

AGU  
**Near-Surface Geophysics Focus Group (NSFG)**  
**Newsletter: February 2015**

**In brief:**

- 1. AGU Early Career and Student Representation**
- 2. GSSI Student Grant**
- 3. Update from SEG Near-Surface Geophysics Section**
- 4. Journal Special Issue Call for Papers**
  - 4.1 *Interpretation Special Issue*: Characterization and monitoring of subsurface contamination
  - 4.2 *Geophysics Special Issue*: Advancements in the measurement of the cryosphere using geophysics
- 5. Upcoming Conferences and Workshops**
  - 5.1 Near Surface Geoscience 2015
  - 5.2 77<sup>th</sup> EAGE Conference & Exhibition
  - 5.3 NovCare 2015 International Conference
  - 5.4 SAGEEP 2015
- 6. Position Announcements**
  - 6.1 PhD Position in Geophysical Joint Inversion
  - 6.2 Teck Geophysics, Senior Geophysicist Positions

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

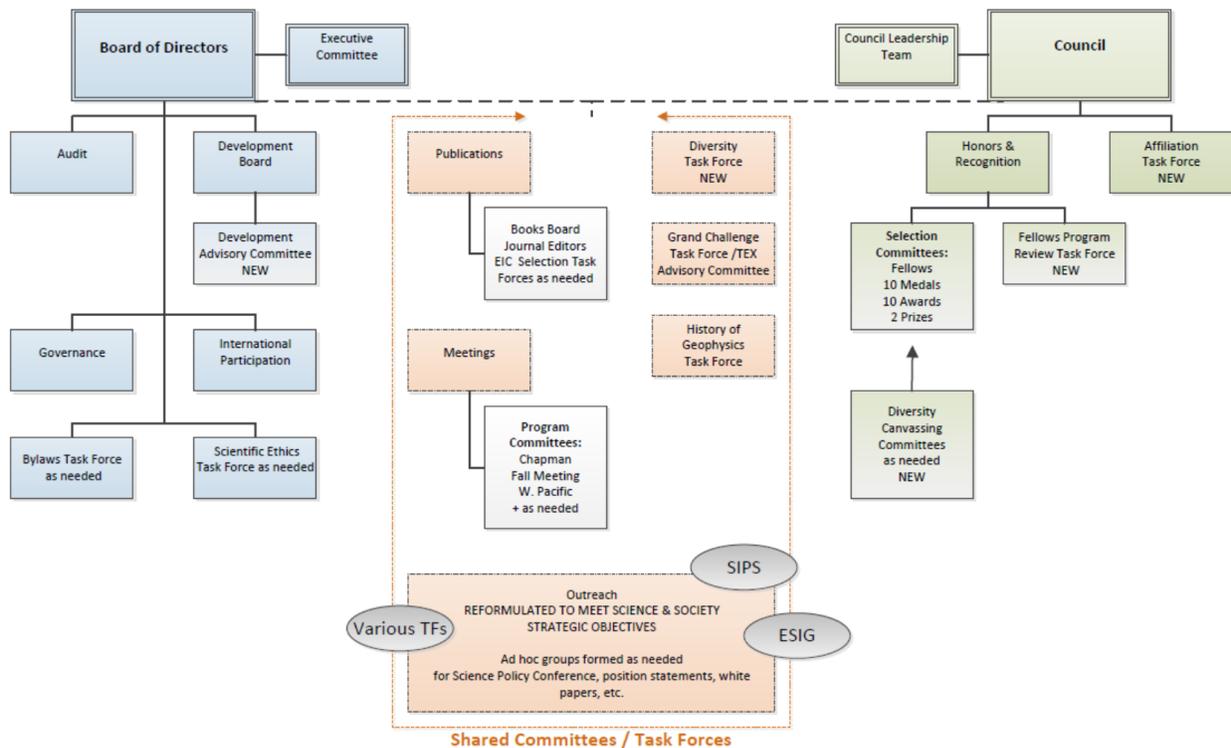
**Early Career Scientists:** Check out the [NSFG Early Career website](#).

