



**American Geophysical Union  
Near-Surface Geophysics Focus Group (NSFG)  
Newsletter: September 2016**

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Recent announcements of interest to the near-surface community (conferences, academic positions, graduate student opportunities, etc.) can be found on 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 Two Remaining Virtual Poster Showcases in 2016

Abstracts are open for AGU's [Virtual Poster Showcase](#) (VPS). An undergraduate showcase and graduate student showcase allow students to share and present their research using an online platform. Although many 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. [Watch this video](#) to learn more about how this exciting opportunity allows students that can't travel to conferences a path to share their work. If you are a faculty member who is interested in being a judge for VPS or in incorporating the showcases as part of a capstone experience for your students, contact [Pranoti Asher](#).

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### 1.2 Serve as a Mentor at Fall Meeting

This year at Fall Meeting, there will be [three mentoring programs](#). Make an impact and volunteer as a meeting mentor today. Although mentor applications for the [Undergraduate Mentoring Program](#) close **Monday, 15 August** (extended deadline), please e-mail [mentoring@agu.org](mailto:mentoring@agu.org) if you receive the message after the closing date. There might still be spots available to mentor an undergraduate. [Career and Research Advice Mentorship \(CRAM\)](#) mentor applications close **Tuesday, 4 October, at 11:59 P.M. EDT**.

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### 1.3 Announcement of the 2016 Honorees

- [Section and Focus Group Award and Lecture Recipients](#)
  - [Union Awards, Medals and Prizes Honoree](#)
  - [Union Fellows Honoree](#)
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### 1.4 Upcoming AGU Leadership Elections

The [2016 AGU election](#) will be held from 29 August through 27 September, allowing members 30 days to vote. Please mark your calendar and plan now to cast your votes for critical leadership positions. This is a great opportunity for your voice to be heard.

You can find short bios for the Near Surface Focus Group Candidates for President-elect (Xavier Comas and Jan Van Der Kruk) and Secretary (Andy Parsekian and Chi Zhang) [here](#).

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### 1.5 Help NSFG Benefit from the AGU Section and Focus Group Incentive Program!

Please consider giving to AGU so that NSFG can take advantage of the 2016 Donor Incentive Program. This tax-deductible gift will not only assist AGU but will support our focus group's initiatives. If only 5% of our members (i.e., about 20 people) give \$50 or more in 2016, AGU will provide NSFG with \$1000. If 10% of our members give \$50 or more, AGU will provide \$3000! Given that we are a small focus group, these extra funds would make a real impact on our efforts in support of students and early career scientists. Any donations to AGU qualify, regardless of which program you are supporting! To learn more, please visit the [incentive program website](#) or contact AGU's Development Department via [email](#) or 202-777-7434.

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## 1.6 Student Spotlights and Research Highlights

Interested in being highlighted, or know a student who should be? Please email [Sarah Morton](#) for more information about the Student Spotlight. Take a look at this month's Student Spotlight on Gordon Osterman at the end of the newsletter.

We are also seeking research highlights that showcase use of near-surface geophysics in other [AGU sections and focus groups](#). If you are interested in writing a short, one-page highlight, please contact [Burke Minsley](#).

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## 2. The National Science Foundation 2017 Alan T. Waterman Award

The National Science Foundation (NSF) is pleased to accept nominations for the 2017 Alan T. Waterman Award. Each year, the Foundation bestows the Waterman Award in recognition of the talent, creativity, and influence of a singular young researcher. Established in 1975 to commemorate the Foundation's first Director, the Waterman Award is NSF's highest honor for promising, early-career researchers.

Nominees are accepted from all sources, and from any field of science and engineering that NSF supports. The award recipient will receive a medal and an invitation to the formal awards ceremony in Washington, DC. In addition, the recipient will receive a grant of \$1,000,000 over a five-year period for scientific research or advanced study in any field of science or engineering supported by the NSF, at any institution of the recipient's choice. We are especially interested in nominations for women, members of underrepresented groups in science and engineering, and persons with disabilities.

### Eligibility and Selection Criteria

A candidate must be a U.S. citizen or permanent resident. He or she must be 35 years of age or younger, or not more than 7 years beyond receipt of the Ph.D. degree, by 31 December 2016.

A candidate should have demonstrated exceptional individual achievement in scientific or engineering research of sufficient quality, originality, innovation, and significant impact on the field so as to situate him or her as a leader among peers.

Complete nomination packages, consisting of nominations and four letters of reference, are due by 21 October 2016. The nominations and letters must be received through the FastLane system. [Click here](#) to submit a nomination online.

Please contact [Dr. Sherrie Green](#), Program Manager for the Alan T. Waterman Award or via telephone at 703-292-8040 if you have any questions. You may also [visit our website](#) for more information. A PDF version of the call for nominations is available [online](#).

