November 2007 Newsletter of the AGU Near-Surface Focus Group

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1. 2007 Fall AGU Near-Surface Geophysics and Hydrogeophysics Sessions

Arrive early because there is lots of good stuff on Monday morning!
And stay late — the Thursday afternoon NS talks are scheduled between Hydrogeophysics sessions!

MONDAY MORNING (Dec 10)

Posters: Moscone South Exhibit Hall B

NS11A: Exploration of the Cryosphere Using Near-Surface Geophysical Techniques: Synergism in the International Polar Year, I Posters (joint with C, GP, S). Presiding: A L Endres, University of Waterloo; T Murray, Swansea University

NS11B: Biogeophysics, I Posters (joint with B, H). Presiding: K Keating, Stanford University; L Slater, Rutgers University

NS11C: Induced Polarization, Self-Potential, and Seismic-Electric Coupling for Near-Surface Applications, I Posters(joint with B, S).
Presiding: D Ntarlagiannis, Queens University Belfast; B Minsley, Massachusetts Institute of Technology; B Kulessa, Swansea University

NS11D: Near-Surface Geophysics and Natural Hazards, I Posters (joint with PA, S, V).
Presiding: M E Everett, Texas A&M University; J Louie, University of Nevada, Reno

NS11E: Fault Imaging and Seismic Hazard Assessment, I Posters (joint with PA, S, T). Presiding: M Craig, California State University, East Bay; S Kruse, University of South Florida

Talks:
08:00 Room: Moscone West 2022
H11G: Watershed Characterization and Modeling I: Applications (joint with NS). Presiding: T Ferre, University of Arizona; T Wagener, Pennsylvania State University; D Hyndman, Michigan State University; K Singha, Pennsylvania State University

10:20 Room: Moscone West 2022
H12E: Watershed Characterization and Modeling II: Physical Analyses (joint with NS). Presiding: T Ferre, University of Arizona; T Wagener, Pennsylvania State University; D Hyndman, Michigan State University; K Singha, Pennsylvania State University

MONDAY AFTERNOON (Dec 10)
Talks
13:40 Room: Moscone West 3005
NS13A: Induced Polarization, Self-Potential, and Seismic-Electric Coupling for Near-Surface Applications II (joint with B, S). Presiding:
D Ntarlagiannis, Queens University Belfast; B Minsley, Massachusetts Institute of Technology; B Kulessa, Swansea University

13:40 Room: Moscone West 2022
H13M: Watershed Characterization and Modeling III: Concepts (joint with NS). Presiding: T Ferre, University of Arizona; T Wagener, Pennsylvania State University; D Hyndman, Michigan State University; K Singha, Pennsylvania State University

16:00 Room: Moscone West 3005
NS14A: Exploration of the Cryosphere Using Near-Surface Geophysical Techniques: Synergism in the International Polar Year II (joint with C, GP, S). Presiding: A L Endres, University of Waterloo; T Murray, Swansea University

TUESDAY MORNING (Dec 11)
Talks
8:00 Room: Moscone West 2005
NS21A: Near-Surface Geophysics and Natural Hazards II (joint with PA, S, V). Presiding: M E Everett, Texas A&M University; J Louie, University of Nevada, Reno

Posters: Moscone South Exhibit Hall B
H21A: Watershed Characterization and Modeling IV Posters (joint with NS). Presiding: T Ferre, University of Arizona

H21B: Cold Region Hydrogeophysics I Posters (joint with NS). Presiding:
J H Bradford, Boise State University; L Bentley, University of Calgary

TUESDAY AFTERNOON (Dec 11)

Talks

13:40 Room: Moscone West 2005
NS23A: Fault Imaging and Seismic Hazard Assessment II (joint with PA, S, T). Presiding: M Craig, California State University, East Bay; S Kruse, University

16:00 Room: Moscone West 2005
NS24A: Fault Imaging and Seismic Hazard Assessment III (joint with PA, S, T). Presiding: M Craig, California State University, East Bay; S Kruse, University

13:40 Room: Moscone West 2020
H23H: Cold Region Hydrogeophysics II (joint with NS). Presiding: J H Bradford, Boise State University; H French, Soil and Environment Division, Bioforsk

Posters: Moscone South Exhibit Hall B
H23A: Hydrogeophysics: Linking Geophysical and Hydrological Data I Posters (joint with NS). Presiding: A Binley, Lancaster University

WEDNESDAY MORNING (Dec 12)
Posters; Moscone South Exhibit Hall B
NS31A: Development and Applications of Airborne Methods, I Posters (joint with GP, H, T, V). Presiding: L Pellerin, Green Engineering, Inc.

NS31B: Near-Surface Geophysics General Contributions, I Posters (joint with H, S). Presiding: S Kruse, University of South Florida; C J Weiss, Virginia Polytechnic Institute and State University

WEDNESDAY AFTERNOON (Dec 12)
Talks
13:40 Room: Moscone West 2005
NS33A: Near-Surface Geophysics General Contributions II (joint with H, S). Presiding: C J Weiss, Virginia Polytechnic Institute and State University; D I Doser, University of Texas at El Paso

16:00 Room: Moscone West 2005
NS34A: Development and Applications of Airborne Methods II (joint with GP, H, T, V). Presiding: C Finn, U.S. Geological Survey; S Okuma, Geological Survey of Japan, AIST

THURSDAY MORNING (Dec 12)
Talks
08:00 Room: Moscone West 2020
H41H: Hydrogeophysics: Linking Geophysical and Hydrological Data II (joint with NS). Presiding: G Cassiani, University of Padova; K Holliger, University of Lausanne

10:20 Room: Moscone West 2020

H42B: Hydrogeophysics: Linking Geophysical and Hydrological Data III (joint with NS).
Presiding: K Holliger, University of Lausanne; A Bellin, University of Trento

THURSDAY AFTERNOON (Dec 12)
Talks
13:40 Room: Moscone West 2020
NS43A Improved Estimation and Prediction in Earth Science Through Integration of Multiple Data Sets and Model Types (joint with H, S).
Presiding: P A Bedrosian, U.S. Geological Survey; M J Friedel, U.S. Geological Survey; S S Haines, U.S. Geological Survey

16:00 Room: Moscone West 2020
H44A: Hydrogeophysics: Linking Geophysical and Hydrological Data IV (joint with NS).
Presiding: G Cassiani, University of Padova; A Bellin, University of Trento

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2. Fall AGU Meeting Near Surface Geophysics Focus Group Events

Joint Near-Surface Geophysics and Hydrogeophysics Social Gathering:
Monday Dec. 10, 6:00 pm, Hotel Utah, 500 4th Street at Bryant.

Near-Surface Geophysics Focus Group lunch, Tuesday Dec. 11, for all NS members and any others who are interested in attending. Sign up for this event when registering for the Fall meeting.

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3. Hydrogeophysics: Parameter Estimation and Evaluation of Flow and Transport Models

A hydrogeophysics session will be given during the XVIII International Conference on Computational Methods in Water Resources (CMWR). The conference will take place in San Francisco, July 6-10, 2008. The deadline for abstracts is January 25 (see http://www-esd.lbl.gov/CMWR08/ for more information).

Session description:
Geophysical data that are sensitive to hydrological properties or dependent variables can provide independent information in hydrological modeling and inversion studies. Successful applications include: (I) estimating lithological zonations, (ii) providing direct constraints on hydrological parameters, (iii) incorporating geophysical data in hydrological inversions, and (iv) testing hydrological models and model predictions with geophysical models and time-lapse data. Complications in hydrogeophysical studies are often caused by non-unique relationships between geophysical models and data on the one hand, and hydrological properties and dependent variables on the other. Furthermore, the optimal target resolution in nonlinear inverse problems is difficult to define, such that error estimates of the resulting models and predictions are uncertain at best.

This special section will include method-oriented contributions that emphasize novel approaches for incorporating surface-based and crosshole geophysical data in quantitative hydrological flow and transport studies. Theoretical contributions and presentations based on field or laboratory experiments are most welcome. Research related to the integration or joint inversion of diverse data sets, model appraisal, ways to deal with space- and method-varying resolution, uncertainty estimation, and new hydrogeophysical rock physics models are also sought.

Convener: Niklas Linde (mailto:mlinde@aug.ig.erdw.ethz.ch) , ETH Zurich

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4. SEG: The Leading Edge Editorial Call (from Rick Miller)

The Leading Edge Editorial calendar can be viewed at http://www.seg.org/publications/tle/calendar.shtml. Of particular interest to the near-surface community would be the May 2008 special section on Resolution Limits (submission deadline February 1) and the November 2008 special section on Near-Surface (submission deadline August 1).

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5. Academic Position Announcements:

5.1 FACULTY:

Tenure-Track Assistant Professor: Near Surface Geophysics

Rutgers University-Newark seeks to fill a full-time, tenure-track position at the rank of Assistant Professor for fall 2008 in the area of Environmental/Near Surface Geophysics. We seek candidates with expertise in near surface geophysical methods for the study of environmental processes occurring in the upper ~100 m of the Earth. Desirable areas of specialty include (but are not limited to) hydrogeophysics, biogeophysics, near surface stratigraphy, coastal processes, abiotic-biotic interactions and climate change related research.

Candidates who wish to pursue interdisciplinary research, and could take advantage of unique opportunities resulting from our urban environmental setting on the doorstep of New York City, are particularly encouraged to apply. Excellent opportunities exist for collaboration with current faculty in near surface geophysics, soil geochemistry and ocean-atmosphere interactions. Establishing a vigorous, externally funded research program and advisement of MS/PhD students is essential.

Effective teaching is required with a maximum teaching load of 3 courses per year. Applicants must have a Ph.D., a record of scholarly productivity and demonstrate potential to develop a funded program of research. Send a letter of application, a CV and names of three referees to Dr. Lee Slater, Search Chair, Dept. of Earth and Environmental Sciences, Rutgers University, 101 Warren St, Newark, NJ 07012 or lslater@andromeda.rutgers.edu.

Review of completed applications will begin December 1 and continue until the position is filled. Rutgers University is an equal opportunity/affirmative action employer.

5.2 POSTDOCTORAL POSITIONS, Biological Physics & Bioengineering, Dept. of Physics & Texas Ctr. for Superconductivity, University of Houston

Projects include electromagnetic sensors to detect biological motors and mitochondrial enzymes, development of a novel scanning probe microscope for nanoscale imaging of active enzyme complexes in membranes, and elucidating the mechanism of torque generation in the molecular turbine F0-ATP synthase. Two of the projects are new collaborations with The Methodist Hospital, located in the world-renown Texas Medical Center.
Candidates with experience in the physical sciences, biology, biochemistry, engineering, or bioengineering are encouraged to apply.
Candidates with experience in impedance spectroscopy are especially welcome. Positions are available immediately.

We have NIH funding for at least the next three years, and believe longer term opportunities will arise for potential faculty and/or research staff positions due to our collaboration with Methodist Hospital. The Methodist Hospital Research Institute should finish their new building in late 2009 or early 2010, and they will be looking to hire up to 90 faculty/staff for both basic and translational research.
Also, there are numerous additional opportunities for collaboration with Baylor College of Medicine, UT - Houston Health Sciences Center, and other institutions in the Texas Medical Center.

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>.

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

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

George Tsoflias tsoflias@ku.edu <mailto:tsoflias@ku.edu>

DEADLINE: Material must be received 2 full business days prior to the first of each month. Failure to meet the deadline will likely result in missing the next issue.

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.