



# THE GEOLOGICAL SOCIETY OF AMERICA

## *Geoscience Education Division*

<http://gsaged.org/>

Summer 2006

---

### **From your Newsletter Editor**

Greetings everyone! I hope your summer is going well, whether you are deeply engaged in research or deeply soaking in a swimming pool.

We are producing an abbreviated but important edition of the GED newsletter, primarily to alert you to two things:

- Geoscience education-related sessions at the Geological Society of America's Annual Meeting in Philadelphia, October 22-25, 2006. The deadline to submit abstracts (July 11) is rapidly approaching. So please put down your umbrella drink, look over the newsletter, and compose an abstract for one of these many GED-related sessions! Submit your abstracts online at <http://www.geosociety.org/meetings/2006>.
- A call for nominations for GED second vice-chair so that elections can be held.

See related articles below, as well as a couple of other summer submissions.

As always, if you have any news items for the next GED newsletter (Winter 2007), send them to me at [mhafen@cas.usf.edu](mailto:mhafen@cas.usf.edu).

Mark R. Hafen  
Department of Geography, University of South Florida

---

### **Call for Nominations: Second Vice-Chair of GED**

The Geoscience Education Division of the Geological Society of America is seeking candidates for the position of second vice-chair to join the current executive board:

- Dave Mayo, outgoing chair
- Heather Petcovic, incoming chair
- Kristen St. John, incoming first vice-chair
- Bill Slattery, secretary-treasurer

The job of second vice-chair entails executive board planning work and supervising the Biggs Award process. The second vice-chair moves up each succeeding year to first vice-chair, chair, and past chair, so the position is a four-year commitment. It's a great way to get to know your colleagues in the geoscience education world, and to learn more about how GSA works.

If you are interested in running for this position, or if you would like to nominate someone else, please respond to Dave Mayo ([dmayo@calstatela.edu](mailto:dmayo@calstatela.edu) or 323-343-2420) by August 1, 2006. We will request a brief bio and statement for the ballot.

---

## News from IAMG Student Chapter at SIUC

The *first* student chapter of the International Association for Mathematical Geology (IAMG, [www.IAMG.org](http://www.IAMG.org)) has formed at SIUC-Carbondale (<http://www.siu.edu/~er&p/IAMG/>). Abani R. Samal, who helped found the chapter, is acting as its first President and is a member of the students affairs committee: [http://www.iamg.org/index.php?option=com\\_content&task=view&id=93&Itemid=110](http://www.iamg.org/index.php?option=com_content&task=view&id=93&Itemid=110).

Recently Abani presented at the 2005 IAMG annual conference in Toronto (<http://www.iamgconference.com>), and the 2006 Society for Metallurgy and Exploration's annual conference in Denver (<http://www.smenet.org>). Abani is also one of 17 students receiving GSA awards this year.

Abani R. Samal  
Southern Illinois University-Carbondale

---

## Fellowships for Underrepresented Students in Geosciences

The Department of Geological Sciences at California State University, Northridge, invites applications for graduate student (MS) fellowships that provide up to two years of financial support through the NSF-funded "Catalyst Program" (Mentoring Through Research: Catalyst for Success in the Geosciences).

Supported thesis research projects involve aspects of sedimentology, active tectonics, seismology, and volcanology. Students eligible for the program include African Americans, Hispanics, Native Americans (American Indians and Alaskan Natives), Native Pacific Islanders (Polynesians or Micronesians) and persons with disabilities. Support includes tuition and stipends up to ~\$14,000 per year.

Interested students who meet the eligibility requirements designated by NSF are strongly encouraged to apply. Contact Dr. Jorge Vazquez ([jvazquez@csun.edu](mailto:jvazquez@csun.edu)) for general information. California State University is an EO/AA educator and employer.

