



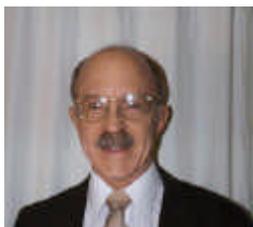
NEAR-SURFACE VIEWS

Newsletter of the NEAR-SURFACE GEOPHYSICS Section of The Society of Exploration Geophysics
Oct/Nov 2001 , Vol. 8, No. 4

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LETTER FROM THE PRESIDENT - by Roger Young



This year is one of great opportunity for the near-surface geophysics community because our section has accepted the SEG Executive Committee's offer to host the 2002 SEG meeting in Salt Lake City, UT. Consequently, the focus of your NSG Executive Committee's efforts this year will be to support Pieter Hoekstra (General Chairman) and Mike Powers (Technical Sessions Chairman) in organizing the SLC meeting. As host section for this meeting, the NSG has an excellent opportunity to raise the awareness of the general SEG membership to the importance of geophysical studies for an understanding of near-surface features. Your assistance in helping with the SLC meeting is, therefore, very important. To a surprising degree, the past SEG Executive Committee embraced the importance of geophysics outside the usual mainstream of energy exploration and development. We should all be grateful to the 2001 SEG Executive Committee members Sally Zinke and Peter Annan for their part in helping to make those of us in near-surface geophysics an integral part of the SEG.

I will continue initiatives begun by Pieter Hoekstra during his past term as President of the NSG section, including travel scholarships to the annual SEG meeting to be awarded to students presenting near-surface geophysics papers. The SEG is truly becoming a global organization: many new international members have a primary interest in near-surface geophysics. I would like to see the NSG foster greater interaction with SEG members outside the USA while also maintaining closer collaboration here at home with EEGS. Personal contact is the key to collaboration. I will be asking some of you for your assistance in this when you are traveling internationally. I have also noticed that the NSG membership is down from past years. I believe former members may become active once again if they see a benefit to their involvement.

The newsletter is our principal means of communication between SEG meetings, and it will continue to be mailed from the SEG by hardcopy to NSG members. Daran Rehmeyer is our new Newsletter Editor (see bio sketch *New Newsletter Editor*)—please respond to his requests for articles (such as the informative one on shear waves by Doug Crice in the Mar/Apr 2001). At your request there will be more information about the products, services, and history of firms whose paid advertisements help make the newsletter possible. Doria Kutrubes has agreed to spearhead this, and she is accepting information now (doria@radar-solutions.com). Publications are an important means of establishing our scientific presence. Dwain Butler is editor of a two-volume SEG publication on near-surface geophysics that is in the making. This major effort is progressing thanks to contributions of articles from many of you and reviews of these contributions by many others. In addition, there will be a special issue of *The Leading Edge* in May 2002 on the near-surface. Please consider contributing (Lawrence Gochioco, editor).

The SEG Business Office has made good its intention to include dues checkoff on its 2002 dues statement. When completing your statement, please include your email address. There will be issues on which I will wish to assess the sentiment of the NSG membership. A separate postal mailing to do so is costly and slow, so I will use the email list compiled by the SEG Business Office.

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NSG Section 2001 Business Meeting Summary

The annual NSG section business meeting was held at the Howl at the Moon Café in San Antonio on Tuesday evening, Sept 11, 2001, Pieter Hoekstra, presiding. The NSG has been designated the host section for the SEG's 2001 meeting in Salt Lake City. Pieter Hoekstra is General Chairman and Mike Powers is Technical Sessions Chairman. Mike Powers discussed the timetable for his committee's arriving at a program of sessions. In past years it has been difficult to represent near-surface interests through the Technical Sessions Committee. This year we have a special opportunity to have a voice right from the start of planning and to be well represented by contributions. Pieter related his intention to emphasize poster sessions devoted to focused topics as a strategy for including more contributions, particularly near-surface contributions, at the meeting. There was general discussion of suitable topics for focused sessions, and the enthusiasm expressed was welcomed by Pieter and Mike. Patricia Burg volunteered to organize a session on petrophysical properties. If you are interested in organizing a session, please contact Roger Young (ryoung@ou.edu). An early start in planning is necessary to identify topics of focus and to "beat the bushes" for commitments of participation.

