

September 2007 Newsletter of the AGU Near-Surface Focus Group

1. 2007 Fall AGU Meeting Sessions: Near Surface, Hydrogeophysics and NS cosponsored sessions
2. 2007 Fall AGU Meeting Announcements
  - 2.1: Focus Group Lunch
  - 2.2: NS07 Biogeophysics session student travel support
  - 2.3: NS06 NS Geophysics and Natural Hazards invited speakers
3. Hydrogeophysics Web Site
4. SAGEEP 2008 Online Abstract Submission Website is Open
5. EEGS / Geonics Early Career Award
6. Postdoctoral position: Electromagnetic Biosensors of Metabolic Activity, University of Houston

- 
1. 2007 Fall AGU Meeting, San Francisco 10-14 December

[\(http://www.agu.org/meetings/fm07/\)](http://www.agu.org/meetings/fm07/)

ABSTRACT SUBMISSION DEADLINE: September 6 2359 UT.

Sessions Sponsored by Near Surface Geophysics:

NS01 Near Surface Geophysics General Contributions

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=632>

NS02 Exploration of the Cryosphere Using Near-Surface Geophysical Techniques: Synergism in the International Polar Year

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=245>

NS03 Induced Polarization (IP), Self-Potential (SP), and Seismic-Electric Coupling for Near Surface Applications

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=353>

NS04 Development and Applications of Airborne Methods

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=368>

NS05 Fault Imaging and Seismic Hazard Assessment

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=472>

NS06 Near-Surface Geophysics and Natural Hazards

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=576>

NS07 Biogeophysics

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=229>

NS08 Improved Estimation and Prediction in Earth Science Through Integration of Multiple Datasets and Model Types

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=687>

Hydrogeophysics Sessions:

H04 Information Infrastructure, Soft Computing and Knowledge Discovery Methods for Monitoring, Modeling and Data Management in Hydrology

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=49>

H41 Cold Regions Hydrogeophysics

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=58>

H42 Hydrogeophysics: Linking Geophysical and Hydrological Data

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=374>

H43 Watershed Characterization and Modeling

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=464>

Sessions Cosponsored by Near Surface Geophysics

B05 Biogeochemistry in Polar Environments

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=81>

B06 Mercury Biogeochemistry in Wetlands

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=92>

B16 Geomicrobiology and Environmental Biogeochemistry of Iron and Manganese

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=223>

B27 Frontiers in Biomineralization Research: Processes, Geochemical Signatures and Responses to Global Change

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=394>

GC10 Understanding the Earth with Unmanned Aircraft Systems

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=180>

GC24 Environmental Monitoring: Luxury or Necessity?

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=685>

GP04 New Studies in Electromagnetic Induction

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=302>

GP11 Geomagnetic Field Studies at all Scales Using Satellite, Observatory, Marine, and Aeromagnetic Data

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=610>

H11 Detection and Analysis of Coherent Flow Structures in Geophysical Flows

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=32>

H23 Advancing Hydrologic Predictability in a Changing Environment through Interdisciplinary Synthesis

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=702>

MR09 Diffusion, Defects and Transport Properties in Geomaterials

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=574>

NG08 Active Monitoring in Solid Earth Geophysics

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=460>

S14 Advances in Signal Processing Methods for Seismology

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=14>

S19 Multiple Wave Scattering Across Length Scales in the Earth

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=515>

V07 Magma Fracture in Lava Domes and Conduits

<http://www.agu.org/meetings/fm07/?content=search&show=detail&sessid=101>

---

## 2. 2007 Fall AGU Meeting Announcements

### 2.1: FOCUS GROUP LUNCH:

Section and Focus Group lunches are held on the Tuesday of AGU week.

This December, there will be a Near-Surface Geophysics Focus Group lunch for all NS members and any others who are interested in attending. The cost is \$30, and will be listed on the registration form. Please sign up and join us to talk about the future of our Focus Group: what more could we be doing as a group? what types of sessions should we be planning? new ideas for the Spring Joint Assembly? and how can you get more involved?