Elizabeth Nagy-Shadman  
California State University, Northridge  
[elizabeth.nagy-shadman@csun.edu](mailto:elizabeth.nagy-shadman@csun.edu)

Check out the Teachers for a New Era website: <http://tne.csun.edu/>

---

## GSA Sessions of Interest to Geoscience Educators

Thanks *so much* to Karen Havholm for putting together this list of geoscience education topical sessions for the GSA annual meeting. These sessions are all sponsored or co-sponsored by either GED or NAGT. Submit an abstract to one of these sessions by 11:59 p.m. (Pacific Time) July 11, 2006, online at <http://www.geosociety.org/meetings/2006>. The link to the abstract submittal form is at the top of the page.

### NAGT Sponsored Sessions

**Title:** T43 *Addressing Present and Future Energy, Mineral, and Water Issues in the Classroom: The Need to Prepare Both Educated Citizens and Geoscientists.*

**Sponsor:** National Association of Geoscience Teachers, GSA Geoscience Education Division; GSA Geology and Society Division

**Session Description:** This session will address energy and resource issues in geoscience education. We seek best practices at the classroom, curriculum, and public levels. Possible examples include lab exercises, resource courses, informal education activities, and experiential learning.

**Advocate(s):** Andrew M. Buddington, [abuddington@scc.spokane.edu](mailto:abuddington@scc.spokane.edu) and Eric S. Cheney, [vaalbara@u.washington.edu](mailto:vaalbara@u.washington.edu)

**Title:** T44 *Beyond the Content: Teaching Scientific and Citizenship Skills in the Geosciences* (posters).

**Sponsor:** National Association of Geoscience Teachers, GSA Geoscience Education Division

**Session Description:** Scientific and citizenship literacies help students to succeed academically and to apply their knowledge to society as an active participant. This session seeks ideas and best practices in addressing students' literacy needs within geoscience courses.

**Advocate(s):** Erin Campbell-Stone, [erincs@uwyo.edu](mailto:erincs@uwyo.edu) and James D. Myers, [magma@uwyo.edu](mailto:magma@uwyo.edu)

**Title:** T49 *Building New and Rebuilding Defunct College and University Geoscience Programs for the 21st Century: Challenges and Opportunities, Successes and Failures* (posters).

**Sponsor:** GSA Geoscience Education Division, National Association of Geoscience Teachers

**Session Description:** Focus on the challenges of launching new or extensively rebuilding existing but weakened undergraduate (major and minor) and graduate-level geoscience programs. Contributions encouraged from departments which are actively building or have successfully launched new programs.

**Advocate(s):** Kurt A. Shoemaker, [kshoemaker@shawnee.edu](mailto:kshoemaker@shawnee.edu) and Jeffrey A. Bauer, [jbauer@shawnee.edu](mailto:jbauer@shawnee.edu)

**Title:** T50 *Effective Online Strategies for Teaching Geoscience at a Distance.*

**Sponsor:** GSA Geoscience Education Division, National Association of Geoscience Teachers

**Session Description:** Technology enables geoscience content to be delivered through online lectures and virtual fieldtrips to students unable to access a geoscience course. This session will share effective strategies to provide geoscience instruction in an online environment.

**Advocate(s):** Laura A. Guertin, [uxg3@psu.edu](mailto:uxg3@psu.edu) and Tanya Furman, [furman@geosc.psu.edu](mailto:furman@geosc.psu.edu)

**Title:** T40 *Geohazards—Teachable Moments for Students and the Public: An Illustrated Community Discussion* (posters)

**Sponsor:** National Association of Geoscience Teachers, GSA Geoscience Education Division; GSA Geology and Society Division; Public Policy; GSA Engineering Geology Division

**Session Description:** Natural and human-caused geohazards impact humanity on local, national, and international scales. This session will explore opportunities to inform students and the public about the importance and relevance of geology in light of these events.

**Advocate(s):** David W. Mogk, [mogk@montana.edu](mailto:mogk@montana.edu), Cathryn A. Manduca, [cmanduca@carleton.edu](mailto:cmanduca@carleton.edu), and Barbara Tewksbury, [btewksbu@hamilton.edu](mailto:btewksbu@hamilton.edu)

**Title:** T51 *GK12 (Graduate-K-12) Education: Improving Understanding of Geologic Concepts at All Levels* (posters)

**Sponsor:** GSA Geoscience Education Division, National Association of Geoscience Teachers

**Session Description:** Participants and Principal Investigators of NSF-funded GK12 partnerships between universities and K-12 schools will share the challenges and benefits of sustained interactions between geoscience graduate students, K-12 teachers, and K-12 students.

