



President

Carrie Wright
University of Southern IN
clwright@usi.edu

1st Vice President

Allen Macfarlane, Kansas
Geological Survey
dowser@kgs.ku.edu

2nd Vice President

Kevin Evans
Missouri State University
kevinevans@missouristate.edu

Secretary/Editor

Kathleen Bower
Eastern Illinois University
kmbower@eiu.edu

Treasurer

Michael Wolf
Augustana College
michaelwolf@augustana.edu

Web Master

John McDaris
Carleton College
jmcdaris@carleton.edu

OEST Co-Chairs

Sherman Lundy
BMC Aggregates
lundy@basicmaterialscorp.com

and

Kata McCarville
Upper Iowa University
McCarvilleK@uiu.edu

Past President

Mark Francek
Central Michigan University
mark.francek@cmich.edu

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UPCOMING EVENTS!

Joint Meeting North-Central and South- Central GSA Meeting Branson, MO April 11-13 2010

*Events sponsored by NAGT Central
Section*

Theme Sessions

1. **Arts Integration in K-16 Geoscience Education** (P. Allen Macfarlane and Gary Rosenberg)
2. **Easy-to-Incorporate Inquiry-Based Activities for the K-16 Classroom** (Carrie Wright)
3. **Issues in Geoscience Education** (Kathleen Bower)

Workshops

4. **Geoscience Education: Introducing Students to Subsurface Characterization Using Small County** (Geoffrey Bohling, John Doveton, and Cinzia Cervato)
5. **From Passive to Active: Classroom Makeovers that Improve Teaching and Learning** (David Steer)

Field Trips

6. **Civil War and Cultural Geology of Southwestern Missouri, Part 1: The Geology of Wilson's Creek Battlefield and the History of Stone Quarrying** (Joseph T. Hannibal, George H. Davis, Sherman Lundy, Kevin Evans)
7. **Civil War and Cultural Geology of Southwestern Missouri, Part 2: Geologic Influences on the Battle of Forsyth, Guerilla Activities, and Post-War Vigilantism** (Kevin Evans, George Davis)
8. **Geomorphology and Paleontology of Riverbluff Cave, Springfield, Missouri.** (Matt Forir, Charles Rovey II, Greg Balco)

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PRESIDENT'S MESSAGE

Spring is upon us. We have a saying in many parts of the Central Section—"If you don't like the weather, wait an hour." This is most true during the transitions between seasons, and even though it was in the 60's and 70's last week, today's high is 47 degrees. Regardless, spring is in the air—the early flowers are blooming, frogs are chirruping, birds are singing cheerily in the morning, and the days are longer. Spring is a time for new plant growth, new animal life, spring geology field trips, and new pedagogical ideas. Introductory geology students who were not willing to face the cold of winter to look at rocks are now much happier to brave the outdoors to see rocks in their natural environment. Whether you teach in a preschool, grade school, high school or college, please take your students outside to look at rocks. They can be rocks in an outcrop, in the gravel covering of a driveway, or rip rap on a slight incline. Students always appreciate an excuse to get outside, and looking at rocks beyond the classroom gives them the chance to gain a new, often better, perspective on geoscience. Changes are also in the making for the big picture of geoscience education. President Obama has stated his lofty goals of improvements in K-12 education, and greater access to higher education through expanded Pell Grants and new tax credits. With Pell Grants now being available in the summer, here at USI, we are hoping to see higher enrollment in summer geology classes. In Indiana, Superintendent of Instruction Tony Bennett's new regulations on teacher licensing will require teachers to have a baccalaureate degree in the subject they wish to teach, as well as a minor in education. How will this affect the

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(President's Message continued from p.1)

geology and education programs in universities in Indiana? Will students interested in teaching Earth Science be more or less likely to work towards that goal in this state? What will this mean for those already teaching? These and other questions have created a multitude of opportunities for discussion and debate in schools of all levels across Indiana, and have been the subject of many departmental meeting agenda items, forwarded e-mails, and conversations in the office. However these new changes pan out, one thing is clear—spring is a great time for new thoughts and ideas on geoscience pedagogy. If you are a K-12 teacher, think of ways you can improve your content and pedagogical content knowledge. If you are a university professor, do the same, but also find ways to help the K-12 teachers in your area expand their own knowledge of the geosciences. I plan to create a geoscience pedagogy workshop for middle and high school Earth Science teachers. It will be full of the new and slightly borrowed/modified ideas that have been sprouting in my mind this spring semester. How about a volcanic viscosity experiment using pudding, chocolate syrup, ice cream....yum! Happy teaching, everyone!

