



NEAR-SURFACE VIEWS

Newsletter of the NEAR-SURFACE GEOPHYSICS Section of The Society of Exploration Geophysicists
Second Quarter 2004, Vol. 11, No. 2

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Letter from the President

Greetings! I hope the first quarter of 2004 has been successful! Much is afoot with the NSG Section, and I'd like to fill you in.

I. You will receive this issue of Near-Surface Views after the Spring American Geophysical Union (AGU) meeting in Montreal, Canada. As I mentioned in the last issue, this meeting was a joint assembly partnership between AGU, the Canadian

Geophysical Union (CGU), and SEG. The near-surface geophysics sessions were organized and sponsored by these three societies along with the Environmental and Engineering Geophysical Society (EEGS), and the Near Surface Geosciences Division of the European Association of Geoscientists and Engineers (EAGE). Over seventy abstracts were submitted; the meeting was an excellent venue for promoting near-surface geophysics. Congratulations to all those who worked to make the event happen—many members of the NSG Section spearheaded organization of the sessions, and it was a great meeting!

II. A reminder to keep your eyes out for the upcoming The Leading Edge issue "Near-Surface Problems & Solutions", scheduled for the July 2004. Thanks to Lawrence Gochioco and others for organizing the issue—it ended up with a wide spread of excellent papers!

III. Let me tell you the latest SEG Denver 2004 news. We received 39 abstracts—about on par with last year when we had three oral sessions (24 papers) and one poster session (8 papers). Although I would have preferred an increase in the number of papers submitted, I am generally pleased with this result considering the recent opportunity to present at Spring AGU. Several NSG Section members worked hard to review the submitted abstracts, and the quality will again be high thanks to their contribution. Tom Dobecki and I are serving on the Technical Program Committee, and we will organize the sessions by subject and at optimal times as much as possible.

IV. As I mentioned in the previous newsletter, I am pushing to increase student involvement in the NSG Section during my tenure as President. On the following pages I outline the tasks aimed toward achieving this goal. The future of our section depends on continued involvement of the up-and-coming generation of near-surface geophysicists, so your help in this student recruitment effort is greatly appreciated!

V. There has been a renewed interest in closing the relationship gap between our section and EEGS, and I outline a couple of the concrete proposals later in this issue. There is no desire from either group to merge one into the other, but because of the substantial overlap in membership there have been some interesting ideas that I articulate in order to get your comments and approval/disapproval.

VI. Two requests from other members of your executive committee: (1) Your Newsletter Editor (Deborah Underwood; deb@geometrics.com) would like contributions in all forms including reminders of upcoming meetings and abstract deadlines, notification of new publications, informative articles on techniques and research findings, and anything else you believe is important to get out to our

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membership. (2) Your Secretary (Klaus Holliger; klaus@aug.ig.erdw.ethz.ch) has been working hard to keep members from slipping through the cracks, and is updating many details of the NSG Section membership. He requests that you all go to www.seg.org, then under “Services” select “Change Contact Info” to review your information in the SEG database (you will likely be surprised by what information is out of date). Please check your address—in particular your email address—and let Klaus know if anything needs changing. This is critical to making sure we keep you abreast of all the latest happenings in the NSG Section.

In sum, there is plenty going on and your executive committee continues to improve the NSG Section to fit your needs (with your help and input). Please feel free to contact me at any time.

Looking forward finishing the year strong and seeing you in Denver!

Sincerely,

Gregory S. Baker, President
Near-Surface Geophysics Section

Cooperation with the Environmental & Engineering Geophysics Society (EEGS)

Gregory S. Baker, NSG Section President

I have had numerous discussions with people who are members of both the NSG Section and the Environmental and Engineering Geophysical Society (EEGS), and people who are members of either one or the other. There seems to be a clear consensus (although I can only support this claim anecdotally) that the two entities should remain as separate governed bodies. However, nearly everyone I have talked to brings up a similar set of issues arising from the existence of the two entities. I raised both issues at the EEGS meeting (SAGEEP) in February 2004. The incoming EEGS Executive Board received both issues with interest, and indicated that we may be able to move forward if there is interest by the NSG Section membership.

Issue 1: Each entity generally gives two awards each year. However, four awards per year in near-surface geophysics is thought by some—given the relatively small size of our community—to be too many. Our section gives the Frank Frischknecht Award for “a member in recognition of long-term, tireless, and enthusiastic support of the near-surface community” and the Hal Mooney award for “scientific and technical excellence in innovation leading to the advancement of near-surface geophysics.” EEGS also gives a Frischknecht Award for “extraordinary leadership indicated by an invention, a new methodology or technique, a theoretical or conceptual advancement, or a unique innovation that transforms the nature and capabilities of shallow geophysics” (similar to our Mooney award) and the Gold Medal Contribution Award for “exceptional contributions made to EEGS and to the engineering and environmental geophysics community...including development of educational tools or curriculums, innovation in outreach efforts, or creating communication methods and opportunities with other professional disciplines that comprise potential geophysical end-user.”

