://www.limnofish.org/). *Fundamental and Applied Limnology* is another long-standing lake journal published in Germany (https://www.schweizerbart.de/journals/fal). Let us not forget *Limnologica*, an Elsevier journal with an emphasis on ecosystem research and *Inland Waters*, a UK based journal. And there are many, many more hosted by a bevy of countries, societies and publishers. So there are many options, and your ultimate choice should be primarily governed by your target audience. Look through recent issues and see what the scope of the journal is: mainly freshwater ecology, physical or chemical limnology,

or sedimentology of paleolake deposits. Of course, there are other journals that accept lake papers, such as the *Journal of Volcanology and Geothermal Research* (Elsevier), which may be a good venue for volcanic lake and crater lake papers. Many of the planetary science journals are interested in comparative studies of possible lake beds on Mars and Earth. And then there are the Monographs and Special Papers that are published by the professional societies such as AGU, GSA, and GSL.

If you have a 'hot manuscript' you can think of *Science* (relatively few lake stories have been published in Science) with its modern derivative *Science Advances*. Then there is *Nature*, with all of its recent derivatives such as *Nature Geosciences*, *Nature Climate Change*, *Nature Plants* and more, or, if you feel wealthy, pay $5000 and you may get it into *Nature Communications*, or pay less and get published in *Nature Scientific Reports*. And then there is *Geology* magazine of GSA, a good venue for lake papers that appeal to a broad audience. What ever you decide, the main rule is to find a journal that will reach an audience that is interested in your work. Of course, a journals' Impact Factor (IF) is important as well, a metric that provides in a simple number how often papers from that journal are cited. It has become common practice to send a paper first to the high IF magazines such as *Science* or *Nature*, then change a few lines and send it to Nature's second tier journals, then to *Geology*, all with the aim to score that high IF journal. Then finally, after all those rejections, you may send it to a journal where you should have sent it to in the first place – a quality magazine that reaches your target audience. The other option is to go with one of the many not so widely known, new, online open access journals that vary strongly in quality, some very good, others less so. Some have acceptance standards that can be considered 'royal' but where you pay a firm monetary price as well as have to face the fact that few ever read it. Always stick with journals that have a thorough peer-review process and are tracked by Google scholar and other indexing organizations. Recently added to this mix is the journal *Paleoceanography* (AGU/Wiley) which changed its name to *Paleoceanography and Paleoclimatology* in order to accommodate papers that make land-ocean comparisons, climate modelling based on various ocean and land based data sets as well as straight paleoclimate limnology papers (disclosure-my wife is editor-in-chief of said journal). So good luck finding the right journal with a respectable IF, and getting it accepted there!

The Student Photic Zone

Anne L. Billingsley – Student Representative
University of Arizona, Dept. of Geosciences
Student Representative – Limnogeology Division

Greetings my fellow limnogeology students and recent graduates! I hope that this newsletter finds you all in the depths of summer research or finalizing a draft of a wonderful paper.

- Just a friendly reminder that the deadline for abstract submissions for the national meeting taking place in Seattle, WA on October 22-25, 2017 is August 1, 2017. This is a wonderful opportunity for us students to present our research on a national stage and get great input from professionals in our field. I encourage you to participate by submitting a poster or talk. Furthermore, there will be many workshops and networking opportunities for students!
    - PS: The GSA travel grant application is July 7, 2017. Although this grant will not cover all of your expenses, it will cover a portion of them. The application is not that difficult to complete and submit. Please see more details on the GSA website.

- I am assuming that we all like funding, so I would also like to remind you that the deadline for the Kerry Kelts Award is June 30, 2017. This is a reward of $1,000 given by the Limnogeology Division to one graduate or undergraduate student to support their research related to limnogeology. For more information, pleased follow the following link: http://community.geosociety.org/limnogeologydivision/awards/kerrykelts. Good luck!

