Geoscientists Without Borders: Don’t Fence Them In

Rhonda Jacobs
Geoscientists Without Borders
Program Manager

Geophysicists are powerful! The earth is their home and their laboratory. Finding her secrets is their passion. Obviously they can not make rain, but they can find fresh water – life to a thirsty community. They do not stop volcanoes from being volcanoes, but they can help warn the villages and towns nestled at the base of one that threatens a community. Geophysicists can not hold back a landslide, but they can obtain the information that people need to stabilize a hillside above a critical infrastructure or community. They can also aid in finding items buried beneath a landslide.

With the May 2008 cyclone and earthquake disasters in recent news, many people remember the horrors of the December 2004 Indonesian tsunami. The effects of the 2004 tsunami were also going to be felt at the SEG when it became the catalyst for a new program of the SEG Foundation. In 2005, the Society’s then-President Craig Beasley urged SEG members to help, stating in the January issue of The Leading Edge that “…we have a significant contribution to make as geophysicists.”

The SEG Foundation is a not-for-profit organization, dedicated to helping the Society fulfill its mission through related programs such as the Scholarship, Travel Grant, and Projects of Merit programs. Now it is giving SEG members an outlet for their power and their passion with the establishment of a new program. “Geoscientists Without Borders” is an answer to the question, “What can I do?”. The humanitarian projects from this program will create a lasting legacy and a brighter future while raising the profile of applied geoscience.

Dalton Boutte, Executive Vice President of Schlumberger and President of Schlumberger subsidiary WesternGeco, vividly expressed the goal of the program in his announcement of the founding commitment of $1 million USD to the SEG Foundation Major Gift Campaign, Advancing Geophysics Today, Inspiring Geoscientists for Tomorrow. Boutte stated,
“When we looked at the technologies we have developed in the oil and gas sector and the potential benefits to humanitarian efforts, we were interested in enabling these applications through interaction with the academic community, students, and the SEG Foundation. We are proud to be able to help establish a program that will focus on humanitarian applications of geoscience and inspire students to use their skills in the geosciences to make the world a better place.”

Gary Servos, Board Chair of the SEG Foundation, explains why this new investment in the future of geophysics is so important,

“SEG Foundation has a long history of supporting students and universities engaged in the study of applied geophysics. We are proud to work with Schlumberger to raise this engagement to a new level. Geoscientists Without Borders will strengthen university programs, introduce students to the practical and humanitarian benefits of geophysics and geoscience, and make a difference to the quality of life in many of the world’s most disadvantaged communities.”

The first call for proposals went out in May 2008, making a reality of Beasley’s vision of a geoscience program that would make a difference in a world. In many cases, the resources will be best provided by university programs: faculty expertise and student application. SEG Student Sections will have a unique opportunity to add their impact and influence to SEG and to communities in need. The students will bring benefits to their own lives through the experience of planning and executing such projects.

According to Gabriel Borges, outgoing 2007 president of the University of Oklahoma Geophysical Society, “the program represents a great opportunity for geoscience students to provide an early contribution to the professional community while building their technical skills and assuming a leadership role in the global fight for human dignity in these disadvantaged communities.”

The project award application process began with the posting of the first request for proposals due 7 July, 2008. Qualifying projects will be required to demonstrate that they will deliver humanitarian and environmental benefits through application of geophysical and geoscience expertise. Benefits could include a wide range of projects, such as locating fresh water supplies, pollution remediation, natural hazard detection, man-made hazard mitigation, sustainable resource development, and related community education. Anyone interested in applying for grants should visit the SEG Website, particularly http://www.seg.org/foundation.

Geophysicists examine the earth, analyze the data, and give answers that will help to build the buildings, dig the wells, or locate the buried items. Near-surface geophysics technologies will be critical to many of the future projects. Geoscientists Without Borders is the chance to show the world just how much those technologies and the people who use them can do. Don’t be fenced in. Be a part of the program.