**Follow NSFG on Twitter [@NS\\_AGU!](#)**

## 1. AGU Early Career and Student Representation

AGU values the voice of students and early career scientists as is evident by the fact that they serve on the AGU Board of Directors and Council. Serving in AGU leadership is important to our profession, but it is also an excellent opportunity to develop important skills for your career and expand your network. Serving on a committee is a good way to get started. Below is a diagram of committees and taskforces, or see the [AGU leadership committee website](#) for more detail. If something strikes your interest contact [Louise Pellerin](mailto:pellerin@greengeophysics.com) ([pellerin@greengeophysics.com](mailto:pellerin@greengeophysics.com)) about serving.

### 2013-2014 AGU Committees / Task Forces



## 2. GSSI Student Grant

Online applications for the GSSI student grant open 31 January 2015. For more details, see the [GSSI student grant website](#) and the [AGU research grants and fellowships page](#).

The new student grant is established by GSSI (Geophysical Survey Systems INC). The goal of the grant is to support NSFG student members conducting field geophysical research using Ground-Penetrating Radar (GPR) and Electromagnetic (EM) methods. The GSSI Student Grant will be up to US \$2000 and in addition it can include loan of field instrumentation by GSSI.

This is an annual award. Applications will open 31 January and will close by 15 March. The first award will be given in May 2015. Applications will be submitted online through the [AGU grants application website](#). Each application should include: Personal details (CV) and transcripts; Proposal narrative including research objective, benefit, methods and plan (not to exceed two pages); Proposed budget, including financial and equipment needs, and brief budget justification; One letter of support from research faculty advisor.

### 3. Update from SEG Near-Surface Geophysics Section

#### From John Lane, Chair, SEG Near-Surface

SEG NSGS members have voted to dissolve the NSGS and reform as a Technical Section of the SEG, officially known as *SEG Near Surface*. Voting closed on 13 December 2014, with 98% of participating members in support of restructuring.

In addition to activities related to restructuring the organization, planning is underway for the SEG Annual Meeting (18-23 October in New Orleans). The technical program will include near-surface oral and poster sessions, the jointly co-sponsored SEG/AGU *Standing Session on Hydrogeophysics* and a post-convention workshop tentatively titled *Dams and Levees: Assessing Critical Structures with Sound Geophysics*.

---

### 4. Journal Special Issue Call for Papers

#### 4.1 *Interpretation Special Issue: Characterization and monitoring of subsurface contamination*

##### **Deadline for manuscript submission: 1 March 2015**

Contaminated land is a significant problem that directly affects human health, ecosystems, and property. It also can impact valuable resources (e.g., groundwater, surface water). Contaminated sites exist in variety of sizes and locations, from a leaking underground storage tank to mega sites that stretch across several industrial facilities. Poor land quality can be the result of geogenic or anthropogenic activities, such as manufacturing, mining, and improper waste disposal. This can result in a wide variety of contaminants, across a range of concentrations and different media. Subsurface contamination characterization can be challenging from the surface since, very commonly, there is no surface footprint. Thus, novel, cost-effective, and cross-disciplinary methods are needed to accurately describe subsurface contamination and monitor its evolution over time.

Subsurface contamination characterization is an inherently difficult task due to the almost endless list of contaminants in a variety of host media and depths. Continuous advances of characterization methods, changes in regulatory standards, and the development of remediation systems further complicate this task. With this special section, we aim at bringing together scientists and engineers from different disciplines, with research focused in subsurface contamination, to highlight the current stage of the technology. Furthermore we want to bring forward recent research advances on characterization and monitoring methods, and identify the pathways for the industry to adopt them.

The editors of *Interpretation* ([www.seg.org/interpretation](http://www.seg.org/interpretation)) invite papers on the topic **Characterization and monitoring of subsurface contamination** for publication in a November 2015 special section to supplement the journal's regular technical papers on various subject areas.

We are seeking submissions on related topics including:

1. novel methods for characterization (e.g., geophysics)
2. state-of-the-art field sampling and interpretation
3. synergistic site characterization (established and novel methods)
4. long term, sustainable, monitoring
5. integrated databases for tracking contaminated sites

Interested authors should submit for review no later than 1 March 2015 via the normal [online submission system](#) for *Interpretation* (<https://mc.manuscriptcentral.com/interpretation>) and select the **Characterization and monitoring of subsurface contamination** special section in the dropdown

menu. In addition, the special section editors would like to receive a provisional title and list of authors as soon as possible. The submitted papers will be subjected to the regular peer-review process, and the contributing authors also are expected to participate in the peer-review process.