**Advocate(s):** NJ. McMillan, [nmcmilla@nmsu.edu](mailto:nmcmilla@nmsu.edu) and Dave Mayo, [dmayo@exchange.calstatela.edu](mailto:dmayo@exchange.calstatela.edu)

**Title:** T39 *Innovative Watershed Based Approaches for Integrating Research and Education*

**Sponsor:** GSA Geoscience Education Division, National Association of Geoscience Teachers

**Session Description:** Watershed scale studies are ideal for demonstrating biogeochemical complexity from research and education perspectives. This session will provide overviews of watershed based activities from urban and rural locations in pristine and polluted environments.

**Advocate(s):** Joseph R. Graney, [jgraney@binghamton.edu](mailto:jgraney@binghamton.edu) and Michele Hluchy, [fhluchy@alfred.edu](mailto:fhluchy@alfred.edu)

**Title:** T47 *Learning from Disaster: Using Natural Disasters to Teach GeoScience Concepts, Spatial Understanding, and Temporal Scale*

**Sponsor:** GSA Geoscience Education Division, GSA Engineering Geology Division; National Association of Geoscience Teachers

**Session Description:** Using recent disasters as a starting point to discuss natural causes of catastrophic events, their spatial relationships with the planet, and temporal context of occurrence creates a unique learning environment for students in grades 5-12.

**Advocate(s):** James H. Kirby, [rip@nov9thgroup.com](mailto:rip@nov9thgroup.com)

**Title:** T52 *Preparing Future K–12 Teachers of Earth Science*

**Sponsor:** GSA Geoscience Education Division, National Association of Geoscience Teachers

**Session Description:** How do we ensure that prospective K–12 teachers have a meaningful understanding of the geosciences? This session considers effective methods, courses, curricula, technology, or field programs that enhance the geoscience content knowledge of future teachers.

**Advocate(s):** Heather L. Petcovic, [heather.petcovic@wmich.edu](mailto:heather.petcovic@wmich.edu), Elizabeth Nagy-Shadman, [elizabeth.nagy-shadman@csun.edu](mailto:elizabeth.nagy-shadman@csun.edu), and Michael J. Passow, [michael@earth2class.org](mailto:michael@earth2class.org)

**Title:** T45 *Service Learning and Community Service in Earth Science Courses: Community Involvement in Earth Science Education*

**Sponsor:** National Association of Geoscience Teachers, GSA Geoscience Education Division

**Session Description:** Service learning joins theory with practice and action for academic credit. Community service has a less academic focus. In both, students develop citizenship skills, apply learning to real life projects and strengthen community relationships.

**Advocate(s):** Suzanne O'Connell, [soconnell@wesleyan.edu](mailto:soconnell@wesleyan.edu)

**Title:** T55 *Successes in Professional Development of Earth Science Teachers: Courses, Workshops, Partnerships, and Professional Development Opportunities that Work*

**Sponsor:** National Association of Geoscience Teachers, GSA Geoscience Education Division

**Session Description:** This session features successful programs that enhance K–12 earth science education through teacher education/enhancement programs that focus on any or all of the following: content knowledge, field experience, effective teaching strategies, and exemplary classroom/teacher resources.

**Advocate(s):** Nathalie N. Brandes, [nathalie.n.brandes@nhmccd.edu](mailto:nathalie.n.brandes@nhmccd.edu) and Eric L. Cohen, [geoman2001@yahoo.com](mailto:geoman2001@yahoo.com)

**Title:** T56 *Successful Strategies for Recruiting and Retaining Undergraduate Geoscience Majors*

**Sponsor:** National Association of Geoscience Teachers, GSA Education Division

**Session Description:** Few departments can thrive without making conscious efforts to recruit and retain students. We encourage abstracts that showcase creative and successful strategies for recruitment and retention that can be adapted for use in other departments.