- The Student Advisory Council (SAC) will be meeting at the national meeting again this year. The SAC was created in order for us students to give feedback to the GSA Council. The SAC is still young, but we are working to provide students with the support they need to get the most out of their membership to the GSA. If you have any suggestions or concerns you would like me to present to the SAC, please email me at abillingsley@email.arizona.edu with the subject line "SAC".

- Finally, we would like to get to know you better. What research are you doing? What got you interested in limnogeology? If you have some great pictures of field work, photos of samples, or graphs and charts that are mind-blowing please send me a Powerpoint slide (abillingsley@email.arizona.edu; Subject: GSA Student). Include on the slide: your name, your affiliation, location and a brief description of your submittal (only a few sentences, please). Then come by the Limnogeolgy Division booth in Seattle to see what all of us are doing.

I look forward to see you all in October!

~*~

2016 Israel C. Russell Award

Citation by Michael Elliot Smith:

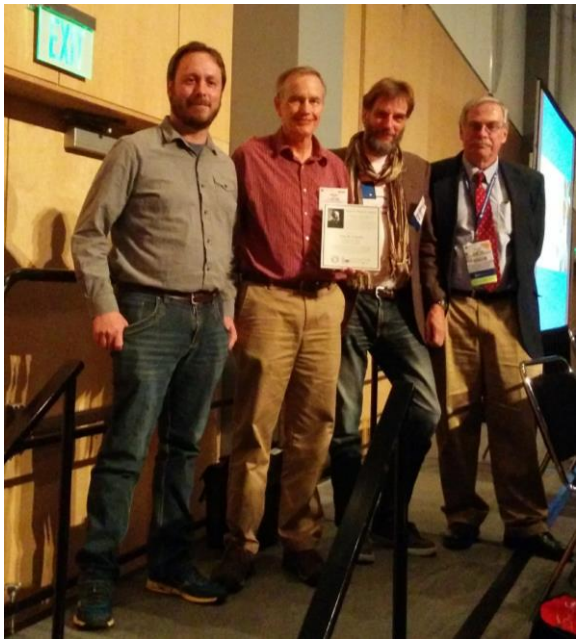
I'm honored to nominate professor and GSA Fellow Alan Carroll of the University of Wisconsin–Madison for the Israel C. Russell Award. Alan Carroll's exploration of Earth's ancient lakes has resulted in fundamental advances in the study of lacustrine systems and terrestrial stratigraphy. His publications span four decades. Alan's approach to sedimentary basins integrates detailed compositional and stratigraphic analysis, bed- to tectonic-scale problem solving, and a spirit of exploration. His deep-time paleolimnologic focus has inspired a generation of students to venture forth into the unknown in search of stratigraphic truths. Alan is well deserving of the honor.

Alan attended Carleton College prior to graduate research with Bruce Wilkinson at the University of Michigan with studying the petrology of marine and lacustrine ooids. After receiving his master's degree, Alan worked as an exploration geologist at Sohio studying the synorogenic late Paleozoic Anadarko Basin, which would prove foundational for his later studies of the connections between tectonics and lacustrine basins. Alan subsequently joined Steve Graham's research group at Stanford to conduct intensive field investigations of the sedimentation and tectonics of western China. His pioneering work suggested strong connections between continental drainage basins, collisional tectonics and the lacustrine world. After receiving his PhD, Alan joined Exxon as a Senior Research Geologist, where he developed the lake-type concept by synthesizing data from Exxon's vast stratigraphic and geochemical database. The lake-type model differentiates lacustrine strata into three fundamental facies associations which reflect the long-term hydrology and tectonic accommodation of their basins and catchments, and has been widely applied across industry and academia.

Since joining the University of Wisconsin–Madison in the late 1990s, Alan's application of cutting edge geochemical and geochronologic techniques to paleolimnology have revolutionized our understanding of ancient lakes and illuminated the profound influence of landscape processes on lake systems. He has worked extensively in the Green River Formation lake system of the western United States to test and expand the lake type hypothesis. In over 30 publications, Alan and his research group have employed detailed facies analysis, basin-scale stratigraphic correlations, radioisotopic geochronology and isotope geochemistry to produce a far more resolved understanding of why lakes formed in the Laramide foreland, quantify lake responses to climate and tectonic forcing, and document the influences of upstream geomorphology on lake evolution.