Proposal 1: Merge the Frischknecht Award, *e.g.*, make it a NSG Section/EEGS joint award. Each entity would then also give one award that is solely their own, *e.g.*, Mooney and Gold Medal. This would reduce the number of annual awards in near-surface geophysics—and increase the prestige of the Frischknecht award—while allowing for autonomy on one award for each entity.

NEAR-SURFACE VIEWS

Near-Surface Views is published quarterly 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 (**in color**) 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 July 31st.

Proposal 2: Merge both awards so that each is jointly presented by the two entities. This would certainly increase the prestige of the awards and also potentially make sense in the long run because many people have been recipients of awards from both entities.

Clearly there are operational issues for either proposal, but that should be workable if either is something the membership wishes to do.

Issue 2: Similar material is presented in the Near-Surface Views (NSG Section) and FastTIMES (EEGS) newsletters, and both entities are therefore using resources to get duplicate information to people in both NSG and EEGS because there is a significant overlap in membership. The resources are both monetary and personnel, *e.g.*, both entities have a newsletter editor.

Proposal: Merge the newsletters of the NSG Section and EEGS. FastViews or Near-SurfaceTIMES? A joint newsletter of the Near-Surface Geophysics Section of SEG and the Environmental and Engineering Geophysics Society, or a joint newsletter of the Environmental and Engineering Geophysics Society and the Near-Surface Geophysics Section of SEG? Resources would be saved by splitting the cost of sending newsletters to members of both NSG and EEGS and making only one newsletter editor position between the two entities. Each entity would also then have the ability to reach members in the other entity.

This proposal also has important operational issues that would need to be worked out such as how to share membership lists (or somehow compared to protect privacy). But again, these could be solved.

Call to Question: At this point, feedback from the membership is needed. I will certainly expect to see opinions that are strong one way or the other, but it will also be useful to hear from those of you who don't feel strongly but have some good ideas on the nature of working out these issues. Opinions that are clearly articulated (regardless of the opinion) will be presented in the next issue of Near-Surface Views, and also shared with the EEGS board and membership if there is an indication that the NSG Section would like to move forward with none, one, or both of these options.

Increasing Student Involvement in the Near-Surface Geophysics Section

Gregory S. Baker, NSG Section President

My reason for writing this article is to request your help in making students aware of what we have to offer and to ask that you join the push toward increasing student involvement by recruiting at least one student into our section this year (that would result in several hundred new student members if everyone pitched in!) It is completely free for students to join, so you merely have to get them excited enough about the NSG Section to sign up.

The students of today will be the leaders of our section—and our discipline—tomorrow; thus, the health and vitality of our section depends on the quality and integrity of these new members. We want the best and brightest students to have a vested interest in the section, so getting them involved early and showing our interest in having them join our group is critical. Your Executive Committee has enacted several new initiatives to increase student involvement in addition to continuing to support existing initiatives.

NSG SECTION & EEGS

The NSG and EEGS are actively pursuing common areas of interest and cooperation.

If anyone has comments or ideas on areas of cooperation, please contact Steve Danbom by email steve.danbom@worldnet.att.net or telephone 713-937-7530.

Intended to be permanent policies in the future:

Free Student Membership (new): Included in this issue is a student membership application that indicates our newly instituted policy of covering the first year of membership dues for students. In conjunction with the Halliburton offer to cover the cost of the SEG student membership fee, this policy will result in a completely free process for recruiting new students into both SEG and the NSG Section.

Student Travel Grants (continuing): This policy—offering up to \$500 for students presenting papers at the annual SEG meeting—has been in place for several years now, but in general suffers from a lack of participation. Usually only a few students apply even though many would be eligible. Included in this issue (see below) is a brief outline for those of you not familiar with the program. One change has been to move the deadline for applications closer to the meeting time, when plans are often more set for students. (In the past the deadline was at the same time as the abstract deadline, and I suspect most students had other things to worry about.)

Best Student Paper Presentation in Near-Surface Geophysics (new): This year, session judges from our section will be given additional evaluation sheets during the NSG sessions at SEG in Denver to select a “Best Student Paper in Near-Surface Geophysics.” This will be completely separate from the SEG “Best Student Paper” award, but will allow us to be sure that the most outstanding student presentation (oral or poster) is recognized each year.

Policies instituted for this year only:

Sponsored Dinner at the Joint AGU/CGS/SEG Meeting in Montreal (new): The NSG Section sponsored a “Near Surface Geophysics Reception” at the recent meeting in Montreal. This sponsorship included organizing the dinner/reception at the famous Vargus restaurant, and providing funds so that dinner for student members was half-price. The first 30 students received this special price, contingent on their either being a member of NSG already, or signing up at the reception.

