Letter from the Chair

SEG Near Surface Technical Section Members,

This is my first letter as Chair and I would like to start with a thank you to executive committee members who have served the SEG Near Surface Technical Section (NSTS) so well for so long, and have rolled off the executive committee this year. Phil Sirles has finished his three year term as Chair-elect, Chair, and Past Chair, and his encouraging voice will be missed. Kristina Keating served as Vice Chair of the Near Surface Geophysical Section of the SEG (NSGS) and continued on through the transition to the Near Surface Technical Section. Her sacrifices and expertise helped us transition smoothly. Seth Haines, served both the NSGS and the NSTS beyond what was envisioned when he originally accepted the role of Treasurer, and transitioned into Finance and Grant Program Lead. Seth’s diligent work enabled the NSGS to close, which was no easy feat. Part of Seth’s diligent work is evident in helping us establish the SEG Near Surface Research Endowment in 2015. Anja Klotzsche has worked tirelessly to improve our newsletter and to keep us on track with our content submissions. Thank you all for your accomplishments! Your efforts are much appreciated.

Welcome to the new members of the NSTS who took office at the SEG annual meeting. Jose Arce joins us as chair-elect and Erasmus Oware joins as Vice Chair. Dale Rucker continues to serve as our Secretary. Sarah Morton takes on the responsibilities of newsletter editor, and will also serve as student lead. Sajad Jazayeri will lead our social media efforts. If you have any questions or suggestions for the SEG NSTS executive committee, please send them to ns@seg.org.

At the annual meeting in Dallas, the NSTS had another great turnout. We had eight technical sessions, and were involved in the Geoscientists Without Borders® technical session. We conducted a post-conference workshop on Drones applied to Geophysical Mapping, and had a panel discussion for students. I would like to name and thank all session and workshop co-chairs as well as panelists; Blair Schneider, George Tsolfias, Choon Park and Shan Dou, Robert Merrill, Richard Nolen-Hoeksema, Marvin Speece, Sarah Morton, John Lance, Chi Zhang, Andrey Bakulin, Carlos Calderon-Macias, Steve Sloan, Shelby Petherie, Charles Diggin, Matthew Ralston, Koya Suto, David Valentine, Ron Bell, Maitri Erwin, and Khalid Miah. And, of course, we couldn’t have a successful technical program without all of our dedicated abstract reviewers. Thank you so much for all you do.

This past year, the NSTS added content to the SEG core competency management component for environmental and engineering geophysicists. This effort improves a tool that benefits all of SEG and applied geophysicists everywhere, and particularly NSTS members who might want to assess their competencies in a number of relevant geophysical methods. Thank you to Iftekhar Alam, Jose Arce, Ted Asch, Rodolfo Christiansen, Koichi Hayashi, Zeno Heilmann, Armin Schmidt, and Seshunarayana Tangirala for your contributions.

Thanks to our Past Chair Steve Sloan, an electronic table of contents (eTOC) is sent to NSTS members via email each quarter. The eTOC pulls together all SEG articles that have near-surface geophysical focus. Please check your inboxes in December for the latest near-surface geophysical eTOC and NSTS newsletter. The near-surface geophysics eTOC can also be accessed from either the SEG digital library or the NSTS webpage at https://library.seg.org/page/nearsurface. The SEG Board approved our proposal in October for a standing quarterly near-surface geophysics column in The Leading Edge (TLE). This year there will be a special infrastructure issue of TLE. If you’d like to contribute a technical article to that issue, please contact Steve Sloan who is the special section...
The NSTS has a couple standing subcommittees that were kicked off last year and continue as we move forward. They are:

1) SEG Near Surface Technical Section (NSTS) Strategic Planning Subcommittee:
The SEG as a whole has implemented a new strategic plan that emphasizes growth and technical contributions related to groundwater management, engineering, sustainability, and humanitarian applications. Now is a good time to revisit our short- and long-term goals as a Technical Section to support the SEG strategy and grow the near-surface presence.

2) 2018 Anaheim Annual Meeting Planning Subcommittee:
The 2018 SEG Annual Meeting will be held in Anaheim, California, allowing more exposure to water management, environmental regulation, and engineering sectors than many of the traditional Annual Meeting sites. We are planning now to maximize NS exposure through multiple potential avenues (continuing education courses, post-conference workshops, themed sessions, etc.). Ideas and input are still welcome and encouraged.

3) 2019 San Antonio Annual Meeting Planning Subcommittee:
The 2019 SEG annual meeting NSTS subcommittee will be kicking off shortly.

If you are interested in participating on any of the above listed subcommittees, please contact ns@seg.org.

