

# Letter From the President,

## Robert Jacob

Greetings NSGS members! I hope your summer is going well. We hope you enjoyed the first electronic newsletter. The second electronic newsletter will again be lacking any advertising; since the NSG Section is committed to incorporating advertisements into future newsletters, the executive committee is diligently working toward this goal.

The bi-annual section meeting held at SAGEEP in April was led by Emily Hinz and was well attended and productive. The main topic was the changes to the newsletter format and thank you to those members who volunteered for standing committees at the meeting.

SEG 2009 meeting will occur October 25-30, 2009 in Houston, TX. The technical program is nearly complete. Jan van der Kruk has done an excellent job of putting together the Near Surface sessions, watch for updates in July on the SEG website for the finalized program. Thank you for submitting quality abstracts and continuing to encourage others to submit also. Rick Miller and John Bradford are organizing a Post-Convention workshop on Near Surface Seismic and GPR, we hope to see many of you there. Additionally, there will be two NSGS events at this year's technical meeting that we also hope to see you at: An evening social event / business meeting for awards held at a restaurant very close to the convention center on Tuesday Oct 27th. And the annual section's Business Meeting held at the convention center on an afternoon with minimal conflict to other NSG sessions.

The NSGS thanks those members whom reviewed submitted abstracts this year. As always this is an excellent way that you can become active in the NSGS and we hope that in future we can add more members to the reviewer list.

The nomination committee is currently seeking nominations for the next NSG section's President-Elect position, which continues into the President and Past-President positions. If you would like to nominate anyone, please email Rob ([rob.jacob@bucknell.edu](mailto:rob.jacob@bucknell.edu)).

For more information about NSG Section membership, please contact me at [rob.jacob@bucknell.edu](mailto:rob.jacob@bucknell.edu). Remember, you can join, renew, or update your profile on the SEG website at any time. Go to <http://seg.org/> and click on "My SEG".

Please do not hesitate to contact any of us if you have suggestions about the NSG section or would like to submit an interesting article on Near Surface Geophysics for the NS Views newsletter.

Best Wishes and I look forward to seeing you at upcoming meetings.

Cheers,

Rob Jacob, President,

Near Surface Geophysics Section

# Call For Nominations

## NSGS Awards

The NSGS has two major awards, the Harold Mooney award, the Frank Frishknecht Leadership Award. These awards are our chances to honor members that have made superior contributions to our community. For these awards to be effective we need active participation by the membership to generate nominations.

Please read the following and submit your nomination to awards committee chairman, Larry Bentley ([lbentley@ucalgary.ca](mailto:lbentley@ucalgary.ca)). The nomination should contain the name, title and affiliation of the candidate along with a paragraph describing the reasons for the nomination. Nominations should be received by Monday September 1, 2009 for full consideration.

### 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.

### Frishknecht Leadership Award

The Frank Frischknecht Leadership Award is jointly presented by the NSG Section and the Environmental and Engineering Geophysical Society (EEGS). The award alternates (on an approximately 18-month interval) between the SAGEEP meeting and the NSG Section's banquet at the SEG annual meeting. This year it will be presented at the NSG Section's banquet. The Frank Frischknecht Leadership Award is established to recognize an individual who shows extraordinary leadership in advancing the cause of near-surface geophysics.

For more information see <http://nsgs.seg.org/award.htm>.

Nominations should be received by Monday **September 15, 2009** for full consideration.

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## Honorary Lecture Program – Call for Nominations

The Honorary Lecture Program is a companion to the long-established SEG Distinguished Lecture Program. The goals are to:

1. recognize an individual's contributions to advancing the science and technology of geophysics,
2. foster a sense of community amongst geophysicists by providing opportunities for local meetings and exchange of ideas, and
3. encourage students by providing the opportunity to discuss scientific and career issues with a leading expert.

The Honorary Lecture Program is aligned with six geographic regions, defined on considerations of the number of SEG affiliated Sections and cost efficiency. Currently three regions are open for nominations.

- North America
- Middle East and Africa
- Central and South America

There cannot be a near-surface Honorary Lecturer, if we do not submit nominations. To strengthen the voice of the NSGS, we need to submit nominations. If you have someone you would like to nominate in any of the above regions, please contact Louise Pellerin, [pellerin@ak.net](mailto:pellerin@ak.net). Nominations will remain open through **July 31**.

