



**NEAR-SURFACE GEOPHYSICS FOCUS GROUP  
NEWSLETTER: MARCH 2014**

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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://sites.agu.org/nsg/>

**Follow NSFG on Twitter @NS\_AGU!**

### **1. AGU Elections: Call for NSFG President-elect and Secretary Nominations (from G. Tsoflias, NSFG President)**

Later this year, AGU will elect its next set of officers for the 2015-2016 term and the nomination process is now underway. We are looking for possible candidates for Near Surface Focus Group President-elect and Secretary. If you are interested in being considered or would like to nominate another member, please send an email to Louise Pellerin ([pellerin@greengeophysics.com](mailto:pellerin@greengeophysics.com)). As you consider those opportunities it will be helpful to review AGU's strategic plan (<http://sites.agu.org/leadership/strategic-plan/>) and the leadership criteria and job description for Council members (Focus Group President and President-elect serve in the AGU Council) (<http://sites.agu.org/leadership/volunteer/job-descriptions/>). The email should include some information about the possible candidate: name, job title, employer, AGU section/focus group affiliation(s), email and phone number, link to website/CV, if possible. It would also be helpful to know why you are nominating yourself or the other member - what strengths do you think they bring to the table?

Nominations should be submitted by 15 March 2014. If you have any questions, please contact Louise Pellerin ([pellerin@greengeophysics.com](mailto:pellerin@greengeophysics.com)).

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### **2. 2014 AGU Fall Meeting Session Proposals (from Xavier Comas)**

The deadline for session proposals for the 2014 AGU Fall Meeting is quickly approaching (9 April 2014). Submission of session proposals will be officially opening soon at:

<http://fallmeeting.agu.org/2014/scientific-program/session-proposal-guideline/>

The Near Surface Geophysics Focus Group is planning on several sessions and is looking for students interested in getting involved with helping convening some of these sessions. Any students interested please email Xavier Comas ([xcomas@fau.edu](mailto:xcomas@fau.edu)).

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### **3. Report on the Agricultural Geophysics Webinar Series (from Stephen Moysey)**

The first Agricultural Geophysics Webinar was successfully held on 18 February 2014 with over 50 participants logging in online from around the world. Talks were presented on topics covering EMI (Richard Taylor, Dualem), electrical methods (Larisa Golovko, LandViser), GPR (Jim Doolittle, USDA-NRCS), and proximal soil sensing (Viacheslav Adamchuck, McGill University), with an overview of agricultural geophysics given by Newell Kitchen (USDA-ARS). An interactive discussion touching on topics ranging from magnetic susceptibility to engaging a geophysical contractor were covered. Recordings of the talks and the discussion are freely available online to all at [www.ag-geophysics.org](http://www.ag-geophysics.org).

*If you're interested in geophysics and soils please join us this fall for the next webinar in the series!*

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### **4. INTERPRETATION Special Issue: Geophysical Imaging and Interpretation of Outcrops (from Remke van Dam)**

Keep your eye out for a Special Issue of *Interpretation* on "Geophysical Imaging and Interpretation of Outcrops". The anticipated submission deadline will be 30 August 2014, with publication in May 2015. More details will be announced soon online at:

<http://www.seg.org/resources/publications/interpretation/specialsections>

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## 5. SAGE – Summer of Applied Geophysical Experience (from Louise Pellerin)



SAGE, the Summer of Applied Geophysical Experience, is a unique educational program designed to introduce students in geophysics and related fields to "hands on" geophysical exploration and research. The program emphasizes both teaching of field methods and research related to basic science and a variety of applied problems.

SAGE is hosted by the National Security Education Center and the Earth and Environmental Sciences Division of the Los Alamos National Laboratory. Major support for SAGE is provided by the U. S. Department of Energy and U. S. National Science Foundation. SAGE is a National Science Foundation Research Experiences for Undergraduates program.

LEARN seismic reflection & refraction techniques. GET to the gravity of the matter. FAMILIARIZE yourself with electromagnetic methods. APPLY geophysics to environmental or archaeological problems. MEET other students with similar geophysical interests. INTRODUCE yourself to career opportunities - make contacts with industry representatives. STUDY the tectonics of an active continental rift.

