

THE GER EXCHANGE: SPECIAL EDITION

"Promoting high quality scholarly research in geoscience education."

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Post 2015 Earth Educator Rendezvous: Message from the President

Greetings fellow GER enthusiasts!

What a wonderful (and busy) week in Boulder, CO exchanging ideas about geoscience education at the inaugural Earth Educator Rendezvous! It was great to see so many division members and learn about the variety of geoscience education research (GER) projects going on. If you weren't able to attend, you can see the list of events and find copies of some presentation slides here: http://serc.carleton.edu/earth_rendezvous/2015/index.html

The Rendezvous proved to be a great opportunity to exchange ideas about how we as individuals and as a community define, practice, value, and communicate GER within and beyond our community. As you may know, aside from individual member presentations, our division was actively involved in a 3-day workshop "Synthesizing Geoscience Education Research: Where are we? What is the path forward?" and a related evening town hall event

(http://serc.carleton.edu/earth_rendezvous/2015/morning_workshops/w3/index.html). There will be more formal post-workshop synthesis communications and information on future opportunities released from the workshop planning committee in the coming months, so please keep an eye out for those. In the meantime, I wanted to share some of my observations and initial thoughts for those that weren't able to attend.

As I reflect on the dialogue at the Rendezvous events and the many wonderful informal conversations I had with people, I see several "hot topics" emerging that are important to note as we continue to build our community of practice around GER.



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Hot Topics at the Rendezvous

A community need to clarify the GER spectrum (from SoTL to fundamental/basic research)- The following questions repeatedly came up and are worth pondering: What does GER look like in its different forms? What's the difference between "scholarly"/reflective teaching practice, Scholarship of Teaching and Learning (SoTL), and fundamental GER? How do the expertise and training needs of researchers practicing different forms of GER vary? How do we as GERers, self-identify and find others who similarly self-identify? If you weren't at the Rendezvous, do check out the 9:00-10:00am presentation that got this conversation going, "Scope of GER and how it can be used: Community Perspectives" (http://serc.carleton.edu/earth_rendezvous/2015/morning_workshops/w3/program.html). *(Our goal in the division is to create an inclusive community of practice, while recognizing that the needs of our members vary according to the nature of the GER they engage in. With the division, we have a "place" for people to meet and exchange ideas around a common interest of GER. How can we better support members to find what they are looking for within our community?)*

The importance and role of language in a community of practice-Language matters—but how do we balance accuracy with access? As one workshop participant explained (paraphrased), "surfer dudes have a language around surfing that wouldn't make sense unless you were part of that community; GER, like any field, is like that—it allows us to be specific in our meaning and understanding of phenomena." How do we as researchers ensure that we are using appropriate language for more technical educational research audiences (within GER, DBER, educational psychology, etc.) while also reducing "jargon" anxiety in more general audiences? What structures could we put in place to translate educational concepts and research methods for broader audiences, particularly instructors interested in the "practical implications of research for teaching without the technical jargon"? *(I would also add that we should consider the role language choices make in how the GER community is perceived beyond our community—by building on existing language structures around DBER topics in other fields, the use of specific language choices allows us to transcend our GER community and communicate across disciplines (e.g., educational psychology), helping to raise the overall academic profile and perceived value/impact factor of GER work.)*

Building a more formal network of people and methods resources-How can an individual find others doing research on similar topics or using similar methods? Because GER covers so many literature bases, how can someone figure out which are the "key" papers to start with? If someone is interested in getting involved in GER, but don't feel they have enough prior experience, who can they get advice from? Where can individuals get training in research design and data collection/analysis methods? What formal degree programs exist for students interested in GER? What existing structures can we leverage to better network our community and what structures should we try to build? *(In the division, this is one of our top priorities.)*



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Hot Topics at the Rendezvous

We are currently facilitating the exchange of ideas and resources with our webpage, meeting events, and newsletter—now featuring researcher profiles. But we need volunteers to help make these and new things happen! Please contact the division secretary, Katherine Ryker kryker@emich.edu to join the communications committee or help support one of the committee's networking efforts. Also, please see the GSA opportunities section of this newsletter to meet other GERers in person this fall and see the "how to update your SERC profile" feature in this newsletter to start connecting with other GERers virtually!