Alan is far more than an expert of lacustrine basins, however. He is also a generous and supportive advisor to 26 graduate students, a witty and innovative educator, and a model community member. He has taught numerous field courses, given over 30 invited talks, edited or coedited six scientific volumes, written a book on energy and the Earth, chaired 12 technical sessions, reviewed hundreds of manuscripts, and served on numerous department, university and society committees.

In summary, Alan Carroll's outstanding record of leadership, exploration and service in paleolimnology make him an ideal recipient for the 2016 Israel C. Russell Award.



Mike Smith, Alan Carroll, Joop Varekamp and Scott Starratt

Response by Alan Carroll:

I would first like to express my thanks to the Board of Directors of the Limnogeology Division of GSA, and also Mike Smith for his citation. I am deeply honored to be receiving this award.

My lifelong interest in lakes began while I was growing up in the Great Lakes region, and was nurtured by two exemplary graduate mentors. The first was Bruce Wilkinson at the University of Michigan, where I completed an M.S. degree on Holocene "marl" lake sediments. Bruce's passion for science was both unmistakable and contagious, and his influence set me on the path I have followed ever since. The second was Steve Graham at Stanford, where I completed my Ph.D. on Paleozoic marine and lacustrine deposits in western China. Steve introduced me to the multidisciplinary, "big picture" thinking required to comprehend the evolution of sedimentary basins, and also helped me to see lake basins as fundamental tectonic features of the continental crust.

In the early 1990s I was fortunate to begin a fruitful collaboration with my long-term friend and colleague Kevin Bohacs that focused initially on improved models for lacustrine petroleum source rocks. Up until that point climate was commonly viewed as the dominant control on lake deposits, and source rock prediction was based largely on parameters such as water balance and annual temperature variation. Climate alone fails to adequately predict source rock depositional conditions even in modern lakes however, and we proposed instead that lacustrine facies associations, or lake types, are governed by the balance between tectonic basin accommodation versus water plus sediment fill.

My students at the University of Wisconsin–Madison and I have greatly expanded on this understanding since, in large part through studies of the world-famous Green River Formation. It has become increasingly clear that this Eocene lake system preserves a record not only of events in the immediate vicinity of the lakes themselves, but also within their much larger catchment areas. In contrast to early interpretations that drainage to Green River Formation lakes was mostly local, we have now shown that they drained much of the western United States. These findings point toward an exciting new approach to using lake deposits, as archives of tectonic, magmatic, climatic, geomorphic, and biologic processes acting across broad areas of the continents.

I've been privileged to work with many gifted collaborators, including Marc Hendrix, Brad Singer, Clark Johnson, Brian Beard, Steve Meyers, Shanan Peters, Tim Lowenstein, and Page Chamberlain, to name a few. I also thank the many Wisconsin students who have made contributions to our understanding of lakes, including Wasinee Aswasereelert, M'Bark Baddouh, Lauren Chetel, Amalia Doebbert, Kuwanna Dyer, Justin Gosses, Jen Graf, Alex Hammond, Brooke Norsted, Jeff Pietras, Meredith Rhodes Carson, Eric Skarman, Ashley Throckmorton, Marshal Tofte, Jana Van Alstine, Andrew Walters, Marwan Wartes, and Eric Williams. I'd also like to acknowledge Beth Gierlowski-Kordesch for her vital role in creating the vibrant limnogeology community that exists today. Finally I'd like to thank my wife Wendy and my son Liam for their tireless support.