**Advocate(s):** Barbara Tewksbury, [btewksbu@hamilton.edu](mailto:btewksbu@hamilton.edu), Carolyn Eyles, [eylesc@mcmaster.ca](mailto:eylesc@mcmaster.ca), and R. Heather Macdonald, [rhmacd@wm.edu](mailto:rhmacd@wm.edu)

**Title:** T46 *Teaching Hydrogeology in the 21st Century*

**Sponsor:** GSA Hydrogeology Division, National Association of Geoscience Teachers; GSA Education Division

**Session Description:** We encourage abstracts that showcase effective methods of teaching hydrogeology in the classroom, laboratory, and field. This session will also present outcomes from the 2005 workshop Teaching Hydrogeology in the 21st Century (<http://serc.carleton.edu/NAGTWorkshops/hydrogeo/index.html>).

**Advocate(s):** Martin F. Helmke, [mhelmke@wcupa.edu](mailto:mhelmke@wcupa.edu) and Barbara J. Tewksbury, [btewksbu@hamilton.edu](mailto:btewksbu@hamilton.edu)

**Title:** T53 *Teaching Instrumentation to Geoscience Students: Course Design, Objectives, and Presentations*

**Sponsor:** GSA Geoscience Education Division, National Association of Geoscience Teachers

**Session Description:** Geoscience-related instrumentation courses (EMP, SEM, XRD, ion microprobe) are becoming increasingly important for students at all levels. We encourage presentations from faculty who teach these courses, incorporate equipment into their existing curriculum, and from students.

**Advocate(s):** Elizabeth J. Catlos, [catlos@okstate.edu](mailto:catlos@okstate.edu) and George Morgan, [gmorgan@ou.edu](mailto:gmorgan@ou.edu)

**Title:** T54 *Translating Earth: Conceptions Research in Earth Science Education*

**Sponsor:** GSA Geoscience Education Division, National Association of Geoscience Teachers

**Session Description:** This session will bring together researchers to discuss the latest findings in conceptions and conceptual change research in the geological sciences, as well as implications of this research for teaching geology.

**Advocate(s):** Julie C. Libarkin, [libarkin@ohio.edu](mailto:libarkin@ohio.edu)

**Title:** T41 *Using Large Experiments And Programs For Education and Outreach: Examples From EarthScope, the Joint Oceanographic Institutions, and Others*

**Sponsor:** GSA Geoscience Education Division, National Association of Geoscience Teachers

**Session Description:** This session will focus on special issues inherent to E&O in large experiments and programs with particular emphasis on developing and maintaining a high level of public interest and interaction.

**Advocate(s):** John E. DeLaughter, [jdelaughter@earthscope.org](mailto:jdelaughter@earthscope.org) and Leslie Peart, [lpeart@joiscience.org](mailto:lpeart@joiscience.org)

**Title:** T42 *Visualization in the Geosciences*

**Sponsor:** GSA Geoscience Education Division, National Association of Geoscience Teachers; GSA Engineering Geology Division

**Session Description:** New tools are revolutionizing how geoscientists collect, display, and interact with data. Cognitive science is shedding new light on the development of spatial cognitive skills. We encourage papers that address geoscience visualization from both perspectives.

**Advocate(s):** Sarah Titus, [stitus@geology.wisc.edu](mailto:stitus@geology.wisc.edu), Eric Horsman, [eric@geology.wisc.edu](mailto:eric@geology.wisc.edu), and Cathryn Manduca, [cmanduca@carleton.edu](mailto:cmanduca@carleton.edu)

**Title:** T57 *We Can Do Better: Alternatives to the Same Old Lab-Lecture Format in the College Classroom*

**Sponsor:** National Association of Geoscience Teachers, GSA Geoscience Education Division

**Session Description:** Many educators find that traditional science classrooms do a poor job of promoting learning. Speakers in this session will describe innovative alternative pedagogies, activities and scheduling that are exciting and promote student learning.