### **Announcing.... SAGE 2014**

#### **U.S. Undergraduates\***

**Tuesday 17 June to Friday 11 July, 2014**

#### **All foreign and graduate students**

**Friday 20 June to Friday 11 July, 2014**

**\*"undergraduate" means BS, BA or equivalent degree not awarded by time of participation in SAGE**

**Further information visit [www.sage.lanl.gov/](http://www.sage.lanl.gov/)**

**The application deadline is 5:00 PM US Mountain Daylight time, Friday, 29 March for SAGE 2014.  
The deadline is FIRM, as evaluations begin immediately after 29 March.**

## 6. Upcoming Conferences and Workshops

### 6.1 SAGEEP 2014 (from Jutta Hager)

**Conference Dates:** 16-20 March 2014

**Website:** <https://www.eegs.org/Annual-Meeting-SAGEEP/SAGEEP-2014>

The technical program will feature over 200 oral and poster presentations from Monday through Wednesday afternoon, with topics ranging from A (Agricultural Geophysics) to U (UXO). The conference will formally open with the Keynote Speaker, Bill Eustes, Associate Professor in Petroleum Engineering and Distinguished Lecturer at the Colorado School of Mines, with a presentation on the subsurface exploration on Mars. Bill's talk will focus on drilling below the Mars surface, as well as the geophysical exploration scheduled to start in 2015. The Keynote Session will be followed by a Special Session containing the best of 2013 EAGE/NSGD. Tuesday and Wednesday will include exciting luncheon presentations by two eminent geophysicists working in New England. On Tuesday, Professor John Ebel from Boston College will present a talk summarizing the history of Boston's expanded fill area and focusing on the soil amplification and liquefaction potential in the area. On Wednesday, Dr. Steven Arcone of the Cold Regions Research and Engineering Laboratory (CRREL) will discuss his ground penetrating investigation of the sub bottom sediment and bedrock characteristics of Mirror Lake in Woodstock, New Hampshire. Sunday, March 16th, will showcase courses on Google Earth and Induced Polarization Applications. Thursday will have MASW Fundamentals Plus and a Utility Locating Technologies Overview. Other SAGEEP activities will include a Sunday North Shore field trip, Sunday night Icebreaker, Monday afternoon Outdoor Demonstration, Monday evening Student Event, and Tuesday evening Special Event set up by our Exhibits Organizer Mickie Allen.

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### 6.2 2014 SEG Annual Meeting, Denver (from Remke van Dam)

**Conference Dates:** 26-31 October 2014

**Abstract Submission:** 5 March – 2 April 2014

**Website:** <http://www.seg.org/web/annual-meeting-2014/overview>

The 2014 SEG Annual Meeting will be held next October in Denver, Colorado. The abstract submission window is 5 March – 2 April. This year's Topic Leader for the Near Surface is John Lane (USGS) and a joint AGU-SEG Hydrogeophysics (standing) Special Session is being organized by Kristina Keating (Rutgers University). Please consider submitting an abstract and joining us at SEG!

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### 6.3 Joint SEG/AGU Summer Research Workshop: Advances in Active + Passive "Full Wavefield" Seismic Imaging: from Reservoirs to Plate Tectonics (from Louise Pellerin)

**Workshop Dates:** 21-24 July 2014

**Abstract Deadline:** 1 May 2014

**Website:** [www.seg.org/meetings](http://www.seg.org/meetings)

Rapid developments are occurring in advanced seismic imaging and inversion research, using "full wavefield" approaches, and very large broadband sensor arrays. These advances are happening at detailed reservoir scales (hydrocarbons, geothermal, groundwater, CO<sub>2</sub> sequestration...), up to much larger earthquake seismology and global plate tectonics scales. The purpose of this joint SEG-AGU summer research workshop is to bring together leading scientists in full wavefield seismic imaging/inversion research from across a broad spectrum to share their knowledge and challenges, compare notes and find synergies that may lead to new collaborations and breakthroughs in imaging the Earth.

#### **6.4 Multichannel Analysis of Surface Wave (MASW) Workshop (from Mary Brohammer)**

**Conference Date:** 24-25 April 2014

**Location:** Kansas Geological Survey (KGS), Lawrence, Kansas

**Conference Website:** <http://www.kgs.ku.edu/software/surfseis/workshops.html>

The two-day MASW workshop will provide opportunity for geo-professionals, 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 (<http://www.kgs.ku.edu/software/surfseis/index.html>). 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 take place (weather permitting).

