

June 2011 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>

AGU NS Membership as of June 2011:

Primary affiliation: 740 members; Secondary: 2591 members

1. Announcement from NSFG Chair Louise Pellerin

Dear Members,

AGU science is organized as vertical disciplinary Sections and horizontal cross-disciplinary Focus Groups (FG)– at least that was the original design. The Council is comprised of Section presidents and president elect. and FG chairs and co-chairs. Work to reorganize the Council, the Union’s governing body of science, continues through conference calls, blogs and a meeting scheduled for late summer/early fall.

Presently the Focus Groups function as small Sections. Should NS apply to be a Section or should we work on becoming a true cross-disciplinary entity? To be effective at the latter would mostly like entail the NS FG group lessening our identity to further science of the whole. Both approaches have their strengths & weakness. There are many ramifications including how sessions are organized at the Fall meeting. What do members of the NS FG want? We will be putting together a poll in the next few months to get member feedback – think about it.

For many of us field season is starting – I wish you high-quality data, safe travels, and good fellowship

Louise Pellerin
NSFG Chair

2. Nominations for SEG Honorary Lecturer in Near-Surface Geophysics

The Honorary Lecture Program, previously known as the Regional Lecture Program, is a companion program to the long-established SEG Distinguished Lecture Program. The goals are similar:

- 1) Recognize an individual's contributions to advancing the science and technology of geophysics.
- 2) Foster a sense of community amongst geophysicists by providing opportunities for local meetings and exchange of ideas.
- 3) Encourage students by providing the opportunity to discuss scientific and career issues with a leading expert.

The Honorary Lecture Program in Near-surface Geophysics is the first topically-based lecture program; the HL has historically been geographically based. Any topic applicable to near-surface geophysics is of interest. The HL is expected to commit the time to effectively present ten to twelve presentations at Affiliated and Associated Societies and Student Chapters

Visit <http://www.seg.org/education/lectures-courses/honorary-lecturers> for program description and contact Louise Pellerin (pellerin@ak.net) to prepare a nomination

3. Limits to the Anthropocene: What are the boundaries of human intervention into nature? (from Corinna Lüthje)

International Symposium
September 22-24, 2011
KlimaCampus, University of Hamburg, Germany.

The symposium focuses on the social, ethical and natural boundaries of human interventions into nature. Participants will discuss the characteristics, effects and limits of such interventions as well as the challenges they pose for science and society. It brings together experts from natural and social sciences, economists, environmental activists, and others and provides a platform for an interdisciplinary discussion. The symposium is organized in six panels, focusing on: Mineral Resources; Land and Water Use; Ecosystems and Biodiversity; Climate Change and Climate Engineering; Energy Generation and Consumption; and Geohazards and Natural Disasters

Confirmed keynote speakers are Paul J. Crutzen, Peter Hennicke, Armin Reller, Shenggen Fan, Christine von Weizsäcker, Jochen Zschau, and Hartmut Graßl.

For more information about the symposium, its location as well as a preliminary programme visit www.klimacampus.de/anthropocene.html

Please forward this invitation to potentially interested colleagues.
With kind regards,
Corinna Lüthje, Mike S. Schäfer, Jürgen Scheffran

4. Reminder: IWAGPR, 6th International Workshop on Advanced Ground Penetrating Radar, June 22 – 24, Aachen, Germany (from Jan van der Kruk)

IWAGPR2011 is organized by Jan van der Kruk (Research Center Jülich), Klaus Reicherter (RWTH Aachen), Sebastien Lambot (UCL Louvain) and sponsored by IGM GmbH / IDS Pisa, 3D Radar, GSSI, Allied Associates geophysical Ltd., Mala Geoscience and Elegant Mathematics. The goal of the workshop is to spread knowledge about GPR technology and its use, as well as, to provide a unique possibility to participants to exchange ideas about the advances in their work and discuss their results. More than 60 oral and poster presentations are scheduled covering a wide range of advancements in GPR techniques and applications including hydrogeophysics; advanced modeling, processing and inversion; mining, archaeological and geological applications; concrete, pavement and material characterization; and novel GPR systems and antennas

(see the online preliminary program: www.fz-juelich.de/iwagpr2011 <program>). We thank all the members of the scientific review panel who reviewed all the 4-6 page extended abstracts, which will be published in the workshop proceedings. We look forward seeing you in Aachen.