**Advocate(s):** Dexter Perkins, [dexter\\_perkins@und.edu](mailto:dexter_perkins@und.edu) and Elizabeth King, [emking@ilstu.edu](mailto:emking@ilstu.edu)

### **Geoscience Education Division Sponsored Sessions**

**Title:** T132 *A Visual Showcase for Diverse GIS Applications: A Cornucopia of Case Studies*

**Sponsor:** GSA Geoscience Education Division

**Session Description:** This interdisciplinary session, emphasizing the diverse applications of GIS, showcases broad applications for GIS and creates an awareness for the infusion of spatial concepts across the geosciences from the perspective of both professional and academian.

**Advocate(s):** Richard B. Schultz, [richs@elmhurst.edu](mailto:richs@elmhurst.edu) and Mark R. Hafen, [mhafen@cas.usf.edu](mailto:mhafen@cas.usf.edu)

**Title:** T17 *An Early Involvement of Undergraduates and K7–12 Students in Geological and Environmental Research* (posters)

**Sponsor:** GSA Geoscience Education Division

**Session Description:** This session is intended to provide hands-on and field-based geological/ environmental information to the geoscience community and invites undergraduates and high school students to give poster presentations covering topics ranging from purely geological to environmental.

**Advocate(s):** Nazrul I. Khandaker, [kdaker@york.cuny.edu](mailto:kdaker@york.cuny.edu) and Stanley Schleifer, [schleifer@york.cuny.edu](mailto:schleifer@york.cuny.edu)

**Title:** T18 *Collegiate Watershed Research Projects: Opportunities for Student Learning and Community Involvement*

**Sponsor:** GSA Geoscience Education Division, Council on Undergraduate Research

**Session Description:** Session provides an opportunity for faculty and students engaged in collaborative interdisciplinary watershed studies to share ideas, strategies, best practices and results from projects involving universities and community members in aquatic monitoring and stream restoration.

**Advocate(s):** Kirsten M. Menking, [kimenking@vassar.edu](mailto:kimenking@vassar.edu) and Brannon Andersen, [brannon.andersen@furman.edu](mailto:brannon.andersen@furman.edu)

**Title:** T124 *Forensic Geoscience from the Classroom to the Courtroom*

**Sponsor:** GSA Geoscience Education Division

**Session Description:** A forum for those with investigative experience and classroom experience to share realistic information about the applications of fundamental geoscience to forensic investigation, including environmental forensics. Use of analytical research techniques including XRD, Raman, GPR.

**Advocate(s):** Elisa Bergslien, [bergslet@buffalostate.edu](mailto:bergslet@buffalostate.edu)

**Title:** T60 *Geoscience Advocacy and Communicating with the Public*

**Sponsor:** GSA Geology and Society Division, GSA Geoscience Education Division

**Session Description:** Resources, hazards and the teaching of science are major societal and policy issues. Examples of successful geoscience advocacy and effective communication of geoscience to the public will highlight the essential role of geoscientists in society.

**Advocate(s):** Linda Rowan, [rowan@agiweb.org](mailto:rowan@agiweb.org) and Sarah Andrews, [icewriter@hotmail.com](mailto:icewriter@hotmail.com)

**Title:** T152 *Spreading the Message: New Developments in the Presentation and Visualization of 3D and 4D Geological Data and Processes*

**Sponsor:** GSA Structural Geology and Tectonics Division, GSA Geoscience Education Division

**Session Description:** This session will focus on presentation techniques that effectively illustrate 3D and 4D geologic data and processes, with the goal of stimulating discussion on promising new approaches to visualization that can target a broad audience.

**Advocate(s):** Steven J. Whitmeyer, [whitmesj@jmu.edu](mailto:whitmesj@jmu.edu), Steve Reynolds, [sreynolds@asu.edu](mailto:sreynolds@asu.edu), Ken McCaffrey, [k.j.w.mccaffrey@durham.ac.uk](mailto:k.j.w.mccaffrey@durham.ac.uk), and Jonathan Imber, [jonathan.imber@dur.ac.uk](mailto:jonathan.imber@dur.ac.uk)

Karen Havholm

University of Wisconsin-Eau Claire

---