



Near-Surface Views

Newsletter of the NEAR-SURFACE GEOPHYSICS Technical Section of the Society of Exploration Geophysicists

Fourth Quarter 2021, Vol.28, No.4

Letter from the Chair

Dear SEG Near-Surface Geophysics Technical Section members and friends,

This is my first letter as Chair and I would like to start with a thank you to outgoing leadership team members of the SEG Near-Surface Technical Section (NSTS). Thank you all for your accomplishments! Your efforts are much appreciated. A special thanks goes to Catherine Truffert for her leadership this past year. Our gratitude goes to Laurie Whitesell, SEG NSTS Program Manager, for her hard work and dedication to the NSTS.



Welcome to the new members of the NSTS who took office at the SEG annual meeting. Lee Slater joins us as chair-elect and Blair Schneider joins us as vice-chair. Nadia Fantello takes on the responsibilities of vice-chair of committees. Yunyue Elita Li joins Chih-Ping Lin to lead our global subcommittee. Noah Dewar serves as student lead and Esther Babcock serves as continuing education lead. The Leading Edge (TLE) lead is Niels Grobbe. Ariel Lellouch continues as GEOPHYSICS lead.

Our lives and activities in 2021 continued to be affected by various COVID-19 restrictions. However, the NSTS has been strong and it is growing! At the annual meeting, IMAGE21, in Denver and online, the NSTS had another great turnout. We organized five special sessions, two oral, and multiple poster sessions. We were involved in the Geoscientists Without Borders® technical session and conducted two post-convention workshops on "Grand Challenges for Applied Geophysics" and "Geophysical Methods and Applications for Sustainable Cities." I want to thank all session and workshop co-chairs as well as our abstract reviewers. We wouldn't have such a successful technical program without all of your dedication and hard work.

Several members of the NSTS were recognized for their achievements and significant contributions to NS geophysics: Rosemary Knight is the first near-surface geophysicist and the first female scientist to receive the Maurice Ewing Award, which is the SEG's highest honor. Estella Atekwana received the Reginal Fessenden Award. Neils Grobbe received the J. Clarence Karcher Award. Best Poster Paper award went to Ming Ma, Rui Zhang, and Jonathan Ajo-Franklin, the Award of Merit for the Best Student Poster Paper went to Sarah Morton Rupert, and Honorable Mention for Best Poster Paper Steve went to Steven Sloan and Dan Feigenbaum. The winner of the 2021 photo contest is Danney Glaser, a Ph.D. student at Rutgers University at Newark.

We are currently accepting nominations for the Harold Mooney Award and the Frank Frischknecht Leadership Award. A letter of nomination outlining the nominee's merits, contributions, and accomplishments meeting the award criteria, the candidate's contact information, CV, and letters of recommendation should be sent to ns@seg.org before 3 January 2022. For information regarding the awards, please visit <https://seg.org/News-Resources/Near-Surface/Honors-and-Awards>.

This year, the NSTS organized both in-person and virtual annual student exchanges that connect students with established researchers in the field of near-surface geophysics. The virtual event featured Dr. John Lane (Branch Chief, USGS) and professor Lee Slater (Rutgers University Newark) as distinguished guest speakers. They discussed their career paths and provided recommendations to a group of students from the USA and Africa. Kennedy Doro (University of Toledo, OH) engaged with students at the in-person application exchange held during IMAGE21. The following virtual event will take place on 25 January 2022 and the in-person event will occur in Houston at the IMAGE22 meeting. A similar virtual event will take place on 25 January 2022.

We appreciate and value our increasingly diverse membership. We have witnessed a fivefold increase in the NSTS membership numbers since 2015. Our membership doubled each year in the last two years, resulting in over 2200 members in November 2021! This striking increase might be indicative of a pendulum shift in the geophysical community. The number of our members under 45 is steadily growing, from 39% in 2020 to 47% in 2021. For comparison, 28% of overall SEG membership was under the age of 45 in 2021. We have an excellent opportunity to engage the next generation in solving unique near-surface challenges.

In 2022 and beyond, the main objective of the NSTS should be to encourage geophysical research in support of imminent energy transitions and environmental challenges in support of efforts to mitigate climate change impacts. The success of the NSTS in solving these challenges will depend on the diversity of our members, including represented disciplines, engagement of academia and industry, cultures, gender, and age. The new leadership is ready to engage in activities that will foster a strong and unified NSTS playing an essential role in addressing grand challenges in both the short and long term. If you have ideas on our section's important activities or want to become more engaged with the NSTS, please email ns@seg.org.