The NSTS Research Endowment mentioned above includes an award that has been presented in 2016 and 2017 to a deserving graduate student. The first recipient of the SEG Near Surface Research Award last year was Brady Flinchum of UWYO. The second recipient presented with the award this year is Sina Saneiyan of Rutgers. The NSTS has a goal of $100,000 in the endowment to permit substantial awards each year to deserving students. When renewing your SEG membership this year, please consider a donation to the SEG Near Surface Geophysical Research Award endowment. Thank you to everyone who has already contributed. Contributions of any amount are appreciated to help support research in near surface geophysics. To learn more about the award, award recipients, how to apply, and how to contribute, please use this link https://seg.org/News-Resources/Near-Surface/Honors-and-Awards/Near-Surface-Research-Award.

If you are interested in participating in any of the NSTS initiatives described here, please contact ns@seg.org. That email address is handled by our capable SEG Near Surface Program Manager, Laurie Whitesell, who very much deserves our gratitude for her hard work and dedication to keep the NSTS moving forward.

Thank you for trusting me to help grow the SEG NSTS, to deliver content that you value, and to represent you well. Have a happy holiday season with friends and family.

Mike Powers
Overview of this Issue of the NS Views

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What was your thesis topic?
My thesis was “Continuous seismic profiling on the Connecticut River.” As an aside, Jim Balsley was an aeromagnetics guy saw the aeromag data from the mid-Atlantic ridge and never put two and two together. He was beside himself that he had it on his desk and never put it (plate tectonics) together.

For your first job, you were hired by the USGS but it wasn’t as a geophysicist?
No. I was hired as a hydrologist and on a part time basis, I was allowed to help other hydrologists use seismic refraction on their projects and on my projects.

What was your first assignment or project that was your own?
Probably the groundwater modeling project in Newtown, Connecticut.

And you did refraction as part of the project?
Oh yes.

What did you want to be when you grew up?
Well, that’s a tough one. Maybe an engineer, and once I got braces I wanted to be a dentist!

What can you tell us about the early days of near-surface geophysics? When you started to realize you were a sub discipline of broader world of geophysics?
Very exciting! There were very few people, all of them sharing their knowledge and experiences. Almost no computer interpretation. The thing I would have to say is there were outstanding technical meetings both at EEGS or whatever that was called in those days and SEG. It was a very small group of vendors, a very small group of practitioners, and it was almost like each year having a family reunion. We would go out to dinner together, there were great announcements, like Bison would always announce their latest seismograph, EG&G, or Geometrics, would announce their latest seismograph, Duncan Mcniell would announce the newest EM thing he was building. So, I would say extremely small, extremely cordial, and just very exciting and stimulating!

You were at the first SAGEEP meeting is that correct?
Yeah, I think so. The earliest one I remember was at the Colorado School of Mines. I think that was in 1988.

Thinking back to all of the assignments that you had. What was your favorite assignment or favorite project?
I would have to say I have four favorites. The first, continuous seismic profiling on the Colorado River. Second, seismic refraction in Alaska. Third, seismic reflection in Hawaii and then Mount Saint Helen’s. After the eruption I got a call from U.S. Geological Survey headquarters in Reston VA and they said, ‘What are you doing this afternoon?
I said I am going to the dentist, and they said no you’re not. You’re going to Washington.’ That was a pretty exciting assignment!

**What was the objective there?**
We were trying to map the amount of sediment that was in the Columbia and Callas Rivers before the Army Corps of Engineers dredged it all. Because the sediment transport guys wanted to model it and they wanted to know how much was in the river.

**How did you approach describing what you did to your kids, other kids and your friend’s kids?**
Once a year I took my kids into the office and took them out into the field. When I brought them into the office, they were very young at that time, and they would be coloring and I was on the phone the whole time. When we would get home, they would say to me “Man you have a great job. All you have to do is talk on the phone and you get paid for it!” For my kids it was more experiencing what I did. I took them drilling, out on seismic projects, out in the boat. As far as other kids, I just did the standard, ‘We use these neat machines and try to look into the ground and see what’s there.’ Very much simplified.

You mentioned when you started with near-surface geophysics that it was really small, mostly analytical instruments. Not a lot of computers to use. Looking back, how has near-surface geophysics, the field changed from the beginning of your career to the end?
Of course, the use of computers and modeling. There was basically no modeling, there was very little over-selling of geophysics in those days. People, even the vendors, basically kept a pretty nice straight line. They told you what they could do and what they couldn’t do. I think, when I left, I was getting very upset about the over-selling. Also, there was a change toward ‘automatic’ computer interpretation, which I really objected to, especially in the consulting industry. Once they got a reflection program or a resistivity program, they ran the data through the program and an answer came out the other end, they put it in a report and gave it to the client. I saw that as a potentially really bad way to operate.

