



American Geophysical Union
Near-Surface Geophysics Focus Group (NSFG)
Newsletter: August 2015

In brief:

1. AGU Updates

- 1.1 It's time to submit your Fall Meeting abstract
- 1.2 Student information for the Fall Meeting
- 1.3 New Fall Meeting Undergraduate Mentoring Program
- 1.4 Virtual Poster Showcase

2. Journal Information and Special Issue Call for Papers

- 2.1 *Geophysics* Special Issue: Nuclear magnetic resonance for near-surface applications
- 2.2 *Earth's Future*: Now indexed in Web of Science

3. Tech-Transfer Courses and Training

- 3.1 Multichannel Analysis of Surface Waves (MASW) Workshop

4. Upcoming Conferences and Workshops

- 4.1 Meetings overview
- 4.2 AGU-SEG Workshop: Potential-Field and Electromagnetic Methods Applied to Basin Studies
- 4.3 Near-Surface Geoscience 2015
- 4.4 South African Geophysical Association 14th Biennial Conference and Exhibition
- 4.5 Society of Exploration Geophysicists 85th Annual Meeting
- 4.6 Geological Society of America Annual Meeting
- 4.7 3rd International Conference on Engineering Geophysics
- 4.8 3rd International Workshop on Geoelectrical Monitoring (GELMON 2015)
- 4.9 2nd SEG/DGS Workshop: Near-Surface Modeling and Imaging

5. Position Announcements

- 5.1 Environmental geophysicist position at Lawrence Berkeley National Laboratory
- 5.2 Ph.D. student position in applied geophysics on three-dimensional inverse modeling of electromagnetic data, Uppsala University
- 5.3 Two Ph.D. positions in the field of hydrogeophysics at the Forschungszentrum Jülich, Germany

Recent announcements of interest to the NS community (conferences, academic positions, graduate student opportunities, etc.) can be found at the [AGU Near-Surface Geophysics Focus Group website](#).

Early Career Scientists: Check out the [NSFG Early Career website](#).

Follow NSFG on [Facebook](#) and Twitter [@NS_AGU!](#)

1. AGU Updates

1.1 It's time to submit your Fall Meeting abstract

The 2015 Fall Meeting abstract submission site is now open! Make sure our scientific field is well represented at this prestigious Earth and space sciences meeting. It's also a great opportunity to get visibility and quality feedback on your science from nearly 24,000 of your peers. Please encourage your colleagues to submit their abstracts and get their research noticed, too.

Submit Early and Win Big: As a new incentive to encourage people to submit their abstracts early this year, AGU is offering the chance to win FREE registration to the 2015 Fall Meeting if you submit your abstract by Wednesday, 29 July.

The official abstract submission deadline is Wednesday, 5 August, 11:59 p.m. EDT.

[SUBMIT ABSTRACT HERE](#)

Near-surface geophysics sessions include:

- [NS001: Geophysical Methods for Groundwater Evaluation and Management](#)
- [NS002: Current Trends in High-Resolution Subsurface Imaging](#)
- [NS003: Advances in Exploration Geophysics](#)
- [NS004: Advances in Geophysical Studies at the Transition Between Land and Sea](#)
- [NS005: Applications of Near-Surface Geophysics in Periglacial Regions](#)
- [NS006: Cosmic Ray Muons in Combination with Other Geophysical Data to Improve Resolution of Subsurface Imaging: Sensors, Analysis, Inversion, and Applications from Tunnel to Mountain Scale](#)
- [NS007: Joint Inversion Methods and Other Interpretation Strategies to Integrate Multidisciplinary Geophysical Data](#)
- [NS008: Near-Surface Geophysics General Contributions](#)
- [NS009: The Curse of Dimensionality in the Age of Big Data: Challenges in Near-Surface Geophysical Exploration](#)

Related hydrogeophysics sessions include:

- [H011: Advances in Petrophysics for Hydrogeophysics and Near-Surface Geophysics](#)
- [H025: Data Integration, Inverse Methods, and Data Valuation in Hydrogeophysics](#)
- [H056: Hydrogeophysical Characterization of the Critical Zone](#)
- [H057: Hydrogeophysics: From Pore-Scale Process Understanding to Catchment-Scale Application](#)
- [H111: Understanding Hydrogeophysical States and Fluxes: Connecting Point-Scale Information with Remote Sensing](#)

And more than 30 other sessions are cross-listed with the Near-Surface Geophysics Focus Group!

