

# **National Association of Geoscience Teachers 2009 Annual Report**

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## President's Report

David Steer

The bulk of my activities this year on behalf of NAGT focused on longer-term projects including finalizing the Constitution, assisting with the JGE editor transition, revising the NAGT strategic plan and initiation of a quarterly e-newsletter. In addition, I attended the 2008 Annual Meeting in Houston, TX and the 2009 mid-year planning meeting in St. Petersburg, FL. I also participated in various NAGT business discussions and developed correspondence through the year, initiated quarterly virtual Executive Committee meetings and represented NAGT at several venues. Details of some of these activities are listed below.

- Constitution and Bylaws: The revised Constitution and Bylaws were approved by the membership during the May 2009 election of officers. Passage of these important Association documents culminated a three revision effort. This updated Constitution streamlines governance of NAGT by permitting more flexibility when conducting administrative work associated with NAGT governance.
- JGE Editor Search: New JGE editors Julie Libarkin and Joe Elkins officially assumed their duties in January, 2009. Since then, I assisted in contract discussions, expected management and budget discussions associated with the transition and longer-term planning to bring on-line functionality to JGE.
- Updating the NAGT Strategic Plan: The NAGT strategic plan was last updated in 2004. While major goals and objectives of NAGT have not significantly changed, activities have evolved, the National Action plan is in need of an update and a new Priority Action Agenda is in order. Work has begun to accomplish this advance planning over the next year.
- Liaison Activities - NAGT Representative to AGI: I represented NAGT at the AGI Member Society Meeting in Houston and attended and AGI Government Affairs Meeting in Washington DC. Additionally, I participated in a variety of discussions with AGI leadership regarding how to best strengthen ties between our organizations.
- Outreach – Presenting at Cutting Edge Workshop: During this period I represented NAGT as a presenter at the Cutting Edge “Preparing for an Academic Career in the Geosciences” workshop in Las Vegas, NV.
- Advocating for Geoscience Education: On behalf of NAGT, I contacted NAGT members in Texas to engage their support to influence language proposed in new state education guidelines for teaching evolution and the earth system. That involved personally contacting Texas members and asking them to voice their opinions on the standards by contacting key state board of education members.

## **Vice-President's Annual Report (October 2008- September 2009)**

**Mike Taber**

My NAGT activities this year included attendance at the 2008 Geological Society Annual Meeting in Houston, serving on the GSA Joint Technical Program Committee, attending the NAGT mid-year budget meeting in St. Petersburg, FL and attending the AGI Member Society Council Meeting in Denver, CO. In addition, I participated in various business related email and phone conversations through the year. Specific activities pertinent to NAGT business include:

### NAGT Representative to GSA Joint Technical Program Committee

I once again served as the NAGT representative to the Joint Technical Planning Committee for the 2009 Annual Meeting. My duties included reviewing all education-related session proposals in January 2009 (with Eric Pyle, representing GSA) and contacting session chairs regarding NAGT sponsorship. NAGT is jointly sponsoring nearly 20 sessions at the 2009 GSA meeting. In August 2009, I collaborated with Eric Pyle to organize three general geoscience education sessions (two oral and one poster), in addition to supporting session chairs on organization of their respective geoscience education oral and poster sessions.

### Membership Committee

In late winter 2009, I conducted an informal survey of membership to determine the value NAGT membership provides. (Report in the minutes of the mid-year meeting). Survey results point to two main reasons people sign up for NAGT: Journal of Geoscience Education and networking with their peers.

### AGI Member Society Council

Highlights from the council meeting in June 2009 include:

- NAGT members gain from NAGT affiliation with AGI (i.e., “Earth Magazine”)
- AGI wants a well developed communication network across societies to “broker” programs that benefit the broader geoscience community.
- All allied societies are concerned with growing members in a poor economy.
- All allied societies with publications are uncertain about the impact electronic delivery will have on revenue and membership; no business model was introduced.
- AGI continues to push for an “education summit” and accreditation discussion.

### Serving as an advisory board member for the *On the Cutting Edge* project

I continue to serve on the Cutting Edge Advisory Board, attending the board meeting on May 15 in Arlington, VA. Information regarding the advisory board and connection to broader NAGT interests can be found at <http://serc.carleton.edu/NAGTWorkshops/advisory.html>.

**2<sup>nd</sup> Vice President/ Executive Committee Liaison Report**  
**Janis Treworgy**

The Executive Committee of NAGT has just had its mid-year meeting in conjunction with the Southeast Section of GSA meeting in St. Petersburg, Florida. As a new member of the ExComm, I would like to report that this is a strong group of leaders, and together with Cathy Manduca as Executive Director, NAGT is in good hands. I have some very large shoes to fill as I move up the officer ladder.

The biggest undertaking at this point is our transition to the new editorship of and new electronic manuscript review system for our flagship product, The Journal of Geoscience Education. **Julie Libarkin and Joe Elkins**, our new co-editors, are moving through the inevitably steep learning curve as they continue with the former ways while setting up the new processes. We are grateful to have their high energy, fresh ideas, and hard work, as we add on-line functionality for JGE.

I would like to thank **Carl Drummond**, a Central Section member, for his many years of dedicated service to NAGT as editor of JGE. He increased the visibility of the journal. Thank you, Carl!

Like everyone and every organization, we are watching our budget closely and carefully evaluating revenue vs. expenses. NAGT is in a stable position at this time, but we encourage you to continue to support the association by renewing your membership and getting your colleagues, students, and area K-12 teachers to join as well.

At our mid-year meeting, we are finalizing an action agenda for ourselves for the next 2-3 years, with the overarching goal of supporting and giving “value added” to our members. One program we are initiating is to establish an **NAGT on-line magazine** or e-zine. Our President, David Steer, is chairing this effort and several other ExComm members, including me, will be working with him. If you have ideas or would like to be part of this effort, please contact me. We welcome your participation.

Other action items focus around better serving our members who are two-year college faculty and K-12 teachers. For them as for all our members, we intend to improve access to and grow our teaching resources available through the NAGT website. This includes field activities. If any of you have materials you have developed or used successfully that you would like to share, please contact Cathy Manduca ([cmanduca@carleton.edu](mailto:cmanduca@carleton.edu)). We would also like to develop some opportunities for networking among two-year college faculty. We welcome your ideas on this too.

Finally I would like to report that the ExComm 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 Rockford is outstanding! I am proud of you. Keep up the good work.

Janis Treworgy  
2<sup>nd</sup> Vice President, NAGT  
Liaison to Central Section

## Eric Riggs - NAGT Past-President, Annual report 2008-09

### *Specific Actions*

- Held a phone meeting of our membership survey group, JGE co-editor Elkins, and Dru Peters from Pearson Prentice Hall to explore the viability of a combined membership/lab manual adopters survey. Have since followed up many times with Peters and have helped edit and shape the lab manual survey. At this point it appears that there will be two separate surveys, separated broadly in time to avoid survey fatigue by members.
- Convened a phone meeting of the Nominations Committee as Chair. Discussed new nominees, and preferred choices for a proposed new officer slate. Securing commitments from nominees is ongoing.
- In my role as AGI-GAPAC representative, I have constructed the NAGT opinion on national science education standards and testing and have forwarded that to Linda Rowan at AGI upon recommendation by the Executive Committee at our Quarterly meeting. They appreciate our support of their efforts and will keep us abreast of developments in this area.
- Participated in the AGI Leadership Forum at AGU headquarters, 9/14/09. AGI member societies were briefed on the theme topic of “The Role of the Geosciences in Dealing with Climate Change and Energy” by staffers from the Senate Energy and Natural Resources Committee, the Office of the Speaker of the House, and the White House Office of Science and Technology Policy. We also heard from many Federal agencies involved in geoscience research.

The central message is that the climate change/energy/water nexus is a critical one that has the firm attention of many people on the Hill and in the White House. The education piece of this is very strong and there are funding opportunities out and coming up that NAGT should be a part of, and continue to advertise to our membership. The timing of our Climate Change Education position statement is very good, and we are likely to get other professional societies to join in this position.

- Participated in the Geosciences Congressional Visit Day and briefings on 9/15 & 16/09. I met with the staffs of Senator Richard Lugar (IN), and Congressmen Buyer (IN-4) and Souder (IN-3). I urged continued Federal investments in geoscience research and geoscience education, and highlighted the national role of NAGT in this area. Roberta Johnson from NESTA was also present but visited with the Colorado delegation, and there is certainly room for expansion of NAGT’s role in these events in order to increase our regional representation and visibility on the Hill.
- We have moved forward with final revisions of the proposed Position Statement on Teaching Climate Change. Andy Buddington and his team returned the revisions which are now ready for submission for final approval and adoption.
- Chaired the Nominations Committee to produce a successful new slate of two Councilors and a new Second Vice President.

- JGE Associate editor – Continued service as an Associate Editor for JGE.
- JGE author – two papers for JGE out in November 2008 and January 2009

### ***Progress on Projects***

- Living with Earth – The text is complete after review and addition of end-of-chapter questions. It is now going out for final broad peer review, managed by Kristen Sanchez at Pearson Prentice Hall. It is on track for at least pre-release presentation at the Portland GSA in 2009.

In additional news from Pearson, Dru Peters has left the company and the development work finalizing Living with Earth is now being done by Chrissy Dudonis. I have been in touch with her and hopefully we can meet at this year's GSA and arrange for pre-production marketing materials to be available for display at the NAGT booth.

- New Lab manual discussions – these are now somewhat on hold until the results of the current lab manual users survey are back. At that point we can consider which types of products would be the best use of NAGT expertise and of the highest interest to our membership. Pearson has demonstrated for me many alternate technologies they are working on that may be of interest instead of a printed lab manual. I am in touch with Dru Peterson approximately monthly on this issue and will keep the Executive Committee informed as input is needed and developments warrant.

With Dru's departure it is unclear what the current state of this project is at Pearson as of this writing. I am endeavoring to communicate with Pearson staff (Dudonis) on the state of this survey and progress toward any further revisions.

- Related to new products and services along lab manual lines, I have worked with Jeff Knott on the Marketing committee, and he is working with Marketing faculty at CSUF to help us shape our message – more in his report.

### ***In closing***

This report and the Portland GSA 2009 meeting concludes my tenure on the NAGT Executive Committee. It has been a wonderful few years over which I am happy to have seen the Association make great strides. I will continue to serve NAGT as the AGI GAPAC policy representative (provided that is the wish of the Board) and I will continue to stay in touch with Pearson on behalf of NAGT until our current projects are concluded.



## **NAGT Executive Director's Report October 2009**

We have just completed year two with the Executive Director's office at SERC. Just when I thought we were getting this down, Bill Bruihler who had been assisting me with much of this work learned that he had an opportunity to return to teaching overseas. Jon Lee and Linda Goozen have taken over Bill's former responsibilities. Making that transition, consumed much of the late spring and early summer. Jon is managing the in-house bookkeeping and working with Sarah Dickerson who inspects our books. Linda has taken over most of the responsibilities related to managing programs.

A primary accomplishment since last March has been the launching of the e-News Magazine edited by David Steer. We have now produced three issues. The first was a pdf file, the second was a website integrated into our regular website news service, the third included a second page featuring on-line resources from our sponsored projects. This second page is one of the mechanisms we are using to increase the visibility of the our on-line resources of interest to members as discussed last spring. We have also undertaken a reorganization of the website to make these resources more prominent.

Other major activities that are not routine included work surrounding the JGE transition including contracts, postal permits, insurance and mechanisms for collection of page charges and advertising, activities in response to the audit report, and correspondence regarding membership, back issues, interactions with AGI, and other NAGT business.

We continue to refine the management of ongoing affairs. The website is now fully capable of handling contributions and other payments through Paypal, all programs have complete websites and can be used for nominations or applications, we have a new brochure describing the awards, this year we will have a video loop at the GSA booth (courtesy of SERC and Cutting Edge), the programs for the awards luncheon have been revamped and include the citations, there is a new NAGT banner that will be displayed at the luncheon. Lastly, we have initiated use of the NAGT workspace for managing on-going activities and regular teleconferences for the executive committee. This will be an area for growth and exploration this year as we move toward expanding our activities while minimizing our budget.

### Recurring Activities:

- Supporting program implementation for Distinguished Speakers, Field Camp, OEST, USGS Internships and Awards.
- Completing the election of new officers
- Moving forward with the transition in editors for JGE and the establishment of new publishing services
- Organizing activities at GSA including booth, education reception, annual report and officers meetings.
- Acknowledgement letters for donations
- Bookkeeping, bill paying, management of finances, and interactions with accountant regarding books and taxes

- Management of community advertisements, JGE page charges and advertisements
- Publication of e-News magazine and management of blast e-mails.
- Addressing requests for JGE back issues and other questions regarding JGE (subscriptions, printing)

FY '09 activities:

- Election: The election for the slate of 2009-2010 NAGT officers was held in May 2009. This election, like the previous election, was managed by AIP. All members that have submitted an email address to the AIP database were invited to cast an online ballot. Members without an email address were sent a paper ballot. Members were given a link to a page on the NAGT website where they could view photos and bios of the candidates. A total of 468 members cast a ballot. The election results were posted on the NAGT website. Approval of the draft constitution was handled with the elections and approved by 464 members.
- Membership Management / AIP services:
  - Membership renewal requests for calendar year 2010 will be sent out in early October. At this point in the year we don't anticipate much if any change in the 2008 membership. The table below compares membership numbers between the previous year-ends and August 31, 2008 (we do not have reliable membership stats for years preceding 2006).

<b>Type of Member</b>	<b># as of 12/31/2007</b>	<b># as of 8/31/2008</b>	<b># as of 8/31/2009</b>
<b>Regular</b>	1243	1122	1015
<b>K-12 Teacher</b>	122	180	193
<b>Student</b>	112	131	124
<b>Life Member</b>	17	17	17
<b>Retired</b>	124	130	122
<b>TOTAL</b>	<b>1618</b>	<b>1580</b>	<b>1476</b>

- New section listserv: We worked with AIP and set up a listserv for the Southwest section, adding to the current listservs for the New England, Central, and Pacific Northwest sections. This new listserv were made functional on September 29, 2009.
- Promotion/Advertising:
  - Updated NAGT Award Programs brochure: The new Robert Christman Award debuts in this years' brochure.
  - Updated Distinguished Speakers Program brochure: This new brochure will be first distributed at NAGT's GSA booth display and features the 5 new speakers in addition to the 7 returning speakers. Deep Earth Academy is co-sponsoring Kristen St. John.
  - The NAGT office generated a 10-minute video loop for the AGU '08 booth which highlighted NAGT's website, programs, and sponsored projects. This has been updated for the GSA '09 booth. It will be shown at AGU '09, as well.
  - NAGT Booth

- During FY09 NAGT set up a display booth at the following events
  - GSA: Houston, TX; October 5-7, 2008
  - AGU: San Francisco, Ca; Dec 16-19, 2008
  - NSTA: New Orleans, LA; March 18-22, 2009
- For the year ahead we have plans to set up the booth at GSA, AGU, and NSTA
- Membership materials were sent to the General Assembly of the European Geosciences Union (EGU), April 19 - 24, 2009, in Vienna, Austria.
- Membership materials were also sent to the GSA North Central and South Central combined meeting in Tampa, Fl April '09.

**Gene Pearson**  
**Secretary/treasurer**

During the 2008-09 budget year I was involved in the following activities

- Participated in , compiled and posted minutes for the October 4, 2008 Annual Council Meeting; and October 4-5, 2008 Executive Committee meetings in Houston, Texas; the January 22, 2009 Executive Committee Teleconference; and the March 14-15, 2009 Executive Committee mid-year meeting in Tampa.
- Worked with the Executive Director and the Executive Director's staff on matters pertaining to budget, endowment and the recently completed audit.
- Researched and developed DRAFT NAGT Gift Acceptance, Records Retention, Conflict of Interest, and Suspected Misconduct policies.

In my role as Liaison to the Far Western Section I was involved in the following activities:

- Attended the FWS board meeting on April 17-19, 2009 FWS Conference at Mt San Antonio College in Walnut, California, participated in the April 17 FWS board meeting and actively participated in email exchanges with members of the FWS executive board throughout the year.