**Looking back, what do you consider your most significant career accomplishment? What do you think was the most significant contribution you made to near surface?**
Making it to retirement! (All laughing) Well, I would have to say, it was helping hydrologists understand and use geophysics. So, that was the teaching side, and on the technical side, introducing borehole radar and NMR to the USGS community, and Hydro21 (a USGS stream-gaging modernization program). Hydro21 stands out to me as a high point. Being able to measure stream flow from a helicopter without touching the ground. We had some really neat people on that project. Ralph Cheng, John Costa, Eugene Hayes, Nick Melcher, Michael Thurman, and Jim Plant. It was really a fun project. Unfortunately we were about 20 years ahead of ourselves.

**Embarrassing moments of your career or did you ever miss the mark? Would you share with us?**
Yes, I will tell you the story and you can decide whether it should be shared or not. I guess the most embarrassing was during a refraction survey. We had a dynamite misfire, and I had to dig it up. That was not good at all. Another one I remember distinctly was when the shot hole was too shallow and we had a whole bunch of students with us. We all had to dive under the truck.

No one was hurt?
No. No one ever got hurt! Another one was when we were at Mirror Lake (NH) and we were doing seismic around the lake. We yelled “fire in the hole!” We set off the shot and a couple were in a canoe picking blueberries about 20 feet from the shot hole. Of course, they had no idea of what fire in the hole meant. So, we really scared them. But again, no one got hurt.

So, your entire career you made it through without any serious safety issues?
Exactly. Now one of the things I would lumped into the category of missed the mark, were a couple projects where I felt I fell down and never helped the hydrologists interpret the data. Those projects were the Colorado River, and an airborne EM survey looking at salt water in Michigan. They had me out, we did the survey, they were really excited about it, and we got great data. However, it kind of died there. Looking back at it, I wish I had the time or the money to bring both projects to their fruition. They basically put the results in a file drawer and never touched it again. They may still be in the files!
You’ll be glad to know that airborne EM is making quite a comeback in the water world. The work you did, you were 20 years ahead of your time. Really, some significant advances have been made in the ability to extract useful hydrogeologic information out of AEM data sets.

That Michigan one was absolutely perfect. That saltwater was deep on both ends, and shallow in the middle. I mean it was absolutely a perfect example, it was one of the very early ones where we applied EM to hydrology.

That was DIGHEM data?
Yes, they flew it.

So, looking back on your career Pete, what did you enjoy most and what did you enjoy the least about being in the near-surface geophysics field?

What I enjoyed most was the full spectrum of projects and this would go with what you’d tell young guys. There was an article in the TLE, long ago by John Greenhouse. The article said how great it was to be involved in geophysics, where you planned the study, you collected the data, you brought it back and interpreted it, wrote the report and there was a huge satisfaction of seeing a project from beginning to the end. The least enjoyable, I would have to say, was being called into a project when there was no time and no money left. Where people were looking to us to bail them out. That was utterly frustrating.

What do you see to be the opportunities, the low hanging fruit, or the moon shot, for someone coming into the field today? What would you tell them? Something where you might say, if you look at this or that, you would really have something?

It is something that we’ve wrestled with since day one. I would say teaching clients, the guys that are buying geophysics, teaching them to try and eliminate over-selling. Also, trying to teach hydrologists and engineers what geophysics could do for them. You know, we gave a lot of talks to engineering societies, we really put a lot of effort into it over the years and it was a dismal failure. I don’t have an answer for that, but I see that as the place to make some inroads.

One thing I’ve absorbed over the years is that you are never done educating people, because as soon as you think you are done, there is a whole new crop of people who are unaware. That is why I put so much effort over the years into ASTM. I felt that a head of project somewhere could pick up ASTM guide and not go too far off track.

You had a lot of travel in your career. How did you work it out, professional verses personal time with your family? Pretty straight forward, I basically worked 10 hours a day during the week, and never took anything home. For travel, I tried to stay away from traveling on Saturday and Sunday. I would travel Monday morning and get home Friday night. That’s the way I tried to balance it.

Are you still working or do you consider yourself pretty much retired now?
I am still working. I have one project left. Next week I am going to NYC, we’re in the final stages of getting statement of inpracticability from EPA for a railroad car spill in upstate New York. So, that’s probably going to be the last one.

So, you’re not having a problem balancing work and leisure time today?
I am having trouble balancing leisure time. I am basically a handy man for myself, and my two sons. So, I have a full time job!

