

### **National Association of Geoscience Teachers**

### **Central Section Newsletter**

http://www.nagt.org/nagt/organization/central/index.html

Fall 2009

#### President

Carrie Wright
University of Southern IN
<a href="mailto:clwright@usi.edu">clwright@usi.edu</a>

### 1<sup>st</sup> Vice President

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

#### 2<sup>nd</sup> Vice President

Kevin Evans
Missouri State University
kevinevans@missouristate.
edu

### Secretary/Editor

Kathleen Bower
Eastern Illinois University
<a href="mailto:kmbower@eiu.edu">kmbower@eiu.edu</a>

#### Treasurer

Michael Wolf Augustana College michaelwolf@augustana.edu

#### Web Master

John McDaris Carleton College jmcdaris@carleton.edu

### **OEST Co-Chairs**

Sherman Lundy BMC Aggregates <u>lundy@basicmaterialscorp.</u> com

and Kata McCarville Upper Iowa University McCarvilleK@uiu.edu

### **Past President**

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

#### State Representatives

IL-David Voorhees
IN-Paul Doss
IN-Solomon Isiorho
IA-Cinzia Cervato
IA-Sherman Lundy
KY-Frederick Siewers
MI-Chris DeWolf
MN-Kate Pound
OH-Ron Fabick
OH-William Slattery
WI-Robert Baker
WI-Kerry Keen

### **UPCOMING EVENTS!**

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

Events sponsored by NAGT Central Section

### Symposium (details p. 2)

 Geological Aspects of the Civil War (Sherman Lundy, George Davis, and Joseph T. Hannibal)

# CALL FOR ABSTRACTS! Deadline: January 19, 2010 Theme Sessions

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

### Workshops

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

### **Field Trips**

8. 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)

(continued on p.2)

### PRESIDENT'S MESSAGE

The word must be getting around: the Earth Sciences are important and rewarding! I don't know about you, but students are



flocking to Geology as a major at my institution, and enrollment in major classes has skyrocketed in the past two years. My fellow faculty feel the same way I do-that this is a mixed blessing, but we would not trade this growth trend for the scarv alternative of dwindling enrollment! Why is it a mixed blessing? We are a small Geology Department, and growth is good, but now we cannot boast such small classes and the individual in-class attention our students used to get when classes normally had three to five their largest. students at Historical Geology, Hydrogeology, Igneous Petrology, Structural Geology and other classes are all busting at the seams here at the University of Southern Indiana! We no longer just need one van for a field trip, we need a fleet! Labs are crowded, grading takes much more time. and less-able students are more likely to fall through the cracks when they are one of thirty rather than one of three. But, like I said, this growth is good. Students are really getting the message that Geology is interesting, fun, and can lead to a very rewarding career in any number of industry or academic positions. We, as teachers, just need to make sure to adjust our pedagogy and classroom behaviors to accommodate larger classes and greater diversity in learning styles and abilities. I, for one, am willing to work extra hard to make that happen. Keep up the good work!

Carrie Wright, President

- (Joint GSA Meeting continued from p.1)
- 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)
- Geomorphology and Paleontology of Riverbluff Cave, Springfield, Missouri. (Matt Forir, Charles Rovey II, Greg Balco)
- 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)

(Joint GSA Meeting details)

### **Symposium**

Geological Aspects of the Civil War. This session will include talks dealing with any geological aspect of the American Civil War. Possible topics are battlefield geology, the geological background of those who participated in the war, the role of geological resources in the war, and the geology of Civil War cemeteries and monuments. One of the conference field trips will visit the SW Missouri site of the Battle of Wilson's Creek, the second major battle of the war. (Sherman Lundy, <a href="mailto:sherml@bmcaggregates.com">sherml@bmcaggregates.com</a>, George Davis, George.Davis@modot.mo.gov, Joseph Hannibal, <a href="mailto:hannibal@cmnh.org">hannibal@cmnh.org</a>)

### **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 Canvon, 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, <a href="mailto:clwright@usi.edu">clwright@usi.edu</a>)

### **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)

### Teaching sustainability

As an interdisciplinary issue, sustainability presents some unique problems and challenges for geo/earth-science educators. Sustainability has been broadly defined by the Brundtland Commission in 1987, but it has evolved to take on different meanings in different disciplines and venues. Clearly, the geo/earth-sciences play a significant role in the understanding of the importance of sustainability to our students, but it is as clear it is not the only discipline that is important to this understanding. How many of these interdisciplinary variations and nuances of sustainability do we, or should we, address in our geo/earth-science classes? Is sustainability truly an earth/geo-science class, or should it only be offered as an interdisciplinary class? Finally, what kinds of credible and appropriate resources (i.e., textbooks, internet sites, and exercises) are available to teach sustainability, and at what grade level? (David Voorhees, dvoorhees@waubonsee.edu)

#### 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)

(continued on p. 3)

(Joint GSA Meeting details continued from p. 2)

### 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, <a href="mailto:steer@uakron.edu">steer@uakron.edu</a>)

### **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, <a href="https://hannibal@cmnh.org">hannibal@cmnh.org</a>, 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, <a href="mailto:charlesrovey@missouristate.edu">charlesrovey@missouristate.edu</a>, 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, <a href="mailto:jaber@emporia.edu">jaber@emporia.edu</a>, Susan Aber, Gina Manders, Aaron Johnson)

### **OEST award winners for 2009**

Information on the outstanding work of the OEST winners will be included in the next Newsletter.