# Committee Updates

## Awards Committee

Chair: Larry Bentley

The Near Surface Geophysics Section has recently formed the NSGS Awards Committee. The Committee currently consists of Larry Bentley (University of Calgary). Tom Dobecki has recently resigned and I would like to thank him for his valuable service. I 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](mailto:lbentley@ucalgary.ca)).

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## Publications Committee

Chair: Rick Miller

Your NSG Publications Committee is organizing an after meeting [workshop](#) for the SEG annual meeting in Houston this October. We have submitted a proposal to the SEG Publications Committee for a book that will have articles from each of the workshop participants and several dozen invited authors. We hope to have the book available at the 2010 SEG meeting in Denver.

# Upcoming Meetings & Deadlines

## American Geophysical Union (AGU) Fall Meeting

December 14 - 18, 2009

San Francisco, California

Abstract submissions will be accepted between July 30 and September 3 for the Fall AGU meeting. More information can be found at <http://www.agu.org/meetings/fm09/>

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## Bouyoucos Conference for the Advancement of Geophysical Technologies Applied to Agroecosystems

September 8 - 10, 2009

Albuquerque, New Mexico

The "Bouyoucos Conference for the Advancement of Geophysical Technologies Applied to Agroecosystems" will be held September 8 - 10, 2009 at the Hotel Albuquerque in Albuquerque, New Mexico. The conference will bring together participants, with agricultural and non-agricultural backgrounds, who have interest/expertise in geophysical technologies (i.e. resistivity, electromagnetic induction, ground penetrating radar, seismic, magnetometry, self-potential, etc.). New geophysical equipment sensors, field survey procedures, data analysis methods, and applications are to be evaluated in regard to their potential use within agricultural landscapes. The conference program will promote the advancement of agricultural geophysics through special topic sessions having invited speaker presentations followed by opportunities for audience discussion and feed-back. Additionally, the latest agricultural geophysics research will be presented in a poster session.

Conference products will include a published proceedings, initiation of research/outreach collaboration groups, and development of a white paper detailing

the most promising directions for progress in agricultural geophysics. The Hotel Albuquerque, where the conference is being held, is a landmark hotel located within walking distance of the museum quarter and all the restaurants, shops, and galleries of the "Old Town" historic district. More detailed information (conference registration, conference abstract submission, and hotel reservations) can be obtained by visiting the conference website (<http://www.ag-geophysics.org>) and by contacting the conference coordinators, Barry Allred ([Barry.Allred@ars.usda.gov](mailto:Barry.Allred@ars.usda.gov)), Mary Collins ([mec@ufl.edu](mailto:mec@ufl.edu)), or Hamid Farahani ([hfaraha@clermson.edu](mailto:hfaraha@clermson.edu)).

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## South African Geophysical Association (SAGA) Biennial Technical Meeting & Exhibition

September 13-18, 2009

Swaziland

This is a near-surface geophysics extravaganza and includes workshops and sessions from 3 hugely successful large international collaborative scientific research projects – Inkaba ye Africa, SAMTEX and AfricaArray – in addition to a plethora of sessions of exploration and innovative geophysics. Deadline for submission of paper and poster abstracts is **June 30, 2009**. Information can be found at <http://www.sagaonline.co.za/2009Conference/index.htm>

### Special Sessions:

Full Tensor Gravity Gradiometry

Full Tensor Magnetic Gradiometry and SQUID technology

Ground Penetrating Radar

Inkaba yeAfrica [Cape Fold belt and others]

SAMTEX

Africa Array

Geodesy and Space Geodesy

Unusual Geophysics

African / Barberton Greenstone belt Case studies

### Workshops & Courses:

(Monday 14 and Tuesday 15 September)

1) 2 x day GPR course: Introduction to Ground Penetrating Radar (GPR) presented by Dr. Nigel Cassidy.