Rosemary Knight, AGU NS Focus Group Chair

### 2.2: BIOGEOPHYSICS SESSION STUDENT TRAVEL SUPPORT:

Student travel support for the Fall 07 AGU meeting is available to student first authors (graduate or undergraduate) that could present the results of their research in session 'NS07: Biogeophysics'. The travel support is available from a grant from the National Science Foundation (the support offered is more generous than AGU travel awards!). We are interested in student presentations on a broad range of topics of relevance to the study of the geophysical signatures of microbial processes. We are equally inviting contributions on (1) novel applications of geophysics in geo-microbiological studies, and (2) work on biogeochemical processes that facilitates understanding of the geophysical properties of earth materials. This is the 4th and final NSF funded AGU Biogeophysics special session. Sessions 1-3 ran at the AGU Joint Assemblies from 2005-2007. Four 'AGU Outstanding Student Paper Award' recipients presented their work in these sessions.

Please pass this information onto any of your students that might be in a position to present their work at the 2007 Fall AGU meeting.

Best, Lee Slater (Rutgers-Newark) and Kristina Keating (Stanford)

### 2.3: NS06 INVITED SPEAKERS

Confirmed invited speakers to the AGU Fall 2007 special session 'NS06:

Near Surface Geophysics and Natural Hazards' include Louise Pellerin (Green Engineering, Inc.) and Weston Thelen (Univ. Washington). This interdisciplinary session is co-sponsored by Public Affairs and Seismology.

Conveners: Mark Everett (Texas A&M University), John Louie (University of Nevada-Reno)

---

### 3. Hydrogeophysics Web Site

Please note that the new location for the web site for the Hydrogeophysics Technical Committee of the AGU Hydrology Section is <http://www.hydrogeophysics.org/>

The site contains details of upcoming hydrogeophysics sessions at AGU meetings, details of future conferences and workshops, links to other related activities and postings of current vacancies.

If you would like to include any other material on this site, then please send details to Andrew Binley [a.binley@lancaster.ac.uk]

---

### 4. SAGEEP 2008 Online Abstract Submission Website is Open

The Environmental and Engineering Geophysical Society (EEGS) invites you to submit an abstract for the 21st Annual Symposium on the Application of Geophysics to Engineering and

Environmental Problems (SAGEEP) being held at the Marriott Hotel in downtown Philadelphia, PA April 6-10, 2008.

Abstracts not to exceed 200 words are due no later than September 14, 2007 and may be submitted electronically at <http://www.eegs.org/sageep/index.html>. Abstracts that focus on recent developments in near-surface geophysical methods, innovative uses of geophysics for challenging engineering and environmental problems and case histories are welcome. If accepted, full manuscripts will be due December 14, 2007.

This is also your invitation to submit an abstract for the special sessions listed below. We'll be adding other special sessions, so visit <http://www.eegs.org/sageep/index.html> regularly for updates.

Mark your calendars with these abstract submission dates:

- \* Sep. 14, 2007           Deadline for SAGEEP '08 Abstract Submission
- \* Oct. 19, 2007           Abstract Acceptance Notices Sent
- \* Dec. 14, 2007           Deadline for Full Papers for SAGEEP '08 proceedings

The following are planned special sessions:

- \* Abandoned Mines
- \* Future of Geophysical Technology
- \* Unique Developments in Electrical Resistivity
- \* Marine and Beach Geophysics
- \* Special Challenges in Surface Wave Processing

Abstracts on the following topics are encouraged:

- \* Advances in watershed characterization
- \* Airborne geophysics and remote sensing
- \* Applications of geophysics for the U.S. Army Corp of Engineers
- \* Archaeology and Forensics
- \* Beach assessment and other marine geophysics applications
- \* Biogeophysics: monitoring bioremediation and other applications
- \* Borehole logging, characterization, and rock properties
- \* Characterization of the hyporeic zone
- \* Developments in near-surface seismic reflection and refraction
- \* Electromagnetics and cross-hole geophysics
- \* Fractals and multifractals: geophysical characterization of scale
- \* Geophysics and glaciology
- \* Geotechnical and geophysical case histories in urban environments
- \* Ground penetrating radar: advances and applications
- \* Groundwater resources and aquifer characterization
- \* High-resolution gravity and magnetics for environmental and engineering problems
- \* Mining and geophysics: from exploration to remediation

- \* New developments in surface wave seismic data acquisition and processing
- \* Novel applications of resistivity, IP and SP
- \* Teaching geophysics to non-science majors
- \* Serendipity: geophysical discoveries made by accident
- \* Soils salinity and salt water intrusion assessment
- \* Unexploded ordnance: detection and shallow target discrimination

Visit <http://www.eegs.org/sageep/index.html> to submit your abstract and refer to additional special sessions.

-----

## 5. The EEGS / Geonics Early Career Award

The Environmental and Engineering Geophysical Society and Geonics Limited are pleased to announce that, beginning at SAGEEP 2008, we will initiate the EEGS / Geonics Early Career Award to acknowledge academic excellence, and encourage research in near surface geophysics. The award shall be presented annually to a full time university faculty member who is within ten years post-completion of their PhD, to acknowledge significant and ongoing contributions to the discipline of Environmental and Engineering Geophysics. The recipient may have any specialty that is recognized as part of the environmental and engineering geophysics discipline, and this specialty shall not be restricted to certain departments, colleges, or geographic regions (i.e. international applicants are welcome). A committee of five members (three university faculty, one corporate / consulting representative, and one government laboratory representative) shall be appointed by the EEGS Board, and shall be responsible for selecting the awardee.

The award shall carry the following benefits:

- 1) Free registration to the SAGEEP conference at which the award will be presented
- 2) A plaque, suitable for display
- 3) A \$1000 USD cash award
- 4) The awardee shall be allotted a 45 minute time slot to present his /her research and vision at the SAGEEP conference
- 5) The citation and, if available, the awardee's presentation, will be published in FastTIMES and distributed to cooperating societies The awardee will be expected to be present during the entire (Sunday evening through Wednesday afternoon) core of the conference.

Nominations will be received by Dr. Roger Young, Chair of the Early Career Award Committee, School of Geology and Geophysics, Sarkeys Energy Center, University of Oklahoma, 100 E. Boyd Street Norman, OK 73019.

Electronic submissions are also welcome, to be sent to [ryoung@ou.edu](mailto:ryoung@ou.edu).

Nomination packages should consist of the following documents: 1) A comprehensive vitae for the candidate; 2) A letter of recommendation outlining the candidate's qualifications for the award; 3) Copies or PDF files of three representative publications. The deadline for

submission of nominations shall be October 15, 2007. Questions regarding the award should be sent to Dr. Young at the address listed above.

---

6. Postdoctoral position: Electromagnetic Biosensors of Metabolic Activity, University of Houston

The project will focus on sensors to measure activity of mitochondrial respiratory chain complexes, with an eventual goal of developing technologies to detect mitochondrial dysfunction in patients suffering from obesity, type-2 diabetes, cardiovascular disease, and cancer. This is a joint project between the University of Houston (Dept. of Physics, Texas Center for Superconductivity, and Dept. of Biology & Biochemistry) and The Methodist Hospital (Diabetes, Obesity, & Lipids; Dept. of Medicine). Aims include detection of enzyme complex activity in whole cells & mitochondria by measuring harmonics generated in response to ac electric fields, studies of light-activated responses of photosynthetic model organisms, and detection of possible metabolic dysfunction in adipose tissue from obese and other at-risk patients. Experience in biological physics, bioengineering, biochemistry, cell biology, electrophysiology, medicine, or related areas will be advantageous.

Candidates should be highly motivated, enthusiastic, and capable of working and thinking independently.

Candidates should submit a full CV, including the contact information of three referees, to: Prof. John H. Miller, Jr., University of Houston, Dept. of Physics, Ste. 617 SR1 Bldg., 4800 Calhoun Road, Houston, Texas 77204-5005, USA; email: [jhmiller@uh.edu](mailto:jhmiller@uh.edu). Additional informal inquiries can be made to: Dale J. Hamilton, MD, The Methodist Hospital, [djhamilton@tmhs.org](mailto:djhamilton@tmhs.org). Closing date: November 30, 2007 or until position is filled. The University of Houston is an equal opportunity/affirmative action employer. Minorities, women, veterans, and persons with disabilities are encouraged to apply.

---

AGU NS-Focus Group Web Page: [http://www.agu.org/focus\\_group/nsg/index.html](http://www.agu.org/focus_group/nsg/index.html)

To contribute material to the NS-letter e-mail before the first of the month to:

George Tsoflias    [tsoflias@ku.edu](mailto:tsoflias@ku.edu)    <<mailto:tsoflias@ku.edu>>

**GUIDELINES FOR SUBMISSIONS:**

All members are welcome to submit content of interest to the NS community. Please keep messages brief and provide contact information and (if available) a hyperlink for additional information. AGU requests formatting of e-mail messages to be as simple as possible (no bold characters (use ALL CAPS instead), no color font, or other special formatting of text and

paragraphs) to ensure compatibility with e-mail recipients outside the US. Do not submit e-mail attachments for distribution.