1.2 Student information for the Fall Meeting

See the [student attendee guide](#) for information about travel grants and scholarships, pop-up talks, and other student information related to the Fall Meeting. [Apply](#) for student travel grants and scholarships by 12 August 2015.

Students with NS affiliation who are interested in attending the NSFG luncheon at the Fall Meeting should contact [Sarah Morton](#) or [Fred Day-Lewis](#) for a complimentary ticket. Availability is limited and tickets are first-come, first-serve.

1.3 New Fall Meeting Undergraduate Mentoring Program

AGU is piloting a program at the 2015 Fall Meeting that will pair a subset of undergraduate Fall Meeting attendees with more experienced attendees for an in-person mentoring experience, and we are currently recruiting [mentors](#). Mentors do not necessarily need to be senior scientists or AGU awardees/honorees; the most important requirements are that the mentor has attended at least one Fall Meeting before, shares the students' research/scientific interests, and has knowledge and experience that will be useful to the student. Learn more at <http://education.agu.org/undergraduate-students/agu-fall-meeting-undergraduate-mentoring-program/>.

1.4 Virtual Poster Showcase

A new and exciting opportunity for your undergraduate and graduate students to showcase their work is now available. Although many college students conduct research with faculty in organized summer programs or as part of their course work or their degree work, they often face barriers to traveling to present that research, especially at national conferences. The [virtual poster showcase](#) will allow participation by those students who can't travel. AGU is piloting [three opportunities](#) for an undergraduate and graduate virtual poster showcase in the fall of 2015. Contact [Pranoti Asher](#) (AGU Education and Public Outreach Manager) for more information.

2. Journal Information and Special Issue Call for Papers

2.1 *Geophysics* Special Issue: Nuclear magnetic resonance for near-surface applications

Deadline for manuscript submission: 1 September 2015

Following the 2015 International Workshop on Magnetic Resonance of the Subsurface (MRS), SEG Near Surface is soliciting manuscripts for a special section in *Geophysics* focused on nuclear magnetic resonance characterization of near-surface materials.

Nuclear magnetic resonance (NMR) is a promising method for investigating the properties of Earth materials, providing direct sensitivity to hydrogen-bearing fluids and their interactions with the pore space. In near-surface geophysics, NMR is most commonly used to determine water content and to estimate hydrogeologic properties such as pore size and hydraulic conductivity.

The special section will highlight the recent advances in the NMR method as applied to the characterization of the near surface. We seek papers that address the state of NMR as a geophysical measurement for near-surface applications in the field (using surface, borehole, or direct push NMR) and in the laboratory, as well as papers that address integrating NMR data sets into hydrogeological

models. We welcome the submission of papers that present novel applications and case studies of NMR, technical advances in instrumentation, new data interpretation, advancements in data acquisition and signal processing, and new forward modeling and inversion approaches. Authors who did not present at the 2015 MRS workshop but whose research fits the theme of this call are also encouraged to submit papers.

Authors should first register their interest and prospective title with the special section editors by sending an email to MRS2015@au.dk with "Special Issue: <paper title>" in the subject. Please also indicate when the manuscript will be submitted. The deadline for submitting manuscripts to the special issue is 1 September 2015. All submissions will be made using the [Geophysics online submission system](#). Please indicate, in the online submission system and in a cover letter to the editor, that the manuscript is intended for the MRS special section. Manuscripts that are submitted to this special section will undergo the standard *Geophysics* review process. Authors will also be asked to contribute to the review process.

The submissions will be processed according to the following timeline:

Submission deadline: 1 September 2015

Peer review complete: 15 March 2016

All files submitted for production: 1 May 2016

Publication of issue: July–August 2016

Special section editors: [Kristina Keating](#), [Lin Jun](#), [Mike Müller-Petke](#), [Ahmad Behroozmand](#), [Jean-Francois Girard](#)

2.2 *Earth's Future*: Now indexed in Web of Science

The AGU open access journal *Earth's Future* has been accepted for future indexing in Thomson-Reuter's Web of Science. Although the official impact factor won't be available for a few years, articles from the journal have already received high citations and altmetrics scores. Since the journal's inception in 2013, *Earth's Future* articles have reached a broad global audience, with 112,000+ visits and an 86,000+ full article downloads. *Earth's Future* is a transdisciplinary journal exploring global change and sustainability.

- [Learn more and submit a manuscript.](#)
- [Read Eos Article about Earth's Future](#)
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View Top-Cited *Earth's Future* Articles

- [An apparent hiatus in global warming?](#)
- [A geological perspective on sea-level rise and its impacts along the U.S. mid-Atlantic coast](#)
- [Socio-hydrology: Use-inspired water sustainability science for the Anthropocene](#)

3. Tech-Transfer Courses and Training

3.1 Multichannel Analysis of Surface Waves (MASW) Workshop

Dates: 27–28 August 2015

Registration cost: free

Location: [Kansas Geological Survey](#), Lawrence, Kansas

Website

This free 2-day [MASW](#) workshop will provide an opportunity for geoprosessionals, geoscientists, and graduate students to gain knowledge about acquisition, analysis, and interpretation of the seismic Rayleigh surface waves. The learning process will be facilitated by the use of [SurfSeis](#) software. The workshop is designed to address the current approaches for analyzing seismic data from both active and passive sources for obtaining shear-wave velocity (V_s) estimates for the near surface.

On Day 1 a theoretical overview of the MASW method (active and passive) will be presented, participants will be familiarized with the SurfSeis software package, and field data acquisition from both active and passive sources is scheduled to take place (weather permitting).

Day 2 will continue with the theoretical MASW overview covering surface-wave inversion, multimode interpretation and inversion, inversion sensitivity, use of a priori information and quality of inversion results, and the latest advancements for dispersion-curve imaging—such as the high-resolution linear Radon transform, challenging dispersion-curve patterns, and more. Seismic data acquired on Day 1 will be analyzed. Participants are encouraged to bring samples of their own data for discussion as time permits.

Attendees are expected to bring their own laptops.

4. Upcoming Conferences and Workshops

4.1 Meetings overview

Meeting (click to go to website)	Location	Meeting Dates	Submission	Registration
<u>AGU-SEG Workshop: Potential-Field and Electromagnetic Methods Applied to Basin Studies</u>	Keystone, Colorado	25–26 August 2015	<i>Closed</i>	Early registration ends: 29 July 2015
<u>Near-Surface Geoscience 2015</u>	Turin, Italy	6–10 September 2015	<i>Closed</i>	Late registration ends: 31 August 2015
<u>South African Geophysical Association 14th Biennial Conference and Exhibition</u>	Drakensberg, South Africa	6–9 September 2015	<i>Closed</i>	Late registration ends: 31 July 2015 Manual registration only after 1 August 2015
<u>Society of Exploration Geophysicists 85th Annual Meeting</u>	New Orleans, Louisiana	18–23 October 2015	<i>Closed</i>	Early registration ends: 19 August 2015
<u>Geological Society of America</u>	Baltimore, Maryland	1–4 November 2015	11 August 2015	Early registration ends: 28 September 2015
<u>3rd International Conference on Engineering Geophysics</u>	Al Ain, United Arab Emirates	15–18 November 2015	<i>Closed</i>	Early registration ends: 6 September 2015
<u>3rd International Workshop on Geoelectrical Monitoring (GELMON 2015)</u>	Vienna, Austria	24–26 November 2015	30 September 2015	Early registration ends: 15 October 2015
<u>AGU Fall Meeting</u>	San Francisco, California	14–18 December 2015	5 August 2015	Early registration ends: 12 November 2015
<u>2nd SEG/DGS Workshop: Near-Surface Modeling and Imaging</u>	Manama, Bahrain	6–7 March 2016	24 August 2015	September 2015

4.2 AGU-SEG Workshop: Potential-Field and Electromagnetic Methods Applied to Basin Studies

Submission Deadline: *closed*

Meeting Dates: 25–26 August 2015

Meeting Location: Keystone, Colorado

[Visit the Workshop Website](#)



This workshop will provide a platform for an exchange of concepts and ideas on the development and integrated application of potential-field and electromagnetic methods to define the structure and tectonics, natural resources, and hazards associated with active and relic basins.