### **Section Winner:**

Mr. Dennis Dougherty, Michigan

### **State Winners:**

Mr. Mike Steiner, Wisconsin Mr. Dennis Dougherty, Michigan Mr. Charles Simer, Illinois

# 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

<u>lundy@basicmaterialscorp.com</u> or Kata <u>McCarville McCarvilleK@uiu.edu</u>

### Concerned About Disappearing Geology Programs?

Michigan State University is in a bit of a budget crisis (as are many educational institutions - higher education and K-12) and is considering cuts that include geology majors and the entire geology dept.

MESTA is organizing a letter writing campaign to protest this move. Please write in to protest this move!

Go to URL: <a href="http://news.msu.edu/">http://news.msu.edu/</a> to read the full story.

# 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.

<u>Application Process</u>: 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 April15<sup>th</sup>. 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

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#### Minutes

### Central Section of NAGT Business Meeting SC GSA, Rockford, IL, April 3, 2009

http://www.nagt.org/nagt/organization/central/index.html

- · Welcome and introduction of attendees and officers
- Minutes of previous meeting
   (http://nagt.org/files/nagt/organization/central/minutes 042
   508.v2.pdf) Approved
- Treasurer's Report presented by Michael Wolf accepted
- Elections (new terms take effect at the end of the meeting)
   elected by unanimous consent
  - President Carrie Wright, University of Southern Indiana (clwright@usi.edu)
  - o 1<sup>st</sup> Vice President Allen Macfarlane, Kansas Geological Survey, (<u>dowser@kgs.ku.edu</u>)
  - 2<sup>nd</sup> Vice President –2<sup>nd</sup> Vice President Kevin Evans, Missouri State University (<u>kevinevans@missouristate.edu</u>)
  - Past President Mark Francek, Central Michigan University (<u>Mark.Francek@cmich.edu</u>)
  - Treasurer- 2010-2012 term Michael Wolf, Augustana College (michaelwolf@augustana.edu)
  - OESTA Co-Chairs Sherman Lundy (<u>lundy@basicmaterialscorp.com</u>) and Kata McCarville (McCarvilleK@uiu.edu)

Nominations – need suggestions for next year

- o Michigan State Representative still in need
- 2<sup>nd</sup> VP for 2010-2011 near Pittsburg, PA if possible
- OEST Outstanding Earth Science Teacher Awards 2008-2009
  - Nominations still being accepted through June 30, 2009 – send to Kate Pound, OESTA Chair (kspound@stcloudstate.edu)
  - It was unanimously voted that the section reimburse traveling expenses to the NC-GSA conferences as an experiment next year; up to \$500 for the Central Section winner (contingent on their giving a presentation) and up to \$100 for each of the state winners. This is in addition to the normal OEST awards. It was noted that these winners could also apply for the Doty Stout Award.
- NAGT (National) Report -Aida Awad, councilor on NAGT Executive Committee presented report
- Old Business
  - Newsletter Current newsletter is posted on Central Section web page
  - 2008 Combined Tri-State GLS-SEPM Fall Field Trip - Combined Tri-State and GLS-SEPM Field Conference – October 17-19, Cedar Falls, Iowa – central section NAGT helped support, \$250
  - o NC-GSA, Rockford, IL, April 2-3, 2009, Central Section NAGT program
    - Theme Sessions:

- 1. Issues in Geoscience Education. (Kathleen Bower,
- 2. K-16 Collaboration, Outreach, and Engagement (Allen Macfarlane and Annabelle Foos)
- New Business
- o NAGT Central Section OEST Awards in newsletter
- Future Activities
  - 2009 Tri-State Geological Field Conference An Illinois host is being sought - Contact James Walters (james.walters@uni.edu)
  - 2009 GLS-SEPM Fall Field Trip, Ancient Landscapes of the Shawnee Hills, Southern Illinois, Dr. Pius Weibel (weibel@isgs.illinois.edu)
    - Voted unanimously to support GLS-SEPM with \$250 contingent on special student and K-12 educator rate
- o Proposed NAGT program, 2010 NC-GSA, Branson, MO
  - 1. 2010 Branson, Missouri joint meeting of the North-Central and South-Central sections, April 11-13, 2010, co-conveners Thomas G. Plymate, Dept. of Geography, Geology, and Planning, Missouri State University (TomPlymate@MissouriState.edu) and Marcia Schulmeister, Earth Science Department, Emporia State University - to propose theme session contact Kevin Mickus (kevinmickus@missouristate.edu)
    - Suggested Central Section NAGT sponsored events:
      - Theme Session: Issues in Earth Science Education: K-16 (Kathy Bower, kmbower@eiu.edu)
      - Theme Session: Defining and Teaching Sustainability (David Voorhees, <u>dvoorhees@waubonsee.edu</u>)
      - Theme Session: Activities in Inquiry Earth Science Education: K-16 (Carrie Wright, clwright@usi.edu)
      - O Theme Session: Arts in Geoscience (Allen Macfarlane,
        - dowser@kgs.ku.edu)
      - Workshop: Hands-on Activities and Materials in K-16 Earth Science Education (Michael Wolf, michaelwolf@augustana.edu)
        - Field Trip:
           Geology of Route
           66 (Kevin Evans,
           <u>kevinevans@misso</u>
           <u>uristate.edu</u>)
        - Field Trip:
           Riverbluff Cave
           with its Pleistocene
           fauna (Kevin
           Evans,
           kevinevans@misso
           uristate.edu)
        - It was suggested to the 2010 NC-GSA coordinators that registration fees for K-12 and 2-year educators be greatly reduced
        - It was suggested that section members bring local rock, mineral, and fossil samples to section booth at meeting as

free education samples to conference attendees

- NAGT program, 2011 NC-GSA, Pittsburg, PA, joint with NE-GSA - contact: Daniel Holm (Kent State University, dholm@kent.edu)
- Future NC-GSA meetings:
  - 2012 Dayton, Ohio, contact: Charles Ciampaglio (Wright State University, chuck.ciampaglio@wright.edu)
  - 2015 Madison, Wisconsin
- Incorporation/tax id issue:

Tax ID and corporate status are different issues. The fact that the Central Section has its own tax ID number simply means that the Executive Director's office will not need to gather data from Central NAGT 1009-INT forms when national NAGT prepare its annual tax return.

Having a tax ID number is not relevant to the insurance/corporation issue. There is no compelling reason for Central NAGT to incorporate. It is not known if the Central Section may have taken this step in the past. If the Central section IS incorporated then it is excluded from national NAGT insurance coverage. If it is NOT incorporated then national NAGT insurance will provide coverage for the Central Section's activities.

Does anyone recall if Central Section NAGT is incorporated? Sherman Lundy did not think Central Section was incorporated but suggested Mark Francek contact previous section secretary, Sam Huffman of River Falls.

#### • Other

This year the state representatives will be asked to define their responsibilities. One responsibility will be developing a list of state K-12 earth science teachers in order to send out announcements of Central Section NAGT events. The meeting attendees brainstormed sources of names of state earth science teachers, K-12 and came up with the following possibilities:

Area Education Associations (Iowa)
Principles of all state schools
Regional Offices (Illinois)
Licensing boards
Science Fair attendees
Undergraduate education schools
State Department of Education

It is suggested that these organizations be formally approached as a representative of the Central Section of NAGT in order to receive their cooperation. It is also suggested that the state representatives be prepared with a list of the benefits of belonging to NAGT in order to receive cooperation.

# 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.

Na	me (please	print)						
Ma	ailing Addre	ess						
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			Teacher at					
			Other at					
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	Regular -	Regular – international						
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	K-12 Tea	cher –	domestic\$35	*To	qualify for student rate, obtain ve	rification from NAGT member		
	K-12 Tea	cher –	international\$47					
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Mail to:

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

www.nagt.org

### NATIONAL ASSOCIATION OF GEOSCIENCE TEACHERS



### **OUTSTANDING EARTH SCIENCE TEACHER**

### **Nomination Form**

Name of Nominee		Years Teaching			
Home Address (street,	, city, zip)				
Telephone (Home)	(Work)	E-Mail			
College/University Atte	ended				
		Minor			
Annual percentage cla	ss 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				
documentation in the f 1. Teaching ability: V philosophy? Are h 2. Inventiveness: WI nominee/applicant 3. Initiative: How doc abilities? Be speci 4. Cooperativeness: academic areas? 5. Strengths: What a 6. Community involve	es the nominee/applicant handle new situat	appropriate. Interploy? What is his/her teaching live? Do students enjoy his/her classes? Interploy is and strategies, or techniques has the live in the total school program and in other live in community and/or youth activities?			
Name of Recommendi	ing 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.

Or:

Sherman Lundy 1103 Ellen Cedar Falls, IA 50613 lundy@basicmaterialscorp.com Kata McCarville
Upper Iowa University
Fayette, IA 52142
McCarvilleK@uiu.edu