

2017 GSA Annual Meeting: NAGT-Sponsored (and related) Sessions

T100. Barriers, Misconceptions, and Progress in Improving Climate Literacy and Strategies for Communicating about Climate Change

Anne U. Gold, Mona Behl, Bonnie Murray

GSA Geoscience Education Division; National Association of Geoscience Teachers, Division of Geoscience Education Research; National Association of Geoscience Teachers; Climate Literacy Network (CLEAN); GSA Geology and Society Division

The session will focus on research and evaluation of climate literacy efforts, effective ways of communicating about climate change in general, but also in culturally relevant contexts.

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T101. Better Together: Partnerships That Facilitate or Enhance Experiential Learning in Undergraduate Geoscience Education

Miriam Barquero-Molina, Jonathan W. Mies

GSA Geoscience Education Division; National Association of Geoscience Teachers

A showcase of partnerships, consortiums, and collaborations that help to overcome the challenges of providing experiential learning (student research, student service, and domestic and study-abroad field courses) in geoscience programs.

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T102. Beyond the Road-Cut: Virtual, Local, and Nontraditional “Field” Teaching and Learning Experiences

Lauren Neitzke Adamo, Kelsey S. Bitting, Patricia Irizarry-Barreto

Virtual exploration, museum-based assignments, and analysis of geoscience on campus can be more inclusive ways to enhance students' conceptual learning and motivation. This session welcomes presentations describing nontraditional “field” experiences and evidence of their effectiveness.

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T106. Climate Literacy in Formal and Informal Education, for Policy Makers and the Public

Anne Gold, Don Duggan-Haas, Carey Stanton, Larissa Johnson

GSA Geoscience Education Division; National Association of Geoscience Teachers; Climate Literacy Network (CLEAN); GSA Geology and Society Division

The session will focus on activities in formal and informal education, and engagement with decision makers, networks, and the public that can extend the reach and effectiveness of climate literacy efforts.

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T108. EarthCache: Engaging Students and the Public in Geoscience Education, Communication, and Outreach

Matthew Dawson, Charles W. Carrigan

National Association of Geoscience Teachers

The EarthCache program is a partnership between GSA and Geocaching.com. This session explores how geoscience educators can use EarthCache sites to engage with students and the

public for geoscience education, communication, and outreach.

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T112. Geoscience Education at Two-Year Colleges

Brett S. Dooley, Callan Bentley, Wendi J.W. Williams

GSA Geoscience Education Division; GSA Geology and Society Division; International Association for Geoscience Diversity; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geo2YC Division; National Earth Science Teachers Association

Two-Year Colleges (2YCs) are important to diverse and inclusive geoscience workforce recruitment and retention of student populations pursuing STEM and teaching degrees. This session will showcase strategies, curriculum, and partnerships.

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T113. Geoscience Education Research: Implications for Undergraduate Geoscience Teaching and Learning

Kristen St. John, Karen McNeal, Anne Gold, Katherine Ryker

National Association of Geoscience Teachers; GSA Geoscience Education Division; National Association of Geoscience Teachers, Division of Geoscience Education Research

This session highlights how GER findings can be translated into teaching and identifying future directions for research with the broader geoscience community. Specific topics may include active learning, teaching with technology/modeling, diversity, and interdisciplinary collaborations.

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T114. Getting It Done: Experiences of Implementing the Framework and NGSS in Earth and Space Science

Susan Sullivan, Edward Roebeck, Aida Awad

The geoscience education community has taken action to implement the Framework for K-12 Science Education and the NGSS. This session will share case studies, lessons learned, and personal reflections of implementation efforts, even unvarnished ones. Since the release of the Framework for K-12 Science Education and the NGSS, members of the geoscience education community have gained a collective wealth of experience to draw on. The intent of the session is to allow the community to benefit from the experiences of others with respect to the challenges and successes that have come out of real-world action around these initiatives. We encourage submissions across all levels of formal instruction, as well as informal education.

Geoscience Education

T115. Hands-On Teaching Demonstrations that Combine Geoscience and Societal Issues: Audience Participation Requested!

Elizabeth A. Nagy-Shadman, Anne E. Egger

National Association of Geoscience Teachers; GSA Geoscience Education Division

This is a geoscience education session that practices what it preaches. Authors present micro-demonstrations of effective teaching activities that integrate geoscience content with societal concerns. Presentations include audience participation, assessment results, and reflections on effectiveness. Geoscience Education | Environmental Geoscience

T117. Innovation and Collaboration Supporting Undergraduates

Sarah K. Fortner, Elizabeth Heise, Jennifer C. Latimer

Council on Undergraduate Research Geosciences Division; National Association of Geoscience Teachers

We seek broad examples of service learning (e.g., outreach, social media engagement, science advocacy, community-based or campus research, and collaboration with non-profits, artists, and businesses). Approaches that serve diverse students and institutional setting are welcome.