If you have exciting research results, consider contributing to The Leading Edge May 2022 special issue on Engineering Geophysics. The deadline for submissions is 1 January 2022, and the coordinator is Niels Grobbe (ngrobbe@gmail.com).

The NSTS is the founding supporter of the SEG Near-Surface Geophysical Research Award Endowment. This annual award provides a research grant for undergraduate or graduate students supporting their near-surface geophysics research. We are 53% towards reaching our goal of \$100,000. When renewing your SEG membership this year, please consider a donation to this endowment. Contributions of any amount are appreciated. Thank you to everyone who has already contributed. To learn more about the award, award recipients, how to apply, and how to contribute, please visit <https://donate.seg.org/Near-Surface>.

Have a safe and happy holiday season and a great start to the New Year! I hope to see many of you in person in 2022.



Erika Gasperikova

2021-2022 NSTS Leadership

Erika Gasperikova
Chair

Lee Slater
Chair-Elect

Jose Arce
Oderson Antonio de Souza Filho
*Latin America & Caribbean
Representatives*

Blair Schneider
Vice Chair

Catherine Truffert
Past Chair

Nadia Fantello
Vice Chair of Committees

Yunyue Elita Li
Global Chair

Ahzebobor Philips Aizebeokhai
Theophile Ndougsa Mbarga
West Africa Representatives

currently vacant
Finances and Grants Lead

Chih-Ping Lin
Global Vice Chair

Elisha Shemang
Southern Africa Representative

Christine Downs
Secretary

Noah Dewar
Student Programs Lead

Gilles Grandjean
Europe Representative

Ariel Lellouch
Geophysics Publication Lead

currently vacant
Continuing Education Lead

Guoqiang Xue
China Region Representative

Niels Grobbe
The Leading Edge Publication Lead

Subash Chandra
C. Krishnaiah
Indian Representatives

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On the Horizon

On the Horizon is a space to shine the spotlight on near-surface geophysics students. These are our future colleagues and leaders. Read about what they are doing right now.

My name is Tonian Robinson. I am a 5th year Ph.D. student at the University of South Florida. My research focuses on integrating Near-surface Geophysics with remote sensing applications to detect, monitor, and characterize sinkhole formations in west-central Florida. It tests the limits of the time-series application of InSAR by attempting to monitor deformation at submillimeter rates in a densely vegetated area.

I am originally from Jamaica; after moving to the states, I completed my undergraduate studies at the Rutgers State University - Newark, where employment as an undergraduate research assistant in geophysics sparked my interest in pursuing graduate studies within the field.

My professional goals include 1) Being a professor or research scientist improving my prowess in Geosciences by working with well-rounded professionals and creating cutting-edge work to advance various geophysics and remote sensing methodologies. 2) Fostering minority participation in the Geosciences. 3) Creating a bridge between the research community here in the US and the Caribbean, where the resources provided can help expand knowledge on Earth and environmental processes in the region.

Follow Tonian on [LinkedIn](#), [Twitter](#), and [Google Scholar](#).



Tonian collecting a GPR profile over a sinkhole pool.

News

Please join us in, once again, congratulating our colleagues as they receive recognition for their hard work and contributions to near-surface geophysics and exploration geophysics.

Rosemary Knight received the 2021 Maurice Ewing Award, SEG's highest honor, for her contributions both in the advancement of the science and to the profession of hydrogeophysics.

Estella Atekwana, recently named dean of the College of Letters and Science at the University of California, Davis, received the 2021 Reginal Fessenden Award for her technical contribution to and conceptual advancement of biogeophysics and geobiology.

Neils Grobbe received the 2021 J. Clarence Karcher Award for significant contributions to the science and technology of exploration geophysics by a young geophysicist of outstanding abilities.

Hendratta Ali was selected to serve a 3-year rotator position for the National Science Foundation's Hydrologic Science group.

Jeff Shragge was elected to SEG's Board of Directors as Vice President of Publications.

Stephen Slivicki, graduate student at Boise State University, received the 2021 Near-Surface Research Award for his proposed time-lapse active source seismic work monitoring natural CO₂ gas migration. See bio in the Student Subcommittee section of this newsletter.

