



Preservice teachers at Mammoth Cave N. P., KY

TED PRESIDENT'S COLUMN

Heather Petcovic

December 2014

I am delighted to write this greeting as TED's first elected President. I want to first and foremost thank Kyle Gray and the TED working group members (Jim Ebert, Steve Mattox, Ellen Metzger, Julie Monet, Eric Pyle, Jeff Thomas, and Wendi Williams) for all of their efforts in getting the Division up and running over the past year. These folks worked over the past two years to set up the structure and governance of TED and to find victims, err I mean volunteers, to serve as officers. I also want to thank NAGT for all of their support in getting us organized and off to a terrific start. And, of course, I want to thank the now 110+ of you who have joined TED and are shaping our future.

As TED gets up and running, our first task has been to figure out who we are, how we can distinguish ourselves from other professional organizations that support geoscience education and teacher education, and where we should focus our efforts as we establish ourselves. So to start, I would like to introduce the full slate of TED's elected officers:

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Mission

Teacher Education (TED), a Division within the National Association of Geoscience Teachers, Inc. (NAGT), is committed to the recognition and critical importance of promoting and sustaining quality preparation of Earth Science teachers. Based upon science education research and best practices in geoscience teaching, TED members strive to improve teacher education in a diverse range of settings including higher education, K-12, professional development, and informal learning environments.

To achieve this mission, TED:

- Provides a forum for exchanging ideas, concerns, resources, and information about the role of geoscience in teacher education;
- Develops a network of full-time, part-time, and adjunct faculty, and other education professionals to improve geoscience instruction for teachers and teacher education;
- Makes recommendations to the NAGT Council and membership on activities of special interest and benefit to geoscience faculty, staff, administrators, and students who work with K-12 teachers;
- Shares and disseminates curricular and pedagogical strategies that will produce successful geoscience teachers;
- Collaborates in and supports research in geoscience teacher education.

*TED President's Column
continued:*

- Past President: Kyle Gray, University of Northern Iowa (2014-15)
- President: Heather Petcovic, Western Michigan University (2014-15)
- Vice-President: Jeff Thomas, Central Connecticut State University (2014-15)
- Secretary/Treasurer: Mark Abolins, Middle Tennessee State University (2014-17)
- Media Director: Steve Mattox, Grand Valley State University (2014-16)
- We are further supported by ex officio members Wendi Williams (NAGT Executive Committee Liaison) and Eric Pyle (NSTA Liaison). We are eagerly seeking additional victims, err volunteers, to serve as liaisons to NESTA and

the GSA Geoscience Education Division. Please consider volunteering!

TED is not only the leadership board, but is also you, the members. In September we conducted a membership survey; I share a summary of the results in this newsletter with the full PowerPoint presentation available on the TED website (<http://nagt.org/nagt/divisions/ted/index.html>). From this survey, it is clear to the board that we should focus our efforts on establishing TED's web presence, establishing communication to members, and initiating TED-sponsored events such as workshops, webinars, and other development opportunities.

This newsletter marks our first baby steps toward achieving these goals – in it you will find announcements, opportunities, and reports

**Teacher Education
Division Officers**

Past President Kyle Gray
President Heather Petcovic
Vice President Jeff Thomas
Secretary/Treasurer Mark Abolins
Media Director Steve Mattox

Join the Division

Register to become both a member of NAGT and also become a member of the division on our Member Portal. Cost of joining the division is only \$7.00/year.

that will hopefully provide you with new ways to engage in teacher education in the coming months. In return, we ask for your help in spreading the word about TED and NAGT – please invite colleagues engaged in all forms of earth science teacher education to join our organization. We also want to hear from you, so please send us your ideas, announcements, two cents, and suggestions. TED is here to serve you – let us know how!

Happy New Year!



TED MEMBER SURVEY RESULTS

Heather Petcovic

Purpose of the survey

This year marks the first of TED's official existence as a professional service organization. As is traditional for many new entities, we ask ourselves the age-old questions "Who are we?" and "Why are we here?" Rather than attempt to answer these questions with our own musings, the TED management board decided to pose these questions directly to our membership.

In September and October (2014), members had the opportunity to complete an online survey created by the management board. Survey questions were directed toward gathering information in three areas: first, how members are engaged with teacher preparation; second, how members prefer to communicate with the management board and with each other; and third, how members think TED should direct its activities in the coming year. Thirty-five members (out of ~100 active members) completed the survey, and we thank you for your input. Detailed results are available on the TED website (<http://nagt.org/nagt/divisions/ted/index.html>), with results summarized here.

Note that totals do not sum to 100%, as members were able to select as many responses as apply for most questions.

Who are TED members?