Aida A. Awad

Annual report for NAGT 2008-2009

- ❖ GSA Annual Meeting, Houston, October 4-8, 2008
  - Attended Executive Committee Meetings
  - Attended NAGT / GSA Education Division Luncheon and Awards
  - Volunteered in NAGT booth
  - Attended GSA Education Division Business Meeting, reported to GSA Ed Div on NAGT initiatives, reported to NAGT on discussions at that meeting
  - Attended GSA Education Committee Business Meeting
  - Met with NESTA president, Michael Passow to discuss his ideas regarding the connection between NESTA and NAGT
  - Met with Eric Pyle to get background information on NAGT and NSTA connections
  - Talked with Julie Libarkin regarding the importance of having K-12 faculty take an expanded role in the assistant editorship of JGE as the transition to a new 3 track format now includes more focus on curriculum and instruction. Planned to continue conversations with Julie via email and phone over the next couple of months.
- ❖ Provided Julie Libarkin with contact information for several K-12 teachers who would be good candidates to serve as AEs for JGE.
- ❖ Contacted Roberta Johnson. Began discussions of NAGT / NESTA coordinating efforts, especially as they relate to working with NSTA. These discussions are on-going.
- ❖ Attended phone conference meeting, January 2009.
- ❖ Presented at ISELA (IL Science Educators Leadership Association) Annual Meeting – February, 2009. Distributed NAGT membership information.
- ❖ SE GSA – Tampa, FL – March 2009
  - Attending NAGT Mid-year meeting
- ❖ NSTA – New Orleans, LA – March 2009
  - Attended NSTA in New Orleans in March, 2009.
  - Assisted with staffing the NAGT booth on Thursday and Friday, 3/19 and 3/20.
  - Met with NESTA and NSTA representatives.
  - Attend NESTA Business Meeting – Breakfast on behalf of NAGT.
- ❖ North Central GSA – Rockford, IL - April 2009
  - Attended North Central GSA meeting.
  - Attended North central NAGT Board meeting and section business meeting and lunch. Prepared and delivered a report from NAGT Natl. to the section at the business meeting.
- ❖ GSA Today publication – April/May 2009
  - Awad, A. and Mattox, S., Recruiting Students to Undergraduate Geoscience Programs Through Dual Credit and Dual Enrollment Classes, GSA Today, April/May 2009, 58-59
- ❖ Access Data workshop participant
  - GPS / GIS intro project team member
- ❖ Attended ESRI EdUC – San Diego, CA – July 2009

- Distributed NAGT brochures at poster presentation table
- Awad, A., Teaching Science Content and GIS Skills With My World, ESRI EdUC, July 2009
- ❖ Currently serving as committee chair for the rewrite of the GSA position statement on the importance of teaching Earth Science – August 2009-present
- ❖ Established a pilot program for a dual credit Physical Geology course with Oakton College to run during the 2009-2010 school year

Upcoming:

- ❖ Attending GSA Annual Meeting in Portland
  - Participate in NAGT Exec Comm meetings
  - Co-chair a session: GIS in K16 Geoscience Courses: Constructing Knowledge using GIS in Geoscience Courses
  - Volunteer at NAGT booth
  - Attend NAGT awards luncheon
  - Attend GSA Ed Comm meetings
  - Attend NAGT sponsored reception
- ❖ Presenting at T&L Learning conference – 10/28/09
  - Will distribute NAGT brochures to attendees
  - 21<sup>st</sup> Century Learning with 3Vs: Visual, Virtual & Verbal
- ❖ Presenting at IETC conference – 11/19/09
- ❖ Presenting at ICE conference – 2/10

Thank you for the opportunity to serve NAGT and geoscience educators during the past year. I look forward to continuing the work we began during this time in the upcoming year.

## **Councilor's Report**

Bob Blodgett

- **GSA Annual Meeting 2008 (Houston, TX)**
  - Attended the NAGT Executive Committee and Council Meetings
  - Attended the NAGT/GSA Education Division Luncheon
  - Worked at the NAGT Exhibit Booth
- **GSA Southeastern Section Annual Meeting 2009 (St. Petersburg, FL)**
  - Attended the NAGT Executive Committee mid-year meeting
- **Texas-Section Liaison**
  - Met with NAGT President David Steer and Texas Section members Stuart Birnbaum (University of Texas at San Antonio) and Laura Serpa (University of Texas at El Paso) to discuss various ways in which we might revitalize the Texas Section. Discussion centered on the role that Texas Section members could play in the training and assisting K-12 teachers in implementing the new Earth and Space Science curriculum in Texas public schools.
  - Assisted NAGT President Dave Steer in drafting emails to Texas Section members about proposed changes to the K-12 Texas Essential Knowledge and Skills (TEKS) Earth Science Standards. The emails included information on the specific changes that were being proposed to the standards, as well as how Texas Section members could contact the Texas State Board of Education.
- **Other Activities**
  - Gave a presentation on “Careers in Geology and Related Earth Sciences” to 25 members and guests of the Texas State University Geology Club in San Marcos, Texas on April 22, 2009. The presentation included information about NAGT membership and careers in K-12 and college geoscience teaching.

**NAGT Councilors' Report 2008-2009**  
**Pamela Gore, Georgia Perimeter College**

- **Participated in an online workshop:** On the Cutting Edge workshop "The Hurricane - Climate Change Connection: Bringing Cutting Edge Research into the Classroom", October 2008
- **Georgia Science Teachers Association Meeting Feb 2009, Savannah, GA**
  - Gave a presentation and promoted NAGT membership.
  - Presented GA NAGT Outstanding Earth Science Teacher Award to Rebecca Chunn at the GSTA Banquet.
- **SE-GSA meeting 2009, Tampa, FL**
  - Attended NAGT Executive Committee midyear meeting
  - Co-chaired a session on Energy Geoscience Literacy in earth science education with Bill Witherspoon
  - Presented a paper, *INVESTIGATING THE SOURCES OF ENERGY ONLINE*
  - Promoted NAGT membership
  - Attended SE-NAGT Business Meeting and took minutes
- **One of the workshop conveners at Strengthening Your Geoscience Program: A Practical Workshop with Ideas and Examples**, June 2-4, 2009, College of William and Mary, Williamsburg VA.
  - Presented "Reaching Beyond Your Institution: Forging Collaborations with Geoscientists at Other Colleges and Universities at the Local, State, and Regional Level" with Heather Macdonald
- **GSA Portland, Oregon**
  - Attending NAGT Executive Committee meeting
  - Presentation, *TWO-YEAR COLLEGE COLLABORATION WITH K-12 SCHOOLS AND UNIVERSITIES* with coauthors Gerald Pollack and Abigail Saenger.

**SE-Section Liaison**

Continued as liaison with Southeastern Section  
Also serve as Secretary-Treasurer for SE-NAGT.  
Mailed out newsletter to those without email.  
Maintained section treasury.



## Councilor's Report

Laura Guertin

- Attended the NAGT Executive Committee and Councilor meeting at Southeastern GSA Meeting in Saint Petersburg, Florida (March 2009).
- Co-proposed with Janis Treworgy a session accepted for GSA Portland  
T110. **Teaching and Research Challenges and Successes for Solitary Geologists in Academia**

*National Association of Geoscience Teachers; GSA Geoscience Education Division;  
Council on Undergraduate Research*

Janis D. Treworgy, Laura Guertin

Are you the only geologist at your institution? You are not alone! Come share your experiences and network with others like you. Discuss facilities, course load, research opportunities, challenges, successes, and what keeps you there.

Other activities:

- Taught sessions for past two years as part of NSF GEOTeach grant through University of New Hampshire. Continuing to mentor graduate students as they work as scientific content experts for middle school and high school teachers. Currently working on a third GeoTeach workshop to be offered at Penn State Brandywine in summer of 2009.
- Taught three workshops on tombstone weathering to 7<sup>th</sup> grade girls as part of Penn State's MathOptions program, a math and science career day.

## **Councilor's Report**

### **Jeffery Knott**

As Counselor At Large I attended both Executive Committee meetings. I worked with Mike Martin of the Far Western Section regarding streamlining of the Far Western's scholarship applications. Discussions centered on use of computerized student-accessible transcripts, expression of an interest in teaching in scholarship applications as well as the planned use of scholarship money. As part of the ad hoc advertising committee I initiated the development of a marketing plan through an upper-division marketing course for non-profits course at CSU Fullerton. We anticipate a report regarding marketing opportunities and potentially membership opportunities by December 2009.

## Councilor's Report for 2008-2009: Jeff Ryan

### NAGT Activities:

- 2008: Facilitated for both the joint NAGT/CUR Early Career Faculty workshop, and for the *On the Cutting Edge* Teaching Structural Geology and Petrology in the 21<sup>st</sup> Century workshops in association with the 2008 GSA Annual Meeting.
- Attended 2008 NAGT Business meetings (as the workshop schedule permitted)
- Attended AGU Education/Outreach Committee meeting in Washington, DC as the NAGT representative.
- Hosted 2009 NAGT Mid-Year Meeting in St. Petersburg, FL (in association with 2009 GSA SE Section meeting – see below)

### Other educational service activities:

- Service on the NSF-MARGINS Program Education Advisory Committee
- Service as Geoscience Councilor, Council on Undergraduate Research
  - o Facilitator for CUR Institute: "Beginning a Career in the Natural Sciences at a Predominantly Undergraduate Institution".
  - o Facilitator for CUR-Geosciences workshop: "Starting Out in Undergraduate Research", AGU Fall Meeting

### Grant-supported Educational Scholarship:

- NSF-CCLI: "Preparing Undergraduates for Research: Examining the use of Remote Instrumentation in Earth and Planetary Science Classrooms"  
*Presentations/Workshops*  
Ryan, J.G. (2008) Implementing a Research Project Employing Remotely Operable Microbeam Instrumentation in Introductory and Junior-Level Geoscience Courses: Formative Results. Presented at the 2008 Geological Society of America Joint Annual Meeting, Houston, TX.  
Ryan, J.G. (2008) Inquiry-based instruction in an introductory science class facilitated by remotely operable instrumentation and extraterrestrial GIS. Presented at the 2008 AGU Fall Meeting  
Ryan, J.G., and M. Beck (2009) Evaluating the educational impacts of bringing research instrumentation into geology courses via remote access technologies. 2009 GSA Southeastern Section Meeting, Abstracts with Programs.  
Collins, N. and J.G. Ryan (2009) Petrogenesis of amphibolite blocks from the Tatham's Creek/Savannah Church area, North Carolina Blue Ridge. 2009 GSA Southeastern Section Meeting Abstracts with Programs.  
Donovan, J. and J.G. Ryan (2009) Using mineralogy and mineral chemistry to correlate mafic rock units in the southern Blue Ridge. 2009 GSA Southeastern Section Meeting, Abstracts with Programs.
- Workshop presentations in the Cutting Edge "Teaching Structural Geology and Petrology" workshop, and in the CUR "Beginning a Career..." Institute
- NSF-CCLI: "Collaborative Research: Using MARGINS Research Data Resources in the Classroom: Developing and Testing Multidisciplinary Mini-Lessons"  
*Presentations/Products/workshops*  
Ryan, J.G. (2008) Web-Based GIS Data Access and Management Technologies Can Facilitate Both Geoscience Classroom Instruction and Student Research: Some Examples. Presented at the 2008 Geological Society of America Joint Annual Meeting, Houston, TX.

Ryan, J.G. (2008) The use of Web-based GIS data technologies in the construction of geoscience Instructional materials: Examples from the MARGINS Data in the Classroom project. Invited presentation at the 2008 AGU Fall Meeting.

***MARGINS Mini-Lessons completed:***

“Serpentine Seamounts in the Mariana Forearc: Shallow Material Releases from Downgoing Plates” (2008) Part of the “MARGINS Data in the Classroom” Mini-Lesson collection, Science Education Resource Center, <http://serc.carleton.edu/margins/minilessons/27411.html>.

- Member of the Planning Team and Convener “Using MARGINS Data in Your Classroom” workshop, Palisades, NY, (May 2009)

-NSF-NSDL: A Workshop to Examine the Future of Geoscience Cyberlearning (workshop schedule is FINALLY set for Jan 7-8, 2009...)

***Other Related Professional Activities:***

General Chair, 2009 Geological Society of America Southeastern Section Meeting (in which we arranged for several NAGT-relevant workshops and several good geoscience education sessions!).

**Awards and Recognitions**

- ***Western Carolina University Alumni Outstanding Academic/Professional Achievement Award.*** Awards ceremony is 10/16/09. Thus while our Business Meeting is ongoing in Portland, I’ll be at the awards luncheon in Cullowhee, NC with the current Chancellor, et al., followed by the Homecoming football game....

# Central Section Annual Report

By: Carrie Wright

## A. 2009-2010 Section Officers

### a. Executive Officers

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d. Awards  
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1103 Ellen

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## **B. Reports**

### *a. Annual Business Meeting*

The annual business meeting of the Central Section NAGT was held April 3<sup>rd</sup> in conjunction with the North central Section Geological Society of America meeting in Rockford, IL. The new slate of officers were elected and we solicited nominations for a 2<sup>nd</sup> VP for 2011 from Pennsylvania. We did not have an OESTA – Outstanding Earth Science Teacher Awards 2009 Presentation because none of the winners attended the meeting. Nominations for next year were due June 30<sup>th</sup> to Kate Pound (kspound@stcloudstate.edu). Kate Pound is stepping down as OESTA chair after awards are decided this year, and Sherman Lundy and Kata McCarville agreed to take over as co-chairs. It was unanimously decided that the section would reimburse OESTA winners' traveling expenses to the NCS-GSA meeting as an experiment to see if we could encourage them to attend. The reimbursement will be up to \$500 for the Central Section winner (contingent upon their giving a presentation) and up to \$100 for each of the state winners. Aida Awad presented a report from NAGT, National, where she discussed various aspects of the organization and answered questions.

We still do not have a Michigan State Representative, and took nominations for this position. With regards to the Incorporation/Tax ID issue, 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. Sherman Lundy suggested asking Sam Huffman, a former Secretary, if the Central Section has already been incorporated.

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.

The events sponsored by the central section NAGT 2008-09 were presented and we discussed future events for 2009-10. We voted to co-sponsor the joint field conference with \$250 contingent on them offering a student registration rate.. Detailed minutes of the meeting are available at [http://www.nagt.org/nagt/organization/central/minutes\\_newsletters.html](http://www.nagt.org/nagt/organization/central/minutes_newsletters.html).

### *b. 2008-2009 OESTA Awards*

- Section Winner:
  - Dennis Dougherty—Sault Ste. Marie Area Schools
- State Winners:
  - Illinois: Charles Simer—North Farmington High School
  - Michigan: Denis Dougherty—Sault Ste. Marie Area Schools
  - Wisconsin: Mike Steiner—Chetek Middle School

**C. Annual Activities/functions**

*a. Events Sponsored by Central Section NAGT 2008-2009*

- NC-GSA meeting, Rockford, IL, April 2-3, 2009
  - Theme sessions:
    - Issues in Earth Science Education
    - K-16 Collaboration, Outreach and Engagement
  - Luncheon business meeting
- 2009 Tri-State Geological Field Conference co-sponsored with Great Lakes Section of SEPM
  - An Illinois host is being sought
  - Contact James Walters (james.walters@uni.edu)
- 2009 GLS-SEPM Fall Field Trip
  - Shawnee Hills, Southern Illinois, 9/24-25/05
  - Ancient Landscapes of the Shawnee Hills, Southern Illinois
  - Leader: Dr. Pius Weibel ([weibel@isgs.illinois.edu](mailto:weibel@isgs.illinois.edu))

*b. Planned 2009-2010 Activities*

- NC-GSA meeting, Branson, MO, 2010: Proposed NAGT-sponsored activities
  - Theme sessions:
    - Issues in Earth Science Education
    - Defining and Teaching Sustainability
    - Activities in Inquiry Earth Science Education: K-16
    - Geological Aspects of the Civil War
    - Arts in Geoscience
  - Workshop for K-12 educators: Hands-on Activities and Materials in K-16 Earth Science Education
  - Field Trip: Pleistocene fauna of Riverbluff Cave,
  - Field Trip: Geology of Wilson’s Creek National Battlefield and the National Cemetery in Springfield, Missouri—Leaders: Sherman Lundy, George Davis and Kevin Evans,
  - Field Trip: Geology of Route 66—Leaders: Aaron Johnson and Jim Aber
  - Luncheon business meeting
- 2009 Tri-State Geological Field Conference co-sponsored with Great Lakes Section of SEPM
  - An Illinois host is being sought
  - Contact James Walters (james.walters@uni.edu)
- 2009 GLS-SEPM Fall Field Trip
  - Shawnee Hills, Southern Illinois
  - Ancient Landscapes of the Shawnee Hills, Southern Illinois
  - Leader: Dr. Pius Weibel ([weibel@isgs.illinois.edu](mailto:weibel@isgs.illinois.edu))

**D. Central Section Treasurer's Report (Michael Wolf)**

Fiscal Year 2008-2009

Incom	e	Disbursements	Balance
Balance on hand 5/1/08			6606.45



Sallie Greenberg 6/10/08		25	
Tri-State field conf 11/4/08		250.00	
NAGT National 3/11/08	1,480		
GSA - booth 3/18/09		75.00	
Harland Clarke Check Co. 6/17/08		65.65	
Balance on hand 3/31/09	1480	415.65	7,675.80

## Eastern Section Annual Report 2009

Submitted BY Rich Gottfried

### Executive Officers:

**President:** *Rich Gottfried*, Dept. of Science, Frederick Community College, 7932 Opossumtown Pike, Frederick, MD21702; 301-846-2581(W), 540-822-5561(H); email: rgottfried@frederick.edu

**Vice-President:** *Michael Smith*, Wilmington Friends School, 101 School Road, Wilmington, DE 19803; (302) 543-6379 (H).

