

June 2009 Newsletter of the AGU Near-Surface Focus Group

1. Call for 2009 Fall AGU Meeting Session Proposals: Submission Deadline June 12
2. Report from 2009 Joint Assembly in Toronto
3. Outstanding Student Paper Awards in NS, 2008 Fall AGU Meeting: Vanessa Mitchell and Elliot Grunewald
4. First Announcement: 2010 Joint Assembly Meeting of the Americas, 08-13 August, Foz do Iguassu, Brazil
5. IAGA meeting, August 23-30, 2009, Sopron, Hungary
6. Agricultural Geophysics Conference, September 8-10, 2009, Albuquerque, New Mexico
7. Society of Exploration Geophysicists calls for papers:
 - 7.1 TLE Special Issue on Hydrogeophysics: Paper Submissions by June 18
 - 7.2 GEOPHYSICS call for papers: Hydrogeophysics - Electric and Electromagnetic Methods. Paper Submissions by July 31
8. Position announcement: Geophysicist, EPA Las Vegas Lab

Recent announcements of interest to the NS community (conferences, academic positions, graduate student opportunities etc.) can be found at the AGU NS-Focus Group Web Page: <http://nsg.agu.org>

AGU NS Membership as of January 2009:

Primary affiliation: 620 members; Secondary: 1754 members

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1. Call for 2009 Fall AGU Meeting Session Proposals: Submission Deadline June 12 (from Chet Weiss, Fall Meeting NS Program Representative)

The June 12 deadline for proposing sessions at the 2009 Fall Meeting (December 14-18, San Francisco) is fast approaching. Please consider proposing a Near Surface (NS) session. A strong set of sessions will help NS maintain a significant presence at the Fall Meeting! It is also the perfect meeting to organize co-sponsored sessions with other disciplines that are well-attended at Fall AGU: Tectonophysics, Seismology, Volcanology, Mineral & Rock Physics, Biogeosciences, Cryosphere, Geodesy, Geomag & Paleomag, Education, Hydrology, etc.

Submitting a session proposal is easy - just requiring a short abstract and the contact details of a minimum of two conveners. The web site is http://www.agu.org/meetings/fm09/program/session_proposals.php.

2. Report from 2009 Joint Assembly in Toronto (from Lee Slater and Louise Pellerin)

The 2009 Joint Assembly in Toronto was well attended by our NS community enjoying several NS sessions as well as sessions sponsored by the Hydrogeophysics Committee of Hydrology and co-sponsored by NS. Of interest to our community was a novel 'Back to Basics' session on resistivity inversion, and sessions on advancing electrical and electromagnetic methods in the near surface and near surface geophysics in civil engineering. A total of 44 presentations were given in the NS sessions, with an additional 24 presentations in the Hydrogeophysics

sessions. Our members also participated in the NS Luncheon and a Joint Hydrogeophysics Committee/NS Focus Group/Canadian Exploration Geophysical Society (KEGS) social event (more details below).

The Near Surface Geophysics Luncheon:

Although the food was poor, water lacking and seating cramped, 30+ members enjoyed the company at the NS Luncheon. NS Chair Lee Slater summarized the membership growth and NS activities for the future. Vice Chair Louise Pellerin announced the preliminary results of the logo competition. Past Chair Rosemary Knight explained plans for restructuring AGU leadership and how it will likely impact the NS Focus Group and its members. Most importantly, the NS Executive Committee received valuable feedback from its members in a lengthy discussion that rounded up the luncheon. The NS Executive Committee thanks all those that participated in the luncheon and apologizes again for the food being worse than that served on the International Space Station. The Executive Committee will be passing its concerns about the quality of the luncheon served onto the Director of AGU Meetings. We very much hope the bad food and seating at the 2009 Joint Assembly will not dissuade members from attending future luncheon events.

Notes from the NS Executive Committee Meeting at the Joint Assembly:

The NS Exec Comm meeting was attended by Lee Slater (Chair), Louise Pellerin (Vice-Chair), Rosemary Knight (Past Chair), Brenda Weaver (AGU Meetings Director) and Jan van der Kruk (President Elect of the Near Surface Geophysics Section (NSGS) of Society of Exploration Geophysics (SEG)). The meeting largely focused on exploring ways to enhance collaborations between NSGS and AGU-NS. The NS Exec Comm also conveyed its concerns about scheduling conflicts not only between Hydrogeophysics Sessions and NS Sessions, but also between individual NS sessions to Brenda Weaver.

The Joint Hydrogeophysics Committee/NS Focus Group/KEGS:

The Canadian Exploration Geophysics Society (KEGS) showed us real northern hospitality at the Joint Hydrogeophysics Committee/NS Focus Group social by sponsoring ample servings of a range of appetizers that made an excellent companion to the beer served at the Overdraft Irish Pub. Although a number count was not taken, the part of the pub reserved for this social was packed solid, and we estimate over 40 members attended this event.