4.3 Near-Surface Geoscience 2015

Submission Deadline: *closed*

Meeting Dates: 6–10 September 2015

Meeting Location: Turin, Italy

[Visit the Conference Website](#)



Near-Surface Geoscience 2015 is actually three conferences in one. Participants can attend the [21st European Meeting of Environmental and Engineering Geophysics](#), the [First Conference on Proximal Sensing Supporting Precision Agriculture](#), or the [First European Airborne Electromagnetics Conference](#). In addition, there will be several workshops available on 6 September.

4.4 South African Geophysical Association 14th Biennial Conference and Exhibition

Submission Deadline: *closed*

Meeting Dates: 6–9 September 2015

Meeting Location: Drakensberg, South Africa

[Visit the Conference Website](#)



The conference's organizing committee takes pleasure in extending an invitation to submit a paper for presentation at the South African Geophysical Association's 14th Biennial Conference and Exhibition, to be hosted at the Champagne Sports Resort in the majestic Drakensburg Mountains, South Africa.

Any queries regarding the paper submission process can be addressed via [email](#) to the SAGA 2015 Technical Committee.

For any questions regarding registration, please contact [Kathy](#).

4.5 Society of Exploration Geophysicists 85th Annual Meeting

Submission Deadline: *closed*

Meeting Dates: 18–23 October 2015

Meeting Location: New Orleans, Louisiana

[Visit the Meeting Website](#)



After 9 years of absence, the SEG International Exposition and 85th Annual Meeting is coming back to the Big Easy. History shows that whenever SEG's Annual Meeting is held in New Orleans, something special happens. The 1998 event, for example, still holds the record for the largest number of corporate-sponsored booths in the Exposition Hall, and in 2006, the SEG Annual Meeting was the first major international convention to be held in New Orleans after the city was ravaged by Hurricane Katrina. The success of the 2006 SEG Annual Meeting forecasted the remarkable recovery of New Orleans from a calamity that would have doomed any other city. A decade after Katrina, the "Who Dat" nation has won the Super Bowl, reaped top rankings for culinary events and experiences, become a hub for the TV and movie filming industry, and is one of the two U.S. cities that National Geographic ranked as 2014 Top Destinations in the World. It is certainly true that holding the SEG Annual Meeting in New Orleans is long overdue!

4.6 Geological Society of America Annual Meeting

Submission Deadline: 11 August 2015

Meeting Dates: 1–4 November 2015

Meeting Location: Baltimore, Maryland

[Visit the Meeting Website](#)



We encourage you to submit an abstract to the session "Contaminant Transport, Fate, and Remediation in Fractured Rocks" ([Topical Session T103](#)).

We welcome contributions by researchers and practitioners who are using innovative laboratory, field, and modeling methods to address the problem of groundwater contamination in fractured rocks. For example, we encourage abstracts on research that improves understanding of the hydraulic, transport, and biogeochemical properties and processes that control fate, transport, and retention of contaminants in fractured rocks. We also encourage abstracts on work that illuminates the processes occurring during remediation of contaminated fractured rocks by a wide range of methods, including those based on thermal, biological, geochemical, geophysical, and hydraulic principles. We aim for a session with contributions that span a wide range of geologic settings, investigative techniques, and contaminant types.

Conveners of this session include:

Claire Tiedeman, U.S. Geological Survey

Michelle Lorah, U.S. Geological Survey

Lee Slater, Rutgers University, Newark

If you have questions about the session, please contact any of the conveners. We hope to see you at session T103 in Baltimore!

4.7 3rd International Conference on Engineering Geophysics

Submission Deadline: *closed*

Meeting Dates: 15–18 November 2015

Meeting Location: Al Ain, United Arab Emirates

[Visit the Conference Website](#)



The United Arab Emirates University (UAEU) and Al Ain City Municipality, in partnership with the Society of Exploration Geophysicists (SEG), are proud to announce the third International Conference on Engineering Geophysics (ICEG). This third ICEG will take place 15–18 November 2015 on the grounds of the UAEU in the Conference Auditorium of the Crescent Building.