So, do you have a favorite picture or memento to share?
Yes, I remember a New Hampshire crew shooting the tarp - Remember we used to put a tarp over the dynamite? They shot the tarp over the telephone wires. (All laughing) Then there is another picture of a survey crew on a raft in the Colorado River, and we tried to set it up to look exactly like John Wesley Powell’s photo of him surveying the river. The guy in charge was on a chair and he tried to hide his one arm. I thought that was a great picture.

NS: Do you have a favorite quote or motto you’d like to share?
To be a success you can’t avoid mistakes, but you can recover nicely.

Are you doing any reading right now? What are you reading?
Oh yes. Mostly, I have gotten hooked on non-fiction World War II aviation stories about fliers in WWII such as Devotion, A Higher Calling, and Unbroken. I loved Unbroken.
What are your hobbies?
Sailing!! Taking my grandkids on an overnight on the sailboat.

How many grandkids do you have now Pete?
We have four now! They absolutely love to be on the boat, you’d think you took them to the moon taking them out on the boat on an overnight. To have dinner on the boat, breakfast on the boat, and DVD on the boat. Last year on an overnight, I took Abbott and Costello’s “Who’s on First.” The older ones got it and the younger ones wondered what all the laughing was about!

Honors and Awards
Pete was awarded the Frank Frischknecht Award 1999. The Frank Frischknecht Leadership Award is established to recognize an individual who shows extraordinary leadership in advancing the cause of near-surface geophysics through long-term, tireless, and enthusiastic support of the near-surface geophysics community. Such leadership is often boldly displayed by an invention, a new methodology or technique, a theoretical or conceptual advancement, or a unique innovation that transforms the nature and capabilities of near-surface geophysics. Prior to 2005, the SEG Near-Surface Technical Section presented its own Frank Frischknecht Award in recognition of long-term, tireless and enthusiastic support of the near-surface geophysics community.

Selected Readings
Bruce Smith was awarded the 2017 Harold Mooney Award, presented to him by Mike Powers.

Klaus Hollinger received the 2017 Near-Surface Frischnecht Award.
**Biography**

I received my Bachelors of Science in geology at James Madison University in Harrisonburg, VA. After doing a GPR research project my senior year, I decided that I wanted to pursue near-surface geophysics in graduate school. I completed my Masters of Science in 2012 and just recently graduated with my PhD this past summer, both from the University of Kansas. My masters research focused on near-surface geophysical applications for archaeological exploration, including magnetics, electrical methods, and GPR. For my PhD, I focused specifically on GPR and its ability to detect a unique archaeological artifact: prehistoric animal bone.

During my graduate program, I was fortunate to be selected for a position as an archaeological technician with the Midwest Archeological Center in Lincoln, Nebraska. I travelled to National Parks across the Midwest over several years, collecting a variety of geophysical data and collaborating with colleagues at the Center on publications. I also had the opportunity to intern with Encana in the summer of 2014, allowing me to see geophysics as used in the oil and gas industry.

I have been affiliated with SEG for several years, and currently serve as the secretary for the SEG Women’s Network Committee. In addition, I just recently rotated off as President for the Association for Women Geoscientists (AWG), which is an international non-profit organization. AWG has provided a wealth of opportunities for me. Just this past August, AWG, AGU, and the Earth Science Women’s Network were awarded a 4-year, 1.1 million dollar National Science Foundation ADVANCE grant. I am serving as a co-PI on the project and look forward to participating in this project to improve work climate conditions by developing bystander intervention workshops for department heads, chairs, faculty, and graduate students. These workshops will teach participants how to appropriately respond to and prevent sexual harassment on campus and in the field as well as include awareness and prevention training of sexual and other types of harassment in the teaching of ethical conduct in research.

I am currently working as a postdoctoral fellow for the Center for Teaching Excellence at the University of Kansas. This postdoc position is allowing me the opportunity to pursue my other passion: effective teaching strategies in STEM and science communication.

**Selected Publications**


Marin-Spiotta, E., Schneider, B., and Holmes, M.A., 2016, AGU can lead the way to a no-tolerance culture for sexual harassment in the earth sciences: Eos.org (https://eos.org/opinions/steps-to-building-a-no-tolerance-culture-for-sexual-harassment)
First NSTS Student Event a Success at SEG17

The Near-Surface Technical Section hosted its first student program event in Houston titled, **Buzzwords, Resume Tips, and Job Application Feedback with Professionals**. Nearly twenty student members joined four geophysics professionals on Wednesday to gain an inside look at how applicants are selected for entry-level positions. This hour-long panel was facilitated by Maitri Erwin, Manager at Nexen Inc., Mike Powers, Branch Chief at the U.S. Geological Survey, Steve Sloan, Research Geophysicist at the U.S. Army Corps Engineer Research and Development Center, and Khalid Miah, Assistant Professor at Montana Tech of the University of Montana.