~*~

New Interdisciplinary Interest Group on Continental Scientific Drilling

The GSA council has approved the creation of a new Interdisciplinary Interest Group on Continental Scientific Drilling within the Geological Society of America. Continental scientific drilling and coring is an inherently interdisciplinary research tool used in many GSA Divisions and fields, from Lmnogeology, to Energy and Natural Resources, to Structural Geology, to Paleoclimate. The purpose of this IIG is to therefore serve as a hub for research using continental scientific drilling and coring across these communities. Specifically, the IIG will seek to promote research using continental scientific drilling and coring within the GSA divisions, serve as a collaborative hub for continental scientific drilling projects, promote presentation of continental scientific drilling project results, and provide networking opportunities for students and early career scientists in continental scientific drilling projects. For more information, please contact Jim Russell (James_Russell@Brown.edu).

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2016 Kerry Kelts Award Winners

Danielle R. Haskett (University of Georgia, Athens, GA)
"Climate and Environmental Change in the Colorado Rocky Mountains during the late Quaternary: An Analogue for a Warm Future"

Danielle receiving her award from her dissertation adviser Dave Porinchu.

2017 Kerry Kelts Submission Information

Applications are invited for the Kerry Kelts Research Awards. This year, one award of $1,000 for undergraduate or graduate student research related to limnogeology, limnology, or paleolimnology is available. Deadline; June 30th 2017, 12 a.m. EST.

Prepare your application as a PDF (or PDFs) with your last name in all file names. The application files should contain a research summary and a short CV (two pages max.). The research summary must include a description of the proposed research its limnogeological significance, why the award funds are needed for the project, and a brief description of the student's other funding sources. Be sure to include a title. The maximum length for the summary is five pages, including figures and captions; the list of references cited is not included in this limit. Send your application to Division Chair Scott Starratt, sstarrat@usgs.gov. Please include "Kelts Award application" in the subject line.

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Donate to the Kerry Kelts Award

GSA and the limnogeology Division hope to increase the number of Kelts awards, named for the visionary limnogeologist and inspiring teacher Kerry Kelts, in the future. If you can help support this award, please send your donation, labeled "Kerry Kelts Research Awards of the Limnogeology Division," to GSA at P.O. Box 9140, Boulder, CO 80301-9140, USA.

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Limnogeology: Progress, challenges and opportunities on Earth and beyond: A tribute to Beth Gierlowski-Kordesch

Beth brought a vision of openness and inclusiveness in her approach to studying lakes at all levels from local and regional to national and international projects. She co-founded the *Limnogeology Division of the Geological Society of America*. Studying lakes provided a common base for the exchange of ideas across continents and languages. She pushed people to think, "lakes are not small oceans." She tightened our thinking by asking, "what sedimentological evidence supports that interpretation?" This session is to honor her memory and impact on limnogeological studies. Lacustrine systems have varied origins, represent some of the most diverse geological settings and can play host to extremes in water chemistry, productivity, mineralogy, and biology. They have been studied as analogs for the evolution of life on other planets, can range from hydrothermal, acidic, hypersaline, alkaline to cold conditions, provide some of our most valuable continental records of climate history, and have been integrated into sequence stratigraphic frameworks for understanding lacustrine petroleum potential and generation. Understanding a wide range of modern and ancient lacustrine systems, both their shared and unique features, is important for assessing possible environments, the environmental tolerance of life on Earth and plausible evolutionary pathways of life on other planets. This session explores new insights, critical thinking and integrated analytical approaches including sedimentology and stratigraphy, remote sensing, geophysical techniques, geomicrobiology and geochemical studies applied to the interpretation of modern and ancient lake environments and sediments.

David B. Finkelstein, Lisa E. Park Boush

A New Research Coordination Network---EarthRates

We recently acquired funding to establish a Research Coordination Network called **"EarthRates: Linking Scales Across the Sedimentary Crust"** that will provide the framework and opportunity to engage 5 critical communities and forge synergistic collaborations in order to foster transdisciplinary research in the sedimentary crust. This RCN will bring together NSF sponsored community-driven entities such as the Paleobiology Database, Neotoma, Macrostrat, EarthTime, EarthChem, Earth-Life Transitions, and the Continental Scientific Drilling Coordination Office to strategize, leverage and build partnerships and collaborative efforts to enable the community to address major grand challenges in Earth system science. These would include: 1) how have climate, the oceans, the Earth's sedimentary crust, carbon sinks and soils, and life itself evolved together, and what does this tell us about the future trajectory of the integrated Earth-life system? And 2) what are the ranges of ecosystem response, modes of vulnerability, and resilience to change in different Earth-system states? By bringing these groups together and building stronger partnerships and alliances, we will move towards the goal of **developing a fully integrated four-dimensional digital Earth to fully understand dynamic Earth system evolution.**