Community feedback needed on GER quality evaluation model- The GER community and its research standards have evolved over the years. We need to be able to identify what we "know" from GER before we can effectively translate research into practice. How can we say with confidence that we "know" what works in geoscience teaching and learning? How can a new GERer or someone in/outside of our community evaluate our research publications for quality? Karen McNeal and Kristen St. John are leading a community effort to create a model that can be used to evaluate the quality of GER studies. Please take a look and share your thoughts. From discussions at the Rendezvous, there was a desire to add research design/ methods and literature context, among other things. The model can be found in 10:15-11:15am workshop session presentation file, "Evaluating the strength of GER results: One Approach" (http://serc.carleton.edu/earth_rendezvous/2015/morning_workshops/w3/program.html).

Supporting GER faculty in Promotion & Tenure (P&T)-A portion of the community is greatly concerned about the value placed on GER projects within departments/institutions and in the broader geoscience and STEM communities. How can we best communicate the value of GER to department chairs and P & T committees? What would P & T guidelines for faculty members primarily engaged in GER look like? For those who engage in both geoscience and GER? Some ideas that emerged during the Rendezvous: create a community list of "external P & T evaluators" that department chairs and P & T committees could use to include someone with GER expertise on the committee; create a GER guide for department chairs; collect GER grant funding #'s from the community to show the economic value of GER to departments/institutions; create an impact value reference chart comparing GER publications to other DBER journals. *If you are interested in getting involved in making some of these ideas a reality, please contact me, Laura Lukes, (llukes@gmu.edu) or Nicole LaDue (nladue@niu.edu).*

Identifying the future direction(s) and priorities of GER- Do we want to let a thousand flowers bloom or do we want to work towards a community consensus in setting priorities in order to make recommendations to potential funders (e.g., NSF)? What might a community consensus look like? How should we proceed to get community input? One idea that emerged during the town hall was to focus our community efforts around



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Hot Topics at the Rendezvous

the "big challenges" in geoscience (i.e., climate change). Another idea was to focus efforts on creating tools and instruments that community could use to assess learning, attitudes, etc. *(This was a lively discussion that was much too short at the Rendezvous—I look forward to more opportunities to hear other perspectives on the subject. Please see the special issue call for papers from JGE in this newsletter. I encourage everyone to reflect on their own individual GER priorities. How do you connect the value of your work to the work of the broader GER community? What would your elevator speech be if you ran into someone looking to invest \$6M in GER?)*

Lastly, I'll say, please keep an eye out for post-workshop opportunities to continue these conversations and work on community-based publications (again, workshop attendance is not a pre-requisite to get involved). Thanks to all in the GER community to participated in the Rendezvous events—I hope everyone left feeling energized and full of new ideas and perspectives on GER as I did!

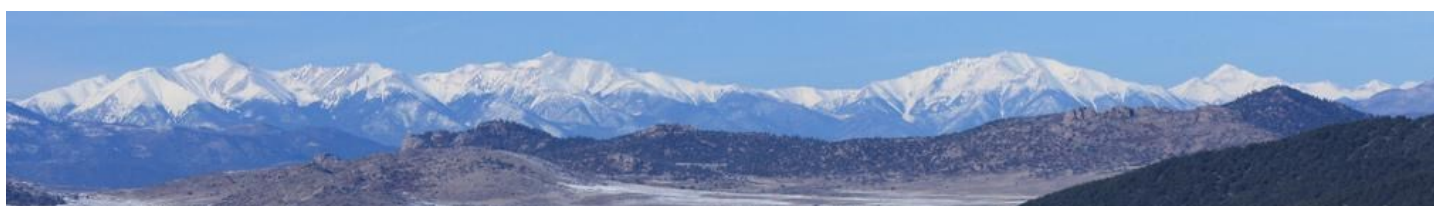
Warm regards and hope to see you at next year's Earth Educator's Rendezvous—sure to become a GER community tradition!

Laura Lukes
President, NAGT-GER



GER Fun Fact!

