



American Geophysical Union

Near-Surface Geophysics Focus Group

Newsletter: August 2017

Dear Colleagues:

The latest Near-Surface Geophysics focus group (NSFG) newsletter is now available. Please follow this link to see the [full version online](#).

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Recent announcements of interest to the NSFG 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!](#)

Best regards,

Sarah Kruse

President, Near-Surface Geophysics Focus Group, AGU

Near-Surface Geophysics Focus Group (NSFG) August 2017 Newsletter

Upcoming Meetings at a Glance

Meeting (click to go to website)	Location	Meeting Dates	Submission	Registration
IAPSO–IAMAS–IAGA 2017 Joint Assembly	Cape Town, South Africa	27 August to 1 September 2017	Closed	Early registration closed
EAGE Near Surface Geoscience 2017	Malmö, Sweden	3–7 September 2017	Closed	Early registration closed
SEG 2017	Houston, Texas	24–29 September 2017	Closed	Early registration ends: 7 August 2017
4th ICEG	Al Ain, United Arab Emirates	9–12 October 2017	Closed	Early registration ends: 9 August 2017
GSA 2017	Seattle, Wash.	22–25 October 2017	Closed	Early registration ends: 18 September 2017
GELMON 2017	Vienna, Austria	22–24 November 2017	18 September 2017	Early registration ends: 18 September 2017
AGU 2017	New Orleans, La.	11–15 December 2017	Closed	TBD

Upcoming Events

- 9 August: Fall Meeting student travel grant application deadline

AGU Updates

- **[2017 AGU Honorees Announced \(Union Medals, Fellows, Awards, Prizes, Section and Focus Group Award Recipients\)](#)**

On behalf of the Honors and Recognition Committee, Union Fellows Committee, section and focus group Fellows selection committees, Union medals, awards, and prizes selection committees, section and focus group award and lecture selection committees, and AGU staff, we are pleased to present this year's class of AGU honorees.

We thank all who have given support and commitment to AGU's honors program, including the volunteers who serve on the selection committees that have chosen this year's recipients. We are also grateful for all contributions and efforts of the nominators and supporters who have given their time to recognize and commend their colleagues.

Please read more about this year's honorees in *Eos* articles found here:

[2017 Union Medal, Award, and Prize Recipients](#)

[2017 Class of AGU Fellows](#)

[2017 Section and Focus Group Awards and Lectures](#)

GSSI Near-Surface Geophysics Student Grant

Wilhelm Fraundorfer, University of Nebraska–Lincoln, thesis title “Investigating Mechanisms of Permeability Transience in Sandy Streambeds,” advised by Jesse Korus

If you have any questions regarding this year's announcements, please feel free to contact [Beth Paredes](#).

- **Abstracts Open Soon for Fall 2017 Virtual Poster Showcase**

Abstract submissions opened **4 July** for the fall Virtual Poster Showcase (VPS) for undergraduate and graduate students. Encourage your students to submit abstracts at virtualposter.agu.org. To learn more about the benefits of participating in VPS, [watch this video](#) in which a student and a faculty member share their experiences about the program. **Abstract submission deadline:** 30 September.

- **Consider Volunteering for AGU—Tell Us About Your Interests Now**

AGU relies on volunteers to achieve its [mission](#). A variety of opportunities are available over the next few years with a range of time commitments. Diverse perspectives are needed. To help AGU identify opportunities that match your skills and interests, [fill out an online profile](#). Not everyone will be matched, and there's no obligation to accept opportunities offered to you. Sign up now!

- **AGU's Open API Challenge**

AGU has launched the Open API Challenge to improve the exchange of ideas within the scientific community and to support integrated, interdisciplinary Earth and space science information. This year we invite you to develop a Web-based tool that adds value to an API containing data from the Fall Meeting Scientific Program. **Submission Deadline:** 2 October, 11:59 p.m. eastern time.

Prizes:

1st Prize: \$15,000

2nd Prize: \$10,000

3rd Prize: \$5,000

Each winning team will also receive up to four complimentary 1-day passes to Fall Meeting to attend the award ceremony. [Learn more](#).

- **Fall Meeting Student Travel Grant Opportunities**

Applications are being accepted for [Fall Meeting Student Travel Grants](#). Encourage students in your section or focus group to apply. Applications close **9 August**. Opportunities include

- Fall Meeting [General Student Travel Grant](#)
- Fall Meeting [Berkner Travel Fellowship](#)
- [David E. Lumley Young Scientist Scholarship](#)
- [David S. Miller Young Scientist Scholarship](#)
- [Data Visualization and Storytelling Competition](#)

- **Reviewers for Travel Grant Applications Needed**

Help ensure that the most deserving applicants are awarded travel grants by volunteering to review for your section or focus group. Fall Meeting travel grant applications are reviewed during the second half of August. Typically, volunteers review between 5 and 10 applications, with each application taking about 20 minutes to review. Please email [here](#) if you would like to volunteer to review applications. Please note that students are not eligible to review applications.

- **AGU Webinars Launch**

The newly launched AGU Webinars channel is a great informational source for the Earth and space sciences. Each week will feature guest speakers from the Earth and space science community presenting topics important to you! Tune in Thursdays at 2:00 p.m. eastern time, and visit webinars.agu.org for the schedule of upcoming webinars and to watch past webinars.

The AGU Webinars team is always on the lookout for great topics and speakers. Feel free to send your ideas and feedback to webinars@agu.org.

NSFG Student Spotlights and Research Highlights

Stephanie Phillips, University of Connecticut

From an early age, Stephanie Phillips loved to explore ponds searching for frogs and understanding how different environmental factors affected their natural habitats. This fascination propelled her into an environmental science degree with focuses in natural resources and ecology and evolutionary biology at the University of Connecticut (UConn). Toward the end of her undergraduate degree, however, she was approached by her advisor, who proposed she narrow her interests. This led her into the geoscience graduate program at UConn with a focus in hydrogeology. Thanks to the progressive research community at UConn, Stephanie quickly became involved in a research project monitoring a well field with her hydrology professor. Although this specific position was short-lived, her hard work did not go unnoticed, and she was rewarded with a summer internship in the Branch of Geophysics, Office of Groundwater, at the U.S. Geological Survey (USGS), where she continues to conduct her graduate research using borehole geophysical methods.

Stephanie's first project with USGS exposed her to the diverse range of geophysical techniques used for subsurface site characterizations as part of its annual Geophysical Field Experience held each summer. Through this, she was provided expert training in ground-penetrating radar, three-component ambient noise recordings for horizontal-to-vertical spectral ratio measurements, electrical resistivity tomography, and very low frequency electromagnetics. She assisted with the data collection along a single array to compare the effectiveness of obtaining and understanding various subsurface material properties critical for hydrogeophysical investigations. This field site at Haddam Meadows State Park in Haddam, Conn., created an ideal environment for this work with its extensive data archive assembled by USGS over the past decade. Stephanie recently presented the results of this project with another student intern as part of AGU's Fall 2016 Earth and Space Science Virtual Poster Showcase. As a testament to the motivation and great aptitude she demonstrated in her research throughout the summer, she was named the 2016 Graduate Student Intern of the Year from the University of Connecticut's Center for Career Development. This award recognizes one graduate student each year who has made significant contributions to their internship organization.



These noninvasive methods, however, did not pique Stephanie's interest as distinctively as the borehole geophysical work she conducted with USGS. With its continued support, Stephanie developed her master's project comparing three borehole logging and flowmeter methods to assess each tool's ability to successfully characterize fractured rock aquifers in multiple geologic environments. These methods include heat pulse flowmeter, electromagnetic flowmeter, and spinner flowmeter across three boreholes at the USGS office in Storrs, Conn. She describes her research as an ongoing puzzle pieced together using different assumptions and parameters to produce a model that adequately represents the data and geologic environment. Stephanie recently presented her preliminary findings

at the 2017 Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP) in Denver, Colo., entitled "[Comparison of flow logging methods at a fractured rock site, Storrs, Connecticut.](#)"

After her degree, Stephanie is looking to pursue a Ph.D. or research position with an opportunity to continue performing research and educational outreach, two tasks she profoundly enjoys and believes should continuously be united. She has been demonstrating this ideal as a teaching assistant within UConn's Center for Integrative Geosciences, supervisor of the Connecticut Science Olympiad's first hydrogeology event, and working founder of UConn's Environmental and Engineering Geophysical Society (EEGS) student chapter. Stephanie has also performed training exercises using her proficient knowledge in nuclear magnetic resonance (NMR) and electromagnetic induction (EMI) borehole geophysical methods for groups such as the National Guard Engineering Detachment.

For more information about the use of flowmeters and other borehole geophysical methods in aquifers with fractured media, contact [Stephanie Phillips](#).

Interested in being highlighted, or know a student who should be? Please email [Matthew Sirianni](#) for more information about the Student Spotlight. 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 [Chi Zhang](#).