SEG Foundation vice-chair Bill Barkhouse congratulating Schlumberger Executive Vice-President Dalton Boutte after his announcement of Schlumberger’s commitment to Geoscientists Without Borders at the 2007 SEG Annual Meeting.

Geoscientists Without Borders Webpage
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GSSI team member Dan Delea performing a soil salinity survey in Grand Forks, ND using the GSSI Profiler in conjunction with a Trimble AG 132 GPS system.

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Letter From the President

The SEG Near Surface Geophysics Section (NSGS) is continuing to foster the growth of an expanding and cohesive Near-Surface Geophysics community and is committed to doing its very best to serve you, the members. The NSGS Executive Committee, the newly-formed NSGS Standing Committees, and a number of additional NSGS volunteers are well underway to fulfilling our many initiatives set for this term.

I’d like to call upon all of you who would like to see the near-surface geophysics community continue to grow to become involved in the SEG-NSGS. The NSGS depends on dedicated members like you to help steer the direction of the section, with generous support from SEG.

I look forward to celebrating our 15th Anniversary with all of you at the NSGS reception at SEG 2008!

Best regards,

Wendy Wempe
President, Near-Surface Geophysics Section of SEG

Support Your Near-Surface Geophysics Community

NSGS members’ top ten list:

10. Let the NSGS executive committee know of any ideas you might have for creating a stronger NSG community
9. Contribute content to the Near Surface Views
8. Nominate deserving geophysicists for one of the NSGS awards
7. Sponsor a NSGS Student Travel Grant
6. Help organize a NSGS workshop
5. Volunteer to be an NSGS abstract reviewer or NSGS session moderator at SEG
4. Attend NSGS sessions and workshops at SEG meetings
3. Join a SEG standing or ad-hoc committee
2. Volunteer to become a chairperson or member of a NSGS standing committee
1. Serve on the NSGS executive committee
Choosing the Right Magnetometer
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Our World is Magnetic.
Strengthen NSGS within SEG
By Louise Pellerin, 2nd Vice-president SEG, 2007-2008

The near-surface geophysics community continues to gain momentum within SEG and other societies. The Environmental and Engineering Geophysical Society (EEGS) is healthy and the EEGS and SEG-NSGS continue to strengthen our ties through joint activities – EEGS publications are now available through SEG online and we are co-sponsoring a workshop at the SEG annual meeting (see article this newsletter). The American Geophysical Union Near-surface Focus group is growing at an exceptional rate, and global ties expand as the European Association of Geoscientists and Engineers –Near Surface Geophysics Division works with the EEGS and the SEG-NSGS.

Through the work of our distinguished NSG colleagues who serve SEG at various levels, we continue to increase our standing within the Society. The SEG has tremendous resources through the oil and gas industry in which we can benefit. The SEG supports new programs, such as Geoscientist Without Borders. The appreciation of the wide breadth of applications and technical complexity of geophysics in the near surface grows. Representation in the leadership and on committees is one of the best ways to promote and get support for NSG within the SEG. The easiest way to make this happen is to VOTE! If you are an active member VOTE! If you are an associate member that qualifies for active membership, update so you can VOTE!

Students and associate members can serve on committees. Check the list of committees on the SEG website and contact the chair. The research committee, the online committee and the committee for student and university programs would benefit from voices of the NSGS. Professional service is a rewarding experience, helps our community and you can learn a lot that help in all aspects of your life.

And remember to VOTE for the NSG candidates in the upcoming election!

Call For Nominations: Harold Mooney Award

The Harold Mooney Award is presented by the NSG Section during its reception and dinner at the SEG annual meeting. The honoree is chosen by his or her peers through nominations from the membership and recommendation to the NSG Section Executive Committee. The award is presented to an individual in recognition of long-term, tireless, and enthusiastic support of the near-surface geophysics community through education, outreach efforts, professional service, or development of opportunities with other professional disciplines that employ geophysics.