NS Logo Competition

The results of the votes received on the NS Logo were presented to the attendees of the Near Surface Geophysics Luncheon held at the Joint Assembly. A total of 18 logos were submitted in the competition, with two finalist tied as most popular based on the ~40 votes received. The NS Executive Committee will vote soon to decide between the two finalists, and the new logo will appear on the website

3. Outstanding Student Paper Awards in NS, 2008 Fall AGU Meeting (from Chet Weiss)

Vanessa Mitchell and Elliot Grunewald, from School of Earth Sciences, Stanford University, are recipients of the Near Surface Geophysics (NS) Outstanding Student Paper Awards at the 2008 AGU Fall Meeting.

Vanessa's work, titled Rational Experimental Design for Electrical Resistivity Imaging (NS43b-1183), explored the application of fast forward modeling techniques and prior geologic information to optimize the electrode configuration such that electric current is focused in the region of interest. Because of the method's low computational cost, it may be used for real-time modification of experiment design as new information is acquired.

In contribution NS43b-1193 -- Estimating Pore Properties from NMR Relaxation Time Measurements in Heterogeneous Media, Elliot Grunewald describes a suite of laboratory experiments aimed at isolating the effect the pore-scale coupling in T2 nuclear magnetic resonance data. Specifically, he finds that for small grains or for roughly even distribution of mineral concentrations, the T2 signature is monomodal, whereas increasing grain size or skewing the mineral concentrations leads to a bimodal T2 signature which more closely reveals the heterogeneity of the system.

Congratulations to Elliot and Vanessa for their outstanding work!

4. First Announcement: 2010 Joint Assembly Meeting of the Americas, 08-13 August, Foz do Iguassu, Brazil (from Juan Lorenzo, JA 2010 NS Program Representative)

The Near Surface Focus Group (NSFG) is a new and dynamic division of AGU that investigates the complex nature of near-surface geosystems. The Spring Joint Assembly (JA) has always been an exciting meeting for the NSFG. In 2010 the JA will be the Meeting of the Americas to be held in Foz do Iguassu, 08-13 August 2010, Brazil. Join us in this wonderful opportunity to tap the great diversity of experience of the American continents and develop professional collaborations with neighbors. It is also an excellent opportunity to travel to a beautiful, friendly part of the world and visit the Iguazu National Park and the Iguassu Falls.

In late fall we will begin to accept proposals for sessions, but start thinking about it now. Contact a colleague to organize a session with a north-south counterpoint. Students are encouraged to collaborate and develop a session. Information about the meeting can be found at <http://www.agu.org/meetings/ja10>. If you have any questions or suggestions, please contact Juan Lorenzo (gllore@lsu.edu).

5. IAGA meeting, August 23-30, 2009, Sopron, Hungary (from Niklas Linde)

The next IAGA meeting is planned for August 23-30, 2009, in Sopron, Hungary: <http://www.iaga2009sopron.hu/> The IAGA Early Registration deadline has been extended to June 15th. Early registration is 370 euro up to June 15, from June 16 to August 22 it is 410 euro, and on-site registration is 450 euro, so it's well worth registering now!

The following session might be of special interest:

* I04. THUR ALL DAY: Near surface and environmental studies using electromagnetic induction The schedule for the EM sessions is almost fixed, and is:
I02. MON AM: Magnetospheric processes and their consequences for MT Response Functions I03. TUE AM: Continental Lithospheric formation and deformation - In honour of Toni Ádám's 80th anniversary I06. TUE PM: Crustal tectonic processes constrained by electromagnetic observations I07. WED ALL DAY: EM modeling and inversion I04. THUR ALL DAY: Near surface and environmental studies using electromagnetic induction
I05+I08. FRI AM: Deep mantle structure imaged by electromagnetic I05+observations using long-period MT, cables and satellites - In memory I05+of Ulrich Schmucker (1930-2008)
I08. FRI AM: EM studies in the ocean - Joined with Session I05 V02. MON PM: Geomagnetic observatory practice, instrumentation and network V05. TUE AM: Improved modeling of the lithospheric magnetic field V04. THURS ALL DAY: Application, history and evolution of geomagnetic indices V01. FRI AM: Connecting space and ground-based magnetic data for scientific benefit V06. SAT AM: Tectonic interpretation of satellite, air-borne, ground and marine geomagnetic data

6. Agricultural Geophysics Conference, September 8-10, 2009, Albuquerque, New Mexico (from Barry Allred)

The "Bouyoucos Conference for the Advancement of Geophysical Technologies Applied to Agroecosystems" will be held Sept. 8 - 10, 2009 at the Hotel Albuquerque in Albuquerque, New Mexico. The conference will bring together participants, with agricultural and non-agricultural backgrounds, who have interest/expertise in geophysical technologies (i.e. resistivity, electromagnetic induction, ground penetrating radar, seismic, magnetometry, self-potential, etc.). New geophysical equipment sensors, field survey procedures, data analysis methods, and applications are to be evaluated in regard to their potential use within agricultural landscapes. The conference program will promote the advancement of agricultural geophysics through special topic sessions having invited speaker presentations followed by opportunities for audience discussion and feed-back. Additionally, the latest agricultural geophysics research will be presented in a poster session. Conference products will include a published proceedings, initiation of research/outreach collaboration groups, and development of a white paper detailing the most promising directions for progress in agricultural geophysics. The Hotel Albuquerque, where the conference is being held, is a landmark hotel located within walking distance of the museum quarter and all the restaurants, shops, and galleries of the "Old Town" historic district. More detailed information (conference registration, conference abstract submission, and hotel reservations) can be obtained by visiting the conference website (www.ag-geophysics.org) and by contacting the conference coordinators, Barry Allred (Barry.Allred@ars.usda.gov), Mary Collins (mec@ufl.edu), or Hamid Farahani (hfaraha@clermson.edu).