The results of the election for NSG Executive Committee for 2001-2001 were announced. The new slate is: President: Roger Young; President-Elect: Steve Danbom; Vice-President: Greg Baker; Secretary: Jon Nyquist; Treasurer: Tony Endres.

Two NSG awards were presented. Dwain Butler received the Frank Frischknecht Award, which is given to a member in recognition of long-term, tireless, and enthusiastic support of the near-surface community. Bob Ballard read the citation relating the many areas of geophysics to which Dwain has contributed. Charles Stoyer received the Hal Mooney Award in recognition of scientific and technical excellence and innovation leading to the advancement of near-surface geophysics. Charlie, unfortunately, was unable to be present to hear the citation read by Pieter Hoekstra recalling his contributions as a teacher, a contractor, and a software developer.

The NSG was honored to have the G W Hohmann Memorial Fund choose the NSG meeting as a forum from which to announce the 2001 recipient of the G.W. Hohmann Award for excellence in electrical methods. Louise Pellerin read the citation for Prof. Ulrich Schmucker (who was formally presented with the award in Ludwigst, Germany, at a later occasion).

Roger Young, incoming President, then received the [mythical?] gavel from Pieter Hoekstra. Roger presented Pieter with a plaque from the NSG section expressing their gratitude to Pieter for his leading the section during his presidency. Roger said that the major focus of the new Executive Committee would be support of Pieter and Mike's efforts with the SLC meeting. (see *Letter from the President*). The Executive Committee then thanked Mary Poulton for arranging our section meeting.

NEAR-SURFACE VIEWS

Near-Surface Views is created by the Near-Surface Geophysics Section of the Society of Exploration Geophysicists to convey information of common interest to people working in near-surface geophysics.

Past issues of the newsletter are available at <http://nsgs.seg.org/>.

To be effective, Near-Surface Views requires the contribution of information from a variety of sources. If you have an item to communicate to other members of the near-surface geophysics community, please send it to the Editor. All contributions are welcome. The Editor reserves the right to reject items that are felt to be too highly commercial or technically inappropriate.

ALL SUBMISSIONS SHOULD BE SENT DIRECTLY TO THE EDITOR.

Submissions for the next newsletter should be sent by January 15th.

Calendar of Events

2001

10-14 Dec American Geophysical union Fall meeting San Francisco, California, U.S.

2002

7-9 Jan 4th Conference and Exposition of the Society of Petroleum Geophysicists, India (SPG/SEG).

10-13 Feb SAGEEP 2002, Las Vegas, Nevada, U.S.

17-19 Feb Frontiers of Geophysical Inversion, Army Engineer Research and Development Center, Waterways Experiment Station, Vicksburg, Mississippi, U.S.

11-13 Mar GEO 2002, Bahrain International Exhibition Centre

15-17 Apr Society of Economic Geologists' Global Exploration 2002 - Integrated Methods for Discovery, Denver, Colorado, U.S.

29-2 Apr/May GPR 2002, 9th Annual Conference on Ground Penetrating Radar, Santa Barbara, California, U.S.

27-30 May EAGE 2002, Florence, Italy. Email: AG@EAGE.NL

6-11 Oct SEG International Exposition & 72nd Annual Meeting, Salt Lake City, Utah, U.S.

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Advertisements can be placed in the Near-Surface Views. For advertising information contact the Editor.

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EDITOR'S NOTE

If you are a equipment, software, or system developer / manufacturer and want to see your ads in the newsletter, please contact the Editor at d.rehmeyer@geospec-llc.com. With membership including researchers, academia, and consultants, you don't want to miss an opportunity to advertise your latest developments.

Wanted: NSGS Volunteers

from Rosemary Knight

Why do I need volunteers? - to help with adding a near-surface perspective to the SEG website. At present, anyone looking at much of what is presented through the SEG website, especially the part for students, would get the impression that SEG means oil exploration. This simply reflects the interests of the people who have, to date, volunteered their time and materials to creating the website. Now we need the same volunteer effort from the near-surface community. Specifically we need people willing to write the various 1-2 paragraph sections to go under links such as "what is geophysics"; "what do geophysicists do"; "careers". This would also be a good chance to improve the NSGS site with pictures, case studies, any material that would help those inside and outside of SEG better understand the nature and scope of near-surface geophysics.

Anyone interested in helping with this, please email Rosemary Knight
rknight@pangea.stanford.edu

Treasurer's Report for FY 2001 (7/1/00-6/30/01)

from Tony Endres

Since my report last year, we have resolved much of the confusion in the accounting process with SEG headquarters. Sue LaBianco deserved a many thanks for helping me accomplish this goal. The section finances remain in good shape. During FY 2001, we incurred expenses of \$4971.58; the largest items being newsletter cost and the NSG reception at the SEG annual meeting. Revenues for FY 2001 were \$6815.00, primarily membership dues and newsletter advertising. We ended FY 2001 with an account balance of \$16125.09. In addition, the required IRS forms were filled in September 2000 to maintain the exempt status of the NSG.

New Newsletter Editor

Daran Rehmeyer has assumed the position of Newsletter Editor succeeding Greg Baker who was elected NSG Vice-President for the 2001-2002 term. Mr. Rehmeyer is the principal for a firm providing environmental and engineering geophysical services, predominantly application of GPR to solving engineering and environmental problems. He graduated from Virginia Tech in 1982 with a BSSEE and from LSU in 1991 with an MSSEE. His introduction to geophysics began with Schlumberger Offshore Services in 1984 when he worked as an open-hole wireline field engineer. From Schlumberger, he joined a small consulting firm where he helped develop an ultra-low frequency GPR system. His firm GeoSpec, was opened in 1998 to provide geophysical consulting services. To the good fortune of the NSG, Daran has editorial/publishing skills dating to an assignment as yearbook editor of a small local school. The NSG is grateful for his help in producing the Newsletter.

HIGHLIGHTS

We have reserved this section of the newsletter for descriptions of current research, company histories, case studies, and new developments, i.e., anything that the members of the NSG might find of interest. If you want your company highlighted or have an idea about a topic of interest, please contact the newsletter editor.

NSG WEB SITE

Don't forget to add your input at the NSG Section site (<http://nsgs.seg.org/>).

You can send information about "Calls for Papers" or other announcements to be posted on the web or included in the newsletter.

Stay involved!

HIGHLIGHTS

Sensors & Software Inc.

Sensors & Software Inc. designs, develops, manufactures, sells and rents ground penetrating radar instrumentation and software. The company core values are technical excellence, continuous innovation and first-rate customer service.

Sensors & Software Inc. was formed in 1988 with the mandate to commercialize the pulseEKKO GPR technology developed by A-Cubed Inc. The pulseEKKO technology was focused on geological applications and addressed the goals of Annan and Davis during their stint at the Geological Survey of Canada during the mid to late 1970's.

The initial pulseEKKO systems embodied many innovative features including lightweight portable back-packable systems, digitization of signals at the antennas, full fibre optic interconnections, full digital time base, digital data recording, stop and stack or continuous movement measurement, full bi-static operation and operation down to 10 MHz (almost 10 times lower than previous commercially developed GPR). This technology represented a major shift from conventional GPR at the time and opened up opportunities for GPR in a wide variety of areas not previously practical.

Starting with 3 people, Sensors & Software Inc. grew steadily with the success of the pulseEKKO IV. The business soon became self-sustaining and capable of continually investing in product development. Innovation and high quality product have always been part of our culture. After the pulseEKKO IV, the pulseEKKO 1000 system was introduced in 1992. This was a high frequency equivalent to the pulseEKKO IV using shielded antennas and reaching up to over 1000 MHz in operating frequency. The system advanced many of the features of the pulseEKKO IV including full bi-static operation.

Quickly following the pulseEKKO 1000 came the pulseEKKO 100, which was the successor to the pulseEKKO IV. The pulseEKKO 100 was introduced at GPR 1994. Technical developments continued to follow on a regular basis with the borehole capability for the pulseEKKO 100 system being introduced in 1996.

In 1998 the Noggin 250 (the first member of the Noggin family) was introduced to the market place. The Noggin GPRs are complete self-contained systems in a single monolithic package. These products are focused on providing easy-to-use instruments that see broad user appeal.



The Noggin family has rapidly expanded over the succeeding 4 years. The Noggin 500 and 1000 systems were introduced in quick succession along with the Noggin^{plus} configurations. In addition, the Smart Cart and Smart Handle systems were developed to make GPR surveys simpler. In 2001, Conquest for concrete imaging and the Rock Noggin for rock and mine applications were introduced as the newest members of the Noggin family.

