

January 2012 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](#).

AGU NS Membership as of January 2011:

Primary affiliation: 740 members; Secondary: 2591 members

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1. Announcement: State of the Union (from Lu Pellerin)

The Council met on 4 December 2011 began with updates from the President Mike McPhaden, President-Elect Carol Finn, and Executive Director/CEO Chris McEntee regarding AGU's progress in implementing its strategic plan and emerging issues. A description of discussions and actions can be found on the NSFG website. Highlights during the day included:

- Approved the revised Editor in Chief job description and the search committee process.
- Referred the revised data policy back to the committee for a Council comment period and agreed to vote on approval via conference call after the comment review.
- Approved the revised dual/prior publication policy.
- Endorsed a feasibility study for two potential journals.
- Provided input to the Honors and Recognition Committee on: (1) naming a broad program of awards that would recognize achievement in areas outside of or spanning scientific disciplines; and (2) distinguishing it from the Fellows program and making it prestigious in its own right.
- Provided feedback to the Meetings and Program committees on recent challenges associated with the Fall Meeting and discussed ways to facilitate development of inter- and trans-disciplinary meetings.
- Approved creation of 3 student positions and 3 early career scientist positions on the Council starting in 2013.
- Explored possibilities and perspectives regarding development of an interdisciplinary, multiyear Grand Challenge associated with AGU's upcoming centennial in 2019.

2. Announcement: State of the NS FG (from Lu Pellerin)

Nearly 800 members list their primary affiliation with the Near Surface Focus Group and ~2800 as their secondary affiliation. The NS FG had 6 oral and 7 poster presentations at the Fall meeting. In addition

~85 of our members attended a lovely luncheon – the presentation is available on the NS FG website – and many spent an evening socializing with the folks from Hydrology Section Hydrogeophysics technical committee. The executive committee met during the San Francisco Fall meeting.

- With the change in governance George Tsoulias is the incoming NS focus group President beginning in January 2013, and we will be holding elections for the President-Elect and Secretary positions. Ballots need to be sent to AGU by 1 April, therefore we should have nominees for these positions identified by early February. We need to also identify a student representative, executive committee members and various focus group committee members to serve for two years starting in January 2013. If you are interested in becoming a part of NS leadership contact [Louise Pellerin](#).

- NS FG will now be nominating AGU Fellows directly to the Fellows & Awards committee. In the past we submitted our nominations to a subcommittee that in turn submitted a short list that include candidates from other focus Groups. We are in immediate need of three members willing to serve in the preparation of nominations.

- Several steps will be implemented to provide for better coordination of NS Hydrogeophysics and Hydrology Section Hydrogeophysics sessions for the 2012 meeting.

- The IRIS standing committee for Education and Outreach is considering a workshop for university instructors who teach near-surface seismology.

- We discussed developing an archive of benchmark NSG datasets.

- Our website will be updated with the help of the AGU IT staff over the next 12 months.

3. Announcement: Help the Near Surface Focus Group Fund Make a Bigger Impact! (from Lu Pellerin)

Your support of fellow AGU Near Surface members and the next generation of student scientists is vitally important. With increased donations, we will be able to expand programming and NSFG initiatives to subsidize student tickets and registrations for Fall Meeting events, fund special student travel grants, honor distinguished and early-career NS member achievements, and provide travel support for NSFG award winners.

Help the NSFG increase our impact by making your [donation of \\$200, \\$100, or \\$20](#) today! Any amount will be greatly appreciated. Thank you for your support!

Don't forget that all Supporting Members who donate \$120 or more in 2011 will have access to AGU's new and improved Donor Lounges at the 2011 Fall Meeting!

4. Announcement: Invitation to the CLIWAT final conference to be held at Aarhus University

Dear Sir or Madam,

It is not too late to register to the final conference for the CLIWAT project, a Interreg IVB funded research project. The project partners will present key results from the project research. The conference will take place on 5 January 2012 at Aarhus University, Denmark. Please visit the CLIWAT final conference home page for information and registration. Participation is free of charge, but requires registration. Follow the link to the home page - link.

Best regards,
The CLIWAT project

Rolf Johnsen and Peter Mikkelsen

5. Reminder: [Workshop in Groundwater Resource Assessment](#) in Western Australia

To learn more about contribution, exhibition, or participation in this workshop, please review details about the [Workshop in Groundwater Resource Assessment](#).

6. Reminder: SEG-AGU Hydrogeophysics Workshop (from Jan van der Kruk)

From 8-11 July 2012, the SEG-AGU Hydrogeophysics workshop is organized at Boise State University, Boise, Idaho, U.S.A. The workshop addresses current hydrogeophysical approaches for determining/predicting/studying hydrologic properties and processes in both the saturated and unsaturated zones, at scales ranging from centimeters to watersheds. Through presentations of original research in our "General Sessions", and analysis and interpretation using shared hydrogeophysical datasets in our "Homework Sessions", the workshop will highlight the state of the science and critical future directions. We have defined topics for the General Sessions and will organize sessions around more specific topics with ~10 presentations in each session, based on the submitted abstracts. Our Homework Sessions will allow different investigators to independently analyze a shared dataset, with each homework designed to explore important aspects of acquiring, analyzing and interpreting hydrogeophysical data. In order to promote discussion, all accepted abstracts (for General and Homework Sessions) will be presented as posters, with a 3-5 minute oral presentation as an introduction. After viewing of posters, all sessions will reconvene for a panel-led discussion.

General Sessions

- Characterizing Near-Surface Structure and Properties
- Advances in Monitoring and Time-Lapse Imaging of Subsurface Processes
- Thinking About Scaling Up: Geophysical Methods at the Watershed Scale

Homework Sessions

- The Use of Electrical Resistivity Measurements for Monitoring Subsurface Processes: Quantifying Noise and Uncertainty
- The Ultimate Tomography Bake-Off Challenge Using Boise Hydrogeophysical Research Site Borehole Seismic and GPR Datasets
- Designing the "Perfect" Field Experiment

The abstract submission deadline is 21 March 2012 and the advance registration deadline is 7 June 2012. For more information please visit the [SEG-AGU 2012 Hydrogeophysics workshop Web site](#). We are looking forward receiving your abstracts.

Rosemary Knight, James Irving, Rob Jacob, Lee Liberty, Kamini Singha, and Jan van der Kruk

7. Open positions:

7.1. Opening for an EM faculty position: Colorado School of Mines (from Yaoguo Li)

Dear Colleagues,

Colorado School of Mines Department of Geophysics invites applications for an anticipated tenure-track position at the rank of Assistant Professor. The department is seeking a faculty member with expertise in

geophysical methods based on EM induction and GPR.

For details, please visit <http://inside.mines.edu/HR-Academic-Faculty> (search number 12-061400). The same ad will also appear soon in EOS, The Leading Edge, First Break, Preview, and Recorder.

Sincerely,
Yaoguo Li

7.2. Teaching/mentorship position available at Fugro Robertson

Fugro Robertson is looking for a Geology/Geophysics Coach, based in Wales. A different position from usual ones, and some of you with a pedagogical leaning but want to be in industry may be interested. For more details, view the [Fugro Robertson job posting Web page](#).

7.3. Postdoc position in hydrogeophysics - airborne electromagnetic methods at Aarhus University

The HydroGeophysics Group (HGG), Aarhus University, invites applicants for a post doc position within the near-surface/hydrogeophysical research area. The post doc will participate in airborne electromagnetic (SkyTEM) instrumental and data processing/inversion developments and will be involved in a number of international high profile projects.

The full text is available on the [Aarhus University job posting Web page](#) (look for Postdoc position in hydrogeophysics - airborne electromagnetic methods).

7.4. Geophysicists positions with DCIP/MT

A leading global ground geophysical services group, is pleased to announce a number of openings to join its expanding team of professional geoscientists:

[Technical Sales Representative – Toronto, Calgary or Houston](#)

[Vice President Sales – Toronto](#)

7.5. U.S. Geological Survey Mendenhall Research Fellowship Opportunity

Title: Integrating hydrologic and geophysical data for groundwater characterization: method development and application to airborne electromagnetic surveys

Applicants to this Research Opportunity are invited to propose innovative methods for integrating geophysical and hydrogeologic datasets to inform hydrogeologic models. The applicant is encouraged to incorporate one or more airborne electromagnetic datasets recently acquired by the USGS in eastern Nebraska, western Nebraska, San Luis Valley of Colorado, Paradox valley of Colorado, and/or Fort Yukon Alaska in their proposal. Potential topics of interest might include: integration of multi-disciplinary data to hypothesize and test alternative hydrogeologic models, examine and possibly extend sensitivity analysis

methods for groundwater models informed by geophysical data, quantify the uncertainty for joint interpretation of hydrogeophysical datasets, develop relationships between hydrologic and geophysical properties, develop algorithms for integrated hydrogeophysical analysis, identify/address gaps in existing datasets, or other related topics. The successful candidate will develop a fully integrated research plan that leverages multi-disciplinary data to better inform groundwater models

Research Advisors: [Burke J. Minsley](#), (303) 236-5718; [Ty Ferré](#); [Mary C. Hill](#); [Jared D. Abraham](#)

The U.S. Geological Survey (USGS) began the Mendenhall Postdoctoral Research Fellowship Program (now called Mendenhall Research Fellowship Program) in 2001 in honor of Walter C. Mendenhall, the fifth Director of the USGS. The Mendenhall Program provides an opportunity for recent PhD graduates (within five years since completion of the doctoral degree) to conduct concentrated research in association with selected members of the USGS professional staff. The Program is intended to provide research fellows with experiences that enhance their personal scientific skills and accomplishments. Through the Mendenhall Program the USGS acquires current expertise to assist in the advancement of its scientific goals.

Mendenhall Fellowships are 2-year appointments with competitive salary and benefits. Mendenhall Fellows are typically granted project expense funds appropriate to the scope of research to be conducted. Postdoctoral research projects under this program have spanned a wide range of scientific topics of interest and relevance to the mission of the USGS. For additional information, please consult the Project Profiles section of the [Mendenhall Program Web site](#).

7.6. Junior Faculty Position in Applied and Exploration Seismology, University of Lausanne

The Faculty of Geosciences and Environment at the University of Lausanne has an opening for a position at the junior lecturer level in the field of applied and exploration seismology. This position is geared towards recent PhD graduates with some postdoctoral experience. The new faculty member will be expected to: (i) teach a variety of courses covering the full breadth of applied and exploration seismic methods to undergraduate- and graduate-level students in the earth and environmental sciences, (ii) supervise undergraduate- and graduate-level students, and (iii) develop an externally funded and internationally recognized research program.

Applications from any domain of applied and exploration seismology that will reinforce and/or complement current research activities in applied and environmental geophysics are welcome. Interest and experience in other applied geophysical methods as well as in rock physics would be an asset. The successful candidate will have a well documented track record of independent research in her/his domain of specialization.

Prior knowledge of French is an advantage, but not a requirement for this position. An adequate command of this language for teaching purposes is, however, expected at the latest two years after the beginning of the appointment. This is a great opportunity for a highly motivated and dynamic young scientist with a dedication to excellence in both research and teaching to join one of the leading applied and environmental geophysics groups and to benefit from its dynamic atmosphere and very good infrastructure ([view job posting on University of Lausanne Web site](#)). The campus of the University of Lausanne is scenically located on the shores of Lake Geneva, a region of outstanding natural beauty offering a vibrant cosmopolitan atmosphere and an exceptionally high quality of life. For further information regarding the details of this position please contact Professor [Klaus Holliger](#). The University of Lausanne wishes to promote the access of women to academic careers and hence strongly encourages applications from qualified female candidates.

Application deadline: 20 January 2012

Starting date: 1 September 2012 or at some later date to agree upon.

Applications are to be submitted both by [e-mail](#) and by paper copy (Faculty of Geosciences and Environment, University of Lausanne, to the attention of the Dean, Amphipole Building, CH-1015 Lausanne, Switzerland). The application material must include a cover letter, a curriculum vitae, a publication list, a statement of research and teaching goals, and the names and contact information of three referees.

7.7. PhD and postdocs at the University of Alberta (ZTEM)

Applications are invited for a PhD studentship and postdoctoral fellowship at the University of Alberta. The successful applicants will join a research team that is investigating the role of ZTEM data in mineral exploration in Western Canada. The graduate student will be supported financially as a research assistant. Please encourage qualified students to apply, and contact Martyn Unsworth with questions about the EM positions. The research program also includes geology and aeromagnetic studies, as described below. With best wishes for 2012
Martyn Unsworth

PDF and 3 PhD positions in Mineral Exploration Geology and Geophysics

We seek highly qualified and motivated geophysicists and geologists to work on an NSERC–industry-funded collaborative research project that aims to improve the effectiveness of ZTEM surveys for porphyry copper exploration. The project is led by Professors Jeremy Richards and Martyn Unsworth at the University of Alberta (U of A), and Professor Li-Zhen Cheng at the University of Québec in Abitibi-Témiscamingue (UQAT).

ZTEM is an airborne electromagnetic technique that uses natural electromagnetic signals to image subsurface structures. The Postdoctoral Fellow will have advanced skills in electromagnetic data acquisition and processing, and will lead and coordinate data gathering and integration. The PDF will work directly with Unsworth and Richards, and will receive a 2-year contract at a competitive salary. Two of the PhD students will be geophysicists who will focus on 2D and 3D inversion of ZTEM data. One student (supervised by Unsworth at the U of A) will focus on the EM data component, and the other (supervised by Cheng at UQAT) will focus on aeromagnetic data. The third PhD student will be an economic geologist (supervised by Richards at the U of A), and will focus on geological characterization of known porphyry deposits in the study area, for which ZTEM and other geophysical data exist.

Interested candidates should send a CV, a statement of research experience and interest, and the names and addresses of three referees to:

[Jeremy Richards](#), Dept. Earth and Atmospheric Sciences, University of Alberta Edmonton, Alberta, Canada, T6G 2E3

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

[Xavier Comas](#)

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 distributed.

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