If you have any questions, comments, or addition ideas we'd love to hear them, so please contact me! We thank you in advance for helping to take initiative on this issue. I hope to be able to bring positive news on all of our efforts at the SEG meeting in Denver.

2004 Student Travel Grants for the SEG Annual Meeting

The purpose of the NSG travel grant program is to encourage and support graduate students, seeking a career in environmental, ground water, and engineering geophysics, to attend the SEG Annual Meeting. Each year up to three travel grants may be awarded. The maximum amount of an individual travel grant will not exceed \$500 USD.

Students eligible for a travel grant are graduate students, with research projects in environmental, ground water, and engineering geophysics. Preference will be given to students presenting oral or poster papers. The recipients will be expected to attend the NSG meeting during the SEG convention.

Applications should be submitted by June 1 of each year, prior to the SEG Annual Meeting. The applications are to be submitted to the Secretary of the NSG by email or hard copy. The information to be provided in the application shall as a minimum contain:

NSG SECTION 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!

- Name, address, telephone number, email
- Affiliation (college or university, department, academic advisor)
- One-page resume, listing course work in geophysics and synopsis of planned career
- Research topic (may be the expanded abstract of SEG presentation)
- Letter of reference of academic advisor

Each year the NSG will appoint a committee of three members, one of which will be on the NSG Executive Committee to review the applications and recommend awards. The committee will notify the NSG Executive Committee one month after the deadline for applications of their recommendations for awards. The Treasurer of the NSG will subsequently notify the recipients of the awards.

Recipients of the travel grants will submit a request for reimbursement of expenses (documented by receipts) to the Treasurer of the NSG. Eligible expenses include registration, travel, lodging and up to \$30 per day for meals. The Treasurer will reimburse the recipient within 30 days of receipt of invoice.

Call for Nominations – the Hal Mooney and Frank Frischknecht Awards

The Near Surface Section Executive Committee invites your nominations for honorees for the Hal Mooney and Frank Frischknecht awards. The awards will be presented to our illustrious colleagues at the NSG Section reception during the SEG meeting. The qualifications are:

The Hal Mooney Award—"In recognition of scientific and technical excellence and innovation leading to the advancement of near-surface geophysics"

The Frank Frischknecht Award —"In recognition of long-term, tireless and enthusiastic support of the near-surface geophysics community"

Honor the memory of these old friends by submitting your nominations by August 1, 2004 to Tom Dobecki at SDII Global Corporation, 4509 George Road, Tampa, Florida 33634, email: tdobecki@sdii-global.com.

First Announcement: NSG Section Dinner and Reception at SEG Denver 2004

Mark your calendar for the Near-Surface Geophysics Section dinner and reception at SEG Denver 2004.

- When: Tuesday, October 12th, 6:30-10:30 pm
- Where: Wynkoop Brewing Company, 1634 18th at Wazee Street, Denver, Colorado 80202, telephone: (303) 297-2700
- Cost: No charge to NSG Section members, see Louise Pellerin at the reception to become a member on the spot

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Current advertisers should notify the editor of any changes by the next issue's submission deadline. ***The submission deadline for the next issue is July 31st.***

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Feature Article: a Message from the Chairman of The Leading Edge Editorial Board to NSG Section Members

Lawrence M. Gochioco, GX Technology Corp., Houston, TX

Now that we're moving from Spring into Summer, we come to the realization that 2004 is going to be another challenging year for most of us because more economists are predicting a recovery. As a result, GDP growth is expected to increase and nearly all aspects of work related to energy and the environment, and thus, near-surface geophysical work, will also increase.

For some of you who are unfamiliar with my background, I would like to briefly state that I spent majority of my professional career in the mining and near-surface geophysics fields. I started my geophysical career in 1982 working for major oil and large geophysical service companies, but in 1985 (through 2000) moved into a chief geophysicist position at a major US coal company (CONSOL Energy R&D, formerly Conoco Coal Research Division). I developed a robust coal geophysics program used to address the company's exploration, engineering, and environmental challenges. High-resolution surface seismic, electrical resistivity, ground-probing radar, magnetometer, ground conductivity, micro-seismic, borehole methods, etc. were developed and employed.

Although I returned to the petroleum industry, I still feel strongly about my past affiliation with near-surface geophysics (NSG). I continue to promote both NSG and mining geophysics special sections in The Leading Edge (TLE). I would like to assure NSG Section members that despite the appearance that the current TLE Editorial Board is highly oriented toward the petroleum industry, my presence on the board guarantees that NSG is represented. Moreover, when I retire from the TLE Editorial Board this coming October, after serving four years, my replacement will be someone from NSG to ensure this diversity.

At the SEG 2003 meeting in Dallas, Mike Bahorich (then SEG president) and Peter Duncan (SEG president) asked Rocky Roden and I a question at an Executive Committee meeting regarding the distribution of published papers in TLE. Since half of the current SEG membership is outside of the US, they wanted to know if this demographic is reflected in the papers published in TLