

June 2008 Newsletter of the AGU Near-Surface Focus Group

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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/>

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1. Joint Assembly in Fort Lauderdale (Rosemary Knight)

A huge thank you to all who contributed to the Near-Surface program -Lee Slater our program rep, and those who convened and had presentations in the oral and poster sessions. We had our Near-Surface lunch, now a regular event at the AGU meetings, and started thinking about a new format for our NS portion of the meeting next spring (more in the next newsletter). A new feature at the meeting was a mini-workshop demonstrating new geophysical tools and software. Mark Grasmueck and his team had their 3D GPR unit imaging the sidewalk, Fred Day-Lewis and Roy Henderson had fiber optic distributed temperature sensors in the fountain outside the conference center, and Remke Van Dam showed us how to make our own inexpensive multi-electrode resistivity cables. It was a very interesting and informative two hours. Thanks again to all who continue to support and contribute to our Focus Group.

2. Call for Fall AGU Session Proposals: Submission Deadline June 13

The Near-Surface Geophysics presence at Fall Meetings has grown each year. Please consider proposing a Near-Surface Geophysics session for the Fall 2008 meeting! The deadline is June 13. The link is http://www.agu.org/meetings/fm08/program/program_main_SessionProposal.php

Sarah Kruse

3. Do You Want to Organize a Chapman Conference?

If so, please contact the current NS Focus Group Chair Rosemary Knight rknight@stanford.edu. AGU has set the nominal goal of having one Chapman Conference per year for each Section, as part of the mission of AGU. They therefore invite each Section or Focus Group to identify possible conference topics, and scientists that might be interested to propose and organize a Chapman Conference relevant to their section. See the AGU web site for more information about Chapman Conferences at <http://www.agu.org/meetings/chapman.html>

Rosemary Knight

4. Early Career Faculty Travel Support for the Chapman Conference on Biogeophysics:

The AGU Chapman Conference on Biogeophysics (<http://www.agu.org/meetings/chapman/2008/fcall/>) will be held October 13-16 in Portland, Maine. As a result of a generous grant from the National Science Foundation we anticipate providing 35 awards to support the full travel/attendance costs of graduate students and early career faculty (less than 7 years from graduation of PhD degree) working in the interdisciplinary field of Biogeophysics to participate in this Chapman Conference. An application form can be requested from Lee Slater (lslater@andromeda.rutgers.edu) and must be returned to Estella Atekwana (estella.atekwana@okstate.edu) by July 21, 2008. An abstract describing a presentation to be made at the conference must also be submitted by July 21, following the guidelines that can be downloaded at the meeting website.

5. Submit your nomination for a 2008 AGU Fellow in Near Surface Geophysics

Each year AGU invites nominations for the election of members to the rank of Fellow. About 100 nominations/year reach the Fellows Committee through the AGU Sections and Focus Groups and about half of those are elected. The number of Fellows is limited to at most 0.1% of the entire AGU membership, which makes this honor very prestigious.

The deadline for nomination of AGU Fellows is July 1 and the instructions for nominating a Fellow can be found at <http://www.agu.org/inside/fellguides.html>

Nominations for Fellows listed with Near Surface Geophysics as their affiliation will be reviewed by a combined Focus Group Joint Fellow Committee who will send on recommendations to the Union Fellows Committee.

Lee Slater

6. GSA Session on Hydrogeophysics - Abstracts Due June 3

There is a GSA Session this year which may be of interest entitled "Hydrogeophysics: Characterization and Monitoring of Subsurface Parameters and Processes". We encourage contributions from lab- and field-scale experiments, theoretical research, and case studies. The meeting is 5-9 October 2008 in Houston, Texas.

Abstracts are due by June 3, and can be submitted here:

<https://www.acsmeeetings.org/programs/technical/>

This session is listed under Hydrogeology, or under call number T160.

Hope to see you in Houston,
Kamini Singha, Fred Day-Lewis, Adam Pidlisecky

7. EIGG Symposium on Applied Geophysics and Contaminated Land, 27-28 August 2008, University of Strathclyde

The Environmental and Industrial Geophysics Group (EIGG), The Geological Society of London, is organizing a two-day workshop on Applied Geophysics & Contaminated Land, to be held on 27-28 August 2008 at the University of Strathclyde, Glasgow, UK. This event aims to identify the state of the practice and science in geophysical site assessment and monitoring of contaminated land, bringing together and thus fostering communication between the international applied geophysics and contaminated land communities. Oral and poster presentations will cover all aspects of geophysical site assessment and monitoring of contaminated land. All contributions from industry, government and academia are welcome. Keynote speeches will be given by Professor John Reynolds, Managing Director of RGS Ltd. Please consult the event website at <http://www.ce.strath.ac.uk/events/event.asp?ev=3>

for further details as well as abstract submission and registration. Updated speaker and poster programmes will be posted in the website at regular intervals.

