



National Association of Geoscience Teachers  
**Southeastern Section Newsletter**  
Winter-Spring 2006

**Inside:**

The President's Report  
Happenings at SE GSA in Knoxville  
Regional Geoscience Ed News  
SE NAGT Representatives

**WWW . . .**

NAGT

[www.nagt.org](http://www.nagt.org)

SE-NAGT

[www.gpc.peachnet/~pgore/nagt/se-home.html](http://www.gpc.peachnet/~pgore/nagt/se-home.html)

Geological Society of America

[www.geosociety.org](http://www.geosociety.org)

US Geological Survey

[www.usgs.gov](http://www.usgs.gov)

Earth Science Week

[www.agiweb.org](http://www.agiweb.org)

[www.earthscienceworld.org](http://www.earthscienceworld.org)

[www.earthsciweek.org](http://www.earthsciweek.org)

**Upcoming Events!**

March 23-24,  
2006

Southeastern Section,  
Geological Society of America  
meeting in Knoxville, TN

[www.geosociety.org/meetings/](http://www.geosociety.org/meetings/)

**Summer-Fall 2006 Newsletter**

**Deadline: Sept. 8, 2006.**

Please send news, items,  
questions, & answers to Stan  
at [sdunagan@utm.edu](mailto:sdunagan@utm.edu).

**Southeastern Section Officers**

**President:** Douglas Haywick

University of South Alabama

LSCB 136

Mobile, AL 36688-0002

334.460.6381

[dhaywick@jaguar1.usouthal.edu](mailto:dhaywick@jaguar1.usouthal.edu)

**Past-President:** David Kopaska-Merkel

Geological Survey of Alabama

P.O. Box 869999

Tuscaloosa, AL 35486-6999

205.349.2852

[davidkm@gsa.state.al.us](mailto:davidkm@gsa.state.al.us)

**Vice-President:** Nancy Hueber

Fernbank Science Center

156 Heaton Park Drive

Atlanta, GA 30307

404.929.6312

[n.huebner@fernbank.edu](mailto:n.huebner@fernbank.edu)

**Secretary/Treasurer:** Pamela Gore

Department of Geology

Georgia Perimeter College

555 North Indian Creek Drive

Clarkston, GA 30021

678.891.3754

[pgore@gpc.edu](mailto:pgore@gpc.edu)

**Newsletter Editor:** Stan P. Dunagan

Dept. of Geology, Geography, and Physics

The University of Tennessee at Martin

Martin, TN 38238

731.881.7959

[sdunagan@utm.edu](mailto:sdunagan@utm.edu)

This will be my last report as President of the SENAGT. Effective following our next business meeting (March 24, 2006), Nancy Huebner will take over as President of our section. This is a good thing. Nan has been an enthusiastic supporter of geoscience education and will doubtless make an excellent leader for the SENAGT. Since my tenure as President is just about over, it is perhaps time to reflect on the past couple of years for our organization.

We have had some pretty good successes. We have proposed, and our members have chaired, several geoscience education related theme sessions at the southeastern Geological Society of America (SEGSA) regional meetings. The Biloxi SEGSA meeting in March 2005 was particularly noteworthy for our organization as we actually had a full house for most of the presentations in our *K-16 Earth Science Education: Teaching Geology in a Shifting Socio-economical Environment* theme session and we also had good attendance on our *On the Beach* field trip to Shipp Island. Geoscience education-related theme sessions are generally less well attended than other sessions, so this was a pleasant surprise. I chock it up to the high quality presenters and interesting topics. I hope that we can keep this up for future SEGSA meetings.

I also consider it a success that we have good representation at the state level. The majority of the states comprising our section (AL, FL, GA, MS, NC, SC, TN) now have dual State Representatives. As I have stated before, dual representation is important for two reasons; 1) it better represents the geoscience education interests of the state and 2) it "spreads" out the pain of State Representative duties. It can be a hassle to write a state report twice a year and having two people to do the work is better than leaving to one individual.

The Outstanding Earth Science Teachers Award (OEST) is starting to become more popular in our region. Instead of only having one or two state winners, we are now awarding 4 or 5 a year. This is still not as good as I'd like to have seen (there are, after all, 7 states<sup>1</sup> in our section), but the increased participation is still gratifying.

Doug Haywick

Mobile, AL  
2006

Submitted March 13,

\*\*\*\*\*

**Secretary/Treasurer's Report** - As of March 16, 2006, we had 136 members and the account has \$3832 in the bank.

<sup>1</sup> Louisiana is currently included in the southeastern section of the NAGT, but this is currently under review.

**Southeastern Section of the Geological Society of America meeting, Knoxville (TN) March 23-24, 2006**



The following theme sessions have relevance to geoscience educators in the southeastern US and beyond.

**Paleontology, Paleoecology, and Paleoenvironments of the Gray Fossil Site, Gray, Tennessee.** *Sponsored by Paleontological Society.* [Steve Wallace](#), East Tennessee State University; [Blaine Schubert](#), East Tennessee State University. The Gray Fossil Site was discovered in May 2000, during road construction in Washington County near Gray, Tennessee. The deposit provides a rare opportunity to study the Miocene paleoecology of southern Appalachia. This session will focus on emerging paleontological and paleoecological data from this extraordinary fossil site.

**Bringing Research into the Undergraduate Classroom.** *Sponsored by National Association of Geoscience Teachers, Southeast Section.* [Ben Tanner](#), Western Carolina University. This session will focus on ways to integrate research experiences into the undergraduate classroom and to determine the value of research derived from undergraduate classes.

**Current Status of K-12 Science Standards and Earth Science Education in the Southeast.** *Cosponsored by National Association of Geoscience Teachers, Southeast Section; GSA Southeastern Section Education Committee.* [Michael A. Gibson](#), University of Tennessee at Martin; [Doug Haywick](#), University of Southern Alabama. Science standards for K-12 education in the southeast have undergone revision in response to test scores, national initiatives, and education reform movements over the past 20 years. What is the current status of earth science education in the southeast and what are the implications for higher education programs? State science coordinators from the southeast will be invited to report on the status of standards-based science education in their states, areas still in need of attention, and expected trends in earth science education.

The following NAGT sponsored post-meeting fieldtrip will also be offered at the 2006 SEGSA:

**The Formation, Denudation, and Natural History of Mount Le Conte, Great Smoky Mountains National Park, Tennessee.** (One day) *Sponsored by National Association of Geoscience Teachers.* [C. Scott Southworth](#), U.S. Geological Survey, +1-703-648-6385; [Arthur Schultz](#), U.S. Geological Survey. Sat., 25 Mar., 8 a.m.-5 p.m.; Cost: US\$40, including bus transportation, lunch, snacks, guide, geologic map, and video. This trip will originate and end at the Sugarland Visitor Center, Great Smoky Mountains National Park. Check out of your hotel and depart Knoxville by 8 a.m. to get to the Visitor Center by 9 a.m. Wear sturdy footwear, warm clothes, and bring rain gear. K-14 teachers, students, professionals, and guests are invited to participate. The trip will consist of four stops around Mount Le Conte: (1) Carlos Campbell Overlook; (2) a short, steep hike to Buckeye Cove; (3) lunch at the Chimneys picnic area; and (4) a moderate 4.5-mile round-trip hike to Alum Cave. We will highlight the origin of the rocks; the timing and conditions of deformation, metamorphism, and uplift; and erosion and surficial deposits that have contributed to the geomorphology.

**Southeastern Section of the Geological Society  
of America meeting, Savannah (GA)  
March 28-30, 2007**



**2007 Southeastern Section Meeting of the Geological Society of America**

The faculty of the Department of Geology and Geography at Georgia Southern University have accepted the challenge of hosting the 2007 Southeastern Section Meeting of the Geological Society of America meeting. The meeting will be held at the Hyatt Regency Savannah on the Historic Riverfront in Savannah from 28-30 March 2007. I will serve as the chair for the meeting and Dr. Michael Kelley ([mkelley@georgiasouthern.edu](mailto:mkelley@georgiasouthern.edu)) will serve as the technical program chair. We hope that you, the NAGT membership, will consider submitting ideas for sessions or fieldtrips or workshops to Mike or myself ([pasher@georgiasouthern.edu](mailto:pasher@georgiasouthern.edu)). As the program develops we will make this information available via GSA's web page. Please stop by our booth at the Knoxville meeting in the exhibit area to learn more information about the 2007 meeting.

---

## **REGIONAL NEWS IN GEOSCIENCE ED**

---

### **Alabama** (submitted by David C. Kopaska-Merkel)

**Creationist legislation in Alabama.** As of this writing a pair of creationist bills are working their way through the state legislature. These are essentially the same bills that failed to pass last year. The legislature meets for 10 more days this year and so time will be short for passing unimportant legislation.

If these bills do pass, they will allow creationism and intelligent design to be taught in science classes. They will also have unintended consequences, which local groups are exploiting to convince legislators to oppose the bills. For example, because the bills would protect any ideas that can be scientifically supported, teachers (and students) will have the opportunity to dredge up all sorts of ideas that have been proven to be false but that are supported by technical or pseudo-technical publications. These include racism based on "The Bell Curve" and such notions as are expressed by Scientologists.

The original versions of these bills applied to K-12 and post-high school education. It looks like both the state Senate and the state House are going to restrict the bills to colleges and universities. This is bad news, but it would be worse if the bills only applied to K-12 education. Thanks to Bob Collins of Alabama Citizens for Science Education for most of this information.

**Science workshops and lectures in Alabama.** Legacy, Alabama's environmental education organization that is funded by specialty license tags, is running a weeklong workshop for teachers in the summer, as usual. This year it will include a workshop on the remarkable Pennsylvanian trace-fossil fauna from the Union Chapel mine and probably also a trip to the mine.

The Geological Survey of Alabama continues its annual one-day fossil workshop for K-12 teachers. The workshops are held in October, and in 2005 we had about 25 attendees, as usual.

The University of South Alabama continues its annual one day science and engineering workshop for middle-school girls. There are three time slots and several concurrent sessions for each slot. In 2005 three earth-science activities were included in the workshop offerings.

The annual meetings of the Alabama Science Teachers Association and of Legacy include numerous science workshops. Some of these are on topics related to earth science.

The evolution working group of the University of Alabama (EVOWOG) was constituted this year and its first major activity was to organize a series of evolution lectures. The lectures are called ALLELE, Alabama lectures on life's evolution ([http://www.frctest.ua.edu/public\\_html/evolution/schedule.html](http://www.frctest.ua.edu/public_html/evolution/schedule.html)). The lectures have been attended by about 150 to 300 people. Most attendees are college students, but the audiences

have included many faculty members and also others from the community. Two lectures in the first year were given by earth scientists: Jim Lacefield and Patricia Kelley.

**Relevant publications.** In 2005 the Alabama Paleontological Society published a volume describing the newly discovered world-class trace fossil fauna from the Union Chapel mine in Walker County Alabama. The book (<http://www.alabamapaleo.org/monograph.html>) is a collaboration of professional and amateur paleontologists; some of the latter are K-12 science teachers. The book, and the six-year saga of site discovery, study, and preservation that it details, could serve as a model for future collaborations. The book provides information at a technical level suitable for use by science teachers.

**Thurn retires.** After 25 years of teaching Geology and Earth Science, Richard Thurn is retiring from The University of West Alabama. Thurn completed degrees at the Princeton, SD School of Mines and the University of Iowa at a time when plate tectonics was a brand-new and controversial theory. Thurn came to UWA (at the time it was Livingston University) in the Fall of 1980 from Iowa City where he was teaching high school Earth Science. The decision to move south came on a midwinter evening in 1980, "I was shoveling three feet of snow out of my driveway so I could get to work in the morning, it was still snowing, and it was 35 degrees below zero" Thurn said with a laugh. Thurn applied to an ad in *The Chronicle of Higher Education* shortly thereafter and was notified at the last minute in the fall of 1980 that the job was his. Rumor has it that a Ph.D. from Michigan was offered the job first, but his mom would not let him come to Alabama. What we know for sure is that UWA benefited from Rich Thurn's presence. Thurn started in Iowa as a hard rock geologist (igneous and metamorphic) and found himself in Alabama, the land of the soft rock geologist. In the midst of learning the new language of the soft rock geologist and missing the mountains, Thurn realized that he was still in the mountains, just way above them as the Appalachians are buried deep beneath the soft Alabama sedimentary rocks.