Jan van der Kruk, Klaus Reicherter and Sebastián Lambot

Registration deadline: June 10, 2011

5. Open positions:

5.1. Electrical Geophysicist Post Doctoral Fellow at Lawrence Berkeley National Laboratory

The Earth Sciences Division of Lawrence Berkeley National Laboratory is seeking applications for a Postdoctoral Fellow in electrical geophysics to develop methodologies for monitoring complex subsurface processes relevant to environmental and energy problems. We use a variety of numerical, experimental, and theoretical methods to

explore processes that are manifested at the pore to the field scales associated with environmental remediation, water resources, CO₂ sequestration, and microbially enhanced hydrocarbon recovery applications.

We seek a motivated postdoctoral candidate to participate in and lead electrical geophysical research associated with our environmental and energy subsurface projects. This position requires an outstanding record of original and high-quality research as well as demonstrated experience with and enthusiasm for subsurface characterization and monitoring using electrical datasets. Essential for the position is a Ph.D. in geophysics, earth sciences, geology, or engineering and experience with the inversion and interpretation of subsurface electrical data. Desired is a familiarity with hydrogeophysical and biogeophysical approaches and an interest in working with a multi-disciplinary team to understand subsurface systems.

To apply for this position, please visit <https://lbl.taleo.net/careersection/2/jobdetail.ft!lang=en&job=72776>
For more information about the LBNL Environmental Geophysics Group, please visit http://esd.lbl.gov/departments/geophysics/core_capabilities/environmental_geophysics.html

5.2. Post Doctoral Position and PhD position in Biogeophysics: Geoelectrical Signatures of Microbial Biofilms

Advances in near-surface geophysics have established a link with geoelectrical responses and enzymatic activity and bacterial growth. However, a fundamental mechanistic understanding of the processes and sources resulting in the measured electrical response remains uncertain. This particularly includes the polarization enhancement observed during microbial activity. This project seeks to increase current knowledge by investigating the role of biofilms and its components in generating the geoelectrical responses of subsurface sediments.

This project will be directed by Prof. Estella Atekwana at Oklahoma State University, School of Geology. The objectives include: (i) evaluating the contribution of biofilm components to geoelectrical signatures using field relevant organisms, (ii) determining the contribution of nanoparticulate biogenic minerals in biofilms to geoelectrical signatures, (iii) determining if the geoelectrical signatures can be used to quantify the rates of biofilm formation and biogenic mineral accumulation in subsurface media, (iv) developing a fundamental understanding of potential underlying polarization mechanisms at low frequencies (<40 kHz) resulting from the presence of microbial cells and biofilms, and (v) evaluating the use of reactive transport models to predict the geophysical response associated with the development of biofilms in field conditions. Clogging of porous media by microorganisms using electrical geophysical techniques will also be investigated.

It is expected that these investigations will develop standardized geophysical methods as tools to accurately assess microbial metabolic activity at DOE contaminated sites.

The preferred candidate will have a PhD in Geophysics or relevant field (e.g., environmental engineering, biophysics) with experience related to biofilms, bioclogging, biogeophysics. We seek to hire a highly motivated, enthusiastic; individual who is capable of working and thinking independently. A PhD position on Biogeophysics is also available.

Candidates should submit a full CV, including the contact information of three referees, to: Prof. Estella Atekwana, Oklahoma State University, School of Geology, 105 NRC, Stillwater, Oklahoma, 74078. estella.atekwana@okstate.edu; 405 744 6358.

Oklahoma State University is an equal opportunity/affirmative action employer. Minorities, women, veterans, and persons with disabilities are strongly encouraged to apply. We anticipate a start date in September 2011.

To contribute material to the NS-letter send an e-mail to:

Xavier Comas xcomas@fau.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 web address 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

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