Send nominations to Awards Committee Member Larry Bentley (lbentley@ucalgary.ca) (snail mail: Department of Geoscience, University of Calgary, Calgary, Alberta T2N 1N4, Canada) or Tom Dobecki (tom.dobecki@shawgrp.com) (snail mail: Shaw Environmental, Inc., 7604 Technology Way; Suite 300, Denver, Colorado 80237, USA). The nomination should contain the name, title and affiliation of the candidate along with a statement describing the reasons for the nomination. Nominations should be received by Monday 15 September, 2008 for full consideration.

For more information see http://nsgs.seg.org/award.htm.
Geophysical Instrumentation for Engineering and the Environment

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Call for NSGS Executive Committee Nominations

The NSGS Nominations Committee is soliciting nominations for President-Elect and Vice President for the 2008/2009 NSGS Executive Committee. These offices are held for approximately one year and the term of office is from 17 November, 2008 to the last day of SEG 2009. The duties of the officers can be found at http://nsgs.seg.org/volunteer.htm.

The NSGS will provide voting members a slate of confirmed candidates for all positions by 1 July and will create and send ballots to voters only if we have more than one candidate for an office. If you would like to be nominated or you would like to nominate someone, please let us know by emailing us at nsgs@seg.org. We encourage any member with interest in strengthening the NSG community to become more involved in the NSGS.

Can You Help a Student attend the SEG Annual Meeting in Las Vegas?

Each year the Near Surface Geophysics Section (NSGS) offers US$500 travel grants to students for attending the SEG Annual Meeting. The purpose of the grants is to raise awareness of near surface geophysics and to encourage student participation in the SEG Annual Meeting and the NSGS.

We need sponsors to help maintain this important program. For a US$500 sponsorship, you will receive acknowledgment at the NSGS annual Section Reception and Business Meeting, acknowledgment in the NSGS quarterly newsletter and the gratitude of an emerging NS geophysicist. If you are interested in helping, contact the chair of the awards committee, Larry Bentley (lbentley@ucalgary.ca).

Call for NSGS Awards Committee Volunteers

The Near Surface Geophysics Section has recently formed the NSGS Awards Committee. The Committee currently consists of Larry Bentley (University of Calgary) and Tom Dobecki (Shaw Environmental, Inc.) We would like to add at least one more volunteer to act as a member of the committee.

The mandate of the committee is to encourage nominations for the Frank Frishknecht Leadership Award and the Harold Mooney Award (see http://nsgs.seg.org/award.htm) as well as make recommendations to the executive committee for the disposition of the award. In addition, the awards committee works with the student travel grants program and other initiatives as formulated by the new committee. If you are interested, please contact Larry Bentley (lbentley@ucalgary.ca) or Tom Dobecki (tom.dobecki@shawgrp.com).
SEG Las Vegas 2008 Convention Updates

The Annual Meeting and Technical Program (November 10 – 14 in Las Vegas, Nevada) are shaping up very nicely with a full NSGS docket from Monday thru Friday. Here’s the latest on SEG events, sessions, and workshops.

Abstracts

The NSG Section was ecstatic to receive so many quality abstracts submitted for the annual meeting. Additionally, the NSGS would like to thank all of the reviewers who volunteered because their help has made it possible to put together a very interesting technical program.

SEG Forum

The increasingly important topic of groundwater management is the focus of the Society of Exploration Geophysicists Executives Forum, “Managing our Groundwater Resources for the Future,” the leadoff event at the SEG annual meeting.

The forum, scheduled for November 10 and sponsored by the SEG Near-Surface Geophysics Section, will focus on current and future challenges in groundwater resource management locally, nationally, and internationally and the potential role geophysics can play to help address those challenges. Participants will explore the reasons why groundwater resource management is becoming increasingly important, not only to sustain all living organisms but also for oil, gas, mineral, and geothermal resource exploration, energy production, and CO₂ sequestration.