"After so many years the students start to blend together" Thurn said when asked about memorable students. He went on to say that "the most memorable students were the ones that went on to be teachers". He went on to tell a story about two male students that he had during the first couple of years. "Those two were good buddies and practical jokers. At one point one of them discovered a bucket of loose turtle bones and went out the day before a field trip and left a 200 yd. trail of bones. The next day on the field trip, the one that placed the bones 'found' the first one and watched his buddy chase that turtle for 200 yards across the countryside. "It was one of the funniest things I have ever seen", Thurn reports. Later that year, the same student that chased the turtle slipped on a chalk outcrop and got bitten by a 70 million year old shark. Another student, Ashley Allen, was a biology major and quite a good actor who became interested in Alabama fossils, and paleontology in general, as a result of taking a few courses from Thurn. Allen went on to become an earth science teacher in Oneonta, AL, played a major role in discovering the Union Chapel Mine and its assemblage of valuable and unique fossils, and was recently named Earth Science Teacher of the Year - a testament to Thurn's abilities and enthusiasm for the subject material.

When asked what changes he had observed throughout his career and what he would miss the most, Thurn replied that technological advances in the classroom and with communication were the most sweeping changes. "I will miss the interactions with students the most", Thurn said of his pending retirement. From the sounds of things the students will miss him too.

**Other.** The McWane Center, a children's museum in Birmingham, is expanding its programs. They have added a paleontologist, James Lamb, to the staff as curator. James, along with the collections manager (Jun Ebersole), plans a vigorous expansion of technically accurate and kid-friendly offerings at the museum. In addition, they intend to expand the fossil collections, already useful for research purposes, in order to make the museum a tempting destination for any scientist researching Alabama paleontology. The combination of research and education, which is typical of large museums but not of small museums like this one, might be an excellent addition to Alabama science education.

Alabama's most important fossil discovery, the Pennsylvanian trace-fossil fauna of the Union Chapel mine, still figures prominently in the state's science-education program. (The Union Chapel mine fauna is the most abundant and diverse Carboniferous trace-fossil fauna in the world.) A significant book covering not only the paleontology of the site but its discovery and ultimate preservation as state property was published in 2005. The McWane Center is planning a major exhibit based on the discovery. A session at the southeastern GSA meeting in 2006 will include a series of presentations about the site. The site will be the

focus of a workshop and a field trip at the 2006 Legacy summer institute for K-12 science teachers. Collection of new specimens continues on a monthly basis and remarkable new discoveries are still being made (for example the largest tetrapod trackway yet found at the site was discovered this spring).

### **Georgia** (submitted by Nancy Huebner)

The standards for the new High School Earth Science course are in the process of public review. Anyone interested can view the standards at the following website <http://www.georgiastandards.org/science.aspx> look under New High School Courses / Earth Systems.

### **South Carolina** (submitted by Gwen Marie Daley)

In accordance with the our state's Education Accountability Act of 1998, all of South Carolina's education standards must to be reviewed and updated on a regular basis with the first revision to be completed before 2005. Most of the press coverage of this process has concentrated on the political fight over the biology standards (see below). According to the December, 2004 report of the South Carolina Education Oversight Committee (EOC) (*Report on the Review of the South Carolina Science Curriculum Standards*), there were several problems with the old science teaching standards such as redundancy, appropriateness of standards to grade level, the sometimes illogical order of subjects and a lack of detail. These issues were addressed in a new version of the South Carolina Science Academic Standards posted on the South Carolina Department of Education (SCDoE)'s website in November. The new standards were submitted to the EOC for approval, and the real trouble started.