Most of our responding members (57%) are employed as tenure-track faculty at four-year colleges and universities. An additional 19% of members are employed in higher education in either two-year colleges or in non tenure-track roles. Our second largest group of members (20%) are K-12 teachers. We also have graduate student (3%), K-12 administrator (3%), informal educator (6%) and "other" (12%) members.

Nearly all members (91%) identified science or geoscience education in a

formal setting as one of their areas of expertise. Just under half of members (49%) identified curriculum development in the geosciences as an area of specialization. Slightly fewer members (37%) identified research in geoscience or science education, and 26% identified science or geoscience education in an informal setting as an area of expertise.

The majority of members identified providing professional development for inservice teachers as one of ways in which they are engaged in teacher education, either through a focus on content instruction (69%), practice or pedagogy (51%), or mentoring (20%). Teaching and supervising preservice teachers was also



Preservice teachers look for fossils in southern Indiana

identified as a professional activity, with members teaching content courses (54%), teaching methods courses (20%), or supervising/mentoring internships (34%). Thirty-one percent of members identified supervising college TAs as a professional activity, and 20% identified teaching or supervising informal educators as a professional activity.

How do members want to communicate (and what do they want to hear)?

Despite the boom in social media, TED members prefer to communicate in “old fashioned” ways. Members indicated that they would prefer to receive communications from TED officers by PDF newsletter (1.8 on a Likert scale of 1 [strongly prefer] to 5 [strongly do not prefer]), list-serv (1.9) or interactive website (2.5). Preference for direct member-to-member communication was weaker, but still showed that newsletter (2.2) and list-serv (2.5) were the preferred means of communication. Members prefer to hear from the board on a monthly basis (51% preferred this option), and preferred to hear from each other whenever something important comes up (48% preferred this option).

When asked what sorts of things would be most

interesting to hear about in TED communications, members preferred current teacher education research (1.6 on a Likert scale of 1 [strongly prefer] to 5 [strongly do not prefer]), professional development opportunities for the teachers that members work with (1.7), TED-sponsored events (1.7), NAGT teacher education events (1.8), lessons and classroom tips (1.8), national policy trends (1.8), and professional development opportunities for members.

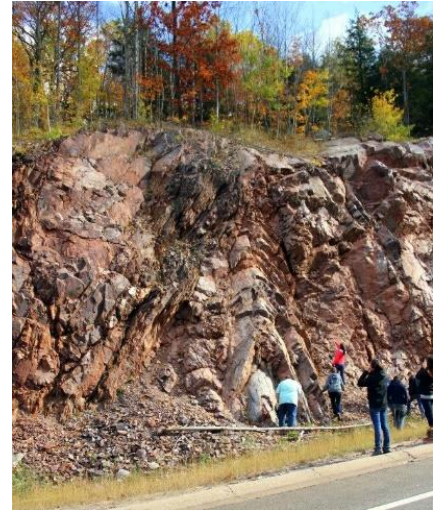
What should TED do?

When asked where TED should focus its efforts in the coming year, members indicated the strongest preference for setting up an online preference (71%) and setting up means of communication from TED leadership to members (71%). The third area identified as a top priority was initiating TED-sponsored workshops, webinars, and other professional development opportunities (66%).

Summary and next steps

The message from members seems clear to us – we should focus on getting TED’s online presence and communication lines up and running, and use these to communicate information of interest to our membership. We should also focus on setting up workshops,

webinars, and other means of communication and professional development in the area of teacher education.



We have begun working on the TED website (<http://nagt.org/nagt/divisions/ted/index.html>) and welcome your input. Over the coming months, we will be integrating existing NAGT and SERC teacher education sites into TED’s domain. This newsletter represents our first communication from leadership to members and between members; our goal is to begin with quarterly newsletters, ramping up to monthly communications as requested by members. Members and leadership should feel free to use our existing list-serv for immediate communication (send your message to NAGT-ted@serc.carleton.edu).

Thank you again to the members who took the time to share their feedback and thoughts. Your input has helped us to find our initial direction and start moving forward. As always, please contact a member of the management board and share your ideas with us!

PLANNING FOR THE SUMMIT ON THE IMPLEMENTING THE NEXT GENERATION SCIENCE STANDARDS

Aida Awad

The American Geosciences Institute's Center for Geoscience and Society is collaborating with the National Association of Geoscience Teachers to host a summit on **Implementing the Next Generation Science Standards (NGSS) at the State Level**. The meeting will be April 29-May 1, 2015, at the NOAA headquarters in Silver Spring, MD. The purpose of



the summit is to identify and/or devise ways in which key players in the Earth and Space Science (ESS) community can work

together to help states, school systems, and teachers implement the [Next Generation Science Standards](#) and, more broadly, the principles in the [Framework for K-12 Science Education](#).