The nomination of deserving colleagues is one of the most important and gratifying aspects of service in the scientific and engineering communities. Please help celebrate the contributions of a promising young researcher by submitting a nomination for the Alan T. Waterman award.

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### 3. Journal Information and Special Issue Call for Papers

#### 3.1 Special Monograph on Levees and Dams: Advances in Geophysical Monitoring and Characterization

**Note:** In order to accommodate recent requests from authors, we have extended the deadline for manuscripts until 1 December 2016.

This peer-reviewed volume will inform policy makers, engineers, and Earth scientists about the current and emerging role of geophysics in addressing environmental processes, assessments, and policy directions related to new and existing dams and levees.

Until recently, much of the focus of geophysicists has been confined to characterization and remediation, without consideration of the complex relationship between natural processes (e.g., floods) and human activities associated with the design and ongoing dependence on these structures. It is important to enhance communications between geoscientists, engineers, and policy makers to improve the way in which these structures are managed.

Over time, unexpected changes in the physical properties of these man-made structures may or may not compromise their integrity, and such questions require creative (and preferably noninvasive) assessment approaches. Monitoring and remediation of existing structures can be challenging because, often, failures are at a smaller scale and recertification procedures are at a larger scale than envisaged during construction or planning. New, efficient risk management approaches may benefit greatly from geophysical methods that can address these scaling issues.

We encourage innovative and substantiated geophysics-related ideas. Potential topics include, but are not limited to, placement of geophysical tools within the management policies of levees and dams; small and mid-sized laboratory experimental approaches; field characterization studies using electromagnetic, seismic, potential field, and integrated methods; inverse modeling; regional overviews as conditioned by climatic zones; statistical analyses and tools for improved management processes such as age strengthening or weakening of structures; and monitoring of important processes such as piping and fluid flow.

We expect the monograph to include 10–20 book chapters, each about 8–20 printed pages in length, containing color and/or black-and-white figures and tables.

**Timetable: Extended** submission deadline: 1 December 2016; Reviews and final manuscript: 1 June 2017; Expected publication: December 2017.

For suggestions on manuscript preparation, please see the [Springer submission guidelines](#). Upon submission of manuscript (email), please include the contact information for four potential reviewers.

Juan M. Lorenzo and William E. Doll, Editors. For all correspondence, please email [gllore@lsu.edu](mailto:gllore@lsu.edu), Subject: DAL

## 4. Upcoming Conferences and Workshops

### 4.1 Meetings Overview

Meeting (click to go to website)	Location	Meeting Dates	Submission	Registration
<a href="#">EAGE Near Surface Geoscience 2016</a>	Barcelona, Spain	4–8 September 2016	<i>Closed</i>	Online registration closed
<a href="#">Geological Society of America Annual Meeting</a>	Denver, Colorado	25–28 September 2016	<i>Closed</i>	Registration open
<a href="#">Society of Exploration Geophysicists Annual Meeting</a>	Dallas, Texas	16–21 October 2016	<i>Closed</i>	Registration open
<a href="#">AGU Fall Meeting</a>	San Francisco, California	12–16 December 2016	<i>Closed</i>	Early registration ends: 3 November 2016
<a href="#">SAGEEP 2017</a>	Denver, Colorado	19–23 March 2017	<i>TBA</i>	<i>TBA</i>
<a href="#">European Geosciences Union General Assembly</a>	Vienna, Austria	23–28 April 2017	Opens 20 October 2016	Early registration ends: 16 March 2017
<a href="#">3rd AGU-SEG Hydrogeophysics Workshop</a>	Stanford University, California	24–27 July 2017	<i>TBA</i>	<i>TBA</i>

#### **4.2 SAGEEP 2017 to be co-located with the National Ground Water Association Hydrogeophysics and Deep Groundwater Conference**

The Environmental and Engineering Geophysical Society (EEGS) will celebrate the 30th anniversary of SAGEEP 19-23 March 2017 in Denver, Colorado. For this landmark year, EEGS will join forces with National Ground Water Association (NGWA) and offer a co-located conference with NGWA's Hydrogeophysics and Deep Groundwater conference being held 20-21 March 2017. The NGWA program will focus on two broad tracks: Applications of Hydrogeophysics to Groundwater Characterization, Monitoring and Management and Deep Groundwater Applications. For more information, please email [staff@eegs.org](mailto:staff@eegs.org).

SAGEEP Technical Chair Elliot Grunewald is calling for those who wish to submit session titles for SAGEEP 2017 to do so by sending an [email](#) with suggested title(s), along with offers to serve as a session chair. Once the list of Session Topics has been finalized, it will be accessible on [this page](#), enabling authors to review in preparation for submitting abstracts via the online abstract submission site.

