

DECEMBER 2019



THE GER EXCHANGE

Promoting high-quality scholarly research in geoscience education.



Featured Spotlight- Renee Clary

This month's [GER Spotlight](#) is Dr. Renee Clary, Professor at Mississippi State University in the Department of Geosciences and the Director of the [Dunn-Seiler Museum](#). Dr. Clary is a longtime proponent of geoscience education, especially with a multidisciplinary approach, and she was just named a [Fellow of American Association for the Advancement of Science](#). Check out the full December 2019 Spotlight [here](#)!

December 2019 Featured Article

[The Science of Effective Mentoring in Science, Technology, Engineering, Medicine, and Mathematics \(STEMM\)](#)

mathematics, and medicine (STEMM) enterprise depend on increasing the diversity of individuals, research teams, and leadership in STEMM fields. This in turn requires the advancement of women, individuals from racial/ethnic groups historically underrepresented in STEMM, and first-generation students at the undergraduate and graduate levels. Effective, high-quality, and sustainable mentoring relationships for diverse individuals across career stages are essential in supporting student success (e.g., performance, persistence) in STEMM fields, especially for many members of these underrepresented populations.

While access to and engagement with a strong mentor are known to be influential factors in the academic and career development of undergraduate and graduate students in STEMM, there has not been adequate attention to ensuring that mentors and mentees are educated and trained with the evidence-based knowledge and skills necessary to ensure highly productive and sustainable mentoring relationships. It is increasingly clear that successful mentoring relationships can be nurtured using existing and emerging research on the characteristics, competencies, and behaviors identified for being effective mentors and mentees. What is missing is a systematic compilation and analysis of the current research on mentorship in STEMM as well as a practical resource guide that enables mentoring practitioners—institutions, departments, programs, and individual faculty members—to create and support viable, sustainable mentoring support systems. This study proposes to address these two gaps.

National Academies of Sciences, Engineering, and Medicine. 2019. **The Science of Effective Mentorship in STEMM**. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25568>.

Webinar- How to be an effective reviewer for the Journal of Geoscience Education

December 6, 2-3pm EST/1-2pm CST/12-1pm MST/11am-12pm PST

Join us for a panel discussion on the nuts-and-bolts of crafting a valuable review of colleagues' papers for JGE. We'll hear from Editor-in-Chief Anne Egger about the characteristics of valuable reviews from the Editor's perspective, and how Editors use those reviews in crafting feedback and

craft reviews that help advance the discipline. Finally, the panel will answer questions about their process and how to adapt or adopt your own practice as a reviewer.

Please reserve your slot by completing the [Google Form](#) by 5pm EST on Wednesday, December 4.

Job Opportunities

● [Assistant Professor of Geosciences at Nevada State College](#)- If you need assistance or have questions regarding the application process, please contact the Human Resources department at (702) 992-2320 or nhr@nsc.edu. Job posting will remain open until the position is filled.

● [Research Associate at University of Colorado, Boulder](#)- If you need assistance or have questions regarding the application process, please contact the Human Resources department at Recruiting@colorado.edu. Review of applications will begin December 2nd and continue until the position is filled.

● [Climate Change Education Manager based in Minneapolis, Minnesota](#)- Submit application materials and questions to jobs@climategen.org. Ideally the selected candidate would begin work in January 2020.

● [Tenure-track Assistant Professor at The College of Science and Engineering at San Francisco State University](#)- For questions about this position, contact Dr. Petra Dekens, dekens@sfsu.edu, 415-338-6015, the Hiring Committee Chair. Position open until filled.

● [Instructional Assistant Professor/Assistant Program Director of the Grand Challenges Initiative at Chapman University-Schmid College of Science and Technology](#)- Inquiries regarding the position can be directed to Dr. Greg Goldsmith, Director of the Grand Challenges Initiative (grandchallenges@chapman.edu).

● [GeoPaths Professional Practice Assistant Professor at Utah State University](#)- For more information, please contact Dr. Alexis K. Ault at alexis.ault@usu.edu.

● [Four postdoc-level positions at Texas State Physics and Astronomy Education Research Group](#)- Related to studying, supporting, and/or enacting instructional change efforts in undergraduate STEM. Review of applications will begin on November 20, 2019; preferred start dates are between January 1 and May 1, 2020.

● [Tenure-track faculty at San Francisco State University, College of Science and Engineering](#)- For further information visit <http://cose.sfsu.edu/>, or contact Petra Dekens at Dekens@sfsu.edu or 415-338-6015.

● [Multiple Positions at Florida International University's STEM Transformation Institute](#)- Visit FIU's website for more information. To receive full consideration, applications and required materials should be received by December 12, 2019.

Online Resources

Do you study or evaluate FEW-Nexus-focused educational programs in K-12, postsecondary, and/or informal/nonformal settings? If so, consider joining us!

There is no cost to you and NC-FEW participation affords you access to community activities, including travel support to invited meetings, webinars and NC-FEW communications, and designation as an NC-FEW affiliate. Through these community activities, you will have opportunities to showcase and generate visibility for your work, network with community members, learn about others' FEW-Nexus-focused education research and educational programs, contribute to NC-FEW working groups (postsecondary, K-12, and informal/nonformal), develop new research and pedagogical skills, cultivate new collaborations for funding proposals, and become a part of new professional community. Want to learn more? We invite you to explore what NC-FEW has to offer. Connect with NC-FEW today!

