

NAGT – Who Are We?

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As professional geoscientists, you may daily run up against jaw-dropping ignorance about our home, Planet Earth. Whether or not you go into your local school's classrooms to share a little about your profession with the students, you may be concerned about what if anything they are learning in school about the earth sciences. You share the concerns that drive geoscientists who support the National Association of Geoscience Teachers (NAGT). NAGT's mission is "to foster improvement in the teaching of the earth sciences at all levels of formal and informal instruction, to emphasize the cultural significance of the earth sciences and to disseminate knowledge in this field to the general public."

Our membership includes college and university faculty (~66%), K-12 teachers (~12%), educators working with the public, and geoscientists who are interested in education but may not be a formal educator. We are an eclectic group.

NAGT Organization

NAGT is run by an Executive Committee consisting of elected volunteers who typically serve for three to six years (<http://nagt.org/nagt/organization/index.html>). We employ a part-time Executive Director and support staff who keep the organization running smoothly. We also hire an editor for our *Journal of Geoscience Education*. NAGT is funded primarily by membership dues, as well as by donations and income from publications. NAGT has a number of geographic sections across the country, including parts of Canada. The smaller section structure allows members to focus their efforts more locally and thereby address the geology of their region and come together at less expense for meetings, field trips, and workshops. They can also more effectively collaborate with K-12 teachers in their region. We are currently considering modifying and extending our sections or groups to include international regions and specific interest groups like Two-Year College

Faculty who desire a professional support group.

Publications

NAGT publishes in several different formats. We are introducing a new publication, *In the Trenches*, which will feature articles on teaching activities and tips for teachers, as well as book reviews and columns, such as "Ask Your Colleague." This magazine is targeting teachers at all levels. It has a glossy, four-color, hard-copy format and each of its annual four issues focus on a theme. In this first year the themes are climate change, teaching in the field, service learning and learning in the local environment, and use of seismic data. Educators find that ideas and activities shared in our publications have immediate application to their work.

Our flagship publication is *The Journal of Geoscience Education* (JGE). The journal includes scholarly articles on geoscience education research and on curriculum and instruction, as well as commentary in the form of columns and editorials. It is now an online publication, with hard copy available at an extra fee. Content for its four annual issues will have open access after one year. This journal has evolved and continues to evolve since its first issue 60 years ago. The articles help the reader understand the learning process and how to effectively present information to students and the public.

We also publish, in collaboration with the American Geological Institute (AGI), 1) an environmental geology textbook, *Living with Earth* by Travis Hudson, that was recently published and 2) a Lab Manual in Physical Geology that is a popular choice for many geology departments.

Teaching Resources

Because geoscience educators need materials to teach concepts and skills in innovative ways, NAGT has been instrumental in fostering the development of

a large number of teaching activities and related materials that are available online:

- http://nagt.org/nagt/teaching_resources/activities.html
- http://serc.carleton.edu/teachearth/search.html?q1=sercvocabs__74%253A3
- http://serc.carleton.edu/NAGTWorkshops/search.html?q1=sercvocabs__13%253A1

NAGT has sponsored collections of some more specialized teaching materials focused on:

- Teaching in the Field: <http://nagt.org/nagt/ield/index.html>
- Inquiry-Based, Hands-On Activities: http://nagt.org/nagt/teaching_resources/activities_collection.html
- Hazards: http://serc.carleton.edu/teachearth/site_guides/hazards.html
- Teaching Introductory Geoscience Courses
- Teaching Geoscience with Visualizations
- Teaching Quantitative Skills, Thinking, and Reasoning

NAGT, together with NSF funding, also sponsors *On the Cutting Edge* workshops, both face-to-face and virtual, for geoscience educators on a variety of topics including:

- Pursuing an Academic Career in the Geosciences
- Early Career Geoscience Faculty: Teaching, Research, and Managing Your Career
- Building Strong Geoscience Departments
- Designing GIS and Remote Sensing Courses
- Teaching Geoscience Online
- Energy and Climate Webinars and Book Club
- Temporal Learning Journal Club
- Teaching Mineralogy, Petrology, and Geochemistry in the 21st Century

Many others: <http://serc.carleton.edu/NAGTWorkshops/workshops.html>

As someone who came into teaching later in my career as a geologist, I have greatly benefited from some of these workshops as well as from the publications and online materials. They are a rich gold mine!

Programs

NAGT supports a variety of other activities as well, all with the goal of addressing the needs of innovative and effective geoscience education at all levels and venues.