FYIs

SEG Annual Meeting Registration is now open

- The SEG Near Surface Technical Section will have nine technical sessions at the annual meeting in Houston, Texas. There will be five special technical sessions and four sessions built from general near-surface geophysics submissions. Special and regular technical sessions at Annual Meeting Codes, and dates be sure to check them out!
 - SS1 WNC Near-Surface Geophysical Methods for Archaeologic Research, Monday PM, Chaired by Blair Schneider and George Tsoflias
 - SS3 Developments and Applications of Surface-Wave Methods, Monday PM, Chaired by Choon Park and Shan Dou
 - SS6 Geoscientists Without Borders, Tuesday AM, Chaired by Robert Merrill and Richard Nolen-Hoeksema
 - NS P1 Characterization, Tuesday AM, Chaired by Marvin Speece and Sarah Morton
 - SS8 AGU–SEG Hydrogeophysics (standing session), Tuesday PM, Chaired by John Lane and Chi Zhang
 - NS1 Looking Shallow to See Deep, Wednesday AM, Chaired by Andrey Bakulin and Carlos Calderon-Macias
 - NS2 Applied Near-Surface Seismology: Refractions, Reflections, & Surface Waves, Wednesday PM, Chaired by Steven Sloan and Shelby Peterie
 - NS3 Statics, Tomography, and Inversion, Thursday AM, Chaired by Charles Diggins and Matthew Ralston
 - SS9 Engineering Geophysics (standing session), Thursday AM, Chaired by Koya Suto and David Valentine

The Near-Surface Reception will be held at the Grotto on Tuesday night from 7:00 to 11:00 p.m. The Grotto is <0.10 mile from the conference center. Its address is 1001 Avenidas de Las Americas, Houston, TX 77010. The Near-Surface Business Meeting will take place on Tuesday from 5:30 to 6:30 p.m. in the Hilton Americas Hotel. Room TBD.

SAGEEP Updates

- Save the Dates! The Symposium on the Application of Geophysics to Engineering and Environmental Problems ([SAGEEP](#)) will be held 25–29 March 2018 in Nashville, Tenn. Send suggested technical session topics to Technical Program cochairs [Andrew Parsekian](#), Ph.D., and [Oliver Kuras](#), Ph.D. SAGEEP provides geophysicists, engineers,

geoscientists, and end users from around the world an opportunity to meet over a 5-day period to discuss near-surface applications of geophysics and learn about recent developments in near-surface geophysics. The conference features over 200 oral and poster presentations, special educational courses, vendor presentations, and a commercial exhibition. Special sessions, keynote speaker, and equipment demonstrations round out the program.

Employment Opportunities

- **Two Ph.D. positions in MT at Macquarie University, Sydney, NSW, Australia**

We are seeking two Ph.D. students to work on the project “Measuring mantle hydrogen content to map ore-forming fluids and model plate tectonics.”

The Project

The goal of the research is to use magnetotelluric (MT) data to constrain mantle hydrogen content and interpret its relationship to tectonics, xenolith geochemistry, continental evolution, geodynamics, and the formation of ore deposits. Tasks for the Ph.D. students will include

- Fieldwork to collect new MT data in Greenland and Western Australia
- Inversion and analysis of new and existing MT data, including newly acquired data from the Siberian craton
- Development of petrophysically based inversion schemes for MT data
- Tectonic interpretations of MT and hydrogen content models
- Development of ore deposit formation models

The Scholarships

One international and one domestic scholarship are available. They cover all tuition fees and include an annual stipend of AUD~\$27,000 (tax-free) per year for 3 years. Macquarie University requires all Ph.D. candidates to have a research-based master’s degree. International candidates must have a master’s degree or equivalent, as the international scholarship does not cover master’s tuition or stipend. The domestic scholarship is open to Australian citizens and permanent residents and New Zealand citizens. This scholarship includes an additional \$16,000 stipend to support the student in a Macquarie University master of research degree, so honors- or bachelor-level students are encouraged to apply.

To Apply

Your application should include

- A CV, including a list of any publications and relevant research or work
- Academic transcripts
- Your contact details and a statement of citizenship
- Names and contact details of two to three referees

Please forward your application and cover letter to kate.selway@mq.edu.au. The deadline for applications is 4 August 2017, but applications will be considered until the positions are filled.

Department of Earth and Planetary Sciences, Macquarie University

[Macquarie University](http://www.mq.edu.au), located in Sydney, New South Wales, is a recognized leader in Earth science research in Australia. Our geophysics team is vibrant and diverse, with research strengths spanning seismics, magnetotellurics, joint inversion, potential fields, mineral exploration, and geodynamic modeling. We also closely collaborate with Macquarie’s world-class geochemists and experimental mineral physicists. Macquarie Earth and Planetary Sciences is strongly multidisciplinary, and students are encouraged to develop a well-rounded understanding of Earth systems. Macquarie University is an equal opportunity employer, and underrepresented groups are particularly encouraged to apply.

More information about the Ph.D. program at Macquarie:

<http://www.mq.edu.au/research/phd-and-research-degrees/explore-research-degrees/doctor-of-philosophy>
<http://www.mq.edu.au/research/phd-and-research-degrees/how-to-apply/forms>

To contribute material to the NSFG newsletter, send an email to [Chi Zhang](#).

Deadline: Material must be received 5 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 via 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!