Day 2 will continue with the theoretical MASW overview covering surface-wave inversion, multi-mode interpretation and inversion, inversion sensitivity, use of a-priori information and quality of inversion results, latest advancements for dispersion-curve imaging—such as the high-resolution linear Radon transform (HRLRT), 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.

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#### **6.5 First Applied Shallow Marine Geophysics Conference (from Mark Vardy)**

**Conference Date:** 14-18 September 2014

**Location:** Athens, Greece

**Conf. Website:** <http://www.eage.org/events/index.php?evp=12577&ActiveMenu=2&Opendivs=s3>

**Extended Abstract Deadline:** 15 April 2014

Sponsored by EAGE, the conference aims to bring together practitioners and researchers from industry and academia who develop and apply geophysical methods to the seafloor and shallow overburden. While major recent advances have been made in reservoir geophysics, the shallow overburden has traditionally received significantly less attention, despite having a heavy influence on wave propagation to deeper reservoir targets and being host to a number of geohazards. These include shallow water flows, shallow gas, hydrates, landslides, glaciotectonics, and sediment flows, along with geomorphological features such as pockmarks, pipes, diapirs, channels, canyons, boulders, ploughmarks, faults, and seepage mounds.

The technical committee strongly encourage papers that demonstrate the current state-of-the-art and present lessons learned from case studies. This will set the scene to identify new trends and technologies required to help in geophysical site characterisation and geohazard assessments: from survey design and acquisition to quantitative and integrated data interpretation techniques. For the full conference announcement see:

[www.eage.org/images/cms/files/Conferences/NSG14%20SMG%20first%20announcement.pdf](http://www.eage.org/images/cms/files/Conferences/NSG14%20SMG%20first%20announcement.pdf)

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## 7. Position Announcements

### 7.1 Marine Geophysics Post-Doc Position; GEOMAR Helmholtz Centre, Germany (from Marion Jegen)

We are looking for a motivated and enthusiastic Post Doctoral Fellow in the research unit "Marine Geodynamics". The position is available from 01 May 2014 onward. The successful candidate will develop his/her own research portfolio in the field of integration of geophysical data (i.e., electromagnetic, seismic and gravimetric data) for marine resource assessment as part of our core strategic program (POF). Possible working areas include development of data integration concepts for methane hydrate/gas quantification, marine ore deposit exploration or imaging of geologically complex regions (i.e. sub-basalt or sub-salt imaging offshore passive margins). The successful candidate is expected to have experience in modelling and inversion, should have a PhD in geosciences and have a strong publication record.

The position is full-time which can be split and available for an initial funding period of three years with a possibility of extension after successful evaluation. The salary depends on qualification up to the class 13 TVöD of the German tariff for public employees. The successful candidate will have the possibility to join the Integrated Marine Postdoc Network (IMAP) within the Cluster of Excellence 'Future Ocean'. The network is geared towards scientists on non-permanent. The GEOMAR Helmholtz Centre for Ocean Research is an equal opportunity employer and encourages female scientists and scientists with disabilities to apply. ***Please send your application including CV, PhD certificate, publication list, names and contact details of three referees, and a short description of your research plan no later than 15 March 2014 to the following address:***

GEOMAR Helmholtz Centre for Ocean Research Kiel Human Resource Division K.  
Mahn Wischhofstraße 1-3  
D-24148 Kiel  
GERMANY

Please mention the keyword "Geophysical Data Integration" on the envelope and on the application. A re-addressed envelope is greatly appreciated. For further information please contact Dr. Marion Jegen, ph.: +49 431 6002560 ([mjegen@geomar.de](mailto:mjegen@geomar.de)).

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### 7.2 Principal Scientist – Electromagnetics; Halliburton, Singapore (from Glen Wilson)

Apply your exceptional technical and leadership abilities to the role of Principal Scientist - Physics. In this capacity, you will apply theories, principles and practices to the research and development of new and improved products, processes and procedures. In addition, you will perform routine research and experimentation, document progress, communicate the needs of the consumer, and participate in professional societies.

#### Requirements:

- Undergraduate and PhD degrees in Electrical Eng, Geophysics, Physics, Mathematics, or equivalent
- Experience with electromagnetics or magnetics
- Experience in developing numerical modeling and/or inversion software
- Experience with software development in Matlab or Fortran
- Experience with geophysical data acquisition and processing systems
- Good communication skills
- Prior oilfield experience (preferred)

Applicants should apply online at [www.halliburton.jobs](http://www.halliburton.jobs) to Requisition Number 00256233.