The success of the first and second ICEGs is reflected in the number of participants and the great interest shown by and feedback from both local authorities and the international geo-community working with geophysical methods applied to engineering, environmental, archaeological, geotechnical, and forensic problems. Overwhelming encouragement from this community has led to the third in the series and the decision to extend the fields of interest to a wider range of near-surface-related specialties, including groundwater, time lapse, security, seismicity, and geothermal, to name a few. Beyond this 2015 event, this world class series will be broadened to allow the sharing of knowledge with other regional partners with equivalent enthusiasm for the application of geophysics to near-surface problems.

In addition to the regular conference program, [Oz Yilmaz](#), in the 2015 SEG Distinguished Instructor Short Course, will deliver a full-day course on *Engineering Seismology: With Applications to Geotechnical Engineering* on 14 November 2015. [Learn more about the DISC at ICEG 2015.](#)

4.8 3rd International Workshop on Geoelectrical Monitoring (GELMON 2015)

Submission Deadline: 30 September 2015

Meeting Dates: 24–26 November 2015

Meeting Location: Vienna, Austria

[Visit the Workshop Website](#)



To foster scientific discussion and to support cooperation among the scientific groups, the Geological Survey of Austria invites you to the Third International Workshop on Geoelectrical Monitoring. The scope of this workshop will not only be the presentation of state-of-the-art results; significant time will also be reserved for the discussion of special topics of data acquisition, processing, inversion, and interpretation. Special topics include:

- Monitoring case studies in general (CO₂, landslides, embankments, permafrost, etc.)
- Inversion and modeling
- Data quality assessment
- Infrastructure monitoring
- New fields of application

Note that other topics are welcome. We would also kindly ask you to forward this invitation to any colleagues who might be interested in this event.

To facilitate event organization, please email [Stefanie Gruber](#) if you plan to attend. Please inform us if you are also planning to give an oral or poster presentation and specify the topic (the full title is not necessary).

For companies and institutes, there will be the opportunity to present their products and research at a company booth (400 €), which will be on display during the conference in a room adjacent to the main conference room. Sponsorship of a conference event (icebreaker party, conference dinner) is also welcome. For further information, contact [Stefanie Gruber](#). Registration by bank transfer will be open from 22 June to 16 November 2015.

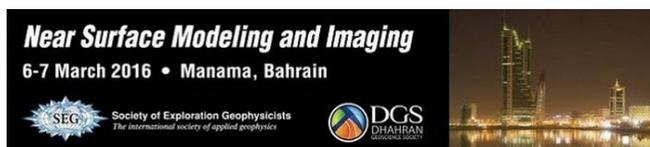
4.9 2nd SEG/DGS Workshop: Near-Surface Modeling and Imaging

Submission Deadline: 24 August 2015

Meeting Dates: 6–7 March 2016

Meeting Location: Manama, Bahrain

[Visit the Workshop Website](#)



The first edition of the workshop held in 2014 was well-attended by geoscientists from a wide geographic area, including North America, Europe, Asia, Africa, and the Middle East. A broad range of near-surface disciplines was represented, from academia and industry, covering aspects of engineering and hydrocarbon exploration. The workshop led to a greater understanding of the importance of knowledge sharing among various disciplines in the modeling and imaging of the near surface. The workshop also explored emerging and underdeveloped techniques, including ground-penetrating radar, full-waveform inversion, and surface waves. The need for further understanding of guided waves, anisotropy, velocity inversions, and the creation of an inclusive near-surface model was identified.

The objective of the upcoming [2016 workshop](#) is to follow up on 2014 discussions and to share recent case studies and advancements in emerging technologies addressing near-surface modeling, imaging, and characterization challenges.

5. Position Announcements

5.1 Environmental geophysicist position at Lawrence Berkeley National Laboratory

The [Earth and Environmental Science Area](#) of Berkeley Lab is seeking applications for a career track geological scientist specializing in environmental geophysics. Scientists in this Area conduct basic and applied research focused on hydrogeological, geochemical, and biological processes that are important for climate change, carbon cycling, environmental stewardship, and subsurface energy resources.