Carrie Wright, President

(Joint GSA Meeting continued from p.1)

9. Route 66 — Geology and Legacy of Mining in the Tri-State District of Missouri, Kansas, and Oklahoma (James Aber, Susan Aber, Gina Manders, Aaron Johnson)

Central Section NAGT Luncheon and Business Meeting in Branson!

Join us in honoring the Outstanding Earth Science Teacher (OEST) awardee, Rick Snyder at the annual NAGT Central Section luncheon at the Joint NC/SC GSA meeting in Branson. The luncheon will be held in the Fall Creek Room of the Branson Hilton/Branson Convention Center on Monday, April 12th from 12:00-1:00 pm. The menu offers *Chicken en Croute* for \$25. *Chicken en Croute* is a puff pastry wrapped chicken served with wild rice, pecans, cranberries, warm apple and pear salad with apple cider jus. Vegetarian fare is also available. This selection includes a green salad and apple-lavender cobbler. Here's all you have to do:

1. REGISTER for this event at the Joint NC/SC GSA meeting website:
<http://www.geosociety.org/sectdiv/northc/2010mtg/registration.htm>

YOU CANNOT REGISTER FOR THE LUNCHEON AT THE MEETING BECAUSE THERE IS A 72 HOUR NOTIFICATION REQUIREMENT FOR MEAL PREPARATION.

If you have already registered for the meeting but would like add this ticketed event, please contact gsaservice@geosociety.org.

2. SELECT your menu preference in advance! Contact Nancy Williams, NC/SC GSA meeting planner, nancywilliams@missouristate.edu and indicate your preference:

A. Chicken en Croute

B. Vegetarian meal

We look forward to seeing you there!

Theme Sessions

Arts Integration in K-16 Geoscience Education

K-16 students often more easily connect with geoscience concepts using the visual, dramatic, and literary arts and music than conventional classroom teaching methods alone. Using the arts enhances constructivist approaches because students can explore geoscience concepts more fully to create new understandings. Examples of how the arts can be incorporated into geoscience teaching include, using sonification to teach deep time, haiku poetry to teach minerals, visual arts to teach the origins of the Grand Canyon, theatre to teach island formation, and dance to teach the water cycle. This session explores the many ways that arts integration in K-16 geoscience education can be accomplished (P. Allen Macfarlane, dowser@kgs.ku.edu, and Gary Rosenberg, grosenbe@iupui.edu)

Easy-to-Incorporate Inquiry-Based Activities for the K-16 Classroom

Teaching science by inquiry means engaging students' minds, allowing them to explore science concepts, helping them explain those concepts, elaborating on what they have learned, and assessing their understanding in appropriate ways. Inquiry-based activities promote conceptual change and critical thinking skills by helping students recognize their misconceptions and build knowledge based on personal experience. This personal experience can be in the form of a hands-on laboratory, a long-term project, relating a concept directly to students' own lives, or another memorable activity. This session features classroom-tested, inquiry-based activities that show evidence of increasing student understanding in meaningful ways. (Carrie Wright, clwright@usi.edu)

Issues in Geoscience Education

This session will present innovative ideas that promote K-16 geoscience education, in-service teacher training and public outreach. Authors are encouraged to submit examples of inquiry based learning, demonstrations, field experiences, workshops and curriculum development. (Kathleen Bower, kmbower@eiu.edu)

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Workshops

Geoscience Education: Introducing Students to Subsurface Characterization Using Small County

Two virtual subsurface exercises reflecting the geological characteristics of the U.S. mid-continent, in the fictional setting of Small County, Kansas will be presented. In the introductory-level version, students drill a sequence of wells in the attempt to locate the peak of a single anticlinal structure, receiving immediate feedback on the elevation of the formation top of interest after each well is drilled. In the advanced version, students interpret a set of logs obtained in each well, picking the top elevations of a sequence of formations, along with interpreting lithologies and fluid saturations versus depth in the well. (Geoffrey Bohling and John Doveton, geoff@kgs.ku.edu, Cinzia Cervato, cinzia@iastate.edu)

From Passive to Active: Classroom Makeovers that Improve Teaching and Learning.

This workshop capitalizes on the growing trend to introduce active learning into predominately lecture classes in the geosciences. Many faculty are interested in such methods, but do not know how or where to begin. This half-day workshop will introduce faculty to a schema for developing their own materials and provide an opportunity to develop and review such activities that will be collected for inclusion on the Cutting Edge website. Participants will leave the workshop with the pedagogical foundation and in-class learning resources they need to better engage their students.