The main source of trouble on the EOC is SC state senator Mike Fair (R-Greenville), who is a proponent of the so-called Intelligent Design theory and an opponent of the theory of evolution, which he has called "foolish." Sen. Fair was apparently quite disturbed by a Thomas B. Fordham Foundation report on state science teaching standards, published in 2000, which gave South Carolina an "A" for the evolution standards (a 2005 report from the Fordham Foundation gave the SC science standards the only "A" for any state in NAGT's Southeastern Section). In the past, he has tried unsuccessfully to require stickers on biology textbooks that say that empirical science is not able to provide data about the origin of life. He twice introduced a proposal in the SC Senate that would form a committee to review alternatives to evolutionary theory as well as "determine whether there is a consensus on the definition of science."

Spurred on by Fair, in December 2005 the EOC voted to reject the wording in the biology standards that dealt with evolution, even though according to the law that created the EOC, it does not have the power to edit the standards. The Board of Education decided to keep the 2000 biology standards in place until the issues were resolved, and the published biology standards on the SCDoE's website were amended so that "DRAFT\*" appeared on each page.

Sen. Fair decided that the EOC should consult a panel of experts on the topic of education. He reportedly consulted the Discovery Institute about recruiting evolution critics (the Discovery Institute also issued a press about the panel) and subsequently brought in two out-of-state scientists. They were joined on the panel by a pair of SC educators: Mary Lane Edwards (Erskine College) and Karen Stratton (Lexington 1 school system). According to second-hand accounts on The Panda's Thumb website, both South Carolinians did a "bang-up job."

After consulting the panel, Bob Staton (who would like to be the next SC state education superintendent) suggested a "compromise" which would reinstate the original language, but add the deceptive phrase "critically analyze" to the standards. As written, the proposed standard would require that students be able to "critically analyze" the genetic, anatomic, embryologic, biochemical and paleontologic data that supports the theory of evolution. It sounds harmless, until you consider that the old, lauded, standards required students to understand the scientific process of using data to critically analyze scientific hypotheses and theories. The terminology is a classic "wedge" that could allow pseudoscience, religious beliefs and nonsense to be taught as science in biology classrooms.

The SC School Board of Education will meet on March 8 to decide whether or not to alter the standards. For more recent news and information and details please see the website of the recently formed South Carolinians for Science Education (<http://www.sc-scied.org/>). The South Carolina Science Council has issued statements about this debate (<http://www.southcarolinascience.org/>).



On a lighter (and completely different) note, on Saturday, March 18<sup>th</sup>, the South Carolina Aquarium and the Centers for Ocean Sciences Education Excellence South East (COSEE EE) is offering a workshop entitled "Compromise in the Estuary" that will address scientific and political issues related to estuary management (for more information, please consult: <http://www.scaquarium.org/visit/upcomingevents.aspx>). Dr. John Wagner of Clemson will run a course in July sponsored by the South Carolina State Park Service and SC LIFE. Participants will travel through the state exploring Discover Carolina sites and using maps and aerial photos to explore natural and human history (see: <http://www.ces.clemson.edu/scmaps/>).

## **Tennessee** (submitted by Michael A. Gibson)

**Reminder about new TEST website.** The Tennessee Earth Science Teachers (TEST) has revamped its website and plans on additional expansions soon; visit us: <http://www.tnearthscience.org/test9-04.htm>.

**2005 Area National Science Teachers Association Meeting.** Nashville hosted the 2005 NSTA Area meeting December 1-3, 2005. Drs. Michael A. Gibson (UT Martin) and Don Byerly (Emeritus, UT Knoxville) ran a day-long field trip with the theme "Lessons from Limestone". All aspects of limestone were explored using the concept that limestone can be used as the central theme to teach numerous science standards in earth science, biology, chemistry, and non-science standards in history and other areas. The field trip was funded by donations from Rinker Materials, Vulcan Materials, Rogers Group, Knoxville Gem and Mineral Society, Travis Paris (Rinker) and Dan Steinhoff (ASARCO) and we heartily thank them for their support and contribution. A field trip guide was produced, which is being used for additional field trips in each of the grand divisions of Tennessee and will be ultimately published.

