

UPCOMING EVENTS!

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GSA North-Central Section **46th Annual Meeting** **Dayton, OH** **23-24 April 2012**

Please bring your local rock and mineral samples to the next sectional GSA conference, Central Section NAGT booth to share with other instructors. Bring labels with name, location, and other pertinent information.

At the spring Central Section NAGT meeting and conference we will be sponsoring a "Bring a friend to NAGT!" theme to potentially increase membership.

In the future, the section will pay the cost of the section NAGT business luncheon to K-14 professionals (members and non-members) who a) cannot afford the cost themselves, and b) make a presentation on any topic at the NC GSA conference that year. **Application forms are at the end of this newsletter.**

Events sponsored by **NAGT Central Section**

Theme Sessions:

1. **Critical Thinking in Geoscience Education: Theory, Pedagogy, and Best Practices for K-16 Classrooms**, K.M. Bower, Eastern Illinois University, kmbower@eiu.edu

Critical thinking involves selecting information; analyzing it with awareness of prejudices, assumptions and methods; and determining the implications of any conclusions. Teaching critical thinking is at the heart of what all educators, including geoscience educators, attempt in the classroom and in the field. Yet, the theory and methods for teaching critical thinking in the geosciences are rarely discussed among teachers. This theme session will include informative explanations of the theory of critical thinking as used in geoscience education. Speakers will discuss recommended pedagogy of teaching critical thinking. They will present examples of their best activities in teaching critical thinking in geoscience classrooms and field.

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PRESIDENT'S MESSAGE



I have good and bad news to report. The good news is that geology enrollments seem to be on the upswing; student enrollment in historical geology at Missouri

State University, this semester, stands at 41, the highest since the early 1980s. I've talked with a colleague at Missouri University of Science and Technology, where a geologic engineering program of study is offered; the structural geology class has 178, up almost 100 from previous years. Admittedly, this is a small sample, but current issues in sustainable energy resources, clean freshwater resources, environmental safety, and geologic hazards contribute to the recruitment of students into geoscience programs. It is my hope that all of our respective undergraduate geoscience academic programs begin to swell.

The bad news is that some geology programs have been eliminated just prior to this apparent upswing. The University of Central Missouri undergraduate program has been cut. Most of the full-time faculty have been retained and assigned geology courses that are in the general education curriculum. They did not lose their Earth Science Education program, but like many other states these programs exist at the whim of state educational boards. The phrase, "It's the economy stupid," in popular politics translates to cutting low-enrollment programs at universities. Administrators don't realize that geologists are in demand most during economic downturns. At Missouri State, we are exploring opportunities to mitigate the damage by capturing some of the would-be geology undergraduates from lost programs through collaborative efforts with our sister institutions.

The upshot is that we need to represent our science and communicate the passion we hold to elementary, middle school, and high school science teachers, and train them so that they can spark the interests of K-12 students. Maybe we can get some of these

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students into undergraduate geology and Earth science programs. It is time to look forward and build for the future. Continue talking with students and the public. Communicate your passion, and the geosciences will benefit.

Kevin R. Evans

(North-Central GSA events, continued from p. 1)

2. Geoscience Student Engagement: Innovations in labs, activities, field trips and in-class pedagogy for K-16 classrooms, Carrie L. Wright, University of Southern Indiana, clwright@usi.edu

Our global society is rife with news and worries over climate change, increasing human populations vulnerable to geologic hazards, and environmental crises like the Deep Water Horizon oil spill. Geoscience education is more important than ever for the general population as well as the next generation of geoscientists. Geoscience educators are incredibly creative people, constantly coming up with intriguing new methods to teach Earth Science concepts to kindergarten through senior geology majors. This theme session will include some of these great new ideas for geology laboratory experiences, field trips, field courses, short activities, demonstrations, as well as in-class methods for younger grades through college level courses. Speakers will present the lesson plans and ideas they have created and tested in the trenches of their classrooms. The session will be organized based on grade level, and contact information (and/or websites) will be given for access to lesson plans.

3. Issues in Geoscience Education, Solomon Isiorho, Indiana University - Purdue University, isiorho@ipfw.edu

What are some geologic issues we face in getting key concepts to our students?

What are some things we have done or are doing to clarify these issues to our students and how do we assess the learning outcomes?"

7) Geoscience Education and Outreach: Bringing cutting edge science and technology to undergraduates, K-12 teachers, and the public., Katherine Johnson, Eastern Illinois University, kjohnson4@eiu.edu and Shelly Judge, College of Wooster, sjudge@wooster.edu

This session highlights efforts to communicate cutting edge science and technology to students (K-16), teachers, and the public at-large.

NAGT Awards are available for faculty, NAGT members, and undergraduates. Descriptions may be found at <http://nagt.org/nagt/programs/awards.html>.

NOTICE: The section would like to investigate partnering with NESTA and have a booth at the NESTA conferences. If anyone would like to spearhead this, contact Kathy Bower, kmbower@eiu.edu

NEW – NAGT national division for geoscience instructors at Two-year colleges, Geo2YC

The National Association of Geoscience Teachers (NAGT) recently created its first national division for geoscience instructors at Two-year colleges, Geo2YC. This division is for faculty, administrators, graduate students, and other geoscience professionals who have a shared professional interest in geoscience education at two-year colleges, and is open to all NAGT members. There were several events involving Geo2YC at the recent GSA in Minneapolis, and there are several events planned for the AGU Fall Meeting in December.

The mission of the new division is to:

- serve as a forum for exchanging ideas, concerns, and resources
- establish a network of geoscience educators at two-year colleges and other institutions with shared interests
- sponsor NAGT 2YC activities and make recommendations to the NAGT Council
- support and coordinate research on 2YC geoscience education
- advocate for 2YC geoscience education within NAGT and with other organizations

Geo2YC formally became a NAGT division on July 23 and has elected the following officers for its Executive Board: President - David Voorhees, Waubesa Community College; Vice President - Lynsey LeMay, Thomas Nelson Community College; Secretary/Treasurer - Allison Beauregard, Northwest Florida State College; Newsletter Editor - Callan Bentley, Northern Virginia Community College; Webmaster - Kaatje Kraft, Mesa Community College, and Archivist - Suzanne Metlay, Front Range Community College

For more information on how to become part of this energetic new organization, visit the Geo2YC website at <http://nagt.org/nagt/divisions/2yc/>, Subscribe to the Geo2YC discussion at: <http://nagt.org/mailman/listinfo/geo2yc>, follow us on Facebook (Geo2YC), or contact Geo2YC President David Voorhees at dvoorhees@waubesa.edu.

Congratulations to OEST Awardees!

The 2010 OEST (Outstanding Earth Science Teacher) Awards, NAGT Central Section Central Section Winner:

De Anna Tibben, Iowa

Outstanding Earth Science Teacher (OEST) Award – Call for Nominations

Nominations for the OEST award are being accepted. Please take the time to nominate a deserving teacher in your state or encourage them to nominate themselves. If you have any questions or need additional information, contact Kate Pound (kspound@stcloudstate.edu) or submit online at the NAGT website, <http://nagt.org/nagt/programs/oest.html>. The deadline for 2011 OEST Award is May 12th.

Great Lakes Section - SEPM: The GLS-SEPM Annual Field Conference was not held this year, one of the many cancelled at the annual GSA meeting, but we have great hopes for Fall 2012. We will be holding a reception and business meeting, and cosponsoring a theme session at the 2012 North-Central GSA meeting in Dayton. As always, GLS-SEPM will be making awards there for the best undergraduate and graduate student posters in sedimentology. Those awards include actual hard cash money.

For more information, contact Drew Phillips, Secretary (aphillips@illinois.edu), or visit the web site (<http://www.isgs.uiuc.edu/gls-sepm/>).

Tri-State Geologic Field Conference: The 73rd Annual Tri-State Geologic Field Conference was hosted by the University of Iowa Geoscience Department in Iowa City on September 30 thru October 2, 2011. The theme of the field trip was Quaternary and Middle Devonian Geology of the Iowa City Area

Research Idea for the Classroom

Bringing cutting-edge scientific research into K-16 classrooms is pedagogically effective, fun and inspirational for students. Most obstacles to bringing research into classrooms involve identifying appropriate research topics and samples, and many times the samples involve specialized or expensive equipment. The Aurora Mastodont Project (AMP) can provide an opportunity to bring authentic research into K-16 classrooms and labs with limited logistics. We will send to your classroom a sample of screenwash to be analyzed and processed by your students.

The 2004 AMP was a joint project between the City of Aurora, the Illinois State Museum and Waubesa Community College to uncover a (rumored) fourth

mastodont skull left after multiple mastodont remains were discovered in the 1930's by the Civil Works Administration (3 skulls, 1 jaw, 3 tusks, 3 ribs, 1 scapula, 1 ulna, 1 femur, toe bones, 1 set of articulated cervical vertebrae, 1 set of articulated thoracic vertebrae). The 2004 AMP did not recover any additional mastodont remains, but it did illustrate the scientific and pedagogic importance of the Aurora Mastodonts. One of the many results of the 2004 AMP was that we now have significant quantities of sediment from the layer that the original mastodonts were discovered in that was systematically excavated, washed, and recorded, thereby retaining its stratigraphic control. This screenwash contains small bones, snails, plants, and other debris. Small screenwash samples (~1 liter) will be sent to classrooms for sorting and description, engaging students as collaborators in site interpretation of the project. This project is contributing to the current research into climate change during the most recent glaciation 30,000 to 10,000 years ago, and extinct Midwestern megafauna. Analyses of the processed screenwash can incorporate data processing and analysis techniques, as well as interpretation of Illinois and Midwest climates, and discussion of the broader global conditions using lesson plans that will be provided.