**Special section editors:** Dimitrios Ntarlagiannis, Rory Doherty, Ralph Costa, Kenneth Hurst Williams, Chi Zhang, Pantelis Soupios

---

#### **4.2 *Geophysics Special Issue: Advancements in the measurement of the cryosphere using geophysics***

##### **Deadline for Manuscript Submission: 28 February 2015**

The Near-Surface Geophysics Section of SEG is soliciting manuscripts for a special issue of *Geophysics* focused on methods used to investigate the cryosphere. The cold regions of Earth are of interest to the broad scientific community due to their importance in engineering, resource, and environmental problems. Ground-based, airborne, and space-borne geophysical measurements can all add valuable subsurface information used in understanding the frozen regions of Earth. This special section will highlight recent advances from a broad range of methods and applications that have provided significant new ability to study the cryosphere system. We seek discussions of field acquisition methods and new applications to measure cryosphere parameters using geophysical methods including seismic, georadar, electromagnetic, nuclear magnetic resonance, magnetic, electrical resistivity, LiDAR, synthetic aperture radar (SAR), etc. We seek case histories from cold and temperate glaciers, rock glaciers, permafrost or seasonal freezing, sea ice, river and lake ice, and snow covers in alpine, valley or plains settings.

Authors should first register their interest and prospective title with the special section editors and plan to submit their manuscripts for review no later than 28 February 2015. All submissions can be made using the [Geophysics online submission system](https://mc.manuscriptcentral.com/geophysics) (<https://mc.manuscriptcentral.com/geophysics>). Please indicate that the manuscript is intended for the *Advancements in the measurement of the cryosphere using geophysics* special section in the online submission system and in a cover letter to the editor. Please note, that if you submit, your manuscript will go through the standard Geophysics review process and authors will also be asked to contribute to the review process.

A link to Manuscript Central where submissions may be made is [here](#). Remember to choose the “*cryosphere methods in GEOPHYSICS*” from the “Manuscript Type” drop down menu to ensure that each submission is routed to the guest editorial team. Please share this announcement with others who may be interested.

If questions arise, please do not hesitate to [contact Andrew Parsekian](mailto:aparseki@uwyo.edu) ([aparseki@uwyo.edu](mailto:aparseki@uwyo.edu)), or another member of the guest editorial board (Steve Arcone, John Bradford, Bernd Kulesa, George Tsoflias).

---

## 5. Upcoming Conferences and Workshops

### 5.1 Near Surface Geoscience 2015

**Submission Deadline:** 15 April 2015

**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 [21<sup>st</sup> European Meeting of Environmental and Engineering Geophysics](#), the [1<sup>st</sup> Conference on Proximal Sensing Supporting Precision Agriculture](#), or the [1<sup>st</sup> European Airborne Electromagnetics Conference](#). In addition, there will be several workshops available on 6 September.

---

### 5.2 77<sup>th</sup> EAGE Conference & Exhibition

**Submission Deadline:** 15 January 2015 (Conference); 13 February 2015 (Workshops)

**Meeting Dates:** 1-4 June 2015

**Meeting Location:** Madrid, Spain

[Visit the Conference Website](#)



Near surface focus-topics for the conference call for abstracts are listed below; see conference website for a full list:

- Environmental and Hydrological Issues Related to Unconventional Resource Exploitation
- Characterization and Monitoring of Hydrocarbon Polluted Sites
- Exploration Applied to Water Resources Estimation and Management
- Geophysical Site Characterization Applied to Climate Change Evaluation
- Geophysical Investigation and Monitoring of Shallow Hazards
- Geophysical Investigation and Monitoring for Induced Seismicity
- Near-surface Characterization for Hydrocarbon Prospecting
- Risk Assessment of Shallow Sub-seabed
- Site Investigation for On- and Off-shore Engineering

#### **Workshop on “Full Waveform Inversion for Near-surface Characterization”**

This one-day workshop will be held on 1 June 2015. The workshop will highlight the state of the science and critical future directions in using accurate forward modeling programs in full-waveform inversion algorithms to obtain sub-wavelength resolution images of the near surface. Recently successful field data applications of FWI have been published in the non-destructive material testing using ultrasonics, the prospecting of the near-surface using ground penetrating radar, and the reconstruction of elastic properties from shallow seismic Rayleigh waves. During the workshop recent developments will be discussed and it is expected that the workshop will include presentations about the theoretical background, synthetic examples, and several case histories for ultrasonics, shallow seismics and ground penetrating radar applications. The workshop shall consist of oral and poster presentations depending on the number of submissions. Sufficient time will be given for discussion to allow for the exchange of knowledge and experiences.