With the annual meeting coming up soon, let us recall some top work by our near-surface colleagues at the 2020 annual meeting. **Ming Ma, Rui Zhang and Jonathan Ajo-Franklin** received Best Poster Paper for “A workflow of separating and imaging diffraction wave by using deep learning network: An application of GPR data.” **Sarah Morton Rupert** received the Award of Merit for Best Student Poster Paper for “Characterizing a physical model of a collapsing void using time-lapse surface-wave analysis.” **Steve Sloan and Dan Feigenbaum** received Honorable Mention for Best Poster Paper.

Please join us in once again welcoming the newly-elected members of the 2021-2022 Near-Surface Executive Committee. Some familiar faces continue in new roles.



Erika Gasperikova
Chair



Blair Schneider
Vice-Chair



Lee Slater
Chair-Elect



Catherine Truffert
Past Chair



Nadia Fantello
Vice Chair of
Committees



Yunyue Elita Li
Global Chair



Neils Grobbe
The Leading Edge
Publication Lead



Ariel Lellouch
Geophysics Publication
Lead

Global Subcommittee

The SEG Near-Surface Geophysics Technical Section Global Subcommittee is recruiting regional representatives for the following regions: Europe, Eurasia, North Africa, East Africa, and SE Asia. If interested, please contact us at ns@seg.org.

Student Subcommittee

As always, please visit the [Near Surface Facebook page](#) for more information about our student events or reach out (ns@seg.org).

25 Jan 2021	10:00 Central (UTC-06:00)	Near-Surface Geophysics - Ask the Experts. Online event with opportunity to ask subject matter experts about topics related to near-surface geophysics. Register here
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Highlights: Near-Surface Geophysics Student Application Exchange Workshop

Students had a wonderful opportunity to chat with subject matter experts about a variety of topics related to near-surface geophysics. The workshop was held virtually back in September and again at IMAGE 21. Thank you to the professionals who spent time exposing students to the many ways near-surface geophysics is applied and supports the geosciences.



Robert Stewart, Professor at University of Houston & Director of Allied Geophysics Laboratory, speaking about coastal geophysics.



Kennedy Doro, Professor at University of Ohio and former Global Chair for NSTS, speaking about hydrogeophysics.



Steve Sloan, Geophysicist with U.S. Army Engineer Research & Development Center, speaking about applications in hazard and engineering.

Highlights: SEG Summit on Drone Geophysics

A sincere thank you to everyone who participated in the 2nd annual Summit on Drone Geophysics. The 4-day virtual event took place in the beginning of November and expanded on the first (2020) Summit on Drone Geophysics and all previous efforts related to drones, UAVs, and UASs that were conducted as SEG post-convention workshops since 2017. The event had 136 attendees from 26 different countries, and five different continents. There were four platinum and five silver sponsors from Australia, Canada, and the United States.

A diverse group of professionals from industry, government and academic sectors comprised the 2021 technical committee, many of whom were on the 2020 committee as well:

- **Chair** Morgan Sander-Olhoeft, Guideline GEO
- **Vice Chair** Laura Quigley, Seequent
- Laurie Whitesell, SEG Near Surface Geophysics Technical Section
- Jose Arce, Arce Geofísicos
- Ron Bell, Drone Geoscience
- Nathan Campbell, Juniper Unmanned

- Cian B. Dawson, U.S. Geological Survey
- Rina Hartmann, Seequent
- Juan Ortega, Collier Geophysics
- Jan Francke, Geolitix
- John Lane, U.S. Geological Survey
- Callum Walter, Queen's University
- Lorraine Godwin, Seequent

The technical program kicked off with welcome presentations including an address by the SEG past President, Rick Miller. The technical program took the form of daily themes: ground-penetrating radar and electromagnetics (EM) (day 1); traditional and novel uses of magnetics (day 2); more EM and seismic (day 3); gamma-ray, gravity and guidelines (day 4). The summit also had the pleasure to welcoming seven keynote speakers: Jamin Greenbaum, University of California at San Diego, Dr. Jamey D. Jacob, Oklahoma State University, Mick Emil Kolster and Arne Døssing, CMAGTRES group, Alastair McClymont, BGC Engineering, Helen McCreary, Ohio UAS Center, Tom Pils, The Drone Lawyer, and Markku Pirttijärvi, Radai Ltd.