As the company's name indicates, software is a major part of all of Sensors & Software Inc.'s activities. Our goal has always been to create robust, simple-to-use software which allow users to extract the maximum benefit

TRAINING OPPORTUNITIES

Exploration Instruments LLC, a company that rents geophysical instrumentation including GPR, now offers GPR training classes in Austin, TX. The class lasts two days and attendees leave with a manufacturer's certification in GPR. The next class is being offered December 11-12, 2001 and reservations for the class have begun. Contact Exploration Instruments through their website at www.expins.com (click on 'Contact Us') or phone at 512-346-4042 x103.

Know of other training opportunities? Contact the editor for inclusion in the next newsletter!

from their GPR information with the least time and effort. Over the years numerous products have appeared including our recent developments Win_EKKO, EKKO Mapper and EKKO_3D, which allow processing and display of data as well as map and 3D image presentations.

Sensors & Software Inc.'s professional staff have always been active in creating and supporting new applications for GPR. Our experienced staff are the core of the company and provide customers with unique support based on extensive practical experience.

Since the beginning, Sensors & Software Inc. has grown continually and has always expanded its scope. You will find Sensors & Software Inc. GPR products in over 60 countries around the world along with informed sales representatives. With over 40 professional staff to service our customer needs, we can readily address the broad spectrum of GPR technology questions, needs and training.

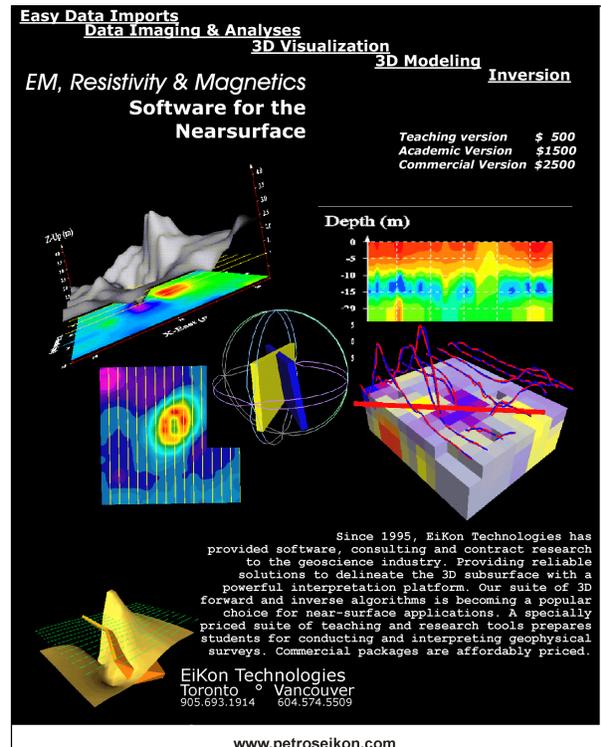
For more information, you can check out our web page. In addition, we publish quarterly newsletters on our products, which focus on technology applications and our regular training courses. To get on to our newsletter mailing list contact our sales and marketing department or check out our web page (www.sensoft.ca).

(Highlights are published without prejudice or endorsement by the NSG)



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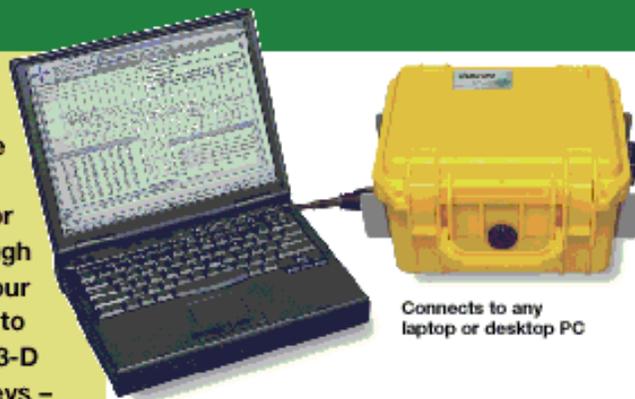
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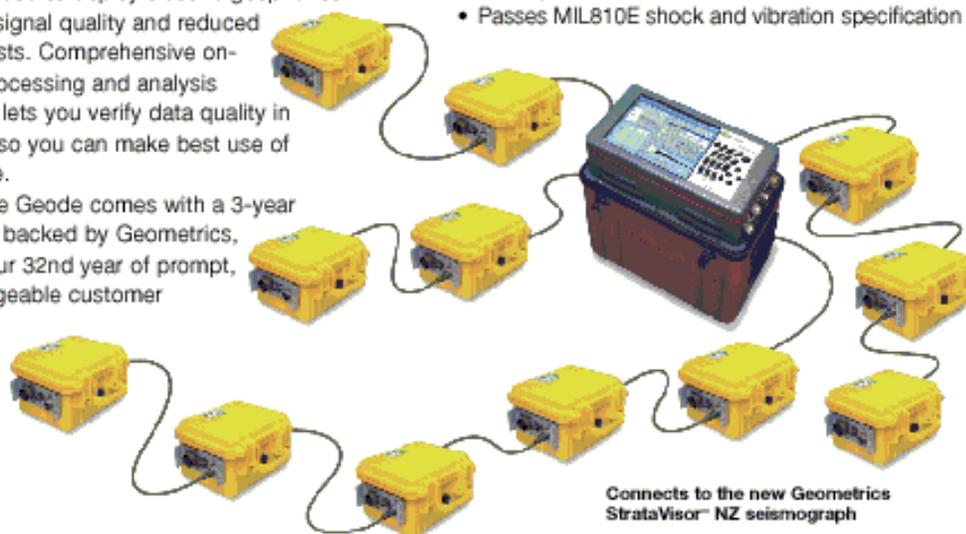