**Treasurer:** *Frank Revetta*, Dept. of Geology, SUNY Potsdam, Potsdam, NY 13676-2294; 315-267-2289; email: revettfa@potsdam.edu

**Editor:** *Martin F. Schmidt, Jr.*, 2718 Appleseed Rd., Finksburg, MD 21048; (H) 410-526-6685, (W) 410-581-4757(H); Fax: 410-581-4777; email: mschmidt@umbc.edu

**Archivist:** *Jim Hensel*, 196 Calvert Blvd, Tonawanda, NY 14150; 716-866-3790; email:henselj@roadrunner.com

**Past President:** *Daniel Vice*, Geoscience Dept., Penn State University, 76 University Drive, Hazelton, PA 18202; (570)450-3112 (W); email: dhv1@psu.edu

**2nd Vice-President:** *Deb Hemler*, Coordinator of Geoscience Education, Fairmont State University, 1201 Locust Avenue, Fairmont, WV 26554; 304-367-4393; email: dhemler@fairmontstate.edu

**Secretary:** *Mike Passow*, Earth2Class Workshops for Teachers  
Lamont-Doherty Earth Observatory of Columbia University and Science Teacher  
Dwight Morrow High School 274 Knickerbocker Rd. Englewood, NJ 07631  
Email: <http://www.earth2class.org>

**Publicity Chairperson:** Rich Gottfried; contact info in President listing above.

### Award Chairpersons:

**Distinguished Service Award** – vacant at this time

**John Moss Award** - Jim Hensel - see Archivist listing given above.

**Outstanding Earth Science Teacher Award** – Deb Hemler; see 2nd Vice President listing given above.

**Ralph Digman Award** - Steve Lindberg; see listing on page 3.

**James O'Connor Memorial Geology Field Course Scholarship** - Steve Lindberg; see Councilor listing given above.

**Teacher's Field Experience Grant** – Frank Revetta, see Treasurer listing above.

**Webmaster:** *Stephen R. Lindberg*, Westmont Hilltop High School, email: minerlight@atlanticbb.net

### State Councilors:

Delaware

**Conrad Rice**, The Charter School of Wilmington, email: crice@charterschool.org

2<sup>nd</sup>: vacant

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**Steven Lev**, Dept of Physics & Geoscience, Towson U, email: slev@towson.edu

**New Jersey**

**Margaret (Missy) Holzer**, Chatham High School, email: mholzer@monmouth.com

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**Don Duggan-Haas**, Tapestry High School, email: dugganhaas@gmail.com

**Pennsylvania**

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2<sup>nd</sup>: vacant at this time

**Virginia**

**Eric J. Pyle**, Department of Geology and Environmental Science, James Madison University, email: pyleej@jmu.edu

**Callan Bentley**, Northern Virginia Community College, email: cbentley@nvcc.edu

**West Virginia**

**Deb Hemler** - see 2<sup>nd</sup> Vice-President listing given above

**Debra Rockey**, 141 Green Acre Drive, Wellsburg, WV; email: debrarockey@yahoo.com

**Membership: 270 members**

**Section Budget: As of 1/09: \$7,910.56**

**Incomes from May 2009 meeting: \$1,835.88**

**Total section funds as of 9/09: \$9,746.44**

**Annual Activities:**

**May 2009 Conference:** Strategically nestled between the Blue Ridge and the Washington-Baltimore metropolitan region, Loudoun County, Virginia offered outstanding geology for NAGT section members and a full range of activities for

families.

The meeting began on Thursday evening with Dr. David Foltz presenting a slide show on the history of *Geology and the USGS in the 1800s*, while Dr. Julie Libarkin, a JGE editor and co-PI of the Geoscience Concepts Inventory (GCI), gave a workshop on Friday and the keynote address on research in geoscience education at the awards banquet on Saturday night. Other workshops were held at the Loudoun campus of Northern Virginia Community College on Friday morning as well. Friday evening, we held our famous annual geo-auction and social.

There were 8 field trips from which to choose, including three on Friday afternoon. Friday afternoon trips included 1) a trip to the USGS in Reston, VA for a special tour by Dr Robert Ridky (where participants got to sit in John Wesley Powell's chair in the Director's office!), 2) mineral-collecting in a nearby diabase quarry, 3) an ecosystems study and cruise on the Chesapeake Bay (this was an all-day trip) and 4) using a museum collection as a teaching tool at the Naturalist Center of the Smithsonian museum.

On Saturday, trip participants looked at:

**A) Baltimore Gneiss and Baltimore Area Metamorphics**, lead by **Dr Rachel Burks, Towson University**. The participants examined exposures of the most important metamorphic and igneous rock formations in the Baltimore region of the Piedmont. The beginning of the trip illustrated the use of guided inquiry pedagogy suitable for introductory college geology courses. The geo-archeological significance of nearby soapstone units was also discussed.

**B) Central Appalachian Piedmont and Blue Ridge tectonic transect, Potomac River corridor**, lead by **Scott Southworth** of the USGS. This field trip highlighted the current understanding of the tectonic assemblage of the rocks of the Central Appalachians, which include the Coastal Plain, Piedmont, and Blue Ridge provinces. The age and origin of the rocks, the timing of regional deformation and metamorphism, and the significance of the major faults, provide the framework of the tectonic history which includes the Mesoproterozoic Grenvillian, Ordovician Taconian, Devonian to Mississippian Neocadian, and Mississippian to Permian Alleghanian orogenies. Scott provided some new insights into his current work in this area.

**C) Bedrock Geology of Washington, DC**, lead by **Prof Callan Bentley, NVCC** This trip focused on the land upon which the capital city is built, including exposures in Rock Creek Park, Georgetown, and Adams-Morgan. Callan described the nature of Iapetus oceanic sediments, the Rock Creek shear zone, igneous rocks emplaced during Appalachian mountain-building, Cretaceous river gravels, dinosaur bones and recent faulting found in the DC area.

**D) Gettysburg Battlefield**, lead by **Prof Joe Marx, NVCC**. The battle of Gettysburg is

arguably the most important military engagement ever fought in North America. It is also probably the most studied military event in world history. Although geology in 1863 was an immature science and military geology had not even been invented, the terrain of southern Pennsylvania and central Maryland directly influenced the strategies and actions of the Union and Confederate armies. The group toured the battlefield, visiting a number of sites that reveal the geologic processes and materials that created the terrain. In addition, Joe discussed the regional topographic features that funneled the two armies to their climactic meeting. The focus of the tour was on geologic history and the ongoing physical processes that created the landscape upon which the battle occurred.

#### **Future Conferences and Activities:**

**March 2010: joint NE/SE/Eastern section luncheon at GSA meeting in Baltimore**

**May 2010: U of Delaware, hosted by Mike Smith**

**2011: U of Pittsburg – Johnstown, hosted by Steve Lindberg**

#### **Section Awards:**

**Section OEST Award & OEST for New Jersey - Shelley Anne Witham, high Tech High School, Bergen, NJ**

**Maryland OEST - Nina Van Kleeck, Aberdeen High School**

**New York OEST - Renee Aubry, Port Chester High School**

**Pennsylvania OEST - Verle Emanuelson, Tulpehocken Junior-Senior High School**

**Virginia OEST - James Ruffa, Clements Junior High School**

**West Virginia OEST - Pamela Casto, Christ Academy**

# NAGT-FWS 2008-2009 Annual Report

(submitted by Mark Boryta)

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## MEMBERSHIP

273

## CONFERENCES

### Spring 2009 conference: Mt. San Antonio College, April 17-19, 2009. Report by Dr. Mario Caputo.

Eleven years later, the Department of Earth Sciences & Astronomy at Mt. San Antonio College (Mt. SAC) hosted another spring field conference in April, 2009 for the Far Western Section of NAGT (FWS-NAGT). Among the sixty-four conferees were students, spouses, engineering and environmental geoscientists, emeritus professors, and high school, college, and university geoscience instructors.

The first day of the conference, Friday, April 17<sup>th</sup>, opened with a late afternoon workshop, "Teaching College-Level Earth Science to High School Students" prepared and presented by Wendy Van Norden (Harvard-Westlake School) for high school teachers. From 5:00 until 8:00 p.m., all conference attendees were then welcomed with a reception in the new lab science building on the south side of Mt. SAC campus. Inside, they retrieved their official name tags, conference guidebook, field trip assignments, banquet passes, and general program. They were further able to wander through the 3 open lab classrooms where they socialized with food and refreshments, and gathered souvenir literature and watched demonstrations presented by the Southern California Earthquake Center and W. W. Norton and Wiley and Sons publishers. The Far Western Section provided a selection of past conference guidebooks for sale and applications for membership in national NAGT. The evening culminated with a tour of the new planetarium and a meeting of current FWS-NAGT officers and conference organizer.

Events on Saturday, April 18<sup>th</sup>, the main field trip day of the conference, began at 6:00 a.m. in the lab science building with a variety of foods and drinks to eat immediately for breakfast and to pack for lunch to be eaten during the field trips. At 7:30 a.m., vans loaded with field trip registrants departed Mt. SAC for different destinations in the Los Angeles area and vicinity. The five field trips included: 1) Evidence for Tertiary

Floodplains, Oceans, & Volcanoes in the Santa Monica Mountains led by Gene Fritsche (emeritus professor of Geology, CSU Northridge), 2) Martian Analogs in the Mojave Desert led by Nathan Bridges (formerly of Jet Propulsion Laboratory, Pasadena), 3) Geology of the Conejo Valley & Western Santa Monica Mountains, Ventura County led by Bill Bilodeau (California Lutheran University), 4) Natural Hazards, Past and Impending, in the Eastern San Gabriel Mountains led by Jon Nourse (California Polytechnic University, Pomona), and 5) Engineering Geology on the Palos Verdes Peninsula led by Ed Steiner (Leighton and Associates, Irvine). When all the field-trippers returned to Mt. SAC at about 5:00 p.m., they followed arrows and signs to the banquet area in elegant Founders Hall, where the office of the college President is located. After stimulating an appetite at the no-host bar, conferees then dined on a sumptuous meal prepared by Wendy Rey, the head chef of Mt. SAC Dining Services and served in the patio area decorated with a geoscience theme. Following desert, an audience of eager listeners moved into an adjoining conference room to hear Keynote Speaker, Ray Ingersoll (University of California, Los Angeles), share his geologic reconstructions of southern California through time.

Sunday, April 19<sup>th</sup>, the final day of the conference was highlighted by morning events which followed another early breakfast in the lab-science building and included 1) a presentation on the Science of Global Warming by JoBea Holt (Al Gore Climate Project) from 9:00 to 10:00, 2) a teacher workshop (including lunch), "When the Classroom Shakes: Strategies for Teaching K-12 Students About Earthquakes in Their Area," prepared and presented by Kris Weaver-Bowman (CSU Fullerton), and Becca Walker and Annie Scott (Mt. SAC) from 10:00 until 2:00, and 3) local field trip, "Walking Tour of the Wildlife Sanctuary at Mt. Antonio College: Biologic, Ecologic, & Geologic Features" led by Kat Sanchez and Dave Muñoz (Mt. SAC) from 10:00 until noon. The spring field conference, 2009 ended officially by 2:00 p.m.

With generous compliments to the organizer from the conference speakers, workshop conveners, field-trip leaders, current president of FWS-NAGT, and veteran attendees of FWS-NAGT field conferences, this conference was considered another success. It netted over \$2000 from the proceeds after expenses. This spring field conference benefited from monetary contributions from: Costco Marketing, Freeman and Company, W. W. Norton, Inc., Cengage Learning, Mission Geoscience, Inc., Southern California Earthquake Center, and the Mt. SAC Foundation.

#### **Fall 2009 conference: The Far Western Section did not hold a Fall 2009 conference.**

Organizers of the scheduled conference were forced to cancel.

Many thanks to all the Spring 09 conference organizers.

#### **FUTURE CONFERENCES**

##### **Spring 2010: At this time we have no organizers for a Spring conference.**

We are contemplating several options, including joining with the GSA Cordilleran Section meeting in Anaheim, CA in late May, or finding a host willing to chair a scaled-down/low-key conference, or else resurrecting one of our popular field guides and hosting a repeat performance.

##### **Spring 2011: Host will be El Camino College; Venue will be the Mojave Desert, Zzyzx, California**

#### **SCHOLARSHIPS**

The Far Western Section provides three \$1000 scholarships, which are funded by interest generated from our CD, sales of publications (both online and during conferences) as well as the profit generated by our conferences. The 3 awardees for 2009 are:

##### **FWS Field Scholarship: Monica Erdman - UCSB**

Monica will graduate this spring from UC - Santa Barbara where she has excelled in mineralogy, petrography, and tectonics. She is presently working on a project using SEM and electron back-scatter diffraction to measure crystal orientations and using those to calculate the velocity anisotropy of rocks, and she will present

her findings at an upcoming EarthScope meeting. She will attend the UCSB field camp based in Big Pine and other locations in the west.

Graduate Scholarship: **Lucas Moxey** - University of Hawaii at Manoa

Lucas, originally from Argentina but now a U. S. citizen, is in the middle of his Ph. D. at the University of Hawaii at Manoa. He is using low spatial-resolution thermal images from the GOES satellite to study short timescale changes in the ongoing Kilauea eruption. Lucas graduated from the University of Florida, and has worked with the Goddard Space Center and with NOAA. He has been published twice in the Journal of Science Education and Technology, writing both articles about his field of remote sensing.

Transition Scholarship: **Pedro Piqueras** - Faith Christian High School

Pedro will be graduating this spring from Faith Christian HS in Yuba City, and this fall will begin work toward a dual degree in geology and engineering. As a foreign exchange student from Spain, he was very excited to come to California, and told his host family that the first places he wished to visit were Death Valley and the San Andreas Fault.

### **OEST AWARD**

The Far Western Section selected Laura Hollister of Pitman High School in Turlock, California. Laura Hollister teaches the earth sciences at Pitman High School in Turlock, California. She attended Modesto Junior College and California State University, Stanislaus, where she earned a BS in Geology. She worked several years in the geological consulting business before deciding to pursue a teaching career.

Laura is a very engaging teacher and strives to bring her philosophies to fruition by designing lessons with applicable, real-world experiences. She has created many multimedia presentations that include personal trip photos that demonstrate concepts in a vivid, virtual-type setting. She assures that the information presented within them is understood by all students with the creation of scaffolded notes. The notes allow students to fill-in important information to the pre-made lecture outline so that the kids can spend more time concentrating on the visuals, while at the same time teaching the students how to outline useful notes when they get into college. Laura also incorporates labs that allow a hands-on approach to exploring and discovering intricacies of the geosciences. At the completion of the day's exercises students are required to write a song, poem, draw a picture or create some other form of art to help them process and thoroughly remember what they learned in class.

Laura participates in Wildlink, which is run through the Yosemite Institute, whose goal is to provide access to and education about the greater Yosemite National Park Region. Students who are chosen for the program spend a week in Yosemite learning about wilderness ethics and the ecology and geology of the park.