This career track environmental geophysics position is focused on developing new approaches to integrate diverse data sets (including geophysical data collected from surface and UAV-based platforms) and use of information to interpret complex terrestrial environment behavior. Essential for this position is demonstrated experience in the acquisition, inversion, and integration of hydrogeophysical and remote sensing data sets and knowledge of terrestrial system processes that govern water flow and biogeochemical cycles.

To apply, visit <http://jobs.lbl.gov> and reference the Job Number (81279).

5.2 Ph.D. student position in applied geophysics on three-dimensional inverse modeling of electromagnetic data, Uppsala University

A Ph.D. student position in 3-D MT and RMT inverse modeling at Uppsala University is advertised [here](#). The research will be conducted in cooperation with Dr. Zhengyong Ren, Central South University, China. Applications must be submitted by 15 August 2015.

5.3 Two Ph.D. positions in the field of hydrogeophysics at the Forschungszentrum Jülich, Germany

For our Institute of Bio- and Geosciences — Agrosphere (IBG-3), we are seeking two Ph.D. students with degrees in hydrogeophysics, environmental engineering, or a related natural or Earth science for two 3-year positions.

The Institute of Bio- and Geosciences — Agrosphere (IBG-3) conducts research to improve our understanding of hydrological and biogeochemical processes in terrestrial systems. A combination of experiments, modeling, and innovative observation technologies is used to bridge the gap between model, process, and management scale. Our research contributes to the sustainable and resource-conserving use of soils and water and to the quantification of the effect of climate and land use change on terrestrial ecosystems. We offer a competent and interdisciplinary working environment, as well as access to excellent experimental and modeling facilities.

Job Description:

Both positions focus on the improved conceptualization and parameterization of subsurface hydrological models using hydrogeophysical measurements. One student will work on a project dealing with the characterization, monitoring, and modeling of landslide-prone hillslopes for improved early warning of slope instability. In close collaboration with the University of Stuttgart, geophysical measurements and wireless sensor network data will be used to further develop and set up a physically based hydromechanical model (DuMuX) for slope instability. The second student will be part of project B6 of the SFB-TR32 (www.tr32.de). Here, work will focus on the added value of large-scale geophysical measurements (EMI and GPR) to conceptualize and parameterize 1-D and 3-D soil-vegetation-atmosphere models that will be used to investigate how subsurface patterns in soil properties propagate to the vegetation and atmosphere compartments.

For further information please contact [Prof. Dr. J.A. \(Sander\) Huisman](#).

Requirements:

- University degree in engineering or a natural science, preferably with a focus on modeling subsurface processes with a good final grade (in the German system 2.0 or better)
- Experience in programming with Matlab, Fortran, or C++
- Very good knowledge of written and spoken English
- Seeing working in an interdisciplinary team as a positive challenge

We offer:

- Working in an interdisciplinary environment, as well as excellent facilities for experimental and numerical simulation studies.
- Opportunities to be part of the national and international scientific community; Ph.D. students are encouraged to attend international conferences, and a 3-month research stay abroad with a cooperating partner is planned.
- Specialized courses, summer schools, and seminars by renowned experts.

Equal opportunities are a cornerstone of our staff policy, for which we have received the "TOTAL E-QUALITY" award. Therefore, applications from women and disabled people are encouraged. Payment of

the Ph.D. fellow will be based on salary grade 13/2 Collective Agreement for the Civil Service (TVöD). Depending on the candidate's profile and the subject of his or her Ph.D. thesis, an additional allowance may be granted (up to 75% TVöD EG 13).

Please send your **application**—quoting the reference number and the position of interest—with the relevant documentation to:

Mr. K. Beumers,
Institut für Bio- und Geowissenschaften,
Forschungszentrum Jülich GmbH,
52425 Jülich,
Germany

Email: k.beumers@fz-juelich.de

TO CONTRIBUTE MATERIAL TO THE NSFG NEWSLETTER, SEND AN EMAIL TO: [Burke Minsley](#)

DEADLINE: Material must be received 5 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.

GET YOUR MESSAGE OUT TO NS MEMBERS FASTER

You no longer need to wait until the end of the month to share an important or time-sensitive contribution to the newsletter. Appropriate contributions to the newsletter will also be shared ASAP via Twitter. Please note that only NSFG members who follow [@NS_AGU](#) will receive Twitter announcements, so make sure that you sign up!