Students were provided an example resume that was recently submitted for job application that led to a successful hire. Each panel member noted the positive elements such as leadership positions in organizations and projects that the recent graduate described on the resume. Throughout the hour, students offered various questions spanning from their personal experiences when applying for American job opportunities. Some questions were directed toward the differences between industry, government, and academic positions as well as the differences between resume details from their home country versus the U.S. The diverse background and positions held by the panelists facilitated an interesting and continuous discussion on what details are important to address on their resume and CV, document formatting, and how these items are similar or different depending on the type of position you are to submit your application.

While this event had to be kept to its one-hour slot in the program, students were actively engaged throughout the discussion and appreciated the informal setting fostered by the panelists. A number of students personally thanked the organizers for putting this on, valuable feedback from the student membership and enthusiasm to continue building their student opportunities for future meetings.

At Anaheim 2018, the NSTS Student Program aims to host a Near Surface Career Panel for students to learn how current leaders and early career professionals rose into their positions. If you are working in environmental and engineering near surface geophysics and would be interested in serving on this panel, please contact Sarah Morton (smorton@kgs.ku.edu).
After the 2004 tsunami in Sumatra, members of the Society of Exploration Geophysicists created Geoscientists Without Borders® (GWB) to provide funding for geoscience projects focused on humanitarian purposes, using oil industry geoscience technology to prevent mass destruction and casualties in situations where natural and environmental hazards threaten human lives and livelihoods. Since its inception in 2008, GWB has funded 34 projects in 27 countries. Projects have focused on groundwater management; earthquake, volcano, landslide and tsunami preparedness; archaeology; habit management; and pollution mitigation.

A recent GWB project led by Ron Harris, professor of geology at Brigham Young University, was conducted in Java, Indonesia, and resulted in data that was used to create an educational program the team shared throughout the region. The program, called the 20-20-20 Campaign, focused on educating residents living in coastal communities in Java to recognize when an earthquake may pose danger of a tsunami and how to get themselves out of harm’s way. Their research on past tsunamis in the area demonstrated that when they experience 20 seconds (or more) of shaking during an earthquake, they have 20 minutes to reach an elevation of 20 meters or higher. Prof. Harris and the project team used their funding to go beyond understanding the patterns of tsunamis in the region to working with community leaders and others to ensure the knowledge gained from their research actually helped increase the communities’ resilience to the threats they face.

Ron Harris says this of the impact of their GWB grant, “I have always thought it strange that I can find funds to study an active fault, a tsunami or an explosive volcano, but little to no funds are available to communicate the risk of these natural hazards directly to those most threatened by them. Geoscientists Without Borders® is one of the few organizations that is dedicated to filling this gap. The funds made available by GWB have opened new opportunities to truly make a difference in natural disaster mitigation by emphasizing the importance of going the last mile and getting the word out and the training to those most threatened by natural hazards.”

Thanks to the leadership gift of founding supporter Schlumberger and many other corporate and individual donors, GWB is able to fund geoscience projects that directly impact communities. GWB is increasing communities’ resilience to risk through solid research that goes the last mile, bringing increased awareness of dangers and potentials and implementing plans that mitigate disaster or help build capacity for communities to meet their own needs. If you are interested in more information about how you can become involved with GWB, please visit the website at http://seg.org/gwb. Applications for the next round of funding are due 15 January 2018 and are available online at the GWB website. Those interested in donating to GWB may do so by visiting http://seg.org/donate.
Everybody hates spread cables: they are heavy, expensive, restrict your geophone array design, and are eaten by creatures in the night. All modern exploration seismographs will be designed to eliminate cables one way or another.

One such system is the AnySeis™ now shipping from Geostuff. For over 40 years, Doug Crice has been pushing the design of seismic instruments to enable geophysicists to perform more comprehensive investigations easier. The AnySeis™ lets you configure your system with any number of channels, any geophone interval, and any array design.

The system consists of individual channels containing the geophone, A/D converter, and digital communication link. Power and commands are passed down a 2-conductor wire (e.g. speaker wire) and data sent back up to the controller. The controller connects to a notebook computer through the USB port to select acquisition parameters and display the data. The modules are connected anywhere on the wire through a “vampire” tap that penetrates the insulation.

A variety of geophones is available, and different frequency phones may be substituted in the field. Because the digitizer is right at the geophone, the system is virtually immune to electrical noise. The computer has an easy to use operator interface for control and data display. The record is saved on the internal hard disk for later processing in a standard SEG format read by every third-party processing software. Built in functions include stacking for signal enhancement and digital filtering for reflection QC displays. Zoom, scroll, and variable area can bring out subtle features in the record.