(David Steer, President, National Association of Geoscience Teachers, steer@uakron.edu)

Field Trips

Civil War and Cultural Geology of Southwestern Missouri, Part 1: The Geology of Wilson's Creek Battlefield and the History of Stone Quarrying

This one-day field trip will explore the influences of geology on a major Civil War engagement and examine cultural, historical, and geological aspects of stone quarrying in southwest Missouri. (Joseph Hannibal, hannibal@cmnh.org, George Davis, Sherman Lundy, Kevin Evans)

Civil War and Cultural Geology of Southwestern Missouri, Part 2: Geologic Influences on the Battle of Forsyth, Guerilla Activities, and Post-War Vigilantism

This half-day field trip highlights the local geology of Branson and Taney County with a special emphasis on the influence of geology in Civil War and later conflicts. (Kevin Evans, kevinevans@missouristate.edu, George Davis)

Geomorphology and Paleontology of Riverbluff Cave, Springfield, Missouri.

Riverbluff Cave preserves spectacular Pleistocene trackways, clawmarks, and bone beds; sediments that partially fill the cave range up to 1.1 Ma. This is a half-day trip and availability is limited. (Matt Forir, Charles Rovey II, charlesrovey@missouristate.edu, Greg Balco)

Route 66 — Geology and Legacy of Mining in the Tri-State District of Missouri, Kansas, and Oklahoma.

This one-and-a-half-day field trip will follow historic Route 66. Lead-zinc and coal mines in the Tri-State District that were an enormously valuable economic resource in the early Twentieth Century are an environmental concern that persists into the Twenty-first Century. (James Aber, jaber@emporia.edu, Susan Aber, Gina Manders, Aaron Johnson)

To Interested NAGT Scouters

If you would like to assist with Geology Merit Badge in the Merit Badge Midway at the Boy Scouts of America National Jamboree (100th Anniversary Jamboree) this summer at Fort A.P. Hill in Virginia, for a couple of days please contact Ron Hart, of AAPG in Tulsa. You must be a registered Scouter to work in the Merit Badge Booth Area. Many of you work with your local Scout Council as Merit Badge Counselors for Geology Merit Badge and this is an opportunity to work with youth from across the Country in the Jamboree event. The Jamboree begins on July 26th and runs through the middle of the first week in August. You can get the details by contacting Ron Hart at AAPG.

Report from NAGT Executive Committee Liaison

The Executive Committee of NAGT has just had its mid-year meeting in conjunction with the NAGT Southwest Section's field conference in Salt Lake City. I continue to be impressed with the leadership of this Executive Committee and its Executive Director, Cathy Manduca.

Beginning in January of next year, under the guidance of the co-editors of The Journal of Geoscience Education, Julie Libarkin and Joe Elkins, we are moving the journal to a subscription-based on-line version with the long-term goal of going to an open-access on-line journal. We will continue to make the journal available in print, but at an additional charge. Many members have expressed support of this transition, welcoming the opportunity to download a pdf of their favorite article, as well as saving shelf space and saving trees. We have been using an electronic manuscript review system for about a year. This has worked well for
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(NAGT Executive Committee continued from p. 3)
authors, reviewers, and the editors. Please feel free to give me your thoughts about these changes. We want to hear from our members.

As we move toward an open-access journal, we will necessarily be decoupling membership from a journal subscription. We want to maintain the value of a membership. One idea is to expand our recently revamped e-newsletter, available only to members, to include columns, reviews, teaching activities, and possibly summaries of articles in JGE or select articles reprinted from JGE. We welcome your ideas about this and other means of adding value to a membership.

Financially we are operating in the black, and our endowment has weathered the financial crisis in excellent fashion, having returned to its value before the market began to drop.

Finally I would like to report that the association considers Central Section to be one of their most active sections and a model for other sections. Congratulations! Your program for the North-Central GSA meeting in Branson, MO, is outstanding. Keep up the good work.

Janis Treworgy
1st Vice President, NAGT
Liaison to Central Section

GSA Theme Sessions, Denver 2010: For a full list of theme sessions go to:
<http://geosociety.org/meetings/2010/sessions/topical.asp>

T48. Teacher Research and Instruction Abroad: A Pathway to Improved Geoscience Education NAGT; CUR; GSA Geoscience Education Division, Jacquelyn E. Hams, Janis D. Treworgy, Kate S. Pound

Have you participated in travel abroad experiences as a geoscience educator? This session will highlight teacher-research experiences, learning communities, and other travel abroad programs. Come share your experiences, activities, and lesson plans that you have developed.