Laura is a co-advisor for the Pitman High Science Bowl and Science Olympiad teams. She also volunteers in the geology field studies program at the local community college, and has led trips for conferences of the Far West Section of NAGT.

### **GUIDEBOOKS**

Our publications are available for purchase and a list can be found on the section website at <http://nagt-fws.org>. Our sales occur at conferences and by mail-in requests.



## FINANCIAL REPORT AS OF 4/15/09

BALANCE ON HAND (September 19, 2008)		\$11,655.01
<hr/>		
INCOME		
Fall 2008 Conference Registration	5145.00	
Publications (Fall Conference)	149.00	
Membership (273 members)	682.50	
Publications (year)	935.52	
Interest (checking account)	10.98	
		+ \$6923.00
EXPENSES		
Fall 2008 Conference	3975.33*	
Postage (mailing of Publications)	130.99	
CA State Board of Equalization (Sales Tax)	113.00	
G. Hayes (Webmaster)	65.69	
M. Caputo (Spring Conference Advance)	1000.00	
Brunton Compass (Spring Conference)	281.62	
Wallace Webb Award	32.16	
B. Dillet (President's Expenses)	1000.00	
		- \$6597.89
<hr/>		
BALANCE ON HAND (April 15, 2009)		\$11,980.12
* we are still owed \$174.11 for a net loss of \$671.22 for Fall 2008		
CERTIFICATE OF DEPOSIT (April 14, 2009)		\$27,404.75
- matures 1/18/10; earns 4.21%; earned \$1149.33 in 2008)		

## **New England Section NAGT Annual Report 2009**

### *President*

Bruce Rueger, Colby College, Waterville, ME

[bfrueger@colby.edu](mailto:bfrueger@colby.edu)

### *1st Vice President*

Karen Kortz, Community College of Rhode Island, Lincoln, RI

[kkortz@ccri.edu](mailto:kkortz@ccri.edu)

### *2nd Vice President:*

Cristin. Ashmankas, Lesley University, Cambridge, MA

[cashmank@lesley.edu](mailto:cashmank@lesley.edu)

### *Treasurer*

Julia Daly, University of Maine, Farmington, ME

[dalyj@maine.edu](mailto:dalyj@maine.edu)

### *Newsletter Editor*

Richard Little, Easthampton, MA

[rdlittle2000@aol.com](mailto:rdlittle2000@aol.com)

### *Past Presidents*

Christine Witkowski, Dinosaur State Park, Rocky Hill, CT

[Christine.Witkowski@ct.gov](mailto:Christine.Witkowski@ct.gov)

Tom Vaughn, [tvaughn17@comcast.net](mailto:tvaughn17@comcast.net)

## **National Science Teachers Association Meeting – Boston**

NAGT Presence at the National Science Teacher Association in Boston

The NAGT contributed to the earth science component of the NSTA national conference held at the new Convention Center in Boston. Bruce Rueger helped at the NAGT booth in the Exhibit Hall area by giving many hours of coverage. Tom Vaughn led a field trip to Cape Cod and Woods Hole Oceanographic Institute for the National Earth Science Teacher Association. During the convention Tom made presentations at a Share-a-Thon on water and weathering, a workshop on creating a 3-D model of the ocean floor, and an astronomical presentation on galaxies and student recognition.

## **Annual Meeting 2008**

Our Annual Meeting 2008 was a resounding success! Over 70 people participated in our Saturday NAGT-sponsored field trip at the New England Intercollegiate Geological Conference (NEIGC) meeting held at Westfield (MA) State College. The day was gorgeous! Our Section treasury provided the \$400 to hire a school bus for the day's trip since we had so many attendees, and this was greatly appreciated. The trip leaders were: Mike Young and Tarin Weiss of Westfield State and Dick Little, Greenfield Community College. The Annual Meeting was held after the field trip with a short program on "Iceland - Connecticut Valley Connections" by Mr. Little, our Newsletter editor, who also chaired the Annual Meeting since no other section officers were able to attend. Bruce Rueger received a standing ovation as incoming President as well as Christine Witkowski for her work organizing last year's meeting in Connecticut as well as being President for 2007-2008.

## **Northeastern Section Meeting of the Geological Society of America**

NAGT-NE sponsored several programs at NE GSA, March 22-24, 2009, in Portland, Maine. Treasurer Julia Daly and President Bruce Rueger organized a luncheon of members of the New England and Eastern Sections of NAGT, since our territories overlapped. We had a good turnout, good conversation and had a positive presence at the meeting. NAGT-NE was also one of the financial co-sponsors of the meeting. We had a many people come by our booth in the

exhibit area. At the meeting, NAGT-NE sponsored three sessions of talks and posters, two workshops and a field trip offered by Dr. Arthur Hussey.

At this meeting we also extended congratulations to our incoming section president, Karen Kortz, who was the recipient of the Biggs Earth Science Teaching award from the GSA for 2008.

### **Annual Meeting 2009**

This year our annual meeting will be held in conjunction with the New England Intercollegiate Geological Conference (NEIGC) being held the weekend of September 25-27. Our new President Karen Kortz will take office.

Our Outstanding Earth Science Teacher Award winner is ELISA D'AMORE. Elisa teaches at Stoneham High School, in Stoneham, Massachusetts. At Stoneham High, Elias teaches a variety of science courses for 9 - 12 grade students. The award will be presented at our Annual Business Meeting that will be held at Lyndon State College in Vermont on Saturday, September 26.

As part of the NEIGC, Dr. Alison Lathrop has graciously offered to run a field trip exclusively for K-12 science teachers. We are very excited about this opportunity and are hoping for a great turnout.

### **Field Trip B6. Landscape Evolution for K-12 (Saturday, September 26)**

Trip Leader: Alison S. Lathrop

This trip will provide practice in using local field sites to present fundamental geological concepts focused on landscape evolution to K-12 students. We will discuss background and equipment needed by the students with regard to State standards and grade level. Locations visited will depend on participants' needs and interests, but expect to examine a variety of surficial and bedrock sites. Materials will be handed out on site rather than published ahead of time, given the large number of possible stops from which participants will choose.

Starting time and Location: 9:00 AM; meet in Alexander Twilight Theater Lobby, Lyndon State College

Contact: Alison S. Lathrop, Department of Natural Science, Lyndon State College, [alison.lathrop@lsc.vsc.edu](mailto:alison.lathrop@lsc.vsc.edu), 802-626-6500

Limit on participants: None

### **2009 Earth Science Week Activities**

Earth Science Week 2009 will be October 11 to 17. The theme is "Understanding Climate". We are asking our state governors to declare that week as Earth Science Week in each state. If it works we will be sending the proclamation text to AGI for posting on the Earth Science Week website. We are hoping that activities such as this will increase the visibility of the Earth Science at the State level, among the general public and that will attract students into this STEM field.

### **Teaching in the Field**

NAGT-NE has been soliciting submissions for the webpage on Teaching in the Field (<http://serc.carleton.edu/nagt/field/index.html>).

# North Central Section Annual Report 2009

*Submitted by Suki Smaglik*

## **Officers:**

### *President*

Suzanne M. (Suki) Smaglik, Central Wyoming College, Riverton, WY  
ssmaglik@cwcc.edu

### *Acting Vice-President*

Tracey Wilcox, Central Wyoming College, Riverton, WY  
tracey\_rea\_w@hotmail.com

### *Secretary/Treasurer*

Katherine (Kata) McCarville, Ph.D., Upper Iowa University, Fayette, IA  
mccarvillek@uiu.edu

### *Recent Past-President*

Sheila Roberts, University of Montana-Western, Dillon, MT

## **Past-Year Activities:**

We made an attempt at having a regional sectional meeting this past year, in Lander, WY, which was cancelled due to poor advertisement and registration. With a better communications base, we will attempt to have another meeting next July, again, in Lander.

An established presence on the NAGT section website will better serve our membership. Thanks to John McDaris for helping us get it set up, including a registration form for our meetings.

Our acting VP, Tracey Wilcox, a secondary Earth science major at CWC, has created a data base of all Wyoming state high school and community/tribal college science departments and is working on doing so for all of the other section states and provinces. She also created an informational flyer for our meeting, which has been adapted for this year's meeting.

## **Planned Activities:**

We will continue to build our database of contact information, and make an attempt to get a section board representative from each state and province. We will make a concerted effort to nominate some awards from our section.

Our field trip and meeting this summer will be held July 29-31 at the University of Missouri Branson Geological Field Laboratory in Sinks Canyon, ~12 miles south of Lander, Wyoming.

**Future Meetings:**

2010 Lander, WY  
2011 Black Hills, SD  
2012 Alberta or Montana

**Treasurer's Report:**

*submitted by Kata McCarville*

The NAGT North Central Region is solvent, and has available funds totaling nearly \$3000 at this time.

We have established an account under the auspices of Upper Iowa University (account number 90 43 951 000 00) for the NAGT North Central Region organization. The treasury balance from the account managed by Sheila Roberts, \$237.50, was transferred to the account and the old account on Montana has been closed.

Clark Markell, a former treasurer of the NAGT NC Region stepped forward with information on existing funds that had been accumulated by the Regional organization in the past. He sent a check for \$1200 which has been deposited to the UIU account. Additional funds had been placed into a CD which matures in September 2009. A balance of approximately \$1549.30 from the CD and checking account will be mailed in September, and the old accounts will be closed.

The total balance available to the NAGT North Central Region is approximately \$2986.80. The uncertainty is due to additional interest that may be accrued on the monies held by Markell.

## **Pacific Northwest Section of NAGT 2008-09 Annual Report (Ralph Dawes)**

### **A. 2008-09 Section Officers**

#### **a. Executive Office**

##### **President**

Ralph Dawes - Wenatchee Valley College, 1300 Fifth Street, Wenatchee, WA 98801,  
[rdawes@wvc.edu](mailto:rdawes@wvc.edu)

##### **Vice-President**

Ron Metzger - Southwestern Oregon Community College, 1988 Newmark Avenue, Coos Bay,  
OR 97420-2912, [rmetzger@socc.edu](mailto:rmetzger@socc.edu)

##### **Secretary-Treasurer**

Robert Christman - Department of Geology, Western Washington University, Bellingham, WA  
98225, [Bob.Christman@wwu.edu](mailto:Bob.Christman@wwu.edu)

##### **Past President**

Andy Buddington - Spokane Community College, [ABuddington@scc.spokane.edu](mailto:ABuddington@scc.spokane.edu)

#### **b. Communications**

##### **Newsletter Editor**

Cassandra Strickland - Yakima Valley Community College, 500 W. Main St, Grandview, WA  
98930, [cstrickland@yvcc.edu](mailto:cstrickland@yvcc.edu)

##### **Website Coordinator**

[Jenny Thomson](mailto:Jenny.Thomson@mail.ewu.edu), Department of Geology, SCI 130, Eastern Washington University, Cheney, WA  
99004, [Jennifer.Thomson@mail.ewu.edu](mailto:Jennifer.Thomson@mail.ewu.edu)

#### **c. State-Province Councilors**

##### **Alaska**

Cathy Connor, University of Alaska Southeast, Juneau, [cathy.connor@uas.alaska.edu](mailto:cathy.connor@uas.alaska.edu)  
Michael Collins, Geologist, Epoch Well Services, Anchorage, [collins\\_micha20@hotmail.com](mailto:collins_micha20@hotmail.com)

##### **Idaho**

Shawn Willsey, College of Southern Idaho, [swillsey@csi.edu](mailto:swillsey@csi.edu)

##### **Oregon**

Joe Graf, Southern Oregon University, [graf@sou.edu](mailto:graf@sou.edu)  
Tom Lindsay, Portland State University, [tcl@pdx.edu](mailto:tcl@pdx.edu)

##### **Washington**

Joseph Hull, Seattle Central Community College, [jhull@sccd.ctc.edu](mailto:jhull@sccd.ctc.edu)  
Jeff Tepper, University of Puget Sound, [jtepper@ups.edu](mailto:jtepper@ups.edu)

##### **British Columbia**

Mary Lou Bevier, University of British Columbia, [mbevier@eos.ubc.ca](mailto:mbevier@eos.ubc.ca)  
Brett Gilley, University of British Columbia, [bgilley@eos.ubc.ca](mailto:bgilley@eos.ubc.ca)

#### **d. Awards**

##### **OEST Awards Coordinator**

Deron Carter, Linn-Benton Community College, 6500 Pacific Blvd. SW, Albany, Oregon 97321,  
(541) 917-4745423, [carterd@linnbenton.edu](mailto:carterd@linnbenton.edu)

### **B. Reports**

#### **a. Annual Business Meeting**

The annual business meeting of the Pacific Northwest Section NAGT was held June 18 during the Pacific Northwest Section annual meeting at University of British Columbia in Vancouver, British Columbia.

OEST winners were announced. Nominations for next year are due by January to Deron Carter, the OEST awards coordinator, (541) 917-4745423, [carterd@linnbenton.edu](mailto:carterd@linnbenton.edu).

President Ralph Dawes will be stepping down in June of 2010, handing the office over to Ron Metzger.

#### **b. 2007 OEST Awards**

- Section Winner:
  - Roger Groom, Mt. Tabor Middle School, Portland, Oregon
- State Winners:
  - Alaska: Victor Trautman, Petersburg High School, Petersburg
  - Oregon: Roger Groom, Mt. Tabor Middle School, Portland
  - Washington: Herb Bergamini, Northwest School, Seattle

#### **C. Annual Activities/Functions**

##### **a. Events Sponsored by Pacific Northwest Section NAGT 2008-09**

PNW NAGT Annual Meeting, June 16-20, 2009, UBC, Vancouver, BC, Canada:

- Pre-meeting field trip (6/16) on geologic hazards and environmental geology of the Sea to Sky Highway from Vancouver to Whistler, which will be the main road used to access the Winter 2010 Olympic Games.
- Conference day (6/17), a day of presentations, which included the state of geosciences learning in higher education, providing geosciences education for K-12 teachers, transferability of geoscience credits among institutions of higher education, and the use of handheld clickers by all those present in a classroom during a lecture.
- Post-meeting field trip (6/18) to an extensive quarry near Abbotsford that reveals the Huntingdon Formation, which is referred to as the Chuckanut Formation on the American side of the border - a thick, prograded sequence of Eocene fluvial deposits, a resource of coal and clay. Leader: Brett Gilley, UBC.
- Post-meeting overnight field trip (6/19-6/20): Effusive to explosive volcanism in the Canadian Cascades: Insights into landscape-controlled volcanic processes, focusing on the Garibaldi volcanic field.

##### **b. Planned 2009-10 Activities**

- Annual PNW NAGT meeting at College of Southern Idaho, Twin Falls, Idaho, June 22-25, 2010.

**D. Pacific Northwest Section Treasurer's Report (Robert Christman)**

**Financial Report, Pacific Northwest NAGT Section**

Savings account with Whatcom Educational Credit Union

Submitted by Bob Christman, Sept 15, 2009

Sept 30, 2008	Savings	6073.95
Kahle	fund	<u>2500.00</u>
Total		8573.95

Jan 1, 2009	Savings	6374.77
Kahle	fund	<u>2500.00</u>
Total		8874.77

Sept 15, 2009	Savings	6555.87
Kahle	fund	<u>2500.00</u>
Total		9055.87

-----  
Since Jan 1, 2009

Incom	e	85.00	Guidebooks
		312.50	Rebate from National
		<u>66.60</u>	Interest
Total		464.10	
Expenses		133.00	Newsletter
150.00		<u>          </u>	Booth at WSTA conference
Total		283.00	



**2008 Annual Sectional Report for Southeastern Section**

**A. Section Officers for the Current Year:**

President: Andrew Rindsberg  
University of West Alabama  
Station 07  
Livingston, AL 35470  
arindsberg@uwa.edu

Vice President: Currently vacant

Past President: Nancy Huebner  
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dwymer@uwa.edu

2) David Kopaska-Merkel  
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**Florida**

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2) Paul Cutlip  
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**Georgia**

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University of Tennessee at Martin  
Martin, TN 38238  
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## **B. Report of Annual Business**

Andrew K. Rindsberg convened the annual business meeting at the SE GSA Annual Meeting in St. Petersburg, Florida. Minutes were taken but seem to be lost.