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#### **4.3 Save the Date: The 3rd AGU-SEG Hydrogeophysics Workshop: Imaging the Critical Zone**

##### **Join us at Stanford University 24-27 July 2017**

In this workshop, we will bring together hydrogeophysicists and other Critical Zone scientists to explore new ways to work together, using recent advances in hydrogeophysics to address key scientific questions about the Critical Zone.

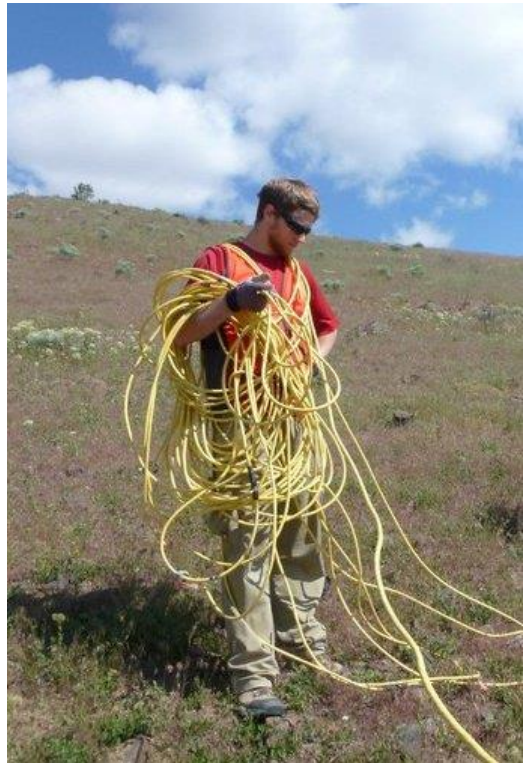
Organizing Committee: Rosemary Knight and Kristina Keating (co-chairs), Anja Klotzsche, Kate Maher, Daniella Rempe, Kamini Singha

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## 5. Student Spotlight: Gordon Osterman, Rutgers University

As a jack of all electromagnetic and radar trades, doctoral student Gordon Osterman is progressing into his fifth-year at Rutgers University in Newark, New Jersey. He has worked in a variety of near-surface geophysical methods such as surface nuclear magnetic resonance (NMR), electrical resistivity tomography (ERT), ground penetrating radar (GPR), electromagnetics, and magnetometry, but his dissertation work focuses on using laboratory NMR and spectral induced polarization (SIP) techniques for predicting permeability in rock cores and soil materials. Gordon's appreciation for geophysics sprouted during his undergraduate summer field course with the Colorado School of Mines Geophysics Department. Throughout those two weeks, he gained valuable skills such as conducting field experiments, determining results, and presenting interpretations to the client. His great success and gratification for this interactive experience inspired him to become a field camp teaching assistant the following two years, thus paving the way for his career in near-surface geophysics.



Although his early career plans are still developing, he is determined to continue sharing his research as an educator. His inspiration to become a professor can be attributed to the late Dr. Michael Batzle. Dr. Batzle's open-door policy and ability to connect theory to application are key characteristics he wishes to incorporate into his own teaching curriculum. In an effort toward fulfilling this philosophy, Gordon has become a volunteer Citizen Teacher at a local urban middle school. For two semesters, he taught basic engineering concepts to underserved students in an effort to ease their transition into a university STEM program. He is also an active member of the Rutgers SEG student chapter where he assists with geophysical field demonstrations for university students and the local community. Each year, he and fellow student chapter members organize and facilitate the Rutgers Hydrogeophysics Workshop, which recently hosted over twenty attendees at the Shale Hills Critical Zone Observatory. The workshop has been a joint effort between Rutgers, Pennsylvania State University, Dickinson College, and Indiana University of Pennsylvania to expose students, postdocs, professors, and researchers alike to hydrogeophysical problems and investigative field techniques.

Gordon's science communication skills were acknowledged at the 2015 SEG Annual Meeting in New Orleans when he was awarded the Best Student Paper Award. This honor is given by the society to one student each year in special recognition of their contribution to geophysics through research and oral presentation. His paper presented a joint SIP and NMR model that he developed for measuring permeability in sandstone cores. The model demonstrated that NMR and SIP can illuminate different aspects of the pore matrix, a key observation for understanding and controlling fluid flow. Additionally, he found that large variations in sandstone mineral composition, determining hydrologic property can become complex in the presence of iron oxides. Gordon presented his continued efforts at the 2015 AGU Meeting in San Francisco and [published his findings in Water Resources Research](#).

For more information about NMR and SIP methods related to sandstone permeability or tips on science communication, please contact [Gordon Osterman](#).

**To contribute material to the NSFG newsletter, send an email to [Burke Minsley](#).**

**Deadline:** Material must be received five full business days before the first of the month.

**Guidelines for submissions:** All members are welcome to submit content of interest to the near-surface community. Please keep messages brief and provide contact information and (if available) a Web address for additional information.

**Get your message out to NSFG 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!