EarthRates RCN will build on the recent activities of the STEPPE Office (EAR 1206274 "Coordinating Office for Research on the Sedimentary Crust, Deep-Time and the Earth-Life System) and facilitate efforts to bring these groups together to 1) hold workshops, 2) develop working groups, 3) provide training opportunities, 4) launch data mobilization campaigns, 5) strengthen community ties, 6) discover new partners and opportunities and 7) promote with social media and strong web presence. Integrate efforts to build research capacity in the sedimentary crust.

The RCN EarthRates will be managed by the lead PI (Park Boush) and the Steering Committee, which will be comprised of Bradley Singer (University of Wisconsin); Shanan Peters (University of Wisconsin); John Williams (University of Wisconsin); Anders Noren (University of Minnesota); and Amy Myrbo (University of Minnesota) and Kerstin Lehnert (Columbia-Lamont Doherty). There will also be an Advisory Committee comprised of the Chairs of the Working Groups, a graduate student, and representatives from SEPM, the Paleontological Society and SACNAS.

The community building activities—workshops, working groups, training courses, townhalls, websites, social media and data mobilization campaigns will foster a stronger and more integrated community. In addition, we will use the FlyOver Country App to foster collaboration and leverage data resources across the sedimentary crust. If you are interested in participating in any of the EarthRates sponsored events, please contact lisa.park_boush@uconn.edu to get on our mailing list!

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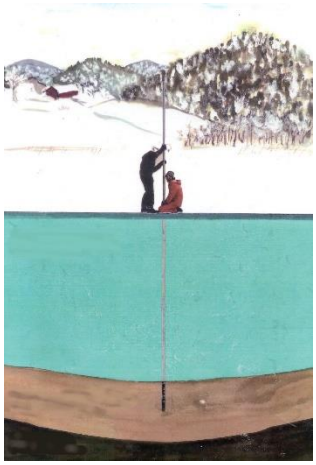
International Association of Limnogeology (IAL) and International Paleolimnology Association (IPA) Joint Conference, Stockholm, Sweden, June 18-21, 2018.



Unravelling the Past and Future of Lakes

The first joint conference of IAL and IPA will be held in Stockholm, Sweden in June of 2018. The conference will allow two established international associations that work on lake sediments to participate together in a larger and more dynamic conference than previous separate conferences that have been held sometimes in the same year. Members of IAL (webpage: http://ial.strikingly.com/) work more from a geological perspective, generally on older paleolake systems and members of IPA (webpage: http://paleolim.org/) work from a more biological perspective on more recent lake systems, so having both perspectives at the meeting will allow for great discussions and hopefully new ideas to solve modern and ancient issues concerning climate, limnology/hydrology, biology, geology/tectonics and contaminant transport from studying lake sediments and rocks. Many IAL and IPA members belong to both organizations, so it will allow these scientists to not have to choose which meeting to attend.

The organizing committee is just starting to put the program together, so we are still looking for members (and non-members) to submit possible sessions for the meeting. Please send suggestions to Michael Rosen (mrosen@usgs.gov) and he will add it to the growing list of session ideas.

For more information about the meeting please go to the newly launched IAL/IPA conference webpage at http://ipa-ial.geo.su.se and check back frequently as new material about the meeting is added. New information will include (among other things) registration pages, scientific program development, and hotel information. The conference won't have a particular hotel to book accommodation, but it will give suggestions for hotels that are near the meeting location.

Please spread the word and we hope to see you all in Sweden in 2018.