**2006 SE Geological Society of America Meeting** (March 23-25). The "Lessons from Limestone" will be run at the SEGSA meeting in Knoxville, TN on Saturday, March 25<sup>th</sup>. Registration for the field trip is open to all teachers and professionals (<http://www.geosociety.org/sectdiv/southe/06semtg.htm>). Drs. Michael Gibson and Don Byerly will lead a full day trip to quarries, mines, and outcrops in the Knoxville vicinity showing how limestone can be used to teach a variety of science concepts. Stops on the field trip include classic outcrops of the Holston and Mosheim Ordovician limestone, IJAMS Nature Center, the Young Zinc Mine (ASARCO), the historic Ramsey House, and Rinker's Forks of the River operation. The guide book contains information about limestone and its formation and use, along with numerous activities for teachers to use in the classroom. Participants receive a copy of the guidebook, helmet, field test kit, and samples of limestone varieties.

**College Entrance Science Requirement Fulfillment.** A cooperative agreement between the Tennessee Board of Regents schools and the University of Tennessee system has resulted in a change in the college entrance requirement opportunities for Tennessee students graduating from high school. Beginning Fall, 2006 laboratory courses in Earth Science and/or Geology at the high school level will be used to satisfy the entrance requirements of graduating seniors attending college. Currently most schools require a specified number of high school science courses from a select list designated by the college. Most Tennessee high education schools did not recognize Earth Science or Geology on this list; however, a proposal written by the Tennessee Higher Education Commission, with the input of the Tennessee Earth Science Teachers resulted in a review of this policy. The two Tennessee high education systems developed review committees to study the issue and make recommendations on the issue. Both systems approved the change to accept the high school science courses beginning this fall.

**Earth Resources Workshop for Science Teachers.** Jonathan Mies and Ann Holmes, UT Chattanooga, are offering a 10-day science teacher workshop starting on June 8-21, 2006, focusing on regional Earth Resources. Twenty-two participants will receive two college credits and a \$40/day stipend (or \$15/day stipend and dorm room), with breakfast and lunch provided. The workshop format will include lecture-format instruction, active (hands-on) learning to follow lectures, field experience (field trips to a variety of localities in the region), a problem-based learning exercise. Lots of materials will be provided for the participants' classrooms - samples of ore minerals, ore-bearing rocks and other rocks of economic resources, testing samples, rock hammers, safety glasses, hand lenses, maps, CDs, etc. We will focus on water and energy resources including solar, fuel cell, geothermal, hydroelectric, coal, as well as building materials and regional ore deposits. Email Ann Holmes ([Ann-Holmes@utc.edu](mailto:Ann-Holmes@utc.edu)) or visit the workshop website (<http://www.utc.edu/Faculty/Jonathan-Mies/wkshop/wkshop.html>).

## Your SE NAGT State Representatives

### Alabama

Doug Wymer  
University of West Alabama  
Livingston, AL 36688-0002  
[dwymer@uwa.edu](mailto:dwymer@uwa.edu)  
205.652.38621

David Kopaska-Merkel  
Geological Survey of Alabama  
P.O. Box 869999  
Tuscaloosa, AL 35486-6999  
[davidkm@gsa.state.al.us](mailto:davidkm@gsa.state.al.us)  
205.349.2852

### Florida

Jonathan R. Bryan  
Earth Sciences  
Okaloosa-Walton College  
100 College Blvd.  
Niceville, FL 32578  
[bryanj@owc.edu](mailto:bryanj@owc.edu)  
850.729.5246

Paul Cutlip  
Department of Natural Sciences  
St. Petersburg College  
St. Petersburg, FL 33733  
[Cutlip.Paul@spcollege.edu](mailto:Cutlip.Paul@spcollege.edu)  
727.341.4699