Two to four (2-4) A4 sized page abstracts should be submitted before 13 February 2015. [Additional information is available online](#). For more information please [contact Thomas Bohlen \(thomas.bohlen@kit.edu\)](#) or [Jan van der Kruk \(j.van.der.kruk@fz-juelich.de\)](#)

---

### 5.3 NovCare 2015 International Conference

**Submission Deadline:** 27 February 2015

**Meeting Dates:** 19-21 May 2015

**Meeting Location:** Lawrence, Kansas

[Visit the Conference Website](#)



The **NovCare 2015** International Conference (Novel Methods for Subsurface Characterization and Monitoring: From Theory to Practice) will take place 19-21 May 2015 at the University of Kansas in Lawrence, Kansas, a delightful college town in the central United States. This conference, organized by the University of Kansas, Michigan State University, the Helmholtz Centre for Environmental Research, and the University of Tübingen, is the fourth conference in a series that has proven to be an excellent forum for exchanging ideas and experiences related to the challenges of subsurface characterization and monitoring. Previous conferences in the series were in Leipzig in 2009, Cape Cod in 2011, and Leipzig again in 2013.

**NovCare 2015** will again provide an outstanding platform for researchers and practitioners from all over the world to share research on innovative methods for characterization and monitoring of aquifers, soils, and watersheds. The six thematic categories of **NovCare 2015** are **(1)** integrated characterization of the unsaturated and saturated zones, **(2)** characterization at the interface (stream-aquifer interactions, coastal settings, etc.), **(3)** opportunistic characterization (natural/anthropogenic stimuli and tracers of opportunity), **(4)** new tools for watershed characterization, **(5)** geotechnical site characterization, and **(6)** long-term monitoring.

Invited speakers for NovCare 2015 from the geophysics community include Rick Miller, Rosemary Knight, Esben Auken, and Jens Tronicke.

Abstract submission deadline is 27 February 2015.

We cordially invite you to participate in the conference and present your work. [Further information is available online](#).

---

### 5.4 SAGEEP 2015

**Submission Deadline:** *closed*

**Meeting Dates:** 22-26 March 2015

**Meeting Location:** Austin, Texas

[Visit the Conference Website](#)



#### **SAGEEP 2015 Update: Registration is Open!**

You will soon receive a message from EEGS regarding registration instructions for SAGEEP 2015. Below is some inside information on key SAGEEP events that should help you register and plan your travel to Austin. **Remember, pre-registration closes on March 6.** Many of the “extra” events described below have limited space. Please register as soon as you can to ensure we can save a spot for you. You can

register online now at <http://enengs.memberclicks.net/program>. Keep checking [www.eegs.org/sageep-2015](http://www.eegs.org/sageep-2015) for the latest conference information.

### Technical Program and Abstracts

228 abstracts for oral and poster presentation have been accepted for SAGEEP. You can find a list of submitted papers and instructions for extended abstracts at [www.eegs.org/abstracts-sessions](http://www.eegs.org/abstracts-sessions). Contact technical chair Brad Carr ([bcarr1@uwyo.edu](mailto:bcarr1@uwyo.edu)) for further information on presentation dates and times.

### Conference Schedule and Special Events

In addition to the stellar technical program, we have several extracurricular events planned to introduce you to Austin and to other attendees. We highly encourage you to join us for any or all! We've tried very hard to maximize the enjoyment and minimize the cost. Below is a brief summary of the schedule. Please check the [Preliminary Schedule at a Glance](#) for further scheduling information.