Sessions Sponsored by Limnogeology Division at GSA at Seattle

Abstracts deadline: **1st August 2017**

http://community.geosociety.org/gsa2017/home

T93. Lacustrine Systems Across Space and Time

Advocates: Scott W. Starratt; Michelle F. Goman
Lakes come in all shapes, depths, and salinities. Our understanding of these systems has developed through the use of a range of physical, chemical, and biological proxies which have been used in the study of modern lakes, Quaternary sediments, and lithified sequences. This session celebrates all aspects of lacustrine research from around the world and across time.

T94. Limnogeology—Progress, Challenges and Opportunities on Earth and Beyond: A Tribute to Beth Gierlowski-Kordesch

Advocates: David B. Finkelstein; Lisa E. Park Boush
This session explores new insights, critical thinking and integrated analytical approaches including sedimentology and stratigraphy, remote sensing, geophysical techniques, geomicrobiology and geochemical studies applied to the interpretation of modern and ancient lake environments and sediments.

T95. Monsoons and Westerlies in Asia: Quantifying Trans-Asia Hydroclimates Since the LGM

Advocates: Yonaton Goldsmith; Jay Quade; Yehouda Enzel
Reconstructing trans Asia, centennial to millennial, late Pleistocene and Holocene hydroclimates using limnology, geochemistry, paleoenvironments, paleohydrology, and modeling from lacustrine settings; all are related to Asian and Indian monsoon and westerlies.

T96. Understanding African Environmental History Through Continental Scientific Drilling: Past Successes and Future Opportunities

Advocates: James M. Russell; Michael McGlue; Sarah Ivory
Continental scientific drilling and coring projects have recovered dozens of long cores from African lakes and paleolakes which have greatly expanded our understanding of African

environmental history over the Neogene. There are many additional lake drilling projects currently in development to study the climatic, environmental, and biological evolution of Africa as well as the geological evolution of African lake basins. This session will review and synthesize results from past projects, and discuss how future drilling and coring can improve our understanding of Africa's environmental history and its diverse lacustrine basins.

T97. Will My Boat Float? – Physical and Biological Proxies for Lake Level Variability

Advocates: Scott W. Starratt; Bryan N. Shuman; Julie Loisel
Changes in lake level are a useful measure of changes in precipitation and evaporation rates. Beyond the impact of regional climate variability, local factors such as bathymetry, watershed characteristics, and groundwater influence affect the magnitude and timing of lake level response to climate. This session seeks presentations using a variety of physical and biological proxies available to identify changes in lake level and clarify their limitations.

Invited Speakers (Confirmed):
Benjamin Hatchett (University of Nevada-Reno) – The sensitivity of a western Great Basin terminal lake to winter Northeast Pacific storm track activity and moisture transport

T98. Windows into the Crust: Paleo-Earthquake Records from Lacustrine Sediments

Advocates: Elana L. Leithold; Karl W. Wegmann; Darren Larsen
Lakes positioned in seismically sensitive locations may record past earthquakes through the accumulation and preservation of distinct sedimentary deposits, including those from subaqueous and subaerial mass wasting, displacement waves (e.g. lake tsunamis), seiches, and the failures of natural and manmade dams. These and other impacts leave behind distinctive deposits in lake sediments, which have been used as archives of past earthquakes around the world. Such records are important for developing accurate seismic hazard assessments and for understanding changes in fault dynamics through time and space. We encourage research highlighting the latest techniques, common challenges, and success stories as applied to lacustrine paleo-seismology and related hazards.

Invited Speakers (Confirmed):

Ann Morey Ross (Oregon State University) – Paleoseismology above the Cascadia Subduction Zone from small forearc lakes in Oregon, U.S.A.

Maarten Van Daele (Renard Centre of Marine Geology, Department of Geology, Ghent University, Belgium) – Paleoseismology from Chilean lakes: A South American Perspective.

Sessions that might be of interest to Limnogeology Division members

T17 Polar and Alpine Changes

Advocates: W. Berry Lyons
Polar and high alpine environments are undergoing rapid changes including cryosphere loss, with important geomorphological, hydrological, biogeochemical, and ecological consequences. This interdisciplinary session will explore these changes in both the Arctic and Antarctic.