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MEETING ANNOUNCEMENTS

SAGEEP 2002

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What do the Temple of the Queen of Sheba, Captain Kidd's treasure, and a movie theater in Des Moines have in common? They are all locations of important geophysical surveys described in presentations at SAGEEP 2002! Would you like to learn more about geophysical methods for locating groundwater or characterizing brownfields? Are you aware of the latest geophysical techniques for assessing the condition of pipelines or non-destructive methods for testing building foundations? Are you interested in learning about innovative methods and the future direction of electromagnetic and seismic methods for near surface investigations? Do you want to see valuable examples of where extreme ingenuity was required to carry out geophysical surveys under extreme conditions? Would you like to attend workshops or seminars to learn how to use state-of-the-art software or the technical and non-technical challenges of UXO detection?

These are but a few examples of what SAGEEP 2002 has to offer. If these topics are important to you then plan to be at The Environmental and Engineering Geophysical Society's <http://www.eegs.org/>

We invite you to take part in SAGEEP 2002 - the world's premier conference and exhibition on geophysical techniques and their application to engineering and environmental problems. SAGEEP presents state-of-the-art and the state-of-practice environmental and engineering geophysics through a combined exhibition and conference, with technical papers, joint workshops and special events. Geophysical solutions to a wide variety of sub-surface problems are presented, such as

Active & Abandoned Mine sites	Archaeology
Borehole techniques	Brownfield, Groundwater and Contamination Investigations
Electrical, Electromagnetic, GPR, Seismic Methods	
Geotechnical Engineering	Infrastructure Assessment
Karst and Void Detection	Lake, River and coastal surveys
Petrophysics	UXO detection

Plan to attend. SAGEEP is designed for scientists, engineers, and managers from diverse industries that benefit from the use of the cutting edge technology available in geophysics today. See cutting-edge technologies, meet leading manufacturers and service providers and get the inside track on the latest technologies. Las Vegas meetings & conventions are some of the most well-known and successful events in the world. More unique fun and entertainment is available in Las Vegas than any other city in the US.

Frontiers of Geophysical Inversion

Army Engineer Research and Development Center
Waterways Experiment Station
Vicksburg, Mississippi
February 17-19, 2002

This workshop, sponsored by the US Army Research Office, will bring together scientists and engineers working in a broad range of disciplines related to the characterization of the Earth's properties via inversion of geophysical and geological data. The main goal of the workshop is to illuminate future research directions and major unsolved problems in the application of inverse theory to the Earth's near surface. In addition, we seek to bridge the gaps between the different sub-disciplines in order to focus on the ultimate goals of near-surface characterization and the accompanying problem of decision-making in the presence of uncertain information.

Tentative list of invited speakers:

Hal Lewis, UC, Santa Barbara	Gary Olhoeft, CSM
Philip Stark, UC, Berkeley	Mike Ritzwoller, CU, Boulder
Doug Oldenburg, UBC	Peter Weichman, Alphatech

In addition to the invited presentations, there may be a limited number of slots for contributed oral presentations. Contributed poster presentations are welcome. For more information on how to submit a contributed talk or poster presentation, see the conference web page listed below.