NAGT-GER has become the largest division in NAGT with a total of 254 members! Know of anyone who might want to join (\$7/year)? Forward them this newsletter, and send them to: <http://nagt.org/nagt/divisions/geoed/index.html>



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Getting Ready for GSA

GSA Annual Meeting Baltimore, MD **Nov. 1-4, 2015**

NAGT-GER sponsored GSA Session:

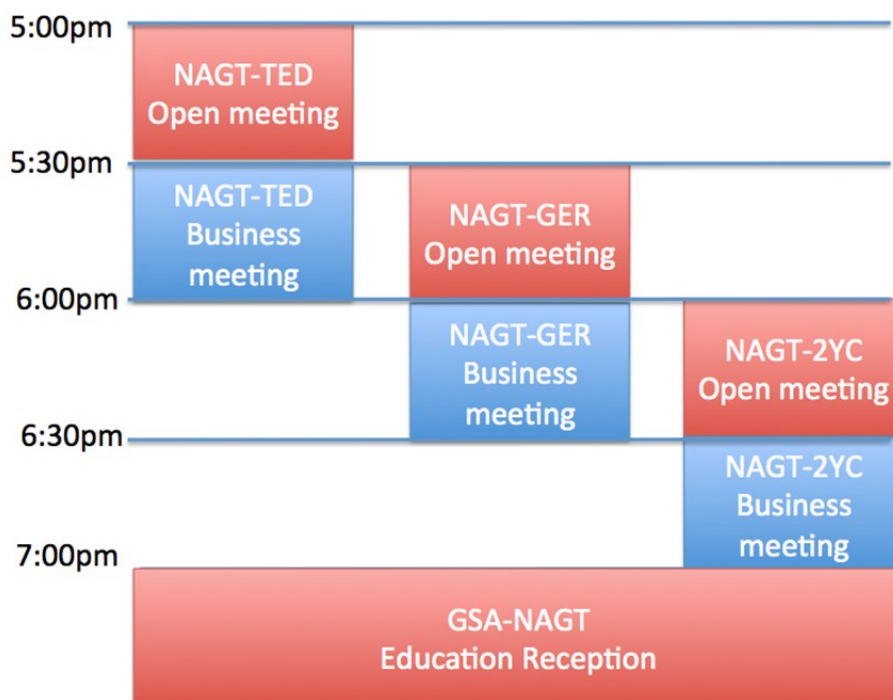
T83. Methods for conducting research about teaching & learning in the geosciences

The goal of this session is to showcase the wide variety of possible methods available for conducting GER. We are seeking abstracts that showcase a specific method/theoretical framework with an eye towards those that are "new" to the GER community/literature. We hope to showcase classic and novel methods currently being applied to answer GER questions. Please consider submitting an abstract. The deadline is **August 11th, 2015**.

NAGT division meeting schedule at GSA

Sunday, November 1st

It's always difficult to go to everything education-related at GSA. This year, we've coordinated with the other NAGT divisions to ensure that people can attend all the division meetings if they want to. Please join us for our open division meeting Sunday, 11/1 from 5:30-6pm



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Getting Ready for GSA

The GER Division leadership is chairing a session on GER at the 2015 GSA meeting in Baltimore, MD. The session is: *T83. Methods for Conducting Research about Teaching and Learning in the Geosciences*. The goal of this session is to showcase classic and novel methods currently being applied to answer GER questions. Please consider submitting an abstract. The deadline is August 11, 2015.

Check out these workshops at GSA led by NAGT-GER members!: <http://community.geosociety.org/gsa2015/science-careers/courses-collapse8>

- ◇ 515-Building Teaching Skills for Future Faculty (Sat. 10/31; \$100)
- ◇ 523-William "Strata" Smith and Geo-Education: Using the History of Geology for Teaching Mapping, Scientific Practices, and the Nature of Science (Sat. 10/31, \$20)
- ◇ 524- Teaching Controversial Issues 1: Climate and Energy (Sat. 10/31, \$35)
- ◇ 527- Teaching Geoethics across the Geoscience Curriculum (Sat. 10/31, \$50)
- ◇ 529- Teaching Controversial Issues 2: Evolution of Life and Earth (Sat. 10/31, \$35)
- ◇ 531- Interactive Strategies for the classroom: A how-to guide using examples about igneous rocks(Sat. 10/31, \$20)

Tell us about it!

Are you planning GER-related sessions or workshops at regional GSAs? Send information to secretary Katherine Ryker (kryker@emich.edu) to have it included in our next newsletter!

Publishing and Funding Opportunities

Special Issue of JGE coming focusing on GER: "Synthesizing results and defining future directions of GER"
More information to come, deadline will be early-mid Summer 2016.