Student Support Programs.

- NAGT offers partial **scholarships** for undergraduates to attend **geology field camp** (http://nagt.org/nagt/programs/field_scholarships.html).
- Since 1965, NAGT has collaborated with the **USGS** in support of their **Summer Field Training Program**, a student internship program that has placed many of the 1500 participants in full-time jobs at the USGS (http://nagt.org/nagt/programs/usgs_field.html). They take only the best students from field camp programs, as recommended by their faculty. You might consider tapping this pool of students for employment opportunities.
- We also encourage excellence in teaching at an early stage in one's career through an **Outstanding Teaching Assistant Award** (<http://nagt.org/nagt/programs/ta.html>).

Other Awards

NAGT supports educators through a variety of awards. Some include monetary or membership benefits (<http://nagt.org/nagt/programs/awards.html>). If you know a precollege teacher in your area who has done an exceptional job in teaching and promoting interest in the geosciences, consider nominating her/him for the **Outstanding Earth Science Teacher Award**.

Education and Public Policy

NAGT has written **position statements** on specific issues related to geoscience education. We also manage a couple of **email lists for discussion** on public policy and science literacy. If you are interested in either of these topics, we invite you to go to our website and sign up (<http://nagt.org/nagt/policy/index.html>); you don't have to be a NAGT member.

Distinguished Speakers Series

NAGT provides speakers on a variety of geoscience education topics ranging from alternative assessment to innovative strategies for teaching, to curricular reform and course design. If you are looking for a speaker for one of your luncheon meetings or seminars, consider an NAGT Distinguished Speaker (<http://nagt.org/nagt/programs/dsp.html>). Speakers also will do workshops and in-person consultation with researchers and geoscience departments.

Sponsored Sessions and Events

As the geoscience profession has realized the need to strengthen and support geoscience education, NAGT's mission, there has been an increasing number of sessions on some aspect of geoscience education at professional conferences for geoscientists as you may have noticed. This shift has required a greater recognition by all of us, from the practicing geoscientist in the field and their bosses to the K-12 teacher and faculty and administration of academic institutions, that effective geoscience education is the responsibility of all of us. For us to be able to maintain some balance in our lives, we should all get "credit" for our work in this line, rather than be penalized for it when it detracts from our other work or research. We have made progress. At the GSA in Denver in 2010, there were 22 topical sessions related to geoscience education, or 8% of the topical sessions; this is one of the three largest of 38 topical categories at the GSA conference. There are many education sessions at regional GSA meetings and at the American Geophysical Union meetings as well. These meetings also include an increasing number of workshops and field trips focusing on geoscience education (<http://nagt.org/nagt/programs/sessions.html>).

Geoscience Teachers-in-the-Parks

You may have heard of the National Park Service's Geoscientist-in-the-Parks program that grants interns an opportunity to collaborate with NPS staff on a variety of projects from building inventories, writing field guides, to giving interpretive talks for park visitors. Since 2006 NAGT has extended this program by funding a parallel opportunity for K-12 teachers and recent graduates

in geoscience education programs who focus on developing materials for K-12 education while gaining experience in teaching in the field, lab, and classroom. Currently this program is functioning in Mammoth Cave National Park (<http://nagt.org/nagt/programs/GTIP.html>) and has been well received by teachers in the region who benefit from the program.

NAGT-Sponsored Programs

There are a number of projects that NAGT sponsors, or endorses, that align with our mission. Members may request access to NAGT resources. These projects are typically funded by NSF and currently include:

- Building Strong Geoscience Departments
- Climate Literacy and Energy Awareness Network (CLEAN) Pathway (<http://cleanet.org/cln/index.html>; <http://www.global-change.gov/>)
- DWEL: Digital Water Education Library
- EET: Earth Exploration Toolbook
- Geoscience in Two-Year Colleges
- The Math You Need, When You Need It
- MARGINS Data in the Classroom
- On the Cutting Edge: Professional Development for Geoscience Faculty
- Starting Point: Teaching Entry Level Geoscience
- Teach the Earth: A SERC Portal for Geoscience Faculty
- Web-based Interactive Landform Simulation (WILSIM)
- Workshop on Atmospheric Science and Climate Literacy

Conclusion

Whether you are a formal geoscience educator or not and whether you are a member of NAGT or not, you can find support from NAGT for a wide range of activities that aim at improving the public's understanding of our Planet Earth. You can find much information on our website: <http://nagt.org>. We are partners with you in reducing the ignorance.