## **C. Annual Budget**

For the year October 1, 2008-Sept 30, 2009:

Initial amount in treasury = \$4084.31

Income

Received annual NAGT dues = \$367.50

Interest on account = \$1.25

Expenses = \$0

Ending balance = \$4453.16

Dr. Pamela J. W. Gore

Professor of Geology

Georgia Perimeter College

Email: [Pamela.Gore@gpc.edu](mailto:Pamela.Gore@gpc.edu)

Phone: 678-891-3754

FAX: 678-891-3747

A major budget item is printing and mailing out our newsletter twice a year. Last year we decided to publish our newsletter online, thus eliminating mailing costs.

# Southwest Section Annual Report

Merry Wilson

## Officers

### President

Merry Wilson  
Scottsdale Community College  
9000 E. Chaparral Rd.  
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Merry.wilson@sccmail.maricopa.edu

### Vice-President/OEST Coordinator

Kaatje Kraft  
Mesa Community College  
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833 W. Southern Ave.  
Mesa, AZ 85202  
Katrien.kraft@m cmail.maricopa.edu

### Treasurer

Steve Semken  
Arizona State University  
Tempe, Arizona USA 85287-1404  
semken@asu.edu

## Treasurer's Report

Submitted by Steve Semken

FUNDS ON HAND	\$1687.34
INCOME	\$632.50
EXPENSES	\$796.10
FUNDS ON HAND	\$1524.20

## OEST Award Recipient

Section Winner: Deborah Morgan, Monroe, UT

State Winner (AZ): Wendy Barnett, Tucson, AZ

## Meetings and Activities

Fall Field Trip: October 23-25, 2009: White Mountains of Arizona.

Spring Field Trip: March 13-16 (tentative), 2010: UT. We are planning a trip to coincide with the presentation of our Section OEST Award. We are currently soliciting activities and cementing dates for this field trip.

**JOURNAL OF GEOSCIENCE EDUCATION  
ANNUAL REPORT  
SEPT 2008 through SEPT 2009**

Prepared by: J. Libarkin and J. Elkins  
Last modified: Oct. 12, 2009

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## **EDITORIAL BOARD**

Editor (for Production): Julie Libarkin

Editor (for Technology): Joe Elkins

Executive Associate Editor for Curriculum and Instruction (C&I): Kristen St. John

Associate Editors - 2009

### C&I

Stephen Boss

Cinzia Cervato

Daniel Dickerson

Kurt Frieauf

Helen King

John Knox

Jeff Nowak

Dexter Perkins

Richard Smosna (with Kathy Bruner)

Iris Totten

### Research

Chun-Yen Chang (Taiwan)

Chris King (UK)

Karen McNeal

Nir Orion (Israel)

Eric Riggs

Gary Rosenberg

Alison Stokes (UK)

Roger Trend (UK)

Editorial Assistant: Diane Baclawski

Copy Editor Services Provided by Crystal Miller

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JGE, c/o Diane Baclawski

Division of Science and Mathematics Education

116 North Kedzie

East Lansing, MI 48824

## **GENERAL STATUS**

JGE's Editorial Board consists of all Editors, Executive Associate Editors, and Associate Editors (AEs). All critical decisions related to content and Editorial Board functions are made collaboratively.

JGE adopted a new set of content guidelines that define three sections of the journal: Commentary, Curriculum & Instruction and Research. These guidelines came into effect Sept. 15, 2008.

AEs will now hold three-year terms that begin Jan. 1. AEs are also assigned to handle either Curriculum & Instruction or Research papers. Seven new AEs were added to the JGE team for the 2009-2011 term; these AEs have helped to internationalize JGE, with inclusion of scholars from the U.K., Taiwan and Israel to JGE's team. Identification of additional AEs to cover future vacancies is ongoing, and will include scholars from the U.S., Asia, Europe, and Australia, with plans for inclusion of African scholars. In addition, we will be adding in-service teachers to the AE pool. These AEs will handle one or two manuscripts per year and will provide needed expertise for those manuscripts that cover K-12 issues in particular.

Elkins worked closely with AIP to implement the new online submission and review system. The new online submission and review system (PXP; <http://jge.peerx-press.org/cgi-bin/main.plex>) became active Feb. 5, 2009. All manuscripts and associated files housed in the Digibinder system were transferred to PXP by March 1, 2009.

JGE modified its name in 1995 by changing the word "Geological" to "Geoscience". This resulted in a discontinuation of JGE as a journal in the Science Citation Index. We have undertaken steps to have JGE evaluated by Thomson Reuters for inclusion in this index (as well as the equivalent Social Science Citation Index). This process requires evaluation of three (or more) consecutive issues of JGE.

## **MANUSCRIPTS**

The new editorial team inherited 30 "old guideline" manuscripts that had not been assigned to Associate Editors (AEs). The processing of these manuscripts was our first priority. As of end of March 2009, all of these manuscripts were completely processed. This rapid processing of manuscripts would not have been possible without the quick response of AEs and reviewers! Authors were given until mid-May to make revisions to manuscripts and return them for publication in the May 2009 issue.

A total of 116 manuscripts (86 "new guideline") were submitted and/or processed through the PXP system as of Oct. 12, 2009. Kristen St. John (Executive AE) is handling the majority of C&I manuscripts, Libarkin is handling the assignment of Research manuscripts, and Roger Trend and Nir Orion were the special AEs for the Special Issue on Thinking and Learning that was published in Sept 2009. AEs are being encouraged to return recommendations within six weeks of the initial assignment date; ultimately we are aiming for completed decisions within 12 weeks of manuscript submission to PXP.

First decisions have been made on 89 manuscripts. The shortest decision times was 0 days; the longest decision time was 228 days. The median time from submission to decision is 50 days. 50 days represents 7 weeks from submission to first decision. 50 final decisions have been made; the median time from second submission to final decision was also 7 weeks.

Overall, JGE's acceptance rate for first submissions is 25%; these manuscripts required no or minimal revision. The rejection rate, without an opportunity to resubmit, for first submissions was 12%. The remaining 67% of the manuscripts were given an opportunity to make major revisions and resubmit for further review. Manuscripts are almost evenly split between Research and Curriculum & Instruction categories. Nine submissions have been made to Commentaries.

## **PLANNING**

As JGE moves towards an increasingly academic image, it is important that we maintain strict professional standards in publication. The adoption of ethical and plagiarism guidelines for JGE will be completed in 2009. The Geological Society of America has ethical guidelines adopted from other scientific organizations, and it is likely that our guidelines will mirror theirs, with permission from the original authors. The editorial board is currently identifying existing plagiarism standards that can be adapted (with citation!) to JGE's needs.

JGE is now being published online at [www.journalofgeoscienceeducation.org](http://www.journalofgeoscienceeducation.org). Publishing online in this setting will provide us with data that will help drive JGE's future directions. The September issue of JGE is both a Special Issue on Thinking and Learning and the first issue published under JGE's new guidelines. The hardcopy of this issue is in press, while the online version is immediately available. See the section on JGE Technology for more details about online and related topics.

## **FUNDING**

The print version of JGE costs roughly \$80,000 to print and distribute per year, including expenses related to editorial staff and copyediting. Copyediting and staff costs are about \$20,000 per year, and printing/distribution costs are about \$60,000 per year. We have been able to retain a semi-professional copyeditor with hourly charges of \$25/hour; this is much lower than the industry standard of \$90/hour.

The Online JGE is currently published on a free site, and managed exclusively by Elkins and Libarkin; the copyeditor is being trained to take over these tasks and can offer opportunities for more author oversight.

We have been provided with the information that JGE receives about \$78,000 in funds from library subscriptions (\$135 per year). This subscription includes five copies of the printed journal per year. We have not been provided with information related to total JGE page and ad revenue. We roughly estimate that page charges yield \$6,000-\$12,000 per year. Ad revenue yields no more than \$1000 per year.



## **DISCUSSION**

The following suggestions for increasing JGE revenue and decreasing overall costs are proposed for discussion:

- 1) Libarkin can provide all of JGE's back issue content from 1951 to the present date in searchable PDF format. Subscription to an online database can be sold to libraries, or bundled with other subscriptions. The total cost of converting JGE back issues to PDF format will be about \$1000; costs are associated with scanning and personnel time only. The conversion process should take between one and two months to complete.
- 2) Membership fee scales should be modified to reflect the significant expense of publishing a print JGE. We estimate that printing for individual copies will cost about \$70 per year. Members can enroll for online access or online plus print access, with parallel fee structure. JGE's move to the online realm will also help its academic image, and we are hopeful for increasing subscription by non-US institutions and individuals.
- 3) A more vigorous pursuit of advertisers should be undertaken, particularly given the opportunities now available online. Currently, JGE's budget does not directly benefit from advertising or page charge revenue. We would be interested in exploring the possibilities of including this revenue into JGE's overall budget. The absolute cost (expense minus revenue) of publishing JGE online should be overall quite low. This cost will increase if or when we move to publication through an online publishing service.

## **TIME COMMITMENT**

Anticipated workload for AEs is about seven manuscripts per year. We expect AEs to spend five hours working on each manuscript, for a total time commitment of 35 hours per year. We have added AEs to handle the workload of increasing submissions, and to offset the loss of AEs as three-year terms end.

Libarkin, Elkins, and St. John each spend about one week (40 hours) of work time per month on JGE. Libarkin and Elkins spend an additional 20-40 hours on JGE publication issues during publication months.

***Co-Editor for Technology Report to the Executive Committee, Fall Meeting 2009,  
Portland, OR***

Prepared by Joe T. Elkins

Colleagues,

The past year has been exciting with regard to the status of JGE's On-line presence and I am happy to announce that we are on schedule in the production of an on-line version of JGE that is live. This report will outline the activities of the last year as well as rationale for proceeding with the solution that we currently have. The next few months are an experiment with an open source format for the Journal which is free of charge and does not contractually obligate NAGT to an on-line publisher. This flexibility will allow us to collect data and obtain feedback on how to proceed with a long-term solution for publishing JGE online. This report also outlines the considerations we used to proceed with the present experiment as well as raising questions we think should be answered in order to inform our long-term plan. It concludes with a timeline for what is ahead of us in the following months in terms of collecting data that will inform that decision. The editorial team is excited and optimistic about this experiment, but we are also keeping in mind the needs of NAGT leadership, its members, and the academic community to determine a solution beyond this experiment. We look forward to your feedback about the website as well as this report.

**Fall 2008**

Discussions with Carl Drummond and Eric Riggs concerning the work they had done with Richard Kobel at the American Institute of Physics were ongoing after Houston. These discussions led to extensive conversations with AIP personnel concerning a 'one-stop-shop' for all of JGE's publication needs, both on-line and print. These conversations also included discussion of the PeerXpress on-line manuscript submission system. Proceeding with what seemed to be a very attractive solution to JGE's needs, Joe traveled to AIP headquarters in November for a face-to-face demonstration of their products' capabilities. These meetings led to the generation of several formal bids from AIP as the sole provider of JGE publishing solutions as well as a bid disaggregating the PeerXpress from print and on-line services. Joe made a recommendation to the President and Executive Director following these meetings to contract with AIP for all of our services, not fully understanding the complications of the history of the financial interactions between AIP and NAGT. By the New Year (2009), objections were made by the Executive Director concerning the lack of bids from other organizations for similar services. These objections turned out to be well informed as the details of the AIP bid put their services above JGE's production budget. The PeerXpress system was still considered the most attractive and timely solution for the manuscript submission process and it was decided among the editorial team that PeerXpress's utility and our budget justified proceeding with the development of JGE's on-line submission system.

## Winter/Spring 2009

Julie and Joe officially took over as the editorial team for JGE in January. The first task was customization of the PeerXpress system in order to make it available for use in handling manuscripts. This resulted in weekly phone conversations with AIP technical staff followed by testing and tweaking during the week between conversations. The result was a submission system that was well-received by the associate editors and the authors. Upon completion of the Peer Xpress system, a period of research was undertaken to determine an on-line publishing solution for JGE that proceeded until the end of Spring Semester. During that time, two additional bids were solicited from HighWire and SERC for on-line publishing of JGE. Ultimately these bids did not prove to be useful alternatives; HighWire's bid was on par with the cost of AIP's services and SERC declined to bid citing that they were not capable of meeting the bid requirements at that time. Concurrent with the negotiation of bids with HighWire and SERC, additional research revealed that an additional option would be to publish JGE for free, and open source. The leading options for free services were WordPress and Blogger, both having merits the other did not. Blogger emerged as the leading candidate as an on-line publishing solution that fit within the Journal's budget. Key considerations that made Blogger increasingly the focus of research for on-line publishing of JGE included the following:

1. Ease of use by the editorial staff by not having to go through a middle-man publishing house or on-line publishing service. Julie and I learned a lot about producing a journal through co-editorship and have realized the time it takes to communicate with one another is time consuming. The process is greatly hindered with the addition of having to communicate with other parties; we learned a lot from our experience with getting PXP going with AIP. Being able to directly make changes is certainly preferable and keeps the process between the editorial staff. It is also much cheaper because every time an action is taken through a publisher like AIP or HighWire, it is costly.
2. Cost. The service is free and does almost everything we suggested in our proposal to become the editorial team for JGE (with the exception of a dynamic rating system for articles and contributors). Blogger also meant that we could self-publish without having to re-invent the wheel by writing the programming ourselves, or paying for someone else's overpriced wheels (AIP, HighWire). We did have to pay \$10 for the domain name 'journalofgeoscienceeducation.org' so that we do not have a 'blogspot' domain name, but we think the price is worth it.
3. Discoverability. Google is the world's leading search engine and by having the journal hosted through them via Blogger will put JGE in the top of the hits in searches.
4. Ease of transition. One day, Julie and I will be handing the reigns of JGE over to another editorial team, with ideas of their own or we may decide that we need a different solution for on-line JGE. By using Blogger, that transition may be as simple as giving the new editorial team the password and username or removing the content without having to worry about contractual obligations that might arise from going with an on-line publisher. Blogger changes that and hopefully will be good for a transition, if that transition is when Julie and I take a different route with the on-line presences of JGE or when a new editorial team takes over.

5. Open access is becoming the preferred format for on-line publishing (if your not AIP et al.) and is empowering the new generation of academic publishers and researchers with ease of use, circulation, discoverability, dissemination, and the philosophy of access to academic discourse.

### **Summer/Early Fall 2009**

With the September issue looming and a determination to stay on course with our proposal timeline, we needed to make a decision about the manner in which we published JGE on-line. Other pressing considerations included the budget to publish on-line as well as the need to collect data and experiment with an on-line journal to better inform decisions to contract with a publishing firm, if the need arose in the future. It is not perfect, but we think Blogger meets the needs of JGE for the immediate future with all of the considerations that factored into our thinking. At the conclusion of the summer field season we began work in creating the Blogger site that is live today. It is truly exciting and I think that this decision will ultimately put us ahead of other journals trying to make the transition to having an on-line presence.

### **What is next?**

Key considerations that result from this format of publishing are:

1. What impact publishing open source in this format is going to have on the financial health of NAGT? This is the most pressing issue regarding the new on-line JGE. What will members and libraries will do in terms of their membership status? This new format may give the Journal greater exposure resulting in increased membership, it may result in a decrease in membership and library subscriptions because they value the content of JGE over its printed format, or it may result in no change at all. We may need to reconsider membership fees structures to accommodate changes in membership as a result of an open source on-line presences. And we may need to consider the costs associated with printing the Journal.
2. What is the reaction of the NAGT membership and the academic community to this format? What are the usage statistics and what are the comments/perceptions of users of the site? Obtaining feedback from users will be key in the next phase in order to meet the expectations and needs of the membership and the academic community. If no one likes the new format and it results in dissatisfaction that leads to decrease use of the journal we will need to monitor that. Conversely, if it is wildly popular and increases our reputation we also need to know that too. Both of the questions above can be best answered by analyzing the usage and comments of the site as well as membership during this trial period.
3. The most immediate step, beyond publishing the next issues in this format will be to analyze the usage statistics and meta data associated with the site to optimize our discoverability and usage. This is new territory for the editorial staff with a steep learning curve. The leading tool for analyzing this data is Google Analytics, which is also free. Collection of this data from now until Late February will give us the data we need to determine the next course of action for open source and in this particular on-line format beyond March 2010.