Improving Undergraduate STEM Education: Pathways into Geoscience (IUSE: GEOPATHS) Solicitation 15-526

"The IUSE: GEOPATHS solicitation features two funding Tracks: (1) Engaging students in the geosciences through extra-curricular experiences and training activities (GEOPATHS-EXTRA), and (2) Improving pathways into the geosciences through institutional collaborations and transfer (GEOPATHS-IMPACT)." Letter of Intent (required) due 8/14/2015; Full Proposal due 10/5/2015.

Tribal Colleges and Universities Program (TCUP) Solicitation 14-572

"The Tribal Colleges and Universities Program (TCUP) provides awards to Tribal Colleges and Universities, Alaska Native-serving institutions, and Native Hawaiian-serving institutions to promote high quality science (including sociology, psychology, anthropology, economics, statistics, and other social and behavioral science as well as natural science and education disciplines), technology, engineering and mathematics (STEM) education, research, and outreach."

Instructional Capacity Excellence in TCUP Institutions due 9/1/2015

Targeted STEM Infusion Projects due 9/16/2015



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Finding GER Collaborators

Want to find other GERers or potential collaborators? Update your profile on SERC by logging in—there is a link on the top left to “Your Profile Page.” You can create a bio, change your photo, link to your research website, and add information about your current GER membership and projects.

To help network the community better, here are some suggestions for what you might include—taken from our researcher spotlight guide: GER Spotlight.

- ◇ What is the focus of your current geoscience education research?
- ◇ What research methods/approaches do you prefer and why?
- ◇ What has been the best tool/resource you’ve found for developing as a geoscience education researcher (organization, conferences, webinar, person, online resource)?
- ◇ What is your favorite or “must read” education research paper? Why is this paper meaningful for your work?
- ◇ What is the most interesting paper you have read in the field recently? How did it spark your researcher curiosity?
- ◇ What type of project would you like to collaborate with other researchers on?
- ◇ What is your advice for an early career geoscience education researcher?
- ◇ What is your advice for someone who is interested in starting out in geoscience education research or scholarship of teaching and learning?
- ◇ What does GER look like at your institution, in your position? (ex. Are you in a geology department or college of education? Do you work with other DBER folks? Do you have graduate students? Are you looking for graduate or undergraduate students?)

Interested in being featured in the GER Spotlight? Know someone deserving? Contact Katherine Ryker (kryker@emich.edu) to learn more!

SAVE THE DATES!

1. Going to AGU? Abstracts are due **August 5th**.
2. GSA Abstracts are due **August 11th**.
3. The 2016 Earth Educators’ Rendezvous will be at the University of Wisconsin, Madison. Keep an eye out for the dates!



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GSA Education Committee and GSA Education Division: What's the difference?

Wonder what the difference is between GSA Education Committee and GSA Education Division? Thought about getting involved in GSA but confused by GSA organizational structure? Wonder what the role of the Council and committees are? —Check out the new video explaining the structure of GSA: <https://www.youtube.com/watch?v=1k3V4gVOV7k&rel=0>



Opportunities to Get Involved with the Division

The NAGT-GER is seeking members and chairs for the following committees. If you are interested in learning more, please contact the listed officer.

- **Communications Committee:** Help us spread the word about the GER division and geoscience education research to our members and external groups and individuals. We need people who will create or oversee a variety of ways to share our message, like a Division website, listserv, e-newsletter, presence on social media, etc. Looking to build your resume and get involved? In addition to committee members, we are also seeking a Director of Communications to lead the Communications Committee. For more information, contact Secretary Katherine Ryker (kryker@emich.edu).
- **Long-Range Planning Committee:** Are you interested in helping to shape the long-range vision of the Division and its mission? If so, the Long-Range Planning Committee needs you! This committee shall identify and develop resources to achieve the Division's mission, including identifying and soliciting potential sustaining members. The GER Vice President is the Chair of this committee, so please contact Nicole LaDue (nladue@niu.edu) to help shape the future of the GER Division!
- **Conference Committee:** We need people who are willing to organize collaborative activities at conferences and meetings like those of GSA, AGU, NAGT, NARST, or their sections. This committee will work with the NAGT leadership to coordinate activities like endorsing sessions. For more information, contact President Laura Lukes (llukes@gmu.edu).