Two of the strengths of this event are its global reach and the extended group discussions at the end of each day. The group discussions were lively and robust with most attendees feeling free to ask questions and join discussions. In fact, one of the ideas that

germinated from the original summit was development of standards or guidelines for various geophysical methods applied to UAVs, UASs, or drones. This work continues today and if you are interested in being involved in the taskforce working on guidelines, please contact ns@seg.org.



In 2022, the Summit on Drone Geophysics will take place the week of 25 October 2022 and we expect to build another valuable event for our attendees and sponsors. Laura Quigley will assume the Chair position and Callum Walter will take over the Vice Chair position. We look forward to the event and invite those with experience with drones, UAVs, UASs for geophysical investigations to join the technical committee or if you have ideas on the future of drones for geophysical investigations, please send your interest/ideas to ns@seg.org.

Please find the full summary article in *The Leading Edge* wrap-up article *Looking back on the 2021 Summit on Drone Geophysics and looking forward to the 2022 Summit on Drone Geophysics* by the event's organizing committee leads:

Morgan Sander-Olhoef, Laura Quigley, Laurie Whitesell; Conference Preview: 2021 Summit on Drone Geophysics set for 2 to 5 November. *The Leading Edge* 2021; 40 (10): 778. doi: <https://doi.org/10.1190/tle40100778.1>

Mentoring365, a virtual mentoring program supported by the American Geophysical Union, Society of Exploration Geophysicists, Association for Women Geoscientists, and other organizations to quickly connect students with geoscientists across various institutions and disciplines. All SEG student members are encouraged to participate. Apply now and begin developing personal and professional relationships with others geoscience professionals. We encourage members further along in their career to consider applying to be a mentor and part of the knowledge and skills transfer. <https://mentoring365.chronus.com/>

Call for Submissions: *The Leading Edge*

We are pleased to share several upcoming issues of *The Leading Edge* that are sure to be of interest to our near-surface members. Consider making your contribution by submitting an article (<https://mc.manuscriptcentral.com/tle.>)

Publication Date	Theme	Submission Deadline	Coordinator
May 2022	Engineering Geophysics	January 1, 2022	Niels Grobbs ngrobbe@gmail.com
July 2022	Potential Fields	March 1, 2022	Chester Weiss cjweiss@unm.edu
August 2022	Hydrogeophysics	April 1, 2022	Arpita Pal Bathija arpita.bathija@aramcoamericas.com
October 2022	Planetary Geophysics	June 1, 2022	TBD
November 2022	Geohazards	July 1, 2022	Heather Bedle hbedle@ou.edu

NSTS Photo Contest Winner

The winner of the 2021 photo contest is Danney Glaser, a Ph.D. student at Rutgers University at Newark. Danney receives a \$50 voucher to the SEG Online Store for their winning submission.

Keep taking those field and laboratory photos. The next NSTS Photo Contest opens next June. Check the [webpage](#) for the latest information.



<https://donate.seg.org/Near-Surface>



Electrical resistivity array installed along the edge of a water body.

Calendar of Global Events

Events	Location	Date(s)	Submission	Registration
AGU Fall Meeting	New Orleans, LA & Virtual	13-17 Dec 2021	Closed	Open
Geo-Congress 2022	Charlotte, NC, USA	20-23 Mar 2022	26 Feb 2021	13 Oct 2021
19th International Conference on Ground Penetrating Radar	Golden, CO, USA	12-17 Jun 2022	15 Jan 2021	Opening Soon

Find SEG's full list of events on the [Global Calendar](#).

Resources

Professional Development

- [8 Tips to Improve your CV](#)
- [The Importance of Strategic Post interview Follow-Up](#)
- [Four Ways to Influence your Bosses without Alienating Them](#)
- [Practicing Leadership as an Introvert](#)
- [How to Plan for Strategic Planning](#)
- [How to Teach a Good First Day of Class](#)
- [Ways to Juggle Fieldwork with Kids in Tow](#)
- [Conference Attendance Boosts Authorship Opportunities](#)

How to Video Series by the European Association of Geoscientists and Engineers

- How to Submit a Good Abstract. [Part 1](#) • [Part 2](#)
- How to Get Published. [Part 1](#) • [Part 2](#)
- How to Present to a Live Audience. [Preparation](#)

Job Postings and Career Resources

- [SEG Career Center](#)
- [AGU PathFinder Career Center](#)