T50. Undergraduate Student Research with Solitary Geoscience Faculty NAGT; CUR; GSA Geoscience Education Division, Janis D. Treworgy, Laura A. Guertin, Suzanne M. Smaglik

Have you, as a solitary geoscience faculty member, figured out how to involve your students in research? Come share both your successes and perceived failures to help others develop their own research programs.

Outstanding Earth Science Teacher (OEST) Award – Call for Nominations for 2010

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 Sherman Lundy lundy@basicmaterialscorp.com or Kata McCarville McCarvilleK@uiu.edu

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.

Applications must be received by April 1 with awards being made by April 15th. Please include your name, address, telephone, and email along with your proposal and send all materials to:

Dottie Stout Professional Development Grants
The National Association of Geoscience Teachers
P.O. Box 5443
Bellingham, Washington 98227-5443

NAGT Membership Application / Renewal

online membership services are available at: www.nagt.org



The Journal and membership year runs from January through December. Subscriptions received after June 1 will begin receiving the Journal in January of the following year. Back issues are available for \$15 each.

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 _____

Application TYPE ☐ New Applicant ☐ Renewal Applicant

Membership Type

- | | |
|---|--|
| <input type="checkbox"/> Regular – <i>domestic</i> 1 year - \$45 | |
| <input type="checkbox"/> Regular – <i>international</i> 1 year - \$57 | |
| <input type="checkbox"/> Retired – <i>domestic</i>\$30 | <input type="checkbox"/> Student* – <i>domestic</i>\$20 (<i>graduate & undergraduate</i>) |
| <input type="checkbox"/> Retired – <i>international</i>\$45 | <input type="checkbox"/> Student* – <i>international</i>\$35 (<i>graduate & undergraduate</i>) |
| <input type="checkbox"/> K-12 Teacher – <i>domestic</i>\$35 | *To qualify for student rate, obtain verification from NAGT member |
| <input type="checkbox"/> K-12 Teacher – <i>international</i>\$47 | |

Signature of NAGT member _____

School _____

Library subscriptions

- ☐ Domestic\$135
☐ International\$174

PAYMENT

- ☐ Check (*in U.S. funds*), made payable to: *National Association of Geoscience Teachers*
☐ Credit Card:

Card number _____ Expiration date _____

Amount authorized _____ Authorized Signature _____

Mail to:

NAGT
PO Box 503284
St. Louis, MO 63150-3284

www.nagt.org



OUTSTANDING EARTH SCIENCE TEACHER

Nomination Form

Name of Nominee _____ Years Teaching _____

Home Address (street, city, zip) _____

Telephone (Home) _____ (Work) _____ E-Mail _____

College/University Attended _____

Degrees _____ College Major _____ Minor _____

Annual percentage class time devoted to teaching earth science _____ Grades _____

Name of School _____ Telephone _____

School Address _____

Name and Address of School Superintendent _____

Name and Address of Local Newspaper _____

Respond to the following, using no more than one (1) typewritten page per item. Include supporting documentation in the form of letters, products, or publications as appropriate.

1. Teaching ability: What techniques does the nominee/applicant employ? What is his/her teaching philosophy? Are his/her courses challenging and comprehensive? Do students enjoy his/her classes?
2. Inventiveness: What new ideas, materials, software, instructional strategies, or techniques has the nominee/applicant developed?
3. Initiative: How does the nominee/applicant handle new situations and accommodate students of various abilities? Be specific.
4. Cooperativeness: How does the nominee/applicant cooperate in the total school program and in other academic areas?
5. Strengths: What are the principal strengths of the nominee/applicant?
6. Community involvement: How is the nominee/applicant involved in community and/or youth activities?
7. Other activities: List other professional activities and noteworthy accomplishments.

Name of Recommending Person (Nominator) _____

Address _____ Telephone _____

Nominator's Signature _____

Send all forms, materials, and supporting documentation in one package to:

Please feel free to copy this form for nomination purposes.

Sherman Lundy
1103 Ellen
Cedar Falls, IA 50613
lundy@basicmaterialscorp.com

Or : Kata McCarville
Upper Iowa University
Fayette, IA 52142
McCarvilleK@uiu.edu