Geoscience Education

T118. Integration of Field and Laboratory-Based Experience toward Designing Pedagogically Sound Curriculum Enhancement Activities in the Geosciences (Posters)

Nazrul I. Khandaker, Arif M. Sikder, Stanley Schleifer

GSA Hydrogeology Division; GSA Sedimentary Geology Division; National Association of Geoscience Teachers; American Institute of Professional Geologists; GSA Environmental and Engineering Geology Division; GSA Geoscience Education Division; National Earth Science Teachers Association; GSA Quaternary Geology and Geomorphology Division; Council on Undergraduate Research Geosciences Division; GSA Geoinformatics Division; GSA Environmental and Engineering Geology Division

Classroom knowledge becomes understandable, relevant, and meaningful through field-and-data-based information obtained through the infusion of technology, in particular, as related to sediment composition, discrete mineral phase, micro-fabric, structural anisotropy, etc. K9–16 students are highly encouraged to share their research experience.

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T120. Making Thinking Visible: Actions and Expressions of Problem Solving and Decision Making in the Geosciences

Eric M. Riggs, Lauren N. Holder, Angela Van Boening

GSA Geoscience Education Division; National Association of Geoscience Teachers, Division of Geoscience Education Research

This session presents evidence-based studies that aim to make thinking visible in order to understand geologic problem solving. We encourage rigorous research investigating approaches and techniques to externalize, document, and understand geologic thinking and cognition.

Geoscience Education

T122. On the Cutting Edge: Fifteen Years of Impacts on Geoscience Education

David W. Mogk, Heather Macdonald, Michael E. Wyssession

GSA Geoscience Education Division; National Association of Geoscience Teachers

This session requests contributions from geoscience educators who contributed to, or benefitted from, the On the Cutting Edge program, with a focus on impacts on faculty professional development, courses and curricula, assessments, student success, and diversity.

Geoscience Education

T124. Practical Advice for In-Service and Pre-Service K–12 Earth Science Teacher Preparation and Professional Development

Suzanne T. Metlay, Belinda E. Jacobs, Carla McAuliffe, Sadredin C. Moosavi

National Earth Science Teachers Association; National Association of Geoscience Teachers, Teacher Education Division

K–12 earth sciences teachers, informal educators, professional development providers, and teacher preparation faculty discuss successful strategies to address teacher needs resulting from revised state science standards, NGSS, and Framework implementation nationwide.
Geoscience Education

T125. Preparing the Next Generation of Geoscience Educators: Research on Teacher Education

Heather L. Petcovic, Katherine Ryker

GSA Geoscience Education Division; National Association of Geoscience Teachers, Teacher Education Division; National Association of Geoscience Teachers, Division of Geoscience Education Research

This session highlights research on current and future geoscience teacher attitudes, beliefs, knowledge, and practices across K–12 and higher education, including research on the preparation of teaching assistants and future faculty.

Geoscience Education

T126. Professional Development Locally to Achieve Earth Science Literacy Globally: Successful Models of K–12 Teacher Professional Development Ready for Emulation in New Environments (Posters)

Sadredin C. Moosavi

GSA Geoscience Education Division; National Association of Geoscience Teachers; National Earth Science Teachers Association; American Geophysical Institute

This session seeks to show case successful K–12 earth science teacher professional development programs that can serve as models for use in new, underserved environments using local GSA members' talents and community/industry resources.

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T127. Supporting Geoscience Student Transfer Between Institutions and Transitions into the Workforce: Pathways to Success

Norlene R. Emerson, Eric M.D. Baer, Allan Ludman

GSA Geology and Society Division; GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geo2YC Division

Topics might include cross-institutional collaborations including recruitment, undergraduate research, field trips, and 2YC–4YCU faculty interactions; GEOPATHS or bridge programs, advising/support strategies; career development and preparation; research on transfer; and/or impact on broadening access.

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T129. The Challenge of Defining Student Success: Broadening Participation, Measuring Success, and Preparing 2YC and 4YC Students for a Variety of Transitions

Katrien J. van der Hoeven Kraft, Peter J. Berquist, Joshua Villalobos

National Association of Geoscience Teachers; GSA Geoscience Education Division; National Association of Geoscience Teachers Geo2YC Division

"Student success" is a core principle throughout academia, yet there is no one-size-fits-all

approach. This session seeks presentations from individuals, institutions, and organizations that have attempted novel approaches to ensure the success of all students.
Geoscience Education

T130. The Other Two Dimensions of NGSS: Science and Engineering Practices and Cross-Cutting Concepts in Support of Earth Science Teacher Education

Eric J. Pyle

GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Teacher Education Division

This session highlights how science and engineering practices unique to earth science and cross-cutting concepts reinforce disciplinary content ideas to advance earth science in K–12 through the NGSS in teacher preparation and professional development.

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T131. Translating Professional Development Experiences into the Classroom

Megan H. Jones, Jacquelyn Hams, Richard M. Jones

GSA Geoscience Education Division; National Association of Geoscience Teachers

Professional development aims to share knowledge and skills with faculty, expecting that they bring their experiences into their classrooms. We welcome examples of faculty adaptations, new instructional methods, or curriculum inspired by professional development experiences.

Geoscience Education

T132. Undergraduate Research Posters Showcasing Research by 2YC and 4YCU Geoscience Students (Posters)

Gretchen L. Miller, Adrienne A. Leinbach, Stephanie M. Rollins

GSA Geoscience Education Division; National Association of Geoscience Teachers; National Association of Geoscience Teachers Geo2YC Division; International Association for Geoscience Diversity

This session is designed for two-year college (2YC) and four-year college and university (4YCU) students presenting research in any sub-discipline of geoscience. Projects supported by NSF's Improving Undergraduate STEM Education program (IUSE) are encouraged.

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