#### Sunday, March 22

- Pre-Conference Tours/Events
- Icebreaker & Student Event
- Short Courses

- Happy hour (with a ticket for one free beer) in the poster area at the close of the day
- Conference Evening at Max's Wine Dive

#### Monday, March 23

- Opening Session
- Best of EAGE's NSGS
- Geoscientists *Without Borders*® Luncheon
- Technical Sessions
- Outdoor Equipment Demonstrations/Texas BBQ

#### Wednesday, March 25

- Technical presentations and posters
- Student Career Luncheon and Forum
- Happy hour (and another free beer ticket!) at the poster area, which may morph into an informal closing party on the hotel patio and lawn

#### Tuesday, March 24

- Technical presentations and Posters
- EEGS/NS Community Luncheon and Forum

#### Thursday, March 26

- Short Courses (passive seismic, borehole geophysics, and water-borne geophysics)
- Full Day Field Trip, "Geologic and Engineering Wonders of Austin"

### Final Notes

Remember that SAGEEP immediately follows SXSW, a major music, film, and interactive festival with strong international appeal. We have set aside some rooms at the conference hotel (Sheraton at the Capitol, [www.eegs.org/hotel-venue](http://www.eegs.org/hotel-venue)) beginning the Wednesday before SAGEEP (March 18<sup>th</sup>) for those who wish to come a few days early and catch some SXSW (go to [sxsw.com/schedule](http://sxsw.com/schedule) for a listing of events). Please make your hotel reservations early!

Local committee members Dennis Mills ([dmills@expins.com](mailto:dmills@expins.com)), Doug Laymon ([doug.laymon@tetrattech.com](mailto:doug.laymon@tetrattech.com)), Brad Carr, and I ([jeff.paine@beg.utexas.edu](mailto:jeff.paine@beg.utexas.edu)) look forward to seeing you in Austin in March! Please let us know if there's anything you need.

---

## 6. Position Announcements

### 6.1 PhD Position in Geophysical Joint Inversion

The Exploration and Environmental Geophysics (EEG) group at ETH Zurich (Swiss Federal Institute of Technology) has an immediate opening for an ambitious and talented PhD candidate. The position is within the area of geophysical joint inversion where we wish to develop new methods for integrating

multiple geophysical data sets acquired over complex geologies. We are looking for a candidate with a strong interest in data integration, geophysical inversion and the link between geology and the physical properties of the Earth. The research is part of EEG's industry consortium CARNEVAL and the geothermal initiative of the Swiss Competence Center for Energy Research – Supply of Electricity (SCCER-SoE). The link to the two projects offers access to excellent geophysical data sets and many opportunities for collaboration.

The successful candidate for the PhD project position should hold a Masters degree in geophysics, physics, applied mathematics, or similar fields, and should have a keen interest and preferably some experience in geophysical data processing and inversion theory. Good knowledge of English is essential and, although not essential, basic understanding of German is an advantage.

We can offer a dynamic workplace with highly qualified scientists, excellent computational facilities, a broad range of state-of-the-art geophysical equipment. In addition, our group has access to high-performance computing systems owned by ETH. The Exploration and Environmental Geophysics group at ETH Zurich is embedded in a vibrant Earth Science department, which will offer many opportunities for collaborative projects.

For more information on the project, you may contact Prof. J. Robertsson or Dr. J. Doetsch ([joseph.doetsch@erdw.ethz.ch](mailto:joseph.doetsch@erdw.ethz.ch)). Interested candidates should send their Curriculum Vitae and the names and addresses of three referees by 20 February 2015 to:

Prof. Dr. Johan Robertsson  
Institute of Geophysics  
ETH Zurich  
Sonneggstrasse 5  
CH-8092 Zurich, Switzerland  
[Johan.robertsson@erdw.ethz.ch](mailto:Johan.robertsson@erdw.ethz.ch)

More information on our group can be obtained at <http://www.eeg.ethz.ch>

---

## 6.2 Teck Geophysics, Senior Geophysicist Positions

Teck is advertising for a temporary (13 months) [Senior Project Geophysicist](#) in Vancouver, Canada, and also a [Senior Geophysicist/South America](#) in Santiago, Chile. Follow the links above for position details and to apply.

---

### TO CONTRIBUTE MATERIAL TO THE NSFG NEWSLETTER SEND AN E-MAIL TO:

[Burke Minsley \(bminsley@usgs.gov\)](mailto:bminsley@usgs.gov)

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 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 that follow [@NS\\_AGU](#) will receive Twitter announcements; so make sure that you sign up!