4. We also need to use these data to plan how we can effectively advertise on the site and use the site to generate revenue for NAGT. This may be a task that is best done jointly between the executive director, president, and editorial staff since it is a matter of revenue which is beyond the duties of the editorial staff alone.

**A timeline:**

End of October/Early November: Publish the November issue. Decide on analytical tool for website meta data and begin collecting data.

January- Publish the January issue and develop guidelines for Online Supplements associated with articles in JGE. Continue collecting data including comments from members and the academic community.

End of February: Compile data into a usage report for March NAGT Exec. Comm. Meeting.

March- Publish March issue. Present findings of data collection to the Exec Committee. The findings of this report should guide the future of publishing formats of JGE as well as membership structure.

## **NAGT Website Report**

Fall 2009

John McDaris

The NAGT website continues to add new content. In the period from October 2008 to October 2009, the website was used to collect applications for programs, nominations for awards, and member comments on a draft constitution and position statement. News distribution has also seen large changes in the past year: the introduction of the e-Newsletter and its integration into the website, combining important news items and extended articles contributed by sponsored projects and members; my transition to being in charge of the quasi-monthly NAGTNews email blasts; giving members the ability to receive news items posted on the website via RSS feed; and the introduction of a single online form where members can upload a news item to be disbursed via one or more of these communication avenues. The website has also seen an increase in the number of Community Advertisements placed, reaching 7 over the past fiscal year with another since the beginning of September 2009.

Overall site use saw a 4.3% decline this period compared to the previous 12 months. Most of this drop came in the form of lower usage of the JGE site which saw a 14% drop in pageviews compared to last year. For more specific information on accomplishments, work in progress, and specific data on usage, see below.

### **Accomplishments since March 2009**

- Two NAGT e-Newsletter issues created via the website, rather than as PDF files, and integrated with the website news and NAGTNews email list via one online news submission form. [http://nagt.org/nagt/news\\_upload.html](http://nagt.org/nagt/news_upload.html)
- Two issues of JGE have been posted (with abstracts only) on the website. Issues from the previous year had their full-text versions unlocked for public access.
- OEST nominations taken via the national website and forwarded to section liaisons. This facility led to 18 additional nominations nationwide, including 2 from the Midcontinent Section which hasn't produced an OEST winner in several years.
- Draft Constitution comment period concluded with 3 comments from members in the discussion forum. Constitution subsequently approved in the Spring election.
- 2009-10 Distinguished Speaker Series posted on the website.
- Position Statement on Teaching Climate Change posted on the website after approval in the Spring election.
- Volcano Exploration Project: Pu'u O'o website in place for Michael Poland (USGS) workshop prior to his publicity efforts at GSA.

### **Work in Progress**

- First stage of a full site reorganization under way to provide better and easier access to important information and teaching materials held or sponsored by NAGT.

### **Website Use**

Between October 2008 and October 2009 the NAGT website received more than 128,600 unique pageviews from 42,745 users of which some 34% were repeat visitors. The most popular parts of the site for this period (in descending order) were JGE (56.5% of traffic), Programs (18.6%), Organization (5.9%), and Teaching in the Field (5.8%). (NB: All section websites hosted at SERC are part of the Organization area.)

By comparison, between October 2007 and 2008, there were 134,400 visits from 52,773 visitors of which 25% were repeat visitors. The most popular parts of the site were JGE (58.9 % of traffic), Programs (16.8%), Teaching in the Field (6.5%), and Organization (5.3%). This net

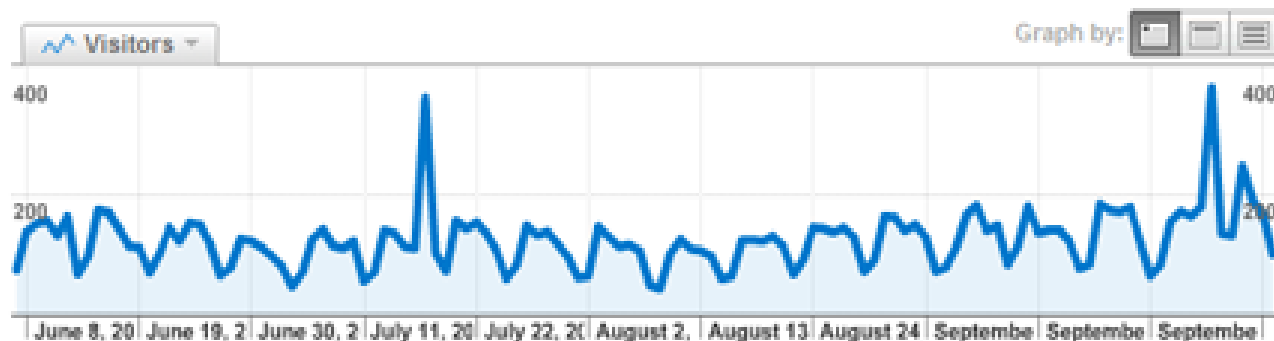
drop in use reflects a ~10,700 visitor decline in the use of the JGE part of the site, and a ~1500 visitor decline in the Teaching in the Field part of the site, with small increases in the Programs and Organization areas (~600 and ~200 respectively).

The advent of the quarterly NAGT e-Newsletters can be plainly seen in the website use statistics. There are spikes in the number of visitors on the days that the e-News is released from a baseline around 100 visitors/day to nearly 400. This number returns to the background soon after but we know that many members are making use of the e-News to check out new things they didn't know about on the site. As more issues of the e-News are published we will be better able to assess their effect on overall site use.

### **Spikes in Use After e-News Release**

## **Visitors Overview**

Jun 7, 2009 - Oct 8, 2009 ▾



### **Section Website Usage (for those hosted at SERC)**

Traffic is steady year-to-year across all the section websites with several hundred visitors to each section site. The Pacific Northwest site received around 1000 visitors with the Southwest site receiving around 100. North Central initiated use of the website as a means of registering participants for their summer meeting, but response was low and the meeting was canceled. None of the other sections used the website in this fashion this year.



## MEMORANDUM

**TO:** NAGT Executive Committee

**FROM:** Bernadette Garcia  
Manager, Membership & Customer Services

**DATE:** October 8, 2009

**SUBJECT:** Membership and Subscription Report

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### 1. 2009 Membership Stats

As of September 2009, NAGT membership stats show 1488 active members for the calendar year of 2009. The membership breakdown is as follows –

Foreign Student	5
Student Member	128
K-12 Teachers Domestic	188
K-12 Teachers Foreign	7
Life Members	17
Regular Foreign	60
Regular Member	961
Retired Foreign	3
Retired Member	119

### 2. 2010 Membership Renewals

The NAGT 2010 renewal effort is about to begin. The renewal site will remain the same for 2010 renewals, with no new enhancements planned. We are scheduled to begin sending the first wave of renewals the week of October 12, 2009. The first notices will be distributed via e-mail to all members with an e-mail address on record. As in the past, members who do not have an e-mail address on file will receive a paper renewal notice in November. We will include information in the paper notices encouraging members to renew their NAGT membership online.

### 3. 2009 Subscription Stats

There are a total of 510 subscriptions to the Journal of Geoscience Education as of September 2009. This represents a decline of 5.2% as compared to September 2008. The decline in membership and subscriptions are most certainly attributed to the current economic conditions worldwide.



#### **4. 2010 Subscription Renewals**

The 2010 subscription renewals are also well underway. The larger subscription agents do not receive actual renewal notices. Instead, they receive electronic files of subscribers from us on a regular basis beginning in June. The agencies use the information in these files to compare against their databases and forward payments to us electronically. All other agencies receive a formal notice for renewal. The remaining renewal notices to other agencies and direct subscribers were mailed the fourth week of August.

There will be renewal reminders mailed throughout the renewal season, encouraging subscribers to renew. The final effort, mailed in the beginning of the year, will not only include lapsed direct subscribers, but also direct subscribers who came through an agent last year as well to provide an opportunity to the subscriber to renew direct.

We look forward to the 2010 renewal season for both members and non-member subscribers, and thank you for allowing us to service your organization in the coming year.

# OEST COMMITTEE ANNUAL REPORT

September 23, 2009

Constitutionally, the OEST Committee consists of the ten section OEST coordinators, the chair, and two at-large members. The list of 2010 committee members is appended to this report. The new chair, Greg Wheeler, will begin his term on January 1, 2010 and will be handling future plaque orders locally in California. The previous plaque provider, East Coast Trophies in Greenville, NC, has been notified of this change and has been thanked for their faithful service over the past ten years. All NAGT Sections have active OEST Coordinators with the exception of North-Central. Gerald Ketterling was listed as the 2009 OEST contact for that section, but has not yet returned numerous phone calls and e-mail messages during the months of August and September, so I do not really know his status for 2010. Each section is responsible for naming their own OEST contact person who then is automatically placed on the OEST Committee. Both 'at-large' committee positions are now vacant with the retirement of C.Q. Brown (long time plaque liaison).

The longstanding goal of the OEST Committee has been to have every section present at least one OEST award. Eight of our ten sections generated awards in 2008, one more than in 2007. However, the number of state winners dropped to 17 this year (from 20 in 2008), mostly due to an unusually poor response in the Southeastern Section. However, hard work and perseverance by the OEST Coordinators in the Central, Eastern, and Pacific Northwest Sections generated a good number of state nominations. Most of these state awards are presented at state science teacher conferences, a venue which provides maximum exposure and publicity for NAGT. The list of 2009 section and state awardees appears at the bottom of this report.

The committee thanks Bill Bruihler, Jon Lee and John McDaris of the NAGT Executive Director's Office for their assistance this past year. In particular John McDaris made several major improvements to the OEST section of the NAGT website and a total of twenty applications were submitted online, including our first nominations in the Midcontinent Section in over eight years.

Our budget request for the upcoming year is the same as it was for 2007-08. No significant changes to the program are anticipated.

Several other geoscience organizations continue to support the OEST award program by providing cash, journal subscriptions, or free instructional materials to our state and sectional winners. A list of these organizations and what they are providing is appended to this report.

It has been a privilege to serve NAGT as OEST Committee Chair for the past ten years and I will work with the new Chair, Greg Wheeler, to insure a smooth transition. I close with the same plea that I have offered each year, that if every member of the NAGT Executive Committee would nominate just one teacher from their state (surely if you don't know a good science teacher, your neighbor or colleague or niece or secretary certainly will) we would have winners from every section. Please take the time to make sure someone from your section gets nominated.

Respectfully submitted,

John

R. Wagner – Chair, OEST Committee

# LIST OF OEST WINNERS FOR 2009

## SECTION WINNERS

Central = Dennis Dougherty  
Eastern = Shelly Anne Witham  
Far Western = Laura Hollister  
Midcontinent = Richard Snyder  
New England = Elisa D'Amore  
North Central = none  
Pacific Northwest = Roger Groom  
Southeastern = Cliff Hudson  
Southwest = Suzi Shoemaker  
Texas = none

## STATE WINNERS

Alaska = Victor Trautman  
Arizona = Wendy Barnett  
Illinois = Charles Simer  
Maryland = Nina Van Kleeck  
Michigan = Dennis Dougherty  
New Jersey = Shelly Witham  
New York = Renee Aubry  
North Carolina = Cliff Hudson  
Oregon = Roger Groom  
Pennsylvania = Verle Emanuelson  
South Carolina = Derenda Marshall  
Tennessee = Fran Hamilton  
Utah = Deborah Morgan  
Virginia = James L. Ruffa II  
Washington = Herb Bergamini  
West Virginia = Pamela Casto  
Wisconsin = Mike Steiner

# OEST ANNUAL REPORT APPENDICES

September 23, 2009

## **GEOSCIENCE ORGANIZATIONS SPONSORING OEST AWARDEES**

The following organizations continued to support the OEST award program in 2008 by providing cash, journal subscriptions, or free instructional materials to our state and sectional winners:

**National Association of Geoscience Teachers** – a plaque and a 2-year membership  
(state winners get a plaque and a 1-year membership)

**Geological Society of America** – \$1000 (\$500 Classroom Improvement and \$500 Travel Assistance) and  
3-year Teachers Associate Membership + 3-year Geoscience Education Division)  
(state winners get 1 year Teachers Associate membership + 1 year Geoscience Education Division)

**American Geological Institute** – Section Winners – A book entitled *Over the Rivers* by Michael Collier and 2009  
Earth Science Week Kit  
(State Winners – 2009 Earth Science Week Kit)

**American Geophysical Union** – one-year membership to AGU with weekly newsletter , EOS and a subscription  
to Physics Today

**National Earth Science Teachers Association** – One year new membership or renewal in the National Earth  
Science Teachers Association (NESTA) that includes a subscription to *The Earth  
Scientist*, NESTA's quarterly journal.

**American Institute of Professional Geologists** – 1 year subscription to Professional Geologist

**US Geological Survey** – 2006 Edition of This Dynamic Planet: World Map of Volcanoes, Earthquakes, Impact  
Craters,  
and Plate Tectonics Poster  
The Geologic Time Spiral Poster – A Path to the Past  
Geologic Hazards at Volcanoes Poster  
Geol  
(state winners get a variety of classroom materials)

# OESTA COMMITTEE – NAGT

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**1<sup>st</sup> Member-at-large – Vacant**

**2<sup>nd</sup> Member-at-large – Vacant**

## 2009 Annual Report

Robert Christman

### Dorothy Stout Awards

Three applications were received. The deadline was extended for a fourth application which did not materialize. Two awards were given and one was rejected. The awards went to:

**Brandie Freeman**, earth science teacher at Woodland High,  
Hiram, GA.

**Ron Metzger**, SW Oregon Community College, Coos Bay, OR.

### Outstanding TA Awards

Two applications were received and awards went to:

**Curtis Gebhard**, Clemson University. Clemson, SC.

**Susan Dickerson**, Western Wash. Univ., Bellingham. WA.

### Back Issues of JGE

Back issues are stored at WWU and back issues were mailed with labels provided by AIP or the Executive office. The May 2008 is no longer available, but copies of other issues are available. Back issues are available for free distribution at national and sectional meetings.

Although the exact number of mailings has not been recorded, I estimate that the number is in excess of 300. (See budget expenses for the cost of the mailings. The cost of each mailing varies between \$2.50 and \$9.00)

### Archives

Materials are being accumulated for the NAGT Archives at Augustana College. Rock Island, IL. I need clarification from the curator about whether hard or electronic copies of annual reports should be submitted.

## **Distinguished Speaker Program**

Karen Havholm and Linda Goozen

September 2009

The NAGT Distinguished Speaker Series is one of the most visible and direct services of the Association. Members at colleges, universities and other institutions can apply to have one of our featured speakers visit their institution to deliver seminars, workshops, and in-person consultation with researchers and geoscience departments. Speakers and their topics are as diverse as our membership, and we update offerings every year to reflect the latest developments in the field and the concerns of our membership.

Linda Goozen managed logistics of the program during the 08-09 year; Karen Havholm remained chair of the DS committee. During this period NAGT received 16 requests for funded speaker visits (down from 21 in 07-08). All 16 requests were approved. We expanded our scope of visitation to New Zealand. Eric Grosfils visited 3 institutions while traveling with his family in New Zealand.

During '08-'09 speakers visited the following 13 institutions:

- Southern Illinois University
- University of New Mexico
- Northwest Florida State College
- Michigan Technological University
- University of Calgary
- SUNY College at Oneonta
- Colby College
- Beloit College
- University of Otago
- University of Canterbury
- Millikin University
- University of Auckland
- University of Montana

We anticipate that 3 of the '08-'09 approved requests will be completed in '09-'10.

Total costs of the 2008-2009 program, including speaker travel, honorariums, publicity, were \$11,142.01 (down slightly from last year's \$11,996.36). We anticipate that "The Consortium for Ocean Leadership" (previously JOI) will reimburse NAGT for a portion of these costs. NAGT had budgeted \$20,000 for '08-'09 costs so we were under spent by \$8,857.99. We expect that The Consortium for Ocean Leadership has continued to support the program by naming Kristen St. John as a speaker and providing \$1,000 for this year. \$20,000 has been budgeted for '09-'10 program expenses.

The current speaker roster is:

- Robert Butler\*
- LuAnn Dahlman\*
- Susan DeBari
- **Thomas Hickson**
- **Thomas Koballa**

- Stephen Pompea\*
- Wayne Powell
- Eric Pyle
- **Linda Reinen**
- **Kristen St. John** – *Consortium for Ocean Leadership speaker*
- **Barbara Tewksbury**
- Michael Wyssession

An asterisk means this is the speaker's last year of the three-year term. Bold names are the new speakers this year.

