

November 2010 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 November 2010:

Primary affiliation: 680 members; Secondary: 2843 members

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1. 2010 Fall AGU Meeting 13-17 December, San Francisco

Important Dates:

November 10, 2010: Housing and discounted online registration deadline.

November 19, 2010: Online meeting registration.

For complete information see (<http://www.agu.org/meetings/fm10/>)

- 1.1. Near Surface Geophysics Focus Group Luncheon, 12:30 on Tuesday December 14, InterContinental San Francisco

The NS luncheon at the Fall AGU meeting will be held from 12:30-13:30 on Tuesday December 14 at the Intercontinental Hotel (Ballroom A). This event is the opportunity to learn about NS activities, engage with the NS leadership and provide feedback on how the focus group can further support the needs of the NS community. The NS Chair, Louise Pellerin, will summarize the

membership and focus group activities over the last year, along with plans for the next year. Other focus group officers will report on specific issues relating to their appointment duties.

**IMPORTANT NOTE:**

Student members of NS: Please see the announcement below for FREE lunch tickets.

All others: This is a ticketed event and we strongly encourage you to purchase lunch tickets in advance when you register online for the meeting. AGU will have a small number of tickets available for purchase on-site for a limited, first-come-first-served basis.

1.2. Joint Near Surface Geophysics Focus Group/Hydrogeophysics Social Event, 7:00 pm on Tuesday December 14.

Continuing a well-established tradition, NS and the Hydrogeophysics Committee of the Hydrology Section will hold a joint NS/Hydrogeophysics social event at The Hotel Utah (500 4th Street at Bryant - 4 blocks south along 4th Street from the conference center, <http://www.thehotelutahsaloon.com/contact.html#map>). This social event will begin at 7:00 pm on Tuesday December 14. This is a great opportunity to mingle with fellow near surface and hydrogeophysics colleagues in an informal setting.

1.3. Fall AGU news for students (from Seth Campbell, NS student representative)

1.3.1. NS Focus Group Fall Meeting Lunch FREE tickets for students

A total of 30 FREE tickets will be made available to students for the Fall AGU Meeting NS Focus Group Luncheon thanks to the generosity of focus group sponsors. Student attendees will learn about all the exciting events/activities occurring within the NS Focus Group and how students can get involved with the focus group and benefit from its activities. More importantly, we want to hear from the future of our growing community about how the NS focus group may better serve student interests. The luncheon is a great opportunity to engage with the NS leadership and its members, including other students.

The NS luncheon will be held on Tuesday December 14th at 12:30. Tickets will be available on a first come-first served basis to NS Focus Group students in good standing, with priority given to those students who have NS as their primary affiliation. To secure a ticket, e-mail Seth Campbell ([Seth.Campbell@umit.maine.edu](mailto:Seth.Campbell@umit.maine.edu)) by November 10. Official confirmation will be sent out on November 15.

1.3.2. NS Student Evening Social Event

Come join your fellow NS students for a casual evening out on ..... A location is still in the works, but all the bar/restaurants being considered are just a short walk from Moscone and will serve food in addition to drinks. This is a great opportunity to meet other students and to get a sense of the incredibly eclectic membership within the NS Focus Group. Further details will be posted soon on the NS Student Wiki and will be announced in the December Newsletter. Stay tuned!

1.4. Fall AGU final session schedule

#### 1.4.1. Near-Surface Geophysics sessions

Monday, December 13:

NS11A. Inversion I: Back to Basics Posters (Conveners: R.B. Herman T. Lecocq)

8:00 AM-12:20 PM

MS-Poster Hall (Moscone South)

Co-Sponsor(s): Non-Linear Geophysics/Mineral Rock Physics/Seismology

NS13A. Inversion II: Uncertainty and Managing the Unknown Posters (Conveners

B. Jafarpour, G.-H. Crystal Ng)

1:40 PM-6:00 PM

MS-Poster Hall (Moscone South)

Co-Sponsor(s): Geomagnetism and Paleomagnetism/Non-Linear Geophysics/Seismology/Hydrology

Tuesday, December 14:

NS22A. Near-Surface Geophysics General Contributions I\*

(Conveners: C.J. Weiss, L.H. Cox)

10:20 AM-12:20 PM

MW-3020 (Moscone West)

Co-Sponsor(s): Non-Linear Geophysics/Seismology/Geomagnetism and Paleomagnetism/Hydrology

NS23A. Near-Surface Geophysics General Contributions II Posters\*

(Conveners:X. Zhou, G.A. Wilson )

1:40 PM-6:00 PM

MS-Poster Hall (Moscone South)

Co-Sponsor(s): Non-Linear Geophysics/Seismology/Geomagnetism and Paleomagnetism/Hydrology

Wednesday, December 15:

NS31A. Airborne Geophysics for Geohazards and Environmental Problems I

Posters (Conveners: Shigeo Okuma M. Deszcz-Pan)

8:00 AM-12:20 PM

MS-Poster Hall (Moscone South)

Co-Sponsor(s): Natural Hazards/Volcanology, Geochemistry, and Petrology/Seismology/Hydrology/Geomagnetism and Paleomagnetism/Geodesy

NS31B. Biogeophysics: Toward Modeling of Geophysical Signatures of Microbial Processes in the Earth I Posters

(Conveners: E.A. Atekwana, L.D. Slater)

8:00 AM-12:20 PM

MS-Poster Hall (Moscone South)

Co-Sponsor(s): Biogeosciences/Cryosphere/Geomagnetism and Paleomagnetism Global Environmental Change/Hydrology/Mineral and Rock Physics Seismology

NS33A. Biogeophysics: Toward Modeling of Geophysical Signatures of Microbial Processes in the Earth II

(Conveners: E.A. Atekwana, L.D. Slater)

1:40 PM-3:40 PM

MW-3022 (Moscone West)

Co-Sponsor(s): Biogeosciences/Cryosphere/Geomagnetism and Paleomagnetism Global Environmental Change/Hydrology/Mineral and Rock Physics Seismology

NS34A. Airborne Geophysics for Geohazards and Environmental Problems II

(Conveners: S. Okuma, M. Deszcz-Pan)

4:00 PM-6:00 PM

MW-3022 (Moscone West)

Co-Sponsor(s): Natural Hazards/Volcanology, Geochemistry, and Petrology/  
Seismology/Hydrology/Geomagnetism and Paleomagnetism/Geodesy

Thursday, December 16:

NS41A. Beyond the Case History: Novel Seismic Methods and Applications I\*  
Posters

(Conveners: A. Lamb S.S. Haines)

8:00 AM-12:20 PM

MS-Poster Hall (Moscone South)

Co-Sponsor(s): Seismology

NS41B. Joint Interpretation of Different Geophysical Data for Natural  
Resources Characterization I Posters

(Conveners: M. Commer, T. Seher)

8:00 AM-12:20 PM

MS-Poster Hall (Moscone South)

Co-Sponsor(s): Seismology

NS43A. Joint Interpretation of Different Geophysical Data for Natural  
Resources Characterization II

(Conveners: M. Commer, T. Seher)

1:40 PM-3:40 PM

MW-3022 (Moscone West)

Co-Sponsor(s): Seismology

NS44A. Beyond the Case History: Novel Seismic Methods and Applications II\*  
Sponsor: Near Surface Geophysics/ Seismology

(Conveners: T.E. Blum, J.M. Lorenzo)

4:00 PM-6:00 PM

MW-3022 (Moscone West)

Co-Sponsor(s): Seismology

1.4. 2. Hydrogeophysics sessions (from Niklas Linde)

Monday, December 13 and Tuesday, December 14:

Hydrogeophysics: Advances in Measurement, Monitoring, and Modeling of  
Hydrological Processes (24 orals; 24 posters)\*

Oral 1: MW-3014 (Moscone West), Mon, Dec 13 - 8:00-10:00

Oral 2: MW-3014 (Moscone West), Mon, Dec 13 - 10:20-12:20

Oral 3: MW-3014 (Moscone West), Mon, Dec 13 - 13:40-15:40

Poster: MS-Poster Hall (Moscone South), Tue, Dec 14 - 13:40-15:40\*\*

Hydrogeophysical Data Fusion and Integrated Site Investigation Methods (16  
orals; 26 poster)\*

Poster: MS-Poster Hall (Moscone South), Mon, Dec 13 - 8:00-10:00

Oral 1: MW-3022 (Moscone West), Tue, Dec 14 - 13:40-15:40

Oral 2: MW-3022 (Moscone West), Tue, Dec 14 - 16:00-18:00

High-Resolution Hydrogeophysical Characterization of Soils and Aquifers From  
Microscale to Field Scale (7 orals; 27 posters)\*

Poster: MS-Poster Hall (Moscone South), Mon, Dec 13 - 13:40-15:40

Oral 1: MW-3016 (Moscone West), Tue, Dec 14 - 8:00-10:00

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2. New AGU-SEG Committee has been formed (from Louise Pellerin)

Carol Finn, president-elect of AGU, signed a Memo of Understanding with the Society of Exploration Geophysicists (SEG) on 18 Oct 10 at the SEG annual meeting in Denver. An AGU-SEG committee has been formed to explore and promote collaborative efforts between the two organizations. Louise Pellerin and John Bradford, the committee co-chairing, are populating the committee and plan on meeting in San Francisco during the AGU Fall meeting. Collaboration between AGU and SEG is long overdue and we are excited about the prospects - stay tuned!

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3. Call for abstracts: SAGEEP 2011, April 10-14th Charleston, South Carolina, submission deadline November 19th

The conference website: <http://www.eegs.org/sageep/index.html>  
Abstract submission website: <http://www.xcdsystem.com/sageep2011/>

Important Dates:

Nov.19, 2010: Deadline for short abstracts (300 words) (required)  
Jan.14, 2011: Deadline for extended abstracts (these are now optional)  
April 10-14: SAGEEP - Charleston

3.1. Special Session: Advances in Hydrogeophysical Monitoring (from Dale Rucker)

Dear Colleagues,

We are pleased to announce an exciting session to the upcoming SAGEEP 2011, to be held in Charleston, SC. Stephen Moysey and I are co-chairing 'Advances in Hydrogeophysical Monitoring', and we hope to get papers from you, the world's experts. Besides being a wonderful place to visit, this year's SAGEEP in Charleston will give you a chance to participate in lively discussions about the state of the art in geophysical monitoring technologies and catch up with those you did not see at AGU. Another advantage is that SAGEEP is no longer requiring full conference papers; all submissions to SAGEEP are optional. However, if there is enough interest in writing full papers, I may be able to shop around for someone to pick us up in a special issue.

Session Description: Geophysical monitoring techniques that improve our understanding of hydrological processes are increasingly applied over multiple temporal and spatial scales. The recent surge in using geophysics can be attributed to inexpensive yet reliable equipment, large number of trained operators, and perceived value of the data. However, there remain a few challenges in maintaining a long term monitoring project with respect to equipment maintenance, data storage, quality assurance, processing, and interpretation. The purpose of this session is to provide a forum to showcase new methodologies and advances in conducting a sound geophysical monitoring program. We particularly invite contributions that focus on 1) the development of new geophysical monitoring methods, 2) long term geophysical monitoring using existing methods, and 3) data analysis for the quantification of time-dependent hydrological parameters from geophysical data. Case studies involving carbon sequestration, aquifer storage and recovery, and geologic repositories are encouraged.

3.2. Special Session: The Use of Geophysical Data for Evidence-Based Groundwater Management Session (from Jessica Reeves)

This session will address the role that geophysics can play in improving the management of our groundwater resources. We will focus on the development and/or application of geophysical methods to characterize any component of a groundwater system. We hope to highlight new ways in which field studies are being designed in response to current management and policy trends; and also hope to highlight ways in which geophysical measurements could be used to drive improvements in groundwater management.

For inquiries, feel free to contact the session conveners: Jessica Reeves ([jesser@stanford.edu](mailto:jesser@stanford.edu)) or Dr. Rosemary Knight ([rknight@stanford.edu](mailto:rknight@stanford.edu)).

3.3. Special Session: Airborne Geophysics: Recent Advances and Novel Applications (from Burke Minsley)

Airborne geophysical data can provide valuable information about subsurface properties and processes with spatial coverage that typically cannot be obtained from ground-based surveys at similar cost. We invite you to submit an abstract to the session "Airborne Geophysics: Recent Advances and Novel Applications" at SAGEEP 2011 in Charleston, South Carolina. This session aims to highlight developments across a broad range of airborne geophysical methods, with focus on novel applications to environmental and engineering problems, as well as instrumentation, data processing and inversion strategies, and integration with other datasets.

For inquiries, please contact the session conveners: Burke Minsley ([bminsley@usgs.gov](mailto:bminsley@usgs.gov)) and Greg Hodges ([GHodges@fugroairborne.com](mailto:GHodges@fugroairborne.com))

3.4. Special Session: Geophysical Studies of the Vadose Zone (from Remke Van Dam)

Dear Colleagues,

This is to announce a session on "Geophysical Studies of the Vadose Zone" (S16) to be organized at the upcoming SAGEEP conference, to be held in wonderful Charleston, South Carolina, from April 10-14, 2011. The invited speaker will be Dr. David A. Robinson from the Centre for Ecology and Hydrology at the Environment Centre Wales, UK. As co-organizers of this session, we hope you will submit an abstract for and participate in discussions during the meeting.

Best Regards,

Tony Endres, University of Waterloo  
Remke Van Dam, Michigan State University

3.5. Special Session: Seismic Refraction Shootout: Blind Test of Methods for Obtaining Velocity Models from First-Arrival Travel Times (from Bill Doll)

Dear Colleague,

We are writing to make you aware of a unique session that we are organizing for the 2011 SAGEEP conference, which will be held in Charleston, SC, April 10-14. The session is intended to be an opportunity for researchers and practitioners of seismic refraction travelttime solution tools to learn the strengths and limitations of those analysis methods, with emphasis on the near-surface environment. The title of the session is: "S01: Seismic

## Refraction Shootout: Blind Test of Methods for Obtaining Velocity Models from First-Arrival Travel Times"

There are many different methods for obtaining a velocity model from seismic refraction traveltimes, ranging from forward modeling to analytic methods to inversion and tomographic methods. In near-surface studies, these models provide essential constraint in applications ranging from hydrologic characterization to site hazard evaluation, but often these models include little or no quantitative estimation of uncertainty, resolution or non-uniqueness. Furthermore, it is seldom possible to know the true velocity model that is being sought. In this session we will conduct a blind test of seismic refraction analysis methods for a common dataset. The session chairs will provide the community with a set of P-wave first-arrival times for a synthetic dataset representing a refraction study of a realistic near-surface target. Seismic practitioners and algorithm developers are encouraged to analyze these data using any method they choose and present their final velocity model(s) at the session. The true velocity model will also be revealed for comparison at the session. All participants will be asked to provide the conveners with a digital version of their model(s) one week before the session to facilitate quantitative comparisons during the session. This session provides an opportunity for practitioners and developers to ground truth their algorithms on data from a known model. It also provides an opportunity for users to understand the pros and cons of various approaches. All seismic refraction users are strongly encouraged to participate in this exercise, whether their preferred algorithm is tried and true, or more cutting-edge. Because of the high relevance of this topic, it is anticipated that a special issue of JEEG will be forthcoming to present the results of the session.

We request that participants in the session submit an abstract that summarizes the approach that they plan to take. In contrast with previous SAGEEP conferences, a 300-word abstract is all that will be required in order to present in any of the sessions at the conference. The abstract deadline is currently November 19. We do not expect that anyone will have a final solution by that date. Rather, we are asking for commitments to participate in the session by that date. The conveners of the session are single-minded in viewing the session as an opportunity to gain a deeper understanding of non-uniqueness as it influences solutions to seismic refraction data, and the effectiveness of different approaches to address non-uniqueness, recognizing the limitations of using only one synthetic model for this assessment.

There will be no winners or losers. Both researchers, users of commercial codes, and code developers, are strongly encouraged to participate. We also encourage submissions from students or classroom groups.

Further details on this session, and the travel time data, are available at: <http://terra.rice.edu/department/faculty/zelt/sageep2011> .

Please note that special concessions are made to encourage student participation at SAGEEP. The early bird registration rate for student members is expected to be the same as last year, \$105.00. Students can receive a rebate of their registration by volunteering to assist in sessions. Also, Geometrics is once again planning to offer a limited number of student scholarships to offset travel expenses.

The Call for Papers for the conference is attached. For more details and updates on the SAGEEP2011 conference and other sessions at the meeting, go to [www.eegs.org/sageep](http://www.eegs.org/sageep) .

Colin Zelt, Seth Haines, Michael Powers, Jacob Sheehan, Bill Doll

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#### 4. Call for papers: Geophysics for Levee Safety Special Issue of the Journal of Environmental and Engineering Geophysics

The Journal of Environmental and Engineering Geophysics (JEEG) announces a Call for Papers for a special issue on geophysics for levee safety. The Levee Safety issue is scheduled for publication in March 2012. The special issue editor is Dr. Maureen K. Corcoran, U.S. Army Engineer Research and Development Center. Sponsorship of this issue is still open.

Papers describing the successful use of one or more geophysical surveys to understand engineering issues of concern for levee safety risk assessment and/or remediation are sought. The issues can include woody vegetation assessment, foundation and/or embankment property measurements, fault analyses for earthquake hazard potential, basin studies to better understand hydrological risks, or other safety concerns. Preference will be given for papers with supporting information to substantiate the geophysical models. International contributions are encouraged. The final special issue can only accommodate a maximum of seven or eight papers, but all accepted papers will be considered for publication in other JEEG issues.

Papers can be submitted through the JEEG submission site, <http://jeeg.allentrack.net>. Indicate in the cover letter that the paper is for consideration in the Levee Safety special issue. The deadline for submissions is February 28, 2011.

Questions may be directed to:

Special Issue Editor-Maureen K. Corcoran, [Maureen.K.Corcoran@usace.army.mil](mailto:Maureen.K.Corcoran@usace.army.mil)  
JEEG Editor-Janet Simms, [Janet.E.Simms@usace.army.mil](mailto:Janet.E.Simms@usace.army.mil)

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#### 5. AGU Membership Survey (from April Orr)

Dear AGU Member,

I am writing you today to follow up on a request sent to you last week by AGU's new executive director, Christine McEntee requesting your participation in a member-wide survey.

As a member of American Geophysical Union, your opinions are very important to us. Please respond to the American Geophysical Union-Membership Survey and share your thoughts about AGU's programs, products and services.

The survey is broken into five distinct sections. It will take between 15 to 30 minutes of your time. While I understand that time is valuable, your opinions are, too. The only way we can be sure that we have heard yours is if you share it with us. Thank you for your support of AGU.



Please take the time now to complete the American Geophysical Union-Membership Survey.

April C. Orr  
Director, Marketing and Membership

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#### 6. AGU Blogosphere: it is launched (from Christine McEntee)

I'm emailing you with great excitement to tell you about our launch of a new network of Earth and space science blogs: the AGU Blogosphere. As of today, seven blogs written by established, independent scientist-bloggers are now hosted by AGU. The blogs cover topics including planetary exploration, landslides, DC-area geology, volcanoes, climate change and more. The network also features three blogs written by AGU staff and guests-on our meetings, AGU Meetings, on science communication, The Plainspoken Scientist, and on the whole range of AGU sciences, GeoSpace. AGU Strategic Communications and Outreach created this new network so that AGU can better interact with the thriving, international community of Earth and space science bloggers. In doing so, we both support and benefit from their efforts at sharing the wonders of science with the public. Besides showcasing the work of these bloggers, the AGU Blogosphere helps boost awareness of Earth and space science issues for a wide array of audiences and provides an online venue for discussion of all things Earth and space science-related. Readers of the blogs will also be part of that discussion--by means of the blogs' comments sections, our blogosphere's forums, and AGU's social media outlets. Our blogosphere team is looking forward to adding additional highly respected bloggers to the network in coming months. Please take a look below at the current list of scientist-bloggers in our new network (and click on the following link to see the AGU Blogosphere itself (<http://blogs.agu.org>):

David Petley, a professor in the Department of Geography at Durham University, Durham, UK, has been blogging about landslides since 2007 and will continue to do so in The Landslide Blog (previously known as Dave's Landslide Blog).

Jessica Ball, a Ph.D. candidate in volcanology and volcanic hazards at State University of New York at Buffalo, writes about volcanology, volcanic hazards, and graduate school life at Magma Cum Laude (want to find out about the origin of Jessica's blog's name? She explained it in this post.)

Dan Satterfield, chief meteorologist for WHNT-TV (CBS) in Huntsville, Ala., blogs at Dan's Wild Wild Science Journal about atmospheric science, ocean science, planetary science, seismology, natural hazards, and paleoclimatology, targeting middle- and high-school students

Ryan Anderson, who is a year and a half away from completing his Ph.D. in astronomy at Cornell University, Ithaca, N. Y., runs The Martian Chronicles, a blog on planetary sciences.

Callan Bentley, an assistant professor of geology at Northern Virginia Community College, is a prolific blogger who posts stories almost daily at Mountain Beltway on seismology, tectonophysics, volcanology, and the cryosphere, with a focus on the Washington area.

Vivienne Raper, a Ph.D. scientist in climate change monitoring turned science writer, shares her enthusiasm for the natural world in Outdoor Science.

And John Freeland, an environmental scientist, blogs at Terra Central on soil issues.

Christine McEntee  
Executive Director/CEO  
American Geophysical Union

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#### 7. NovCare Conference May 2011, Cape Cod, Massachusetts

Dear Colleagues,

As societal concerns over sustainability of groundwater resources mount, the environmental research community increasingly finds itself in need of methods for subsurface investigation. In recent years, several new technologies have been developed for cost-effective, minimal-disturbance, and high-resolution subsurface characterization and monitoring that can be applied across a range of spatial and temporal scales.

To explore, experience, and discuss the latest science on subsurface characterization and monitoring, we announce a three-day Conference (NovCare 2011) for stakeholders from research, technology development, consultancy, and government. Workshop activities include plenary and poster sessions, several distinguished invited speakers, and a field trip to Otis Air Force Base where the famous Cape Cod Tracer studies took place. At this site, vendors will give field demonstrations of their latest technologies.

For more information visit the conference website: <http://www.novcare.org>

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#### 8. Open positions:

##### 8.1. Assistant Professor, Geophysics, Syracuse University

The Department of Earth Sciences at Syracuse University seeks applicants for a tenure track position in geophysics. The successful candidate will balance an active research program with both graduate and undergraduate teaching responsibilities (General/Applied Geophysics, as well as introductory courses in Earth Sciences). We seek a geophysicist willing to collaborate within the Department of Earth Sciences and across campus (e.g., L.C. Smith College of Engineering, SUNY College of Environmental Science and Forestry), and participate in emerging University-wide initiatives in Water Resources, Energy and/or Forensic Sciences. Current Department resources include a LINUX computing network for processing and interpreting seismic reflection data (PROMAX, SEISWORKS software), and marine seismic imaging instruments. More information is available at <http://earthsciences.syr.edu>.

Applicants must attach their curriculum vitae, statements of teaching and research interests, and the names and contact information for three referees to [sujobopps.com](http://sujobopps.com). The search will remain open until the position is filled. Review of applications will begin December 1, 2010. Syracuse University is an equal opportunity employer. Minorities and women are encouraged to apply.

## 8.2. Open position at the Pacific Northwest National Laboratory

Job ID: 300191

Directorate: Energy and Environment

Group: Hydrology

**Job Description:** The successful candidate will conduct geophysical research on imaging and monitoring subsurface electrical and electromagnetic properties associated with subsurface processes occurring during activities such as environmental remediation, the stabilization of waste forms with multiphase materials, carbon sequestration, and geothermal development. The incumbent will help develop and apply inversion software to translate electrical/electromagnetic signals into quantifiable measures of geologic lithology, physical and geochemical properties, and constituent values such as water content and concentrations of fluid constituents. The incumbent will create and/or enhance coupled hydrogeological and geophysical inversion software that operates within, and takes full advantage of, high performance computing environments. The candidate will communicate the results in presentations and publications.

**Minimum requirements:** Candidates must have received a PhD within the past five years from an accredited college or university. All staff at the Pacific Northwest National Laboratory must be able to demonstrate the legal right to work in the United States.

**Qualifications:** Candidates must have received a Ph. D. Degree in Geophysics, Hydrogeophysics, Civil or Environmental Engineering, Mathematics, Computer Science or a related field. The successful candidate must have programming skills in high performance computing and be able to write software in FORTRAN 90/95, C, or similar scientific software language. Candidates with knowledge and/or experience with electrical/electromagnetic geophysics and inversion techniques are strongly preferred. The candidate should have a basic understanding of inverse theory and application and familiarity with numerical flow and transport simulators such as STOMP, TOUGH, FEHM, or PFLOTRAN. The candidate should also have experience using a scripting language to control programs, prepare input data, and process simulation results. The candidate must have excellent communication skills as evidenced by publications in journals or presentations at professional conference. Applicants are encouraged to apply at <http://jobs.pnl.gov>, go to the current openings link and search for job id #300191.

Pacific Northwest National Laboratory (PNNL) is an Affirmative Action / Equal Opportunity Employer and supports diversity in the workplace. All employment decisions are made without regard to race, color, religion, sex, national origin, age, disability, veteran status, marital or family status, sexual orientation, gender identity, or genetic information. All staff at the Pacific Northwest National Laboratory must be able to demonstrate the legal right to work in the United States.

## 8.3. Tenure Track Position in Sedimentary Geology

The Department of Geosciences at Texas Tech University invites applications for a tenure track position in sedimentary geology to begin Fall semester, 2011. Depending on experience and qualifications, the successful candidate may be appointed at the Assistant or Associate Professor level; a Ph.D. in geological sciences is required at the time of appointment. We seek a candidate with interests in carbonate/clastic sedimentary processes and petrology, depositional systems, basin analysis, sedimentary tectonics,

sequence stratigraphy, or sedimentary geochemistry and diagenesis. The candidate will be expected to teach undergraduate and graduate courses in their specialty, establish an innovative, externally funded research program, and direct M.S. and Ph.D. student research.

The Department of Geosciences is one of the fastest growing units at Texas Tech University, with nearly 30 faculty members in solid earth geosciences, geography, atmospheric science, and climate change. We work closely with the National Weather Service and the U.S. Geological Survey Texas Water Science Center which has a field office in our department. The Department maintains analytical facilities for light stable isotope mass spectrometry, laser ablation and solution ICP mass spectrometry and elemental analysis, low-temperature aqueous geochemistry, and x-ray diffraction, as well as rock- and thin-section preparation and mineral separation facilities. The Imaging Center of Texas Tech houses several TEM and SEM instruments with EDS, EBSD and CL detectors. All instrumentation and facilities are supervised by full time technical support. Geologic and geophysical interpretational/modeling/mapping software packages such as Geographix Discovery, ProMAX, GeoProbe, and PetroMod, as well as the full suite of ESRI GIS software are available. Additional information about the Department of Geosciences may be found at <http://www.depts.ttu.edu/gesc/>. Opportunities exist for participation in on-going multidisciplinary programs in Petroleum Engineering and Civil Engineering (hydrology).

Review of applicants will begin on January 1, 2011 and continue until the position is filled. Applicants must visit the TTU employment website (<http://jobs.texastech.edu>), search for requisition #82382, and provide the required information. Afterwards, applicants should submit a letter of application, a description of research & teaching objectives, curriculum vitae, and names and contact information, including e-mail addresses, of at least three references. These documents may be uploaded to the employment website or mailed to: Dr. Hua-wei Zhou, Geosciences Search Committee Chair (806-742-1308; [h.zhou@ttu.edu](mailto:h.zhou@ttu.edu)), Department of Geosciences, MS 1053, Texas Tech University, Lubbock, TX 79409-1053. Representatives of the Department will be present at GSA, SEG, and AGU meetings during the Fall of 2010.

Texas Tech University is an equal opportunity/affirmative action institution; women, minorities, veterans and persons with disabilities are encouraged to apply.