Contact David Voorhees (dvoorhees@waubesa.edu) for more information

National Association of Geoscience Teachers President's Report – Fall 2011

One of the primary strengths of NAGT as an organization is the combination of the work by the Sections (at the regional level) and Divisions and that at the national level by the overarching organization. The annual Council (<http://nagt.org/nagt/organization/index.html>) meeting at GSA has been the primary mechanism for fostering communication and interaction among and between these entities. As of this year, this face-to-face meeting at GSA will be a discussion of an issue of importance to both the Sections/Divisions and the overarching organization, rather than a reporting. This year the focus was on increasing membership, since our membership has been dropped continually for several years and is now at 1100 members. We had a great turnout with representatives from every section and division as well as some committees and the Executive Committee – a total of about 40 people! Central Section was well represented by your President Kevin Evans; thank you, Kevin, for attending and participating. We will be sharing the many ideas that were discussed. Central Section is already working on this issue and came up with a great way to increase participation in the NAGT- sponsored technical program and the luncheon by offering to pay for the lunch when there is a need. Keep up the good work! NAGT will have two more Council meetings this fiscal year, but they

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will be virtual meetings, by teleconference. This will allow us to keep moving forward towards our goals.

This year we have added Divisions to NAGT's organization. Divisions will focus on a professional interest within the geosciences. Members may join divisions for an extra annual fee. Our first division is the Geo2YC Division, organized to

provide two-year community college faculty with a professional organization that can serve as a peer organization that focuses on their needs for professional development, curriculum development, networking, and general support.

We have also set up a new membership category with a discounted rate for adjunct faculty in recognition of their desire for support but fewer resources.

A modified logo has been designed that serves NAGT and each of its sections and divisions. This logo retains our recognizable logo that is quickly identified as the NAGT "brand" while giving the sections and divisions their own logo that readily identifies them as part of NAGT. Guidelines for use of the logo have also been established and will be posted on our web page.

The position of a paid Executive Director has greatly increased the working capacity and professionalism of NAGT over the past few years. Since the rest of us are volunteers, in order to further NAGT's effectiveness with respect to its mission, it would be beneficial to increase the percent time that the Executive Director works for NAGT. We increased the Director's time for the 2012 FY to 11.5%, up from 8%. We are fortunate that Cathy Manduca is so efficient (and generous) with the time she puts in to her NAGT work. The Executive Committee performed a formal review of the Executive Director's performance as her contract expires next spring. We heard and reported only great things about Cathy's performance from many past and present officers of NAGT who have worked with her, so we unanimously voted to renew her contract for another five years, and Cathy is just as excited to continue in her role as Executive Director. Thank you, Cathy!

Thank you all for your participation in NAGT. If you would like to know more about how you can be involved and if you have any questions, feel free to contact me or one of your Section or National officers.

Respectfully submitted,
Janis D. Treworgy, President 2010-2011

NAGT: New Memberships or Renewals

New or renewing members may find the application form at:

<http://nagt.org/nagt/membership/index.html>

ANNOUNCING *Dorothy LaLonde Stout* **NAGT PROFESSIONAL DEVELOPMENT GRANTS**



In honor of Dottie Stout's outstanding work and lifelong dedication to Earth science Education, NAGT will award three grants in support of the following activities:

- Participation in Earth science classes or workshops
- Attendance at professional scientific or science education meetings
- Participation in Earth science field trips
- Purchase of Earth science materials for classroom use

One grant of \$500 will be awarded to a Community College Faculty

One grant of \$500 will be awarded to a Community College Student

One grant of \$500 will be awarded to a K-12 Educator

Eligibility: Community College Faculty and K-12 teachers who teach one or more Earth science courses and Community College students actively pursuing a career in the Earth sciences are encouraged to apply for these awards.

Application Process: Interested applicants are asked to submit a 1-2 page proposal describing how the grant will be used to support their professional growth in, or classroom teaching of Earth science. The application may be found at

<http://nagt.org/nagt/programs/stout.html> .

Applications must be received by April 1 with awards being made by April 15th.

Central Section NAGT Business Meeting Fee Application

(available to K-14 professionals)



The North-Central NAGT section may pay the cost of the section NAGT business luncheon to K-14 professionals (NAGT members and non-members) who

- a) cannot afford the cost themselves, and
- b) make a presentation on any topic at the NC GSA conference that year.

Name (*please print*) _____

Mailing Address _____

City _____ State/Province _____ Zip/Postal Code _____ Country _____

Phone (_____) _____ Fax (_____) _____ E-mail _____

Check one: ☐ College Faculty at _____

☐ Teacher at _____

☐ Other at _____

Date of North-Central GSA meeting: _____

Name of presentation at meeting: _____

Description of presentation:

Mail to:

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