To sign up to receive more information and details as they become available at this link:

http://nagt.org/nagt/profdev/workshops/ngss_summit/index.html

A needs assessment survey is going out to the larger geoscience community in the next month or so that will help to inform the pre-summit virtual discussions. Please sign up on the website to be part of the survey and discussions, and to help with dissemination of the survey.

Funding for the summit is provided by the National Science Foundation (Award #1440579) and by the Center for Geoscience and Society.

PAID NINE-WEEK SUMMER 2015 RESEARCH EXPERIENCE FOR FUTURE EARTH SCIENCE TEACHERS

Mark Abolins

Geoenvironmental Challenges, the National Science Foundation

Geosciences Directorate's only pre-service teacher Research Experience for Undergraduates (REU), is accepting applications for Summer 2015 (May 31 – August 1). During most of the experience, future middle school and high school Earth science teachers participate in structural geology, water quality, or air quality research. Only current undergraduates can apply. The experience includes a five day field trip to Mammoth Caves and Great Smoky Mountains National Parks. Visit <http://capone.mtsu.edu/mabolins/mailling.htm> to learn more about 2013 student results and to access the 2015 application. Participants receive a \$4,500 stipend, free room and board, and free travel to the 2016 Geological Society of America Annual Meeting in Denver, Colorado. The application deadline is February 15, 2015.

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2015 GSA Annual Meeting

The Annual meeting will be in Baltimore on November 1-4, 2015. The deadline for proposals for technical sessions is February 1, 2015. Short course proposals are due February 2, 2015. Guidelines are available online or by contacting Jennifer Nocerino at jnocerino@geosociety.org.

Save the Date for THE EARTH EDUCATORS' RENDEZVOUS JULY 13-17, 2015 at University of Colorado, Boulder

Design your own professional development opportunity at the first annual Earth Educators' Rendezvous. Capitalize on the experience of your colleagues at a variety of workshops, present and discuss your own findings, and network with others engaged in improving undergraduate Earth education. Events will include workshops, oral and poster sessions, plenary talks, and working groups. The meeting will bring together activities that support faculty in improving their courses, departments or programs; in increasing

their overall impact of Earth education; and in building a collective capacity to use and conduct education research. Registration will be open soon!

InTeGrate LAUNCHES PREPARING FUTURE TEACHERS WEBSITE

InTeGrate is pleased to announce that they have launched a new set of web pages about preparing future teachers (serc.carleton.edu/integrate/programs/teacherprep/). The audience for these pages is geoscience and related departments, and the goal is to encourage these departments to get involved in teacher preparation programs. Topics covered include:

- What is teacher preparation?
- What are the Next Generation Science Standards?
- Ways to strengthen the role of Earth science and sustainability in teacher preparation:
 - Bridge disciplinary divides
 - Support future teachers in geoscience courses
 - Offer practical experiences for future teachers

- Offer professional development opportunities

We are also highlighting successful strategies, many of which you are involved in. Please consider submitting an activity, course, degree program, or professional development program that you are involved with by submitting information here (serc.carleton.edu/integrate/programs/teacherprep/submit_tpprogram.html). We also welcome feedback on any of the pages; please email Anne Egger (annegger@geology.cwu.edu). Finally, please share this web resource with your disciplinary colleagues who may be less convinced of the importance of engaging with future teachers.

US DOE CALLS FOR COMMENTS ON DRAFT TEACHER EDUCATION REGULATIONS

In December, 2014, The U.S. Department of Education proposed 400 pages of new teacher education regulations to be publicly aired and vetted within 60 days. The goal of these regulations is to identify those teacher education programs that are exemplary and those that are producing

sub-standard teachers. If adopted as written, these regulations would create a ratings system for all teacher education programs that could lead to the closing of some sub-standard programs. Several groups including the American Association of Colleges for Teacher Education (AACTE) have expressed grave concerns over the validity of these regulations. For example, the proposed regulations would assess the quality of a teacher education program by measuring both the percentage of graduates who remain teaching after five years as well as the test scores earned by the pupils taught by those teachers. Typically, suggested

regulations are bundled with the re-authorization of the Elementary and Secondary Education Act (ESEA). This proposal is not tied to the ESEA and appears to be an attempt to add more regulations without revising the ESEA. Should the regulations be adopted, universities would have to develop additional systems to collect the information requested and report it, and this would impact the workload of several people. It could also create a fundamental shift in how teacher education programs are organized and administered. Given the potential impacts of these regulations, we encourage the members of TED to familiarize themselves with

the regulations and provide feedback to the Department of Education. The AACTE has a website that contains links to the regulations as well as evaluations of the impacts on teacher education programs.

AACTE's page for the proposed regulations is at: aacte.org/resources/regulations

The actual document from the United States Department of Education can be viewed/downloaded as a PDF here: www.gpo.gov/fdsys/pkg/FR-2014-12-03/pdf/2014-28218.pdf