For further information, go to [www.geostuff.com](http://www.geostuff.com) or write dcrice@geostuff.com.
1. What are the top three soft skills when assessing a geophysicist candidate?
   Eager to learn and capable of learning, active listening skills, and appreciation for colleagues.

2. Which skills/academic experiences you consider most helpful to succeed in an entry level job opening?
   Being able to analyze problems logically, programming versatility, technical excellence, and teamwork.

3. What are the most impactful geophysical skills for geologists to master?
   Communication, asking questions, and not taking seismic at face value.

4. How do you think geophysics will change in the next 20 years?
   More technical, more integration with other disciplines.

5. What was the most challenging part for you, as a young geoscientists, entering the competitive and constantly evolving job field?
   Self-confidence, I always felt somebody already thought about my ideas and it took me a while to start offering them. Do your homework but don’t be shy to share your ideas and accept criticism for improvement of the idea. Don’t expect that all of them will be implemented also.

6. If you were a junior geophysicist right now which skills would you be developing and what habits would you be cultivating?
   Listening, flexibility in solving the problem, communication skills, independent working and self-motivation.

7. If you could do it all again, what would you do differently?
   Will start sharing my ideas and observations earlier. Start presenting at the conferences and writing papers earlier. Writing is the best way to organize your thoughts.

8. What advice do you have for someone who is just beginning a career in geophysics?
   Learn how what you do affects financial bottom-line. Work on important projects!

9. What geophysical software is the most relevant to learn that will help me stand out from other job applicants?
   Understand physical meaning of the calculations, software is secondary. It follows human logic of the programmer, so understanding the thought process of different applications will help you learning any application.

10. What is the most surprising skill you picked up in college that you still use today?
    Geodetic calculations and principals Problem Solving when no one has tackled that problem before!
Near Surface Research Award

Application Submissions Open: 2 January 2018
Deadline: 15 March 2018

About the Award
The Near Surface Geophysics Section of SEG is the founding supporter of the SEG Near Surface Geophysical Research Award endowment. The intention of this annual award is to provide a research grant(s) in support of an undergraduate or graduate student in good standing, enrolled in a relevant academic program at an accredited institution, and engaged in near-surface geophysics research. The award is intended to offset expenses directly related to the awardee's near-surface geophysics research; including field data acquisition, laboratory studies, specialized computer software, or other general activities related to the completion of the research program.

Previous Near Surface Research Award Recipients
2016 Brady Flinchum
2017 Sina Saneiyan

How You Can Help
Join the team! We welcome your help in providing much needed research funding to our Near-surface students around the globe. Please consider making a contribution now to the SEG Near Surface Geophysical Research Award endowment fund through the SEG Foundation.

Online giving is made easy by clicking SEG Program Support on the Foundation's donation page, and then choosing the "SEG Near Surface Geophysical Research Award" from the donation fund drop-down list. If making a gift by check, please make it payable to SEG Foundation, include NS Research Award on the memo, and mail it to 8801 S. Yale Ave, Suite 500, Tulsa, OK 74137. Thank you for your support!

Other Student Scholarship Opportunities

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JOIN THE SEG
NEAR SURFACE
TECHNICAL
SECTION

Recognized as a leading global society for applied near-surface geophysics, SEG’s Near Surface Technical Section features:

• Multiple business and technical meetings
• Oral, poster, and special sessions at the SEG Annual Meeting
• Special articles and issues in The Leading Edge (TLE), Interpretation, and GEOPHYSICS
• The Near-Surface Technical Section newsletter—Near Surface Views—published quarterly


INSPIRE THE FUTURE OF NEAR-SURFACE GEOPHYSICS

Donate now to the SEG Near Surface Geophysical Research Award Fund.

This important initiative enables academically exceptional graduate and undergraduate applicants to conduct geophysical research projects around the world by offsetting expenses for field data acquisition, laboratory experiments, computer software, or other activities. All applicants are considered, with graduate students given greater funds and priority.

Your gift is vital to the advancement of the global near-surface geophysical community. Across this discipline, novel applications and innovative methods and techniques are developed and shared for the benefit of professional, future near-surface geophysicists and society as a whole. In order to maximize the number of available awards, we respectfully ask you to consider a donation to help us meet our goal of growing the endowment to $100,000.