Please direct any queries to Bernd Kulesa at b.kulesa@swansea.ac.uk (Chairman of the EIGG) or philippe.sentenac@strath.ac.uk (Chief Organizer at the University of Strathclyde).

8. SEG 2008 Meeting Update

The Near Surface Geophysics Section (NSGS) of the SEG was ecstatic to receive so many quality abstracts submitted for the annual meeting and appreciate the work the reviewers did to put together a very interesting technical program. The Annual Meeting and Technical Program run from Nov 10 - Nov 14, and the NSGS is scheduled to have a full docket from Monday thru Friday. The SEG Forum, sponsored by the NSGS, kicks off the technical program on Monday morning and is titled "Managing our Groundwater Resources for the Future", further information is provided below. Following the forum, there are 6 NSGS sessions between Monday afternoon and Thursday morning covering a broad spectrum of near surface geophysical methods and applications, including 2 special sessions, Hydrogeophysics in Practice and Near Real-Time UXO Discrimination. A jointly sponsored NSGS and EEGS Post-Convention workshop on Friday titled "Induced Polarization: Research and Recent Advances in Near Surface Applications" concludes the technical program, further information below.

SEG FORUM: The increasingly important topic of groundwater management is the focus of the Society of Exploration Geophysicists Executives Forum, "Managing our Groundwater Resources for the Future," the leadoff event at the SEG annual meeting, to be held in Las Vegas, Nevada, in November.

The forum, scheduled for November 10 and sponsored by the SEG Near-Surface Geophysics Section, will focus on current and future challenges in groundwater resource management locally, nationally, and internationally and the potential role geophysics can play to help address those challenges. Participants will explore the reasons why groundwater resource management is becoming increasingly important, not only to sustain all living organisms but also for oil, gas, mineral, and geothermal resource exploration, energy production, and CO₂ sequestration.

Robert Jacob

9. Induced Polarization: Research and Recent Advances in Near Surface Applications, EEGS-NSGS Workshop, 14 Nov. 2008, SEG Annual Meeting, Las Vegas, Nevada

Scientists and engineers will come together to share research and application of induced polarization (IP) to near-surface applications including environmental, hydrological, and engineering applications such as infrastructure assessment. The workshop will begin with a short historical/tutorial discussion of IP, followed by technical sessions on:

- a) Recent Research in IP Data Acquisition
- b) Rock Properties, Theory and Laboratory Studies of IP
- 3) Inverse Modeling and Imaging of IP Data
- 4) Near Surface Applications of IP

The workshop will conclude with a discussion and summary session.

Co-Organizers:

Esben Auken (The HydroGeophysics Group, University of Aarhus, esben.auken@geo.au.dk)

Douglas J. LaBrecque (Multi-Phase Technologies, LLC, dlabrecque@mpt3d.com)
Lee Slater (Rutgers University-Newark, lslater@andromeda.rutgers.edu)

10. Positions: Post-Doctoral and PhD

10.1 Two Postdoctoral Positions in Applied, Engineering, and Environmental Geophysics, ETH Zurich

The Applied and Environmental Geophysics (AUG) Group at ETH (Swiss Federal Institute of Technology) in Zurich has openings for two gifted young geophysicist at the post-doctoral level. The appointments will be for an initial period of two years. Subject to good performance and funding, one of the positions may be extended for an additional two years. We seek excellent scientists who have expertise and interests in theoretical and/or practical aspects of applied, engineering, and environmental geophysics (including hydrogeophysics). The successful candidates will be expected to: (i) initiate and conduct their own research projects, (ii) co-supervise undergraduate- and graduate-level thesis projects, and (iii) contribute to the teaching of applied, engineering and environmental geophysics courses. Furthermore, they will participate in the teaching of a recently launched joint MSc degree in Applied Geophysics with colleagues at the Technical University of Delft (TUD) and the Aachen University of Technology (RWTH). Good knowledge of English is essential and it would be an advantage, although not essential, to have a working understanding of German. At the time of appointment, the successful candidate must have a doctoral degree in geophysics or related subject. Information on AUG's research activities can be found at <http://www.aug.geophys.ethz.ch/> and the joint MSc degree at <http://www.idealeague.org/geophysics/>.

To apply please post or email your resume together with the names, telephone numbers, and e-mail addresses of two referees to Professor Alan G. Green, Institute of Geophysics, ETH-Zürich, CH-8093, Zürich, Switzerland, green@aug.ig.erdw.ethz.ch. Deadline for receipt of applications is June 30, 2008.

10.2 Postdoctoral Research Associate in Environmental Geochemistry/ Biogeophysics, University of Leeds

University Grade 6 (£22332 - £26,666)

The PDRA appointment is to work on a Leverhulme Trust funded project titled "Electrical Monitoring of Biostimulation to Remediate Subsurface Contamination" with Dr Jared West, Dr Katherine Morris and Dr Sam Shaw in the School of Earth and Environment, University of Leeds. The project will also involve collaboration with Dr Bernd Kulesa at the University of Swansea and Dr Joe Small from Nexia Solutions (www.nexasolutions.com). The overall goal of this project is to provide a coherent physical explanation of the ability of soil- and groundwater- cleaning microorganisms to produce electrical signals, and to identify the potential to use such signals to monitor biostimulation cleanup operations. This will be achieved by

combining existing laboratory microcosm approaches to well characterized sediments from the Sellafield nuclear site, Cumbria, UK, with measurement of electrical signals generated under a range of geomicrobiological conditions and characterization of the system using a range of advanced microanalytical techniques. The understanding of underlying mechanisms will then be used to develop the theoretical framework for these biogeophysical processes.

The results of the work are expected to have wide application in monitoring strategies in the environment, and in other areas where the same fundamental physical processes operate, such as the development of microbial fuel cells as a future energy source.

For full details of the position and person specification please see

<http://www.see.leeds.ac.uk/vacancies/index.htm>

Extensive training will be provided in new techniques as required.

This position is for 2 years and is available from September/October 2008. Closing date May 30th 2008. Interviews will be held in June/July 2008.

Informal enquiries to Dr Jared West, School of Earth and Environment, j.west@see.leeds.ac.uk; tel. +44 (0)113 343 5253.

To apply on line please visit <http://www.leeds.ac.uk> and click 'jobs'.

Application packs are also available from Mrs Kate Higham, School of Earth and Environment, EC Stoner Building, tel (0113) 343 5201, email k.higham@earth.leeds.ac.uk.

10.3 One Postdoctoral Position and 2 PhD Positions in Hydrogeophysics:

Surface Water - Groundwater Interaction and Contaminant Transport, Hydrogeophysics Group, Århus University, Denmark

The Technical University of Denmark, Department of Environmental Engineering Applications are invited for 2 funded PhD scholarships in hydrogeophysics. Funding is available for three years from the Danish Strategic Research Council through the Riskpoint project. Annual salary starts at 40,000 EUR plus pension/holiday pay. The Riskpoint project aims to develop a complete risk assessment tool that can be used to identify and prioritize clean up and management of point sources of contamination to groundwater. Water-borne contaminants are transported across the different compartments of the hydrological cycle. The EU water framework directive emphasizes the continuity of water and contaminant fluxes across the groundwater-surface water interface. Non-invasive geophysical techniques offer a wide spectrum of innovative technologies to map the parameters governing water flow and solute transport at the groundwater - surface water interface. This project will focus on a well-instrumented Danish field site and will implement different 4D geophysical monitoring techniques (resistivity imaging/IP, TDEM, MRS) to set up and constrain detailed reactive contaminant transport models.

For these positions we seek young researchers (MSc in Sciences or Engineering) with a strong mathematical background and interest in geophysics and hydrological modeling. We expect good communication skills, both verbally and in writing and willingness to travel. For the post-

doctoral position (based at Århus University), experience in resistivity /IP methods or MRS, field experience and project management skills are advantageous. For the PhD position at Århus University, experience with the MRS method is an advantage. The PhD position at DTU requires a strong background in numerical flow and contaminant transport modeling.

Please send an application and CV plus contact details of 2 references by email to Associate Professor Esben Auken (esben.auken@geo.au.dk) and Associate Professor Peter Bauer-Gottwein (pbg@er.dtu.dk). The application will stay open until August 1st, 2008. The positions will be filled as soon as suitable candidates are identified. Funding is available for an immediate start but the starting date is negotiable.

For more information, please contact Esben Auken or Peter Bauer-Gottwein. See also www.hgg.au.dk and www.env.dtu.dk.

10.4 Three Ph.D. positions in Applied Geosciences and Geophysics, University of Leoben

The University of Leoben has openings for three Ph.D. positions in the frame of a doctorate programme of the University Centre for Applied Geosciences in Styria (UZAG). The appointments will start in October

2008 and last for a period of three years. Applications are invited from outstanding graduate students holding a master/diploma degree or equivalent in a natural scientific/technical branch. Interested candidates must submit their application including a research proposal to any subject within the main research field of the Department for Applied Geosciences and Geophysics (Geogenic Resources: Formation -Prospection - Utilization) by 30th May 2008. For details concerning the programme, application- and review process, areas of research and infrastructure, please visit our homepage (<http://www.unileoben.ac.at/uzag>) or contact the programme coordinator (robert.scholger@unileoben.ac.at).

To contribute material to the NS-letter 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). Do not submit e-mail attachments for distribution.