2) 1 day course on the management of 3D Seismic surveys (Tuesday afternoon 15 September from 14:00 to 18:00). Discussion of a case study and from this case indicate how TOTAL manage a 3-D Seismic Survey in order to extract the best information for Oil and Gas exploration and development. (Abdelkader Chaouch, TOTAL, France)

3) GeoModeller Workshop: Tensor Modelling and Inversion of 3D Geology presented by Des Fitzgerald (Intrepid)

4) Tensor Processing & Interpretation Workshop presented by Des Fitzgerald (Intrepid)

5) Erdas Imagine/ER Mapper Workshop

# Reflections on my term as the SEG 2<sup>nd</sup> VP

## Louise Pellerin, Green Engineering

One day Terry Young, 2006 SEG president, called and asked me if I would be a candidate as the SEG 2<sup>nd</sup> VP. I laughed, and agreed thinking no way would I ever win as a non-seismic, non-oil, small business woman. Several months later Leon Thomsen, 2007 SEG president, called to tell me I won, and I laughed again in disbelief. It turned out to be a fascinating experience, and my respect for the SEG grew immensely.

The SEG is and will continue to be dominated by the oil and gas community, and a near-surface geophysicist is usually a lone voice. I was fortunate to speak for the NS community on the 2008-2009 executive committee – had I not won the NS voice would have been silent. By the middle of my term, the committee members and SEG staff would turn to me in expectation that water, environmental and geotechnical applications of geophysics be included in the discussion. I was able to build on the work of many of our members over the years that increased the awareness and respect of NSG.

Serving as the SEG 2<sup>nd</sup> vice president expanded my awareness of our profession. I did not fully appreciate what most of us do; I increased my knowledge and respect for my colleagues in the petroleum industry. I hope my presence on the Executive Committee had a complementary effect and expanded the horizons of my colleagues on the role of near-surface geophysics. It was time consuming and at times demanding, but extremely worthwhile. I was not only able to contribute to our profession, but learned a lot about the processes of a large society and had the pleasure of getting to know and working with wonderful professionals. I wholeheartedly recommend serving the SEG, it is a very rewarding experience.

# Call for Papers

## Geophysics Special Section

### Hydrogeophysics--Electric and Electromagnetic Methods

SEG invites papers on the topic of "Hydrogeophysics - Electric and Electromagnetic Methods" for publication in the July-August 2010 special section or supplement of *Geophysics*.

Hydrogeophysics is a rapidly evolving discipline of geophysical methods dedicated to revealing properties and monitoring processes in the vadose zone as well as in aquifers. The discipline is relevant for environmental, hydrological, and agricultural research and engineering. Key processes in the application areas are contaminant transport, sustainability of ecosystems and biodiversity, plant growth, and soil-atmosphere interactions. Groundwater is the key component in the subsurface pore volume, for which reason electric and electromagnetic methods are most suitable for addressing the problems related to shallow subsurface spatial and temporal variability, its inaccessibility, which hinders the observation of relevant processes, and its role in connecting atmosphere, surface, and groundwater/reservoirs.

Our principal aim is to review the theories of these techniques and their applications on various scales and within different geologic settings. With this special issue, we hope to foster a knowledge transfer and cross-fertilization among the different communities. Although we focus on electric and electromagnetic methods, including self-potential, induced polarization, nuclear magnetic resonance, the various EM methods, and ground-penetrating radar, we encourage related contributions, such as from electroseismic and seismoelectric methods. In addition, we are welcoming developments of new techniques for an improved characterization and monitoring of the shallow subsurface and groundwater-related processes, including those for biogeosystems.

For this topic, *Geophysics* invites papers describing the theory, application, and benefits of advanced methods of hydrogeophysics. The application scale may range from the pore scale to the field scale involving more than 1 hectare of surface area. In particular we welcome techniques that exploit the evolution of new passive and

active electric and electromagnetic acquisition strategies and advanced data processing and inversion schemes that show an increase in computational speed. Finally, we also encourage papers that highlight case studies and thereby emphasize the practical aspects and illustrate the potential pitfalls, problems, and limitations of the applied techniques.

Interested authors should submit their manuscripts for review no later than **31 July 2009**. In addition, the special section/supplement editors would like to receive a provisional title and list of authors as soon as possible. Authors should submit via the normal online submission system for Geophysics (<http://mc.manuscriptcentral.com/geophysics>) and indicate that it is a contribution for the hydrogeophysics special section or supplement. The submitted papers will be subject to the regular peer-review process, and the contributing authors also are expected to participate in the review process as reviewers.

We will work according to the following timeline:

- Submission deadline: 31 July 2009
- Peer review complete: 15 March 2010
- All files submitted for production: 31 March 2010
- Publication of issue: July-August 2010

Given the tight timeline for publication of this issue, Geophysics is going to strictly enforce author submission guidelines, covered in "Instructions to Authors" published in the January-February 2009 issue and on the SEG Web site (<http://seg.org/geoinstructionstoauthors>). Please note that normal Geophysics page and color charges apply.