Find out more about the award and donate now at www.seg.org/News-Resources/Honors-and-Awards/Near-Surface-Research-Award.
## Calendar of Upcoming Events

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<td><strong>Industrial Geophysics for Environmental Scientists</strong></td>
<td>Staffordshire, United Kingdom</td>
<td>15-19 Jan 2018</td>
<td>---</td>
<td>Open</td>
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<tr>
<td><strong>EGU General Assembly</strong></td>
<td>Vienna, Austria</td>
<td>8-13 April 2018</td>
<td>10 Jan 2018</td>
<td>Open</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; EAGE-HAGI Asia Pacific Meeting on Near-Surface Geoscience and Engineering</td>
<td>Yogyakarta, Indonesia</td>
<td>11-12 April 2018</td>
<td>Closed</td>
<td>Open</td>
</tr>
<tr>
<td><strong>80&lt;sup&gt;th&lt;/sup&gt; EAGE Conference and Exhibition</strong></td>
<td>Copenhagen, Denmark</td>
<td>11-14 June 2018</td>
<td>15 Jan 2108</td>
<td>Open</td>
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<tr>
<td><strong>17&lt;sup&gt;th&lt;/sup&gt; International Conference on Ground Penetrating Radar</strong></td>
<td>Rapperswil, Switzerland</td>
<td>18-21 June 2018</td>
<td>31 Dec 2017</td>
<td>TBD</td>
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<tr>
<td><strong>24&lt;sup&gt;th&lt;/sup&gt; European Meeting of Environmental and Engineering Geophysics</strong></td>
<td>Porto, Portugal</td>
<td>9-13 Sept 2018</td>
<td>15 April 2018</td>
<td>TBD</td>
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<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; Applied Shallow Marine Geophysics Conference</td>
<td>Porto, Portugal</td>
<td>9-13 Sept 2018</td>
<td>15 April 2018</td>
<td>TBD</td>
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<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; Conference on Geophysics for Mineral Exploration and Mining</td>
<td>Porto, Portugal</td>
<td>9-13 Sept 2018</td>
<td>15 April 2018</td>
<td>TBD</td>
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<tr>
<td><strong>ICEEG</strong></td>
<td>Hangzhou, China</td>
<td>28 Oct - 1 Nov, 2018</td>
<td>31 March 2018</td>
<td>TBD</td>
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<tr>
<td><strong>SEG Annual Meeting</strong></td>
<td>Anaheim, CA</td>
<td>14-19 Oct 2018</td>
<td>1 April 2018</td>
<td>TBD</td>
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### Near-Surface Geophysics Technical Sessions:

<table>
<thead>
<tr>
<th>Session ID/Room#</th>
<th>Date</th>
<th>Session Title</th>
<th>Conveners</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS11A / 238-239</td>
<td>Monday 08:00 - 10:00</td>
<td>Hydrogeophysical Methods for Groundwater Evaluation, Management, and Modeling</td>
<td>John Lane and Esben Auken</td>
</tr>
<tr>
<td>NS12A / 242</td>
<td>Monday 10:20 - 12:20</td>
<td>Earth Imaging from the Surface to the Upper Mantle</td>
<td>Richard Chopping, Juerg Hauser, Luk Peeters, and Erdinc Saygin</td>
</tr>
<tr>
<td>NS13A / Poster Hall D-F</td>
<td>Monday 13:40 - 18:00</td>
<td>Earth Imaging from the Surface to the Upper Mantle</td>
<td>Richard Giles Chopping, Juerg Hauser, Luk Peeters, and Erdinc Saygin</td>
</tr>
<tr>
<td>NS13B / Poster Hall D-F</td>
<td>Monday 13:40 - 18:00</td>
<td>Hydrogeophysical Methods for Groundwater Evaluation, Management, and Modeling Posters</td>
<td>John Lane and Esben Auken</td>
</tr>
<tr>
<td>NS2A / 238-239</td>
<td>Tuesday 08:00 - 10:00</td>
<td>Induced Seismicity in the USA and Canada: Novel Geophysical Methods and Mitigation</td>
<td>Georgios Tsoflias and Tandis Bidgoli</td>
</tr>
<tr>
<td>NS23A / Poster Hall D-F</td>
<td>Tuesday 13:40 - 18:00</td>
<td>Near-Surface Geophysics General Contributions Posters</td>
<td>Matthew Sirianni, Xavier Comas, Bruce Smith, and Andy Parsekian</td>
</tr>
<tr>
<td>NS31C / 238-239</td>
<td>Wednesday 08:00 - 10:00</td>
<td>Advances in Exploration Geophysics I</td>
<td>Kennedy Doro, Anandaroop Ray, Georgios Tsoflias, and Louise Pellerin</td>
</tr>
<tr>
<td>NS31A / Poster Hall D-F</td>
<td>Wednesday 08:00 - 12:20</td>
<td>Application of Airborne Geophysical Methods to the Near-Surface Environment Posters</td>
<td>Paul Bedrosian and Lyndsay Ball</td>
</tr>
<tr>
<td>NS31B / Poster Hall D-F</td>
<td>Wednesday 08:00 - 12:20</td>
<td>Time-Lapse Monitoring of Earth’s Interior Posters</td>
<td>Vladimir Kazei and Dmitry Borisov</td>
</tr>
<tr>
<td>NS32A / 238-239</td>
<td>Wednesday 10:00 - 12:20</td>
<td>Advances in Exploration Geophysics II</td>
<td>Kennedy Doro, Anandaroop Ray, Georgios Tsoflias, and Louise Pellerin</td>
</tr>
<tr>
<td>NS33A / Poster Hall D-F</td>
<td>Wednesday 13:40 - 18:00</td>
<td>Advances in Exploration Geophysics Posters</td>
<td>Kennedy Doro, Anandaroop Ray, Georgios Tsoflias, and Louise Pellerin</td>
</tr>
<tr>
<td>NS33B / Poster Hall D-F</td>
<td>Wednesday 13:40 - 18:00</td>
<td>Geophysics for Anthropogenic Targets: Archeological, Forensic, Engineering, and UXO Applications II Posters</td>
<td>Sajad Jazayeri, Carl-Georg Bank, and Sarah Kruse</td>
</tr>
<tr>
<td>NS41A / Poster Hall D-F</td>
<td>Thursday 08:00 - 12:20</td>
<td>Landslide Geophysics: Advances in the Characterization and Monitoring of Unstable Slopes Posters</td>
<td>Sebastian Uhlemann, Jonathan Chambers, and Angela Perrone</td>
</tr>
<tr>
<td>NS41B / Poster Hall D-F</td>
<td>Thursday 08:00 - 12:20</td>
<td>Open-Source Software in the Geosciences Posters</td>
<td>Lindsey Heagy, Luz Angelica Caudillo Mata, Anna Kelbert, and Jared Peacock</td>
</tr>
<tr>
<td>NS44A / 238-239</td>
<td>Thursday 16:00 - 18:00</td>
<td>Open-Source Software in the Geosciences</td>
<td>Lindsey Heagy, Luz Angelica Caudillo Mata, Anna Kelbert, and Jared Peacock</td>
</tr>
</tbody>
</table>
### Near-Surface Geophysics Co-Organized Technical Sessions:

<table>
<thead>
<tr>
<th>Session ID/Room#</th>
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<th>Conveners</th>
</tr>
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<tbody>
<tr>
<td>S23A / 242 Poster Hall D-F</td>
<td>Tuesday 13:40 - 18:00</td>
<td>Frontiers of Uncertainty Quantification in Geoscientific Inversion I Posters</td>
<td>Jan Dettmer, Vedran Lekic, Burke Minsley, and Anandaroop Ray</td>
</tr>
</tbody>
</table>
| S33B / Poster Hall D-F | Wednesday 13:40 - 18:00 | Fiber-Optic Distributed Acoustic Sensor (DAS) for Geophysical and Industrial Applications II Posters | Yingping Li, Martin Karrenbach, and Mahmoud Farhadirous \n
### Near-Surface Geophysics Events:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday 18:15-18:45</td>
<td>Near-Surface Geophysics Business Meeting</td>
<td>MCCNO - Second Floor, Room 298-299</td>
</tr>
<tr>
<td>Tuesday 18:15-18:45</td>
<td>Near-Surface Geophysics Reception</td>
<td>Mardi Gras World, #4 Science Nexus neighborhood</td>
</tr>
<tr>
<td>Wednesday 18:00 - 23:00</td>
<td>Near-Surface Geophysics/Hydrogeophysics Social Event</td>
<td>Avenue Pub 1732 St Charles Avenue, New Orleans, LA</td>
</tr>
</tbody>
</table>
Job postings

Postdoctoral Associate - Virginia Tech: Near-Surface Geophysics

Assistant Professor - University of Texas at El Paso: Shallow Environmental/Engineering Geophysics

Lawrence Berkeley Lab - Environmental Geophysics Postdoctoral Scholar

Geokinetics - Houston: Manager, Near-Surface Modeling

CGG - United Kingdom: InSAR Scientist

Wessex Archaeology - Salisbury, UK: Terrestrial Geophysicist

Herchel Smith Postdoctoral Research Fellows - Cambridge: Geophysics and Biophysics

SAIC - Greenbelt Maryland: Scientific Software Engineer
To contribute material to the NS views send an Email to Sarah Morton (smorton@kgs.ku.edu)

All members are welcome to submit content of interest to the Near Surface community. Note, that we have two new sections “What’s hot” where new methods, new developments, new technology, new equipment, or new NS event can be presented as well as “Member News and Updates” where we will highlight information about our membership including retirements, special publications, and awards.

Feel free to send articles for these new sections. Please keep messages brief, provide contact information, and (if available) a web address for additional information.