T32. Geoscience on National Forests and Grasslands—Stewardship, Education, and Research

Advocates: Christopher P. Carlson; Johanna L. Kovarik; Joseph T. Gurrieri; Ryan P. Mikulovsky
This session will feature geologic resources and geoscience research conducted on the National Forests and Grasslands. Topics include paleontology, geomorphology, hydrogeology, geo-ecology, geologic hazards, cave and karst resources, geologic engineering, interpretive and recreational geology, and more.

T38 Cenozoic Paleoclimates and Ecosystems

Advocates: Alexis Licht; Caroline Stromberg; Gerard H. Roe; Guillaume Dupont-Nivet; Yannick Donnadieu; K. Christopher Beard

The session encourages contributions that address Cenozoic paleoclimate from a variety of approaches, including climate simulations, paleontological, paleobotanical, and geological studies of the marine and terrestrial records. Comparisons between data and models are particularly welcomed.

T39. Cushman Foundation Symposium: Microfossil Mayhem—Murder, Misfortune, and More

Advocates: Miriam E. Katz; Francine M.G. McCarthy; Michelle F. Goman
Microfossils (assemblages, geochemistry) are integral to a wide range of human-related studies, from hominin evolution to murder investigation. This session highlights innovative microfossil applications to areas such as forensics, pollution, sea level, climate, anthropology, and archeology.

T44. Insights from Microfossils, from Traditional to Novel Approaches

Advocates: Miriam E. Katz; Robert K. Poirier; Krystyna Kornecki; Megan K. Fung
Traditional uses of microfossils are central to many research applications, while novel geochemical approaches utilizing microfossils have expanded recently. This session highlights traditional and innovative microfossil applications in terrestrial and marine environments, including modern analogs.

T45 Miocene–Pliocene Terrestrial Ecosystem Response to the Climate System

Advocates: Kevin Uno; Tammo Reichgelt

Miocene–Pliocene climatic change shaped modern terrestrial environments and holds clues for the planet's future. We encourage research on climate – biota interaction that elucidates mechanisms of ecosystem change during this period.

T46. North Pacific Environment and Paleoclimate from the Late Pleistocene to Present

Advocates: Lesleigh Anderson; Miriam C. Jones
Marine and terrestrial reconstructions of environment and climate from the North Pacific region, including eastern Asia, Alaska and western North America, are encouraged to explore patterns and linkages during the deglacial, Holocene, and historic periods.

T69. The Role of Silica in the Earth System: From Organisms to Global Biogeochemical Cycles

Advocates: Jonathan P. Wilson; Caroline A.E. Strömberg; Patrick J. Frings
This session seeks to bring together geochemists, modelers, soil scientists, physiologists, and paleontologists to discuss state-of-the-art knowledge of the terrestrial and oceanic silica cycles, links between them, and connections with other biogeochemical cycles through time.

T85. Clear as Mud: Stratigraphic, Diagenetic, Sedimentologic, Geomechanical Analyses, and Modern Analogs of Ancient Mudrock Systems

Advocates: Bryan W. Turner; Shannon A. Dulin
New techniques enable efficient and accurate analyses of mudrock properties at fine-scales, allowing precise descriptions and interpretations of this subtle lithology. This session highlights new studies of sedimentology, stratigraphy, and diagenesis of mudrock dominated systems.

T88. Mudstone Facts: Deposition, Diagenesis and Source of Basin Fluids

Advocates: Neil Fishman; Sven Egenhoff; Dario Harazim
This session features the sedimentology and petrology of mudstones, and their role as sources of fluids in basins. Although organic-rich mudstones (marine or lacustrine) are a focal point, studies on other mudrocks are welcome.

T111. Geology and Hydrology in the National Parks: Research, Mapping, and Resource Management

Advocates: Jason P. Kenworthy; F. Edwin Harvey
This session addresses the roles of geology and hydrology in national parks. We encourage presentations on geologic and hydrologic research, paleontology, past research experience, and geologic and water resource management in units of the U.S. National Park System.