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### 7.3 Director Physical Science, Sustainability, and Engineering, New York Academy of Sciences

The New York Academy of Sciences is an independent, not-for-profit organization committed to advancing science, technology, and society worldwide since 1817. With 25,000 members in 140 countries, the Academy has one of the world's most elite networks of experts and partner organizations – 28 Nobel Prize winners and scores of academic and industry executives on its President's Council and Board of Governors as well as alliances with 40 universities and academic medical centers and scores more multinational companies and NGOs. The Academy uses these networks to catalyze path-breaking initiatives for scientific, social and economic benefit. Its core mission is to advance scientific knowledge, positively impact the major global challenges of society with science-based solutions, and increase the number of scientifically informed individuals in society at large. The Academy facilitates communications among scientists, physicians, students, educators, executives, policy makers, government officials and journalists from around the globe through its interdisciplinary conferences, meetings and diverse electronic and print publications. The Academy employs 80 professional and support staff, and has an annual operating budget of \$15+ million.

#### SCOPE OF RESPONSIBILITIES:

The Director of Physical Sciences, Sustainability, and Engineering (PSS&E) will work with the Executive Director of Scientific Programs and the Executive Director of Policy Evaluation and Transformation Group to build focused programs to enhance the Academy's scientific, educational, and policy impact within and among these disciplines. The Director will be expected to demonstrate a high-degree of entrepreneurialism, working with corporations, foundations, government agencies, individuals, and other Academy staff to create a portfolio of activities in PSS&E, including for example scientific conferences, scoping projects, and public-private partnerships, that will address specific areas of interest among these stakeholders. While the Director will serve as lead for projects with a disciplinary and cross-disciplinary focus in PSS&E, including computer science and engineering, microelectronics, physics, chemical engineering, environmental science, green buildings, manufacturing, alternative energy, and others, he or she will also provide ongoing support to other Academy projects in education and policy, and will work with other departments to meet program goals and deadlines.

#### PRIMARY ACCOUNTABILITIES:

- Track current trends in relevant areas of PSS&E, including computer science, physics, chemical engineering, biomolecular engineering, environmental science, alternative energy, sustainability, and other related sciences, looking for areas where the Academy can play a substantive role.
- Design, manage, and execute a portfolio of high-impact science, education, and/or policy-related programs in PSE&E, including conferences, symposia, policy projects, scoping exercises, and public-private partnerships in close collaboration with other Academy staff.
- Write and submit grant proposals to relevant foundations, academic institutions, corporations, government agencies, and other potential supporters.
- Initiate and cultivate relationships among universities, corporations, foundations, government agencies, and other organizations, especially in relevant PSS&E areas.
- Develop and adhere to annual program budget; discuss and monitor financial obligations with sponsors and partners.
- Work with the Academy staff to ensure timely electronic and/or print dissemination of project publications. Present project and program work to external audiences.
- Work collaboratively with support departments to ensure smooth program execution.

#### REQUIREMENTS:

Masters or PhD in a relevant scientific field (e.g. physics, engineering, computer science, environmental science) with 3-5 years of experience in Industry, academia, non-profits/NGO's, or related setting. Outstanding oral and written communication skills with both academic and non-academic audiences. Experience, ability, and comfort in dealing with complex scientific information beyond own area of expertise. Grant writing experience and project management highly desired. Ability to work with multiple teams across departments and to manage multiple parallel projects with tight deadlines. The Academy is an Equal Opportunity Employer seeking a diverse workforce. We offer an excellent compensation and benefits package to both full-time and part-time staff that includes affordable health care insurance, tuition reimbursement, retirement plan, and liberal vacation time and holiday schedule.

#### HOW TO APPLY:

Applications must include a resume, cover letter which includes salary history and/or requirements, and a 1–2 page statement discussing specific contributions you can make to the Academy's Physical Science, Sustainability, and Engineering portfolio, including areas that you think the Academy can make a contribution. Please visit us on the web at [www.nyas.org](http://www.nyas.org). To see this add online go to: <http://www.nyas.org/AboutUs/Careers/Positions.aspx?cid=7a20fd67-59ac-41a2-bc00-b13dad14fec1>

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

Stephen Moysey ([smoysey@clemsn.edu](mailto:smoysey@clemsn.edu))

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!