An updated printed color program flyer was mailed in September 2008 to 891 geoscience departments to promote the program. Approximately 500 copies of this flyer were distributed from NAGT booth displays (GSA, AGU, NSTA) during the year. In September 2009 this flyer was updated with new speakers and will be mailed out to 891 geoscience departments. The program is also featured on the NAGT website at:

<<http://www.nagt.org/nagt/programs/dsp.html> >

During the course of the past year small updates have been made to the NAGT website to support this program to facilitate use.

During '08-'09 we received post visit evaluation reports from 8 institutions. A summary of the results follows.

Reviews were uniformly positive. All speakers seemed to meet or exceed the expectations of the host institution. The kinds of impact cited were as varied as speaker topics and event types.

Examples included:

- Department trains a significant number of science education majors who go on to teach 6-12 science classes in region schools. Those students reported that they felt more qualified and confident in their abilities to teach evolution following the DSP presentation
- Faculty were inspired to re-energize the field aspects of our program
- Example of student comments, "It helped solidify ideas about geology in general, and also increased knowledge of studies and methods used in the field."
- Provided an outlet for academic and scientific discourse that would not be easily accessible in a rural community
- Facilitated ongoing correspondence between a doctoral students and guest speaker about geoscience education research.
- Redesign of introductory, non-major courses in response to provost's initiative as a result of presentations

2. Most institutions made the effort to invite people from other institutions. Outside attendance varied widely depending on type of institution, location, and type and topic of events. Many had at least some K-12 teachers an event. Teaching Evolution continues to draw large crowds from teachers and the general public.

3. There were no complaints or suggestions for changes.

4. There were a wide variety of formats for speaker events. These included lectures with over 400 attendees, departmental seminars, curricular discussions with faculty, research and teaching discussions with graduate students, and brown bag lunches on recruitment and assessment.

Number of events associated with each visit and number of participants are shown in the table below. The current on-line form makes it more difficult to know what the total number of participants is.

Number of events	Number of participants
3 130	
3 85	
3 40	
3 115	
2 86	
2 110	
3 120	
3 105	

Submitted by: Karen Havholm and Linda Goosen



NAGT/USGS-Cooperative Geosciences Internship Program  
Annual Report for 2009

Penelope Morton, Executive Secretary  
August 13, 2009

This year we exceeded we placed 35 interns—the highest number since 2001. The USGS Science Information and Education office under the stewardship of Robert Ridky placed these interns for the summer of 2009. This was done with the support of the Director of the USGS. Thirty proposals were submitted by USGS scientists, 25 of which were chosen for cost sharing. The interns were placed in these projects as well as nine projects without cost sharing. A description of the programs can be seen at: . <http://education.usgs.gov/docs/NAGT2009.pdf>.

We canvassed 161 field camps and/or schools and we had 82 nominations from 43 different field camps (Table 1). Of those 82 nominations, 46 were men and 36 women. Letters were mailed to all students nominated (copy of nominee letter attached) and students applied to the USGS Science Information and Education Office. Cher Cunningham processed all applications. Of the 82 nominations, 62 students actually applied and 9 more withdrew during the process for an attrition of 29 students (about 35%). Of the remaining 53 students, 37 were placed. Twenty-four men and 13 women accepted internships and their localities are listed in <http://education.usgs.gov/docs/NAGT2009.pdf>. These interns represented 26 different schools and/or field camps.

**Table 1. Historical Data for the last ten years of the NAGT/USGS Cooperative Internship Program**

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		
# of Schools/Camps canvassed	105	112	112	112	111	6	13	0	141	154	16	1
# Directors who nominated a student	31	44	32	48	39	42	38		39	43		
# of Nominees	76	106	87	123	60	70		69	42	74		82
Application Pool		77	63	90	46	50		66		52	62	
# Interns	32	38	13	8	16	19		21	17	28		37
# who withdrew during process					14	19	21		13	9		
ratio of offers to nominees	0.42	0.36	0.15	0.07	0.27	0.27	0.30		0.38	0.45		
ratio of offers to applicants		0.49	0.21	0.09	0.35	0.38	0.32		0.54	0.60		
Goal	25	25	30	30	20	20		20	20	20		25

NATIONAL ASSOCIATION OF GEOSCIENCE TEACHERS  
**U.S. GEOLOGICAL SURVEY COOPERATIVE SUMMER GEOSCIENCES  
INTERNSHIP PROGRAM**

Penelope Morton, Executive Secretary

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November 18, 2008

Dear Nominee

Congratulations! Because of your exemplary performance at summer field camp, you have been nominated by your field camp director to participate in the 2009 Cooperative Summer Geosciences Internship Program sponsored by the National Association of Geoscience Teachers (NAGT) and the U.S. Geological Survey (USGS). Through this program, a select number of outstanding graduates of summer field courses are invited to apply to the USGS for summer field, laboratory, or office internships. We are inviting you to submit an application.

These opportunities are available throughout the United States during the summer of 2009. Appointments are made for 12 weeks up to 20 weeks with candidates being assigned to field positions or to laboratory and office related scientific work throughout the United States, with main operational and administrative centers in the Eastern Region (Reston, Virginia); Central Region (Denver, Colorado); and the Western Region (Menlo Park, California).

This year, the USGS is looking to hire Geologists, Hydrologists, Physical Scientists, Geochemists/Chemists, Geophysicists, Geographers, Biologists, Cartographers, and Ecologists. As the emphasis on integrated science is increasing at the USGS, we are seeking candidates who have a broad background in earth sciences, geography, cartography, ecology, physics, biology, chemistry, and GIS. Students employed through this program will be hired at the salary rate of **\$13.19 to \$14.65** plus a locality adjustment dependent upon the location of their internship.

Student backgrounds will be matched with available opportunities throughout the country. The number of hires depends on the number of available opportunities and the number of students who have the necessary backgrounds and education. We have an automated application process that makes it easy for you to apply. Go to: [http://education.usgs.gov/internship\\_nagt\\_usgs](http://education.usgs.gov/internship_nagt_usgs) and follow the directions. You will need your resume and transcripts. Completed applications are due by **January 28, 2008**.

This program provides a wonderful professional opportunity for you. Since the program's inception in 1965, over 1800 selected students have participated. It is one of the most highly regarded career experiences nationally available, with many participants going on to distinguished careers in the geosciences. We appreciate your interest in this summer Program and look forward to receiving your application. We hope to have selections made by mid February, at which time we will contact you with the results. If you have questions or concerns,

please contact Cher Cunningham at (703) 648-6872 or by email at [ccunning@usgs.gov](mailto:ccunning@usgs.gov), or contact me at [pmorton@d.umn.edu](mailto:pmorton@d.umn.edu) with any questions or concerns that you may have.

Sincerely,

Penelope Morton  
Executive Secretary, NAGT/USGS Cooperative Summer Internship Program

## Field Course Scholarships Annual Report

Pranoti Asher

The Committee consisted of two other members Eric Riggs (Purdue University) and Laurel Goodell (Princeton University). The committee received 58 applications for consideration this year. Of these only 56 were complete and were considered for ranking by the committee. The committee selected eighteen winners amongst which there were two AWG Crawford awardees and five minority students. Many thanks to John McDaris and the rest of the SERC staff for all their help. Their hard work in making the application process 100% digital made it very easy for the committee to handle the large number of applications.

In order to increase awareness of this scholarship and further increase the number of applicants, NAGT should print the call for applications in the Fall rather than the January issue of JGE. Multiple reminders for the scholarship can be sent out via email news and flyers available at the NAGT booth at regional (if applicable) and national GSA meetings. Another suggestion is that NAGT might spread the word out about this scholarship and deadlines via GSA campus reps meetings held at regional and national GSA meetings. Listservs such as GeoDept chairs and Chairs net can also be used to further advertise the scholarship. If any of the awardees are attending the National GSA meeting, perhaps they can be invited to the NAGT luncheon and be recognized.

Below is the list of the 2009 award winners:

Elizabeth Cole, Franklin and Marshall College  
Neal Cropper, Bowling Green State University  
Paul Gabrielsen, Brigham Young University  
Chesney Gilleland, Appalachian State University (AWG Crawford Field Camp Scholarship Recipient)  
Eva Gladish, Temple University  
Julianne Griswold, Case Western Reserve University  
Bradley King, Illinois State University  
Katharine Knoph, Lake Superior State University  
Daniel McCuan, California State University - Bakersfield  
Hannah McDermitt, California State University - Fullerton  
Andrea McHugh, Georgia Southern University  
Lauren Miller, Oklahoma State University  
Alexander Nereson, Macalester College  
Anna Perry, University of Nevada - Reno (AWG Crawford Field Camp Scholarship Recipient)  
Kassandra Sendziak, California State University - Fullerton  
Manuel Silva, Southern Oregon University  
Randi Walters, Boise State University  
Earl Wells, North Carolina State University

# **2009 GeoScience Teachers-in-the-Park Program Mammoth Cave National Park**

## **The Mammoth Cave Program for 2009**

Four classroom teachers were chosen from over 20 applications for the 2009 GeoScience Teacher-in-the-Park Internship at Mammoth Cave National Park (MACA). Successful candidates included one elementary level teacher; one middle school teacher; and two high school teachers.

The program was expanded from three to four slots for the summer of 2009 as a result of the resignation of one individual selected in 2008. Money originally designated for his position was allowed to be carried over to the 2009 program. This allowed all teacher interns to work in pairs – a situation that provided improved personal safety; enabled MACA to offer an expanded list of research possibilities; and allowed the teachers to choose areas of research more in line with their personal preferences, interests, and professional / classroom needs and requirements.

The four individuals faced a time limitation this summer. An early spring ice storm had closed area schools for 1-2 weeks. This, along with normal snow and/or flue closures, pushed the final school year closing from mid-May into June. Fewer summer “vacation” hours were thus available for the interns to complete their basic requirement of 200 program hours. All four 2009 Interns worked weekdays, evenings and weekends in order to complete the required research hours prior to school openings scheduled for the last week of July.

As a mark of their interest and enthusiasm, each of the 2009 Intern teachers have returned to the park several times since the start of their new school year to continue working on several projects begun during the summer program – notably the setting and retrieving of dye “bugs” used in cave hydrologic studies; with ongoing identification, monitoring and eradication of alien and invasive species in a karst prairie restoration project; and to collect temperature / relative humidity data changes along cave passageways.

The 2009 program has provided an opportunity to expand the park’s citizen science and volunteer capability directly because the involvement of these teachers. One of our summer Interns brought his nephew (a college senior hydrology major) to the park as a volunteer for approximately 160 hours of work on cave hydrology. One Intern brought her class to assist with an invasive species eradication program. One Intern brought her class to the park to collect relative humidity data in Great Onyx Cave. One Intern has requested a partnership between his elementary school and the Mammoth Cave Environmental Education Office. A high school student of one Intern has accompanied her teacher after school to collect hydrologic dye “bugs” placed in pools and streams along approximately six-miles of cave passages.

A check in the amount of \$8,000 was received in July 2009 from the National Association of GeoScience Teachers (NAGT) to cover the costs of four interns at \$2,000 each. The funds were deposited into the Environmental Education donation account at Mammoth Cave National Park. Upon receipt of an invoice, each teacher will be paid \$1,500 stipend. An additional \$500 will be

available to each teacher to supplement the costs of conference registrations and/or educational courses.

Two of the 2009 GeoScience Teacher-in-the-Park Interns will be paid stipends through their district Board of Education office; two were listed as private contractors and will be paid by third-party.

Even though all four of our 2009 GeoScience Teacher Interns have completed their research hour commitment, we have not yet received the required photos, speaking dates, invoice nor copy of all educational products. Most, if not all, the physical products are expected to be turned in after the early October Fall school break.

During FY 2009, we paid \$340 for tuition and \$206 in conference fees to prior GeoScience teachers from their available educational funds.

### **What activities occurred this summer?**

During the summer of 2009, the Geoscience-Teachers-in-the-Park Interns worked on a variety of projects:

- Working closely with projects initiated and conducted by the 2009 GeoScientist-in-the-Park, Western Kentucky University's Hoffman Research Institute and their visiting scientists from China, MACA scientists, and other scientists working in the park,
- Obtained and documented GPS coordinates for newly discovered cave entrances located within Mammoth Cave National Park,
- Collected data for an ongoing water quality monitoring project,
- Assisted in the collection of baseline data to monitor trail conditions and document erosion due to trail use,
- Collected sediment samples to provide baseline data for a mercury monitoring project,
- Assisted with a hydrological study that included a dye trace, the collection of baseline data, and ongoing change-outs of the dye receptors,
- Assisted with a bat research project focused on Rafinesque's big-eared bats,
- Assisted in a long-term national bird banding project,
- Participated in the filming of a documentary focused on Mammoth Cave National Park'
- Provided expertise and guidance on ways the film footage could be used in classrooms – for podcasts, 2-5 minute educational clips, etc.
- Eradicated exotic, invasive plant species in the karst prairie remnants and restoration areas,
- Learned techniques to survey and map caves. Brainstormed ways to use these skills to teach mathematics, geography and mapping in the classroom,
- Located and documented ginseng and goldenseal populations at MACA,
- Attended a Climate Change training program to increase knowledge of programs and associated skills that could be incorporated into the classroom.

### **What activities are planned for the academic year?**

*Specific activities that have already taken place during this academic year include:*

- An Environmental Sciences curriculum was developed and field tested for high school seniors. The curriculum utilizes knowledge and experience gained during the teacher's internship,
- One classroom of high school students collected and compared data on animal populations and relative humidity levels along a cave passage in Great Onyx Cave. This cave progresses from extremely wet to extremely dry cave conditions.
- A female high school student has volunteered to work with her teacher on the collection of hydrologic information through the collection of dye "bugs". All National Park volunteer paperwork has been completed and turned into the park. This interest is a direct result of the cave data collection exercise she experienced with her class earlier in the school semester.
- Twenty-six (26) high school students were transported to MACA to participate in eradicating invasive species. Students worked along side and interacted with the Southeast Regional Plant Management Team and members of the Nature Conservancy,
- One Intern brought his class of gifted students to visit the park during the summer. These students were participating in the Upward Bound program offered by the Elizabethtown Community College located 1-hour from the park.
- A formal partnership agreement is currently being created between Intern's schools and MACA's Environmental Education program,
- Information on the GTIP program has been presented to all science teachers in one school district,

***Planned ways to share the GeoScience Teacher-in-the-Park experience with students:***

- Create a documentary comparing the karst areas of their county with the karst systems of MACA,
- Work with the Metcalfe County Department of Parks and Recreation to create student led monitoring projects which will utilize a new park currently being created near the Intern's middle school (This local park includes a cave with a stream. The cave stream reputedly contains eyeless cave crayfish.),
- One Intern has assigned and is working with her students to research, photograph, write and publish a book detailing the major exotic, invasive plant species of Mammoth Cave National Park,
- All four 2009 Interns plan to use personal experiences and locally based, on-going scientific studies as real-world examples for their students,
- Work with Mammoth Cave Environmental Education (EE) staff and Mammoth Cave International Center for Science and Learning (MCICSL) staff to provide additional hands-on learning and volunteer opportunities for their students,
- Use the "What is a scientist?" lesson plan that was developed by the 2007 interns to show students that scientists are not necessarily the stereotypical "old guy in a lab coat with a chemistry set." The 2009 Teacher Interns hope the lesson plan will ignite an interest in science among their students and encourage them to pursue scientific careers,

**Assessment / Program Evaluation Plans**

We continue to utilize informal tools to assess the current program and to improve the program for future teachers.