T182. Through the Lens of the Dating Specialist: Advice on Applications, Sampling Methods, Data Interpretations and Information on Recent Innovations (Posters)

Advocates: Tammy Rittenour; Shannon A. Mahan; Michelle Summa Nelson

This poster session provides a venue for geochronology specialists to answer questions and discuss sampling methods, technique principles, and new and innovative applications of dating techniques with interested researchers and potential users.

T189. Landscapes in the Anthropocene

Advocates: Rónadh Cox; José Antonio Constantine; J. Wesley Lauer
Advances in understanding landscape evolution are paving the way to successfully coupling hydrological and climate-change models with predictions of landscape adjustment. We seek abstracts investigating the relationships between various earth systems and landscape response.

T190. Linking Physical and Ecological Processes from Source-to-Sink to Investigate Multi-Scale Response to Restoration

Advocates: Andrew C. Wilcox; Amy East; Jon Major
This session will provide a forum for sharing emerging research on ecogeomorphic processes and watershed-scale response to restoration from source-to-sink, and to look ahead at future directions in this field.

T248. Microbialite Textures and Chemical Signatures in Continental Settings: Forging the Link Between the Modern and Ancient

Advocates: Thomas A. Hickson; Julie K. Bartley
We seek abstracts that focus on the textures (macro- and microscopic) and geochemical signatures of microbial activity in continental settings. These abstracts should clearly forge a strong link between ancient rock sequences and modern biogeochemical processes.

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Upcoming Meetings

Geological Society of America (GSA) Annual Convention

2017 Seattle, Washington, USA 22–25 October
2018 Indianapolis, Indiana, USA 4–7 November
2019 Denver, Colorado, USA 13-16 October

Association of American Geographers (AAG) Annual Meeting
New Orleans, Louisiana, April 10-14th, 2018
http://www.aag.org/cs/annualmeeting

Numerous sessions organized by the Paleoenvironmental Change Specialty Group. Limnogeologists encouraged to participate! For more information please contact Limnogeology division secretary Michelle Goman.

American Society of Limnology and Oceanography (ASLO)
11-16 February 2018, Oregon Convention Center, Portland, OR
http://osm.agu.org/2018/

Annual Conference and Exhibition of the American Association of Petroleum Geologists (AAPG)
Salt Lake City, Utah, May 20-23rd, 2018

International Association of Limnogeology (IAL)
and
International Paleolimnology Association (IPA) Joint Conference
Stockholm, Sweden, June 18th-21st, 2018.
http://ipa-ial.geo.su.se

World Lakes Conference (WLC17)
The **17th World Lakes Conference (WLC17)** The Seventeenth World Lake Conference

Ibaraki, Japan October 15-19th, 2018
http://www.pref.ibaraki.jp/seikatsukankyo/kantai/kosyou/wlcen.html

PACLIM 2019
PACLIM is a multidisciplinary workshop that broadly addresses the climatic phenomena occurring in the eastern Pacific Ocean and western North America. The purpose of the workshop is to understand climate effects in this region by bringing together specialists from diverse fields including physical, social, and biological sciences. Time scales from weather to the Quaternary are addressed in oral and poster presentations.
Asilomar, California
February 17 -20th, 2019
For more information please contact Limnogeology division secretary Michelle Goman.
Paclim.org

Go to the Limnogeology Division website at:

http://rock.geosociety.org/limno/index.html

To get the latest information on other Limnogeology meetings and workshops…

David Warburton, Webmaster

If you have any news, photos, articles, upcoming conferences and recent publications, you would like to share with the division, please submit it to Michelle Goman at goman@sonoma.edu

Lake Washington, looking southeast toward Mercer Island with Mount Rainier in background.
(Photo: By User:Tradnor - en wikipedia, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=475078)

Green Lake at Sunset
(Photo: Seattle.gov)

Phantom Lake
(Photo: Sam DeBord)