REGISTRATION:

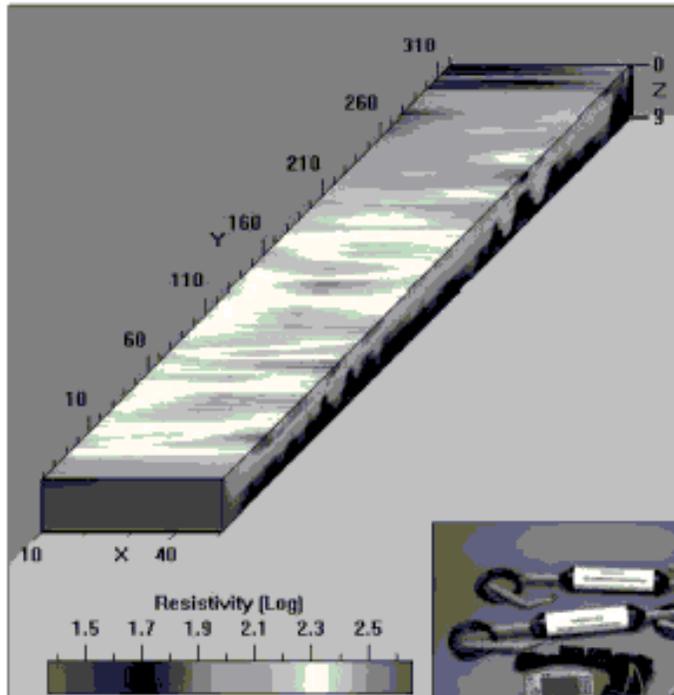
The workshop is limited to 100 participants. The registration fee is \$125 before 12/12/01 and \$150 thereafter. Complete details of the workshop, including the registration form can be found at: <http://acoustics.mines.edu/workshop> or from Barbara McLenon, Colorado School of Mines, (303) 273-3552.

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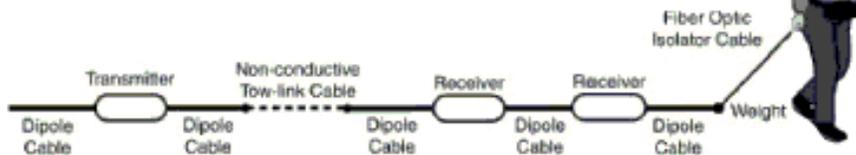


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Near-Surface Geophysics Section of the SEG Membership Application

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.

Class of Membership (check one; SEG membership NOT required):

- | | | | |
|--------------------------|-----------------------------------|---------|-------------------------------|
| <input type="checkbox"/> | Active Membership ¹ | \$10.00 | Includes quarterly newsletter |
| <input type="checkbox"/> | Affiliate Membership ² | \$10.00 | Includes quarterly newsletter |
| <input type="checkbox"/> | Student Membership ³ | \$ 6.00 | Includes quarterly newsletter |

I am currently a member in good standing of the SEG: YES NO

[NOTE: If not a member of SEG, list the names of two NSG or SEG sponsors or attach a current resume.]

I have enclosed my check made payable to "Near-Surface Geophysics Section" **or** my cash payment for U.S. \$ _____ **or** have arranged for payment by credit card as outlined below*.

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(Please PRINT or TYPE all responses above)

Primary type of application:

- Engineering Geophysics
- Environmental Geophysics
- Groundwater Geophysics
- Mining Geophysics
- Petroleum
- Research
- Academic/Training
- Government Admin./Regulatory
- Other _____

Expertise (check all that apply):

- Borehole Geophysics
- Electrical
- Electromagnetic
- Gravity
- Radar
- Radiometric
- Magnetics
- Seismic
- Other _____

*Return this form with your payment to: NSGS, c/o the Society of Exploration Geophysicists (SEG) Business Office, P.O. Box 702740, Tulsa, OK, 14170-2740 USA
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¹ Geophysicists & SEG member **or** sponsored by 2 NSG or SEG members. See NSG Bylaws III.1.a. for details.
² Interest in NSG & SEG member **or** sponsored by 2 NSG or SEG members. See Bylaws III.1.b. for details.
³ A student member must attach a statement signed by a professor in his or her academic department indicating he/she is a registered student at the time of mailing of this application.
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