Sessions

Following the forum, there are 6 NSGS sessions between Monday afternoon and Thursday morning covering a broad spectrum of near surface geophysical methods and applications, including 2 special sessions, Hydrogeophysics in Practice and Near Real-Time UXO Discrimination. Session details will be coming soon, and more information will be posted in the 3rd quarter newsletter.

Workshop

A jointly sponsored NSGS and EEGS Post-Convention workshop on Friday titled “Induced Polarization: Research and Recent Advances in Near Surface Applications” concludes the technical program. See the announcement on page 13 for more details.
SEG Las Vegas 2008 Convention Updates (continued)

Luncheon

This year’s Near-Surface Geophysics Section dinner will see a few changes from previous years. For starters, we will be having a luncheon instead of the usual night-time event in years past. Also, the first 20 students to arrive at the luncheon will be eligible to have their ticket cost to the luncheon reimbursed. As always, non-members are welcome to attend and join the NSGS on the spot. We encourage everyone in the near-surface community at the conference to attend the luncheon, perhaps bring a friend along to join, and to help us celebrate 15 years with the SEG!

Further information including details the invited speaker for the event will be given in the next newsletter. If you have any questions, contact Deborah Underwood (deb@geometrics.com), the organizer of the luncheon.

Luncheon location details:
Mandalay Bay Convention Center, Mandalay Bay Ballroom I
Tuesday, 11 November
11:30 a.m. -1:30 p.m.

Induced Polarization: Research and Recent Advances in Near Surface Applications

EEGS-NSGS Workshop, 14 Nov. 2008, SEG Annual Meeting, Las Vegas, Nevada

Scientists and engineers will come together to share research and application of induced polarization (IP) to near-surface applications including environmental, hydrological, and engineering applications such as infrastructure assessment. The workshop will begin with a short historical/tutorial discussion of IP, followed by technical sessions on

1) Recent Research in IP Data Acquisition
2) Rock Properties, Theory and Laboratory Studies of IP
3) Inverse Modeling and Imaging of IP Data
4) Near Surface Applications of IP

and concludes with a discussion and summary.

Co-Organizers:
Esben Auken (esben.auken@geo.au.dk) Douglas J. LaBrecque (dlabrecque@mpt3d.com)
The HydroGeophysics Group Multi-Phase Technologies, LLC, Sparks, NV
University of Aarhus, Denmark
Lee Slater (lslater@andromeda.rutgers.edu) Earth & Environmental Sciences, Rutgers University-Newark, NJ
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Integrated surveys require a high-resolution seismograph to collect precision data, instruments like the Geometrics ES-3000, Geode, or StrataVisor NZ.

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Student News

Student Travel Grants

The Near Surface Geophysics Section intends to offer 5 travel grants of US$500 for students to attend the SEG Annual Meeting in Las Vegas (9-14 November, 2008). The awards are meant to encourage and financially aid students in participating in the meeting and presenting their current research as it applies to near surface geophysics issues and problems.

The application procedure can be found at http://nsgs.seg.org/travelg.htm or contact the chair of the awards committee, Larry Bentley (lbentley@ucalgary.ca).

1 Post-Doctoral Position and 2 PhD positions in Hydrogeophysics

Hydrogeophysics Group, Århus University, Denmark
The Technical University of Denmark, Department of Environmental Engineering

Applications are invited for 2 funded PhD scholarships in hydrogeophysics. Funding is available for three years from the Danish Strategic Research Council through the Riskpoint project. Annual salary starts at 40,000 € plus pension/holiday pay.

The Riskpoint project aims to develop a complete risk assessment tool that can be used to identify and prioritize clean up and management of point sources of contamination to groundwater.

This project will focus on a well-instrumented Danish field site and will implement different 4D geophysical monitoring techniques (resistivity imaging/IP, TDEM, MRS) to set up and constrain detailed reactive contaminant transport models.