[The National Collaborative for Food, Energy, and Water Education \(NC-FEW\)](#) is an emergent, transdisciplinary community of educators and education researchers from science, technology, engineering, and mathematics (STEM) and food, agriculture, natural resources, and human sciences (FANH) fields.

[If interested, get involved in their free online community today!](#)

NAGT at AGU 2019

GER Sponsored Sessions

[ED21C - Assessing Student Learning: Moving Beyond Affect I Posters](#)

college level Earth and space science. We invite submissions of assessment practices that are developed to align with student learning goals and enable instructors to measure the extent (both depth and degree) of student concept mastery. Possible topics for presentations include: defining meaningful learning outcomes at the assignment or course level, examples of activities or assignments that measure learning effectively, and examples of well-intentioned efforts that led to disappointment.

Conveners: Tanya Furman, Lydia K Fox, Rachel Teasdale, and Lisa A Gilbert

Volunteer to Staff the NAGT Booth

We are actively soliciting NAGT members to help staff the booth during the AGU annual meeting. This is a great way to meet other NAGT members from around the country and share your excitement about geoscience education. Your commitment and enthusiasm are critical to helping bring new members on board. If you've never volunteered at the booth before, it's easy!

Please contact Caroline Smith (csmith3@carleton.edu) in the Executive Director's Office for scheduling.

2020 PKAL STEM Leadership Institute

[The Project Kaleidoscope \(PKAL\) STEM Leadership Institute](#) is designed for STEM faculty at the early to middle stages of their careers as educators, researchers, program directors, principal investigators, or department/college-level administrators. The multi-day intensive professional development experience empowers individuals in fully understanding and implementing the theory and practice of navigating the politics of change, addressing inter- and intra-personal conflicts, and re-structuring the institutional systems that limit the capacity for global competitiveness in science and technology.

Location: The Claggett Center, Adamstown, Maryland Institute

Dates: Institute I: *July 8-13, 2020*, Institute II: *July 15-20, 2020*

Early Action Deadline: January 15, 2020

Regular Deadline: March 16, 2020

Education: The National Academies' Roundtable on Systemic Change in Undergraduate STEM Education

Wednesday, December 4, 2019

1:00 pm PT | 2:00 pm MT | 3:00 pm CT | 4:00 pm ET

[Register online by December 2, 2019](#)

Presenters: Ann E. Austin (Michigan State University), Noah Finkelstein (University of Colorado Boulder), Kerry Brenner (National Academies)

The Roundtable on Systemic Change in Undergraduate STEM Education is a group of the National Academies of Sciences, Engineering, and Medicine that brings together national experts and thought leaders representing the full spectrum of stakeholders in higher education. They coordinate and catalyze actions that advance the common goal of improving undergraduate STEM learning experiences. Linking existing reform efforts in science, technology, engineering, and mathematics (STEM) education allows reformers to learn from each other and leverage each other's work. Using evidence-based approaches and building on successful reform efforts, the roundtable works to expand access, increase equity, and support quality learning experiences for all learners. Their work examines changes in technology, workforce, demographics, and society to determine optimal ways for the system of higher education to respond to the current and future needs of the nation to have a scientifically literate public and a well-prepared STEM workforce. This webinar will highlight forces the Roundtable sees impacting the future of undergraduate STEM education, present information on some of the key themes the Roundtable has identified as central to progress in improving undergraduate STEM education, and invite input from webinar participants on their own related initiatives and their suggestions for future Roundtable work.

This webinar is designed for individuals involved in STEM education reform initiatives or who are interested in change efforts and avenues for connecting to a national agenda. We welcome current faculty as well as future STEM faculty; academic and administrative leaders at 2- and 4-year colleges and universities; and leaders and staff of non-profit organizations, professional societies and disciplinary associations, and funding organizations.

2020. This critical service opportunity involves evaluating our current award procedures, and selecting winners from nominations. The estimated total time commitment over the year is 5-10 hours, including at least two group phone calls.

- For more information on the awards, please visit https://nagt.org/nagt/divisions/geoed/ger_awards.html.
- If you are interested in serving on this important committee, please contact [Katherine Ryker](#).

Grant, Award, and Scholarship Deadlines

● NSF [Alliances for Graduate Education and the Professoriate \(AGEP\)](#) Full Proposal Deadline **December 13, 2019**

● NSF [Improving Undergraduate STEM Education: Education and Human Resources](#) (Engaged Student Learning and Institutional and Community Transformation Level 2 and 3) Full Proposal Deadline **December 4, 2019**

● NSF [Alliances for Graduate Education and the Professoriate \(AGEP\)](#) (full proposal deadline **December 13, 2019**)

Submit to the GER Exchange

NAGT-GER provides monthly updates on professional opportunities, funding, articles of note, researcher profiles, and other content of interest to our membership. Please consider [contributing items](#) of interest for inclusion in future editions of the Exchange!

For questions, or to join the GER Communications Committee, contact Media Director, Lauren Neitzke Adamo, at lauren.adamo@rutgers.edu.



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