- We have noted the level of engagement of the teacher interns throughout their summer of work (i.e., did they come to the park at their assigned times; did they complete their assignments; was their level of participation enthusiastic or negative; did the teacher interns look forward to the next challenge or appear to dread their up-coming assignment/project, etc.)
- We have used summer exit interviews of each teacher to discover what excited them about the program and to ask what they feel should be changed, added, deleted
- We have asked each teacher to list ways they plan to use material and knowledge obtained during their internship with their classes
- We continue to monitor the progress of our graduates. By staying in contact with each of our teacher interns, we hope to determine if the investment of National Park time and resources made a difference in teaching techniques and in the expansion of GeoScience opportunities by these teachers (and their colleagues) over multiple years.
- We are monitoring use of the continuing education portion of their internship, how this funding was used (i.e., a preference of conference attendance, formal college coursework, or other continuing education opportunities), and if not used, what might have been more beneficial for them (i.e., a supply list or other assistance).
- We are maintaining a list of teachers who begin using Mammoth Cave National Park as a resource and/or who express interest in the Geoscience-Teacher-in-the-Park program as a result of coming in contact with current or former teacher interns
- We will continue to solicit suggestions and lists of projects which will both engage teacher interns and will benefit Mammoth Cave National Park.

### **2009 Interns' perspective**

Once again, this year's teacher interns appear very pleased with the program.

- All four of the 2009 teacher interns continue to volunteer on scientific projects at the park even though they have each completed their 200 hours of service associated with their internships. This seems to reflect the value of the program and the interest it is generating among participating teachers.
- One teacher has already brought her students to the park for a service learning project and an inquiry based cave experience. She is actively working with MCICSL and MACA staff to plan additional activities and projects for her students.
- Another teacher arranged for the Upward Bound class at a local community college to visit MACA during the summer.
- Shane Coffey, an 8<sup>th</sup> grade teacher at Metcalfe County Middle School, stated "I know my students learn better by hands on activities, so why shouldn't I learn by hands-on? Everyone here is such a wealth of information. They don't realize how much like teachers they are. The scientists we work with are always pointing out something new or explaining how it fits into the bigger picture."
- Rachael Jones, a high school teacher at Greenwood High School, said "I have learned something new every day. The things I am learning here will be a major portion of the curriculum for my environmental science students."
- All the teachers reported that they gained a tremendous amount of knowledge and believe the internship was extremely beneficial.
- All of the teachers also reported that they enjoyed being able to participate in a variety of projects and interact one-on-one with the researchers.



## **MACA / MCICSL perspective**

The Geoscience Teacher in the Park program continues to be a positive experience that we look forward to continuing. Previous GeoScience Teacher Interns continue return to the park to work on scientific and educational endeavors.

- Our network of local teachers that have participated in the internship continues to grow and is beginning to expand nationally as well. We were very happy to hear that one of our original 2006 GTIP interns, Diane Gillespie (formerly Diane Piper) recently accepted the Associate Director of Education position with the National Cave and Karst Research Institute (NCKRI). Within two months of accepting this position, Diane met with MACA and MCICSL staff to discuss possible ways to collaborate. We look forward to continuing to work with Diane in her new position and feel that she will help many teachers, students, and members of the general public learn more about karst systems on a national level.
- One of the 2007 interns and one of our 2009 interns have become active in the Kentucky Association for Environmental Education (KAEE) where they continue to promote geoscience and karst education. The 2007 intern was just re-elected to her second term on the KAEE Board of Directors.
- One of our 2008 teacher interns returned to the park this summer to present programs and assist with a week-long CAVEservation summer camp offered to local Middle School students. The camp used the cave to promote science and math education to these students. All camp attendees have already signed up to return to next year's summer camp.
- The CAVEservation camp was planned, organized and directed by one of our 2007 interns. The camp offered cave mapping; the influences of a karst landscape on area settlement; and studies of local water quality. This new program was so successful that the Barren County school district has requested three week-long camps be offered for their students during the summer of 2010.
- Our second 2008 GeoScience Teacher intern returned to Western Kentucky University this past year to pursue her graduate degree and to earn the Kentucky state teaching endorsement in Environmental Education.
- For the 2009/2010 school year, one of our 2006 interns transferred to a new school district. Once there, she convinced fellow middle school science teachers to bring all science students to Mammoth Cave National Park for a day-long educational experience. Those trips have already been scheduled.
- Our 2007 GeoScience Teacher Interns began a project to locate and mark toured cave route passages above ground. Their work was to be used as a way to answer the visitor's question: Where am I in relation to the cave? Those routes are now programmed into GPS units for use by visitors and visiting scholars. Students, researchers, staff and interested visitors are now able to walk cave passages on the surface of the earth to view geologic features that produce cave features below. This project has been expanded into an inquiry-based lesson presented to all pre-service elementary education teachers from our local university.
- One 2009 Intern convinced his nephew to volunteer at the cave during the summer of 2009. The nephew is a college senior majoring in hydrology. He donated

approximately 160 hours of assistance to the park and relayed to park staff that his summer experience had helped provide practical experience to his theoretical studies.

- All the teachers that have participated in the program continue to promote the GTIP program after their internships are completed. One of our 2009 teacher interns was encouraged to apply for the program from a colleague – one of our 2007 GeoScience intern graduates.
- This year we received over 20 applications for the GTIP program. We largely attribute the massive increase in the number of applications to the enthusiastic endorsement of the project by former interns.
- See the 2006, 2007, and 2008 GTIP reports for an evaluation of previous years' programs.

We feel these developments indicate the program is successfully creating a network of educators in the area who work with the park and who will be available to assist new educators as they begin to work with the park. As always, we continue to learn and develop new ideas for future years.

### **Promotion of the GTIP program**

- Over the past year, the Geoscience Teacher-in-the-Park program has been featured at several conferences. The 2009 interns were featured in a two page spread in the Kentucky Teacher magazine which is distributed to all teachers in Kentucky. In addition, the 2009 interns were filmed as part of a one-hour, high-definition film on Mammoth Cave that is to be aired Sunday, 4 October 2009 by our local PBS station. Produced by a Kentucky Public Broadcasting Station, it was developed as a companion piece to be show across the state immediately after the new Ken Burns production on "Our National Parks". This one-hour film has already been shown at one state conference and at several premiers across the state. Footage from this filming will be used to produce exhibits, web casts, pod casts, 2-5 minute educational clips, etc.

Below is a list of recent publications and conference sessions that feature the internship (this does not include publications that simply mention the program):

- Riddell, Susan. **Caves, trails mix up summer learning**. *Kentucky Teacher*. September 2009. pgs 8 -9.
- Zoellick, Bill, Shannon R. Trimboli, and Susan Sachs. **Real Science: Real Connection to Parks**. 2009 George Wright Society Conference. (Concurrent session and paper published in the proceedings.)
- Trimboli, Shannon R., Rickard S. Toomey, III, Mike Adams, Bob Ward. **Bridging the gap between research and education at Mammoth Cave National Park: The Mammoth Cave International Center for Science and Learning**. 2008 Ecological Society of America Conference. (Poster)
- WKU-PBS, **Mammoth Cave: A Way to Wonder**. Western Kentucky University Public Broadcasting Station. 2009.
- Minor, Robyn L. **Mammoth Cave to Get Mammoth Help**. *Daily News*, Bowling Green, KY. September 8, 2009.

*On the Cutting Edge:*  
*Professional Development for Current and Future Geoscience Faculty*  
<http://serc.carleton.edu/NAGTWorkshops/index.html>

**NAGT Report, October 2009**  
**Heather Macdonald, Cathryn Manduca, David Mogk, and Barbara Tewksbury**

The overall goal of the *Cutting Edge* project is to improve the quality of geoscience education for undergraduate students through the dissemination of exemplary practices and materials to current and future faculty through an integrated, synergistic set of workshops and a variety of web resources. We aim to bring advances in pedagogy and geoscience research to the broader community of those who teach geoscience to undergraduates. With the support of the second national dissemination grant from the NSF Division of Undergraduate Education, we offer a more structured program of leadership development to help us to expand the dissemination of our program. This year, in addition to the ongoing series of face-to-face workshops, we have an expanded set of virtual workshops as well as “partnership” workshops offered in conjunction with various professional meetings or other regional venues. Several of the partnership workshops are offered by workshop leaders who submitted proposals to offer follow-on workshops. We have had mixed success offering workshops at regional meetings and welcome suggestions regarding strategies for workshops at regional events.

- Developing Student Understanding of Complex Systems in the Geosciences
- Early Career Geoscience Faculty: Teaching, Research, and Managing Your Career
- Preparing for an Academic Career in the Geosciences
- Using Remote Sensing and GIS to Teach Geoscience in the 21st Century
- Teaching Geoscience in the Field in the 21<sup>st</sup> Century

Virtual Workshops

- Teaching Geoscience with Service Learning
- Understanding the Deep Earth
- Designing Effective and Innovative Courses in the Geosciences
- Teaching Geoscience Online

Partnership Workshops

- Student Motivation and the Affective Domain
- A City State-of-Mind: Creating Effective Assignments for Urban Students
- Preparing for Tenure: A Workshop for Tenure-Track Faculty (follow-on workshop)
- From Passive to Active: Classroom Makeovers that Improve Teaching and Learning
- Teaching Geodesy in the 21<sup>st</sup> Century
- Pursuing an Academic Career
- Geology and Human Health
- Teaching Geochemistry
- Teaching Climate Change from the Geologic Record

We are in the midst of analyzing the results of the recent national survey of geoscience faculty and intend to submit an article regarding the results to the *Journal of Geoscience Education* in 2010.

We are planning to submit a grant proposal to the Course, Curriculum, and Laboratory Improvement program at NSF in early January 2010 that will request funding for *On the Cutting Edge* for an additional five years. As part of that proposal, we are pleased that NAGT has agreed to work with us to garner support in various forms from other professional societies.

We are grateful to NAGT for the advertising and publicity that NAGT provides and for its co-sponsorship of sessions at professional meetings. In addition, the opportunity to include *JGE* articles on the *Cutting*

*Edge* website provides high-quality material to the website and increases the visibility of *JGE*. Both NAGT and Cutting Edge are contributors to the Geoscience Education Social at GSA. We are collaborating on e-news advertising aspects of the website, the website display that is in the NAGT Booth at GSA and AGU meetings (we provide partial support for the display) and on efforts to promote NAGT membership. We encourage NAGT officers and members to suggest workshop topics for future workshops (pending funding decisions).

## **WEB RESOURCES**

In 2008, the *Cutting Edge* website had 550,000 visitors, and 11,000 10+ page sessions. We are pleased to report that the Geoscience Information Society will give a Best Website Award to *Cutting Edge* at GSA. The thematic collections on the website typically link fundamental scientific research, pedagogical approaches, examples and activities, data and tools, images, and supporting services. We continue to use a range of approaches to provide resources derived from workshops to a broader audience via the web-site. We have added new collections associated with workshops in the previous year's workshop series. We expect that faculty participants at workshops now contribute to the website; for most workshops, participants submit one or more teaching activities and/or course descriptions prior to the workshop. The website front page shows the range of topical resources (also listed below).

### **Managing Your Career**

- Preparing for an Academic Career
- Early Career Faculty

### **Enhancing Your Teaching**

- Affective Domain
- Assessment of Learning
- Course Design
- Data, Simulations, and Models
- Introductory Courses
- Metacognition
- Teaching Methods
- Teaching in the Field
- Urban Students and Urban Issues
- Visualizations
- Web Design

### **Geoscience Topics and Themes**

- Biocomplexity
- Climate Change
- Discoveries from Mars
- Early Earth
- Energy
- Geochemistry
- Geology and Human Health
- Geophysics
- Hurricanes and Climate Change
- Hydrogeology
- Mineralogy
- Ocean Systems
- Paleontology
- Petrology
- Public Policy
- Rates and Time
- Sedimentary Geology
- Structural Geology

## Earthlearningidea - an initiative for the International Year of Planet Earth and beyond

*"Earthlearningidea has been a source of inspiration for both my pupils and myself."*

Earthlearningidea, [www.earthlearningidea.com](http://www.earthlearningidea.com), is a voluntary initiative which brought a new Earth learning idea to Earth science educators across the world every week during 2008, the International Year of Planet Earth. The project continues with a monthly activity throughout 2009 and all previous activities remain live on the site.

The ideas are aimed primarily at classrooms with few or no resources and at pre-service teacher educators (to reach wide audiences). Global discussion around each idea is encouraged through a blog, [www.earthlearningidea.blogspot.com](http://www.earthlearningidea.blogspot.com). By July 2009, 64 different activities had been posted. The Earthlearningidea refrain is:

- an Earth science teaching idea at regular intervals;
- at minimal cost, with minimal resources;
- for teacher educators and teachers of Earth science through school-level science or geography;
- an online discussion around every idea;
- to develop a global network.

Interested educators from around the world subscribe free of charge and receive email updates when new items appear on the website. A list of keywords on the website means that a search can be made for particular topics. A list of supporters offering geoscience or educational expertise, is posted on the website. A separate list of those who have offered moral support is also maintained.

Activities range from simple investigations, such as 'Earthquake prediction – when will the earthquake strike?', using a pile of bricks and a piece of elastic, to 'A landslide through the window', where pupils are asked to envisage the scene if such an event should happen within range of their classroom.

Thanks to voluntary translators across the world, the activities are being regularly translated into Spanish, Italian, Norwegian, Mandarin Chinese and Portuguese.

Since the website was established in May 2007, it has received over 15,500 'hits' from over 140 countries ([www.earthlearningidea.com/home/ELI\\_around\\_the\\_world.html](http://www.earthlearningidea.com/home/ELI_around_the_world.html)) and the blog is being well patronised, with comments and ideas for extension work.

All activities are **free to download**. Do have a look at the site and contribute your own ideas to the blog.

*Chris King, Peter Kennett and Elizabeth Devon*  
*Earth Science Education Unit, Keele University, U.K.*  
[info@earthlearningidea.com](mailto:info@earthlearningidea.com)

The Math You Need Need, When You Need it  
<http://serc.carleton.edu/mathyouneed/>

Jennifer Wenner, Eric Baer

The Math You Need, When You Need It (TMYN) is an NSF-supported, NAGT sponsored project that has developed online, modular resources developed by geoscientists to teach and/or review mathematical concepts just before students need to use them in an introductory geoscience course. These modules support the large number of introductory geoscience instructors who teach students who struggle with basic quantitative exercises. TMYN provides students with online supplemental math instruction in conjunction with a geoscience course, one significant way to support math deficient students.

Currently, TMYN modules cover calculating density, rearranging equations, trigonometry, unit conversions, and graphing. Each module consists of three webpages for students, a primary explanation page, a page of sample problems with hidden solutions, and an online, computer-graded quiz. Each module begins with an explanation page. Explanation pages introduce a given mathematical concept, give the mathematics background as it applies to geoscience, (most) provide an algorithm for solving the problems, and include further resources. The explanation pages link to a sample problem page that applies the mathematics to several different geoscience concepts. The answers to the sample problems are hidden, but can be revealed sequentially so that students receive the level of support they need to work similar problems on their own. When students feel comfortable with a topic, they click a link to an online quiz, allowing them to demonstrate their understanding. Online quizzes also include questions related to geoscience topics.

In addition to the student pages, most topics also include an instructor webpage. The instructor page includes a list of objectives, things that we did not cover on the page (and why), a short guide to teaching the topic, and a set of resources that the instructor can access, such as labs or exercises that use related mathematical topics.

By design, TMYN provides multiple geoscience contexts so that instructors can readily and repeatedly make these connections. Furthermore, the geoscience context provided by TMYN allows students to recognize the relevance of mathematics to geoscience. The transformation of math from abstract to concrete gives students internal motivation to learn the material by illustrating how it will help them succeed in the course. Since Spring 2008, TYMN has been used in conjunction with seven sections of introductory geoscience at Highline Community College (four sections) and University of Wisconsin Oshkosh (three sections). In these pilot studies, six instructors were given the flexibility to design their own implementation of TMYN, incorporating anywhere from 3 to 7 modules into their courses. Despite the variety of implementations, TMYN successfully remediated math skills to a majority (over 90%) of students who participated. However, student motivation and participation in each class differed significantly, suggesting best practices for motivating students and instructors to utilize online supplemental instruction. Although TMYN is designed to alleviate time spent in class on non-geologic content, we found that best practices to sustain engagement and participation included engaged instructors who explicitly connected TMYN to in-class instruction, including TMYN early in the course so that student expectations were to work with math and close connection between mathematical and geoscience topics. Students who engaged in the course seemed to have more success with both geoscience and mathematical material.

TMYN recently received funding as a collaborative grant (DUE-0920583 and DUE-0920800) from the National Science Foundation to expand the use of these modules to other institutions. The project will broaden its impact and, at the same time, examine the role of institution type, student demographics and other factors that may impact the effectiveness of the modules in supporting students.