For specific questions, please contact the special section/supplement editors Jan van der Kruk ([j.van.der.kruk@fz-juelich.de](mailto:j.van.der.kruk@fz-juelich.de)), André Revil ([arevil@mines.edu](mailto:arevil@mines.edu)), and Evert Slob ([e.c.slob@tudelft.nl](mailto:e.c.slob@tudelft.nl)).

# NSG Business Meeting at SAGEEP

**March 29, 2009**

We'd like to thank all of our members who attended the NSG business meeting at the 2009 SAGEEP conference in Fort Worth, TX. Your input and ideas were greatly appreciated!

The topics of the business meeting centered around the changes to the newsletter and encouraging students to become more involved in the NSG. On the whole, members were happy with the changes to the newsletter. Feedback from our members indicates that many would like to see advertising continue with the newsletter, and there were many ideas about where to direct the revenue from advertisements. If you have any suggestions regarding advertising with the NSG, please email the newsletter editor, Emily Hinz ([eahinz@gmail.com](mailto:eahinz@gmail.com)).

We also discussed how to better inform students about the NSG and our opportunities for travel scholarships and free student membership. We will be working with the SEG student newsletter to better advertise our opportunities.

Thanks again, and we hope to see you in Colorado for SAGEEP 2010,

Emily Hinz

NS Views Editor

# SEG 2009 -- Houston, TX

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## Near Surface Sessions Update

Many abstracts were submitted for the annual meeting. Thanks to all the reviewers we could put together a very interesting technical program.

There will be 5 NSGS sessions between Monday afternoon and Thursday morning covering a broad spectrum of near surface geophysical methods and applications. Session details will be coming soon and more information will be posted in the 3rd quarter newsletter.

More information on SEG 2009 can be found at the SEG Annual Meeting website.

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## NSG Section Meeting and Reception

The Near-Surface Geophysics Section meeting and reception is scheduled for Tuesday, October 27. The meeting will start at 6:30pm with the reception following at 7:30pm.

Location: Zula restaurant, second floor, 705 Main St. #B

No charge to NSG section members, nonmembers can join on the spot, and students are welcome!

\*Student Membership Free

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## Near Surface Seismology and GPR Workshop

October 30

Houston, TX

Technologies used in the application of near surface seismology and ground penetrating radar (GPR) have seen significant advances over the last several years. Both methods have benefited from new processing tools, increased computer speeds, and an expanded variety of applications. Many shallow seismic projects now incorporate analysis results from different parts of the seismic wavefield allowing greater redundancy and confidence in interpretations without increased acquisition costs. More information is being extracted from GPR data by utilizing the wide range of analysis techniques developed for seismic data in concert with new tools specific to electromagnetic wave analysis.

It is fitting that these two geophysical techniques share the stage for a workshop that focuses on the highlights of an ever-increasing number of near surface studies taking advantage of the wide range of processing and analysis approaches applicable to both. This workshop is designed to bring the best of the past decade, state-of-the-practice applications of today, and visions for the next decade together providing practitioners and researchers with a unique opportunity to interact and share experiences.

The list of speakers so far includes:

"Surface wave imaging/material characterization with Love and Rayleigh waves", Jianghai Xia, Kansas Geological Survey, USA

"Finite frequency tomography for near-surface seismic applications", Colin Zelt, Rice University, USA

"Estimation of the lateral correlation structure of subsurface velocity heterogeneity from surface-based geophysical reflection images", James Irving, University of Lausanne, Switzerland

"GPR inversion for soil water content estimation", Sébastien Lambot, Université catholique de Louvain, Belgium

"GPR Scattering Theory", Partha Routh, ConocoPhillips, USA

"Seismic Waveform Inversion", Gerhard Pratt, Queen's University, Canada

"True amplitude migration of GPR data" Jan van der Kruk, Research Centre Julich, Germany

"GPR and seismic stochastic tomography and geostatistical integration of multivariate data" Erwan Gloaguen, Institut national de la recherche scientifique (INRS), Canada

"Near-surface seismic reflection methods in an urban environment", Lee Liberty, Boise State University, USA