



American Geophysical Union
Near-Surface Geophysics Focus Group (NSFG)
Newsletter: July 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 AGU Hydrogeophysics website

2. Journal Special Issue Call for Papers

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

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 (GSA) 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 Two Ph.D. positions in the field of hydrogeophysics at the Forschungszentrum Jülich, Germany

Recent announcements of interest to the Near-surface (NS) community (conferences, academic positions, graduate student opportunities, etc.) can be found at the [AGU NS 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 Multi-disciplinary 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](#)

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 AGU 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 AGU Hydrogeophysics website

The AGU Hydrogeophysics Technical Committee recently completed a major upgrade of the committee website. We are particularly grateful to committee member Mine Dogan (Michigan State University), who performed the bulk of the work in setting up the new site, which is now live at the same address: <http://hydrogeophysics.org/>.

The new site includes a Research Highlights page (administered by the committee). It also includes a page where current vacancies in hydrogeophysics can be posted. Any announcements for vacancies posted to the current listserv will automatically also be formatted and placed on this page for a limited time duration.

The current site has some relatively pleasing and quite calming photos depicting various hydrological settings. However, we'd like to replace them with photos that better capture what hydrogeophysics is all about. If you have a photo that captures hydrogeophysics in action and you would be willing to assign the copyright for it to be used on the site, we would like to receive it. Photos would need to work with the envelope aspect ratio used on the site.

2. Journal 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](#).

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 opportunity for geoprofessionals, 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 latest advancements for dispersion-curve imaging—such as the high-resolution linear Radon transform, challenging dispersion-curve patterns, and more. Day 1 acquired seismic data 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	25–27 August 2015	<i>Closed</i>	Will open mid-June 2015
<u>Near Surface Geoscience 2015</u>	Turin, Italy	6–10 September 2015	<i>Closed</i>	Early registration ends: 15 July 2015 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>	Opens 1 July 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	20 September 2015	Not announced
<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: 25–27 August 2015

Meeting Location: Keystone, Colorado

[Visit the Conference 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 queries 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 Conference 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 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 removed from 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 (GSA) Annual Meeting

Submission Deadline: 11 August 2015

Meeting Dates: 1–4 November 2015

Meeting Location: Baltimore, Maryland

[Visit the Conference Website](#)



The 2015 GSA Annual Meeting is coming to Baltimore, Maryland. Here in “the land of pleasant living,” Baltimore is also known as “Charm City.” I invite you to come during the first week of November to discover why.

Nestled on the fall line between the Coastal Plain and the Piedmont, GSA 2015 will visit a classic passive-margin tectonic setting. But there’s nothing passive about Baltimore, or the greater Baltimore-Washington metropolitan region! Activity will abound as we kick off the meeting with a Halloween icebreaker followed by a broad selection of technical sessions. Many premeeting and postmeeting field trips will be offered, along with premeeting short courses to provide anyone a professional development tune-up.

This year is the bicentennial of William “Strata” Smith’s revolutionary geological map of England, Wales, and portions of Scotland, published in 1815. The historical implications of this “map that changed the world” and its continuing relevance today to the success of geological investigations on Earth and across the Solar System will be highlighted throughout the meeting.

Our proximity to Washington, D. C., affords opportunities for field trips to the Smithsonian Institution and the National Mall. It also positions GSA 2015 as a natural forum for exploring the interface between the geological sciences and public policy. From climate change to hydraulic fracturing, look for technical sessions and field trips that tie into this critically important theme.

Need more reasons to attend GSA 2015? How about Career Pathways events for women in geology, geology in industry, and geology in government? Or the employment interview service? What about lunchtime “Feed Your Brain” events? And don’t forget to get out of the convention center to visit the

National Aquarium, Fort McHenry, the Inner Harbor, and loads of nearby restaurants and watering holes. I look forward to your contributions to GSA 2015 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 edition of the International Conference on Engineering Geophysics (ICEG). This third edition 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 by 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 options. Beyond this 2015 event, this world class series will be broadened to allow sharing of the event 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: 20 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 should 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 other colleague who might be interested in this event.

To facilitate an unobstructed organization of the event, we ask you to state your intention to participate in the GELMON 2015 workshop in a short email to [Stefanie Gruber](#). Please inform us if you are also planning to give an oral/poster presentation and specify the topic (full title is not necessary).

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

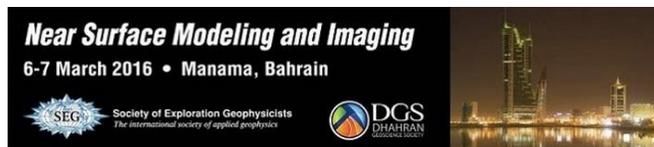
4.9 2nd SEG/DGS Workshop: Near Surface Modeling and Imaging

Submission Deadline: 24 August 2015

Meeting Dates: 6–7 March 2016

Meeting Location: Manama, Bahrain

[Visit the Conference 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 the near-surface modeling, imaging, and characterization challenges.

5. Position Announcements

5.1 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 PhD 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 in 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; PhD students are encouraged to attend international conferences, and a 3-month research stay abroad with a cooperating partner is planned
- Specialized courses, summer schools, 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 persons are welcome. Payment of the PhD 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/her PhD 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 five 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 will 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!