For these positions we seek young researchers (MSc in Sciences or Engineering) with a strong mathematical background and interest in geophysics and hydrological modeling. For the post-doctoral position (based at Århus University), experience in resistivity/IP methods or MRS, field experience and project management skills are advantageous. For the PhD position at Århus University, experience with the MRS method is an advantage. The PhD position at DTU requires a strong background in numerical flow and contaminant transport modeling.

Please send an application and CV plus contact details of 2 references by email to Associate Professor Esben Auken (esben.auken@geo.au.dk) and Associate Professor Peter Bauer-Gottwein (pbg@er.dtu.dk). The application will stay open until 1 August, 2008. More information is at http://www.hgg.au.dk and http://www.env.dtu.dk.
Students Get Hands-On Experience at the CSM/BSU Field Camp

The SEG-sponsored geophysical field camp hosted by the Colorado School of Mines (CSM) and Boise State University (BSU) was conducted in May in Colorado. Undergraduate and graduate students learned about and used a variety of techniques including ground penetrating radar, vertical seismic profiling, gravity, surface-based seismic methods, and a variety of electrical methods. They also looked at a variety of scales from near-surface to deeper basin-scale surveys.

Left: Students and faculty prepare for a vertical seismic profile experiment.
Right: A novel solution to airwave problems in the borehole was proposed by a student. Sitting on the borehole dampens the coupled airwave recorded downhole.

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Innovations in Modeling the Near-Surface
EAGE-SEG-DGS Workshop, 23-25 Nov. 2008, Manama, Bahrain

The goal of this workshop is to overview the current state of the art of modeling and characterization of the near-surface in a wide range of environments and applications. The workshop will comprise of oral and poster presentations. Papers are invited from academia, service and oil company case-studies and developments.

Topics include:
• Classical Static Corrections
• Wave-equation and Ray Tracing
• Acquisition/Surface Waves
• Ground Penetrating Radar
• Gravity and EM
• Hydro Geology
• Emerging Near-Surface innovations (e.g. satellite imagery, the inclusion of geological information, remote sensing, non-classical static corrections)

Deadline for papers is 1 July, 2008. More information can be found at http://www.eage.org.

Steering Committee:
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David Le Meur--CGGVeritas; Partha Routh--ConocoPhilips
Paul Matheny--PDO; Robert Ley--Saudi Aramco
Xander Campman—Shell

In Memory of Bob Ballard Jr.

Robert Farrar (Bob) Ballard Jr. passed away on 14 April, 2008 at the age of 72 in Jackson, Mississippi. Bob was a geophysicist for the U.S. Army Corps of Engineers Waterways Experiment Station for 42 years.

He worked on a variety of research projects including using a variety of seismic methods for the detection of clandestine tunnels and for assessing the integrity of levees. He also chaired an American Society for Testing and Materials (ASTM) committee to create standard methods for seismic crosshole testing.

Bob also patented a borehole seismic P and S-wave source which can still be purchased today.
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Near-Surface Geophysics Section of the SEG

Membership Application

The Near-Surface Geophysics (NSG) Section of the Society of Exploration Geophysicists is a professional organization chartered by the SEG to promote the rigorous practice of the science of shallow-earth geophysics. You may read about the origin and goals of the section at http://edge-online.org/pdf/tle1209r0922.pdf and http://nsgs.seg.org/

Class of Membership

- Active Membership $15.00 Includes quarterly newsletter
- Affiliate Membership $15.00 Includes quarterly newsletter
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Please clearly print or type all entries.

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I am currently a member of the SEG: _____ YES or _____ NO. SEG membership is NOT required to join the NSG Section. Note that student SEG membership is free through the Corporate Sponsorship Program. Go to http://www.seg.org. Membership Services, to learn more. If you are not a member of SEG, provide two NSG Section or SEG sponsors or attach a current resume.

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2 Interest in NSG Section & SEG member or sponsored by two NSG Section or SEG members. See Bylaws III.1.b. for details.
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