### Georgia

Pamela Gore  
Department of Geology  
Georgia Perimeter College  
555 North Indian Creek Drive  
Clarkston, GA 30021  
[pgore@gpc.edu](mailto:pgore@gpc.edu)  
678.891.3754

Nancy Huebner  
Fernbank Science Center  
156 Heaton Park Drive  
Atlanta, GA 30307  
[n.huebner@fernbank.edu](mailto:n.huebner@fernbank.edu)  
404.929.6312

### Louisiana

Andrea Walker  
801 Pontalba Street  
New Orleans, LA 70124  
[andrealwalker@hotmail.com](mailto:andrealwalker@hotmail.com)  
504.488.5268

### Mississippi

Gail S. Russell  
Department of Geology, Box 5045  
University of Southern Mississippi  
Hattisburg, MS 39406  
[Gail.Russell@usm.edu](mailto:Gail.Russell@usm.edu)  
601.266.4077

David Dockery  
Mississippi Office of Geology  
Jackson, MS 39209  
[David.Dockery@deq.state.ms.us](mailto:David.Dockery@deq.state.ms.us)  
601.961.5500

### North Carolina

Randy Bechtel  
NC Geological Survey  
Division of Land Resources, 1612MSC  
Raleigh, NC 27699-1612  
[randy.bechteln@ncmail.net](mailto:randy.bechteln@ncmail.net)  
919.733.2423

### South Carolina

John Wagner  
Department of Geological Sciences  
P.O. Box 340976  
Clemson University  
Clemson, SC 29634-0976  
[jrwgnr@clemson.edu](mailto:jrwgnr@clemson.edu)  
864.656.5024

Gwen M. Daley  
Dept. of Chemistry, Physics and Geology  
Winthrop University  
Rock Hill, South Carolina 29731  
[daleyg@winthrop.edu](mailto:daleyg@winthrop.edu)  
803.323.4973

### Tennessee

Michael A. Gibson  
Dept. of Geology, Geography, and Physics  
The University of Tennessee at Martin  
Martin, TN 38238  
[mjgibson@utm.edu](mailto:mjgibson@utm.edu)  
731.881.7435

Ann Holmes  
Dept of Physics, Geology and Astronomy  
The University of Tennessee at Chattanooga  
Chattanooga, TN 37403  
[Ann-Holmes@utc.edu](mailto:Ann-Holmes@utc.edu)  
423.425.1704





# NAGT

## For \$35 a year, you get:

- 5 issues of the Journal of Geoscience Education.
- membership in the National Association of Geoscience Teachers at both the national and sectional levels
- discounts on registrations for national and sectional meetings of the Geological Society of America.

### Membership Application or Renewal Form

Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Mailing Address: \_\_\_\_\_ Fax: \_\_\_\_\_

\_\_\_\_\_ Email: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

\_\_\_ College/University Professor @ \_\_\_\_\_

\_\_\_ Precollege Teacher @ \_\_\_\_\_

\_\_\_ Other @ \_\_\_\_\_

Membership	Rates (US funds)
Regular USA	\$35 _____
Outside USA	\$47 _____
Student–USA	\$20 _____
Student–outside USA	\$32 _____
Retired NAGT member	\$30 _____
<b>Library Subscriptions</b>	
Regular USA	\$55 _____
Outside USA	\$67 _____
_____ New _____ Renewal	

Checks, MasterCard, or VISA (US funds only) are payable to: National Association of Geoscience Teachers.

Mail to: NAGT, PO Box 5443, Bellingham, WA 98227-5443

Check

Credit card: MC/VISA (circle one) Number: \_\_\_\_\_

Signature: \_\_\_\_\_ Exp. Date \_\_\_\_\_

The *Journal* and membership year runs from January to December. Subscriptions received after June 1 will begin receiving the *Journal* in January of the following year. Back issues are available for \$15 (foreign \$18) each.

\*To qualify for student rate, indicate and obtain verification from a NAGT member:

\_\_\_ Undergraduate \_\_\_ Graduate

\_\_\_\_\_  
Signature of NAGT member

\_\_\_\_\_  
School