7. Society of Exploration Geophysicists calls for papers

7.1 TLE Special Issue on Hydrogeophysics As many of you are aware SEG's The Leading Edge (TLE) publishes special sections each month highlighting emerging or active areas of applied geophysics. Coming in October the near surface community will have the opportunity to enlighten the entire geophysical community on the high quality and innovative nature of their work in hydrogeophysics. A hydrogeophysics special section is scheduled for the October 2009 issue of TLE. The deadline for submitting papers to be considered is June 18, 2009. If you have any questions, or would like to submit a paper for consideration, please contact Rick Miller rmiller@kgs.ku.edu

7.2 GEOPHYSICS call for papers

SEG invites papers on the topic of "Hydrogeophysics - Electric and Electromagnetic Methods" for publication in the July-August 2010 special section or supplement of GEOPHYSICS.

[http://www.seg.org/SEGportalWEBproject/portals/SEG Online.portal? nfpb=true& page Label=pg_gen_content&Doc Url=prod/SEG-Publications/Pub-Geophysics/Pub-Geo-Overview/Special-Sections/hydrogeo.htm](http://www.seg.org/SEGportalWEBproject/portals/SEG%20Online.portal?nfpb=true&pageLabel=pg_gen_content&DocUrl=prod/SEG-Publications/Pub-Geophysics/Pub-Geo-Overview/Special-Sections/hydrogeo.htm)

Our principal aim is to review the theories of these techniques and their applications on various scales and within different geologic settings. With this special issue, we hope to foster a knowledge transfer and cross-fertilization among the different communities. Although we focus on electric and electromagnetic methods, including self-potential, induced polarization, nuclear magnetic resonance, the various EM methods, and ground-penetrating radar, we encourage related contributions, such as from electroseismic and seismoelectric methods. In addition, we are welcoming developments of new techniques for an improved characterization and monitoring of the shallow subsurface and groundwater-related processes, including those for biogeosystems.

Interested authors should submit their manuscripts for review no later than 31 July 2009. In addition, the special section/supplement editors would like to receive a provisional title and list of authors as soon as possible.

For specific questions, please contact the special section/supplement editors Jan van der Kruk (j.van.der.kruk@fz-juelich.de), André Revil (arevil@mines.edu), and Evert Slob (e.c.slob@tudelft.nl).

8. Position announcement: Geophysicist, EPA Las Vegas Lab

The U. S. Environmental Protection Agency's Office of Research and Development, National Exposure Research Laboratory (NERL) is seeking to hire a qualified EcoGeoPhysicist in the Environmental Sciences Division, Characterization and Monitoring Branch. This position, Announcement # RTP-DE-2009-0136 (www.usajobs.gov), for an EcoGeoPhysicist is located in Las Vegas, NV. This position is also being announced under Merit Promotion procedures under announcement number RTP-MP-2009-0310. To be considered under multiple announcements, applicants must apply separately under each announcement.

The U.S. EPA Environmental Sciences Division (ESD) in Las Vegas, NV seeks a geophysicist to become part of a group researching the geophysical response to contamination and remediation in the near surface. ESD is looking to complement existing researchers with a person showing education and experience in surface and downhole field and laboratory geophysical equipment, application, processing,

and data analysis. Additional strengths and/or experience in airborne geophysical data collection, analysis, or interpretation is also a plus. This is a permanent, full-time position. U.S. citizenship is required. Candidates must meet the required education and/or experience as described in the announcement. Salary ranges from \$46,625 to \$73,329 and is commensurate with qualifications. The selected candidate will be eligible for a full benefits package, including paid relocation, health insurance, life insurance, retirement and vacation and sick leave.

If you are already registered at USAJobs, access the vacancy announcement through Registered Users. Otherwise, select New Users and complete the registration process. The vacancy announcement is located in the section "Any Qualified Applicant." The announcement is open from May 19, 2009 through June 10, 2009. Application materials must be submitted online by the closing date. You will need to submit the additional documentation described in the full text vacancy announcement (i.e., a copy of your college transcript or a list of college courses including the title, credit hours, and grade) to be considered. The U.S. EPA is an Equal Opportunity Employer

To contribute material to the NS-letter send an e-mail to:
George Tsoflias tsoflias@ku.edu

DEADLINE: Material must be received 2 full business days prior to the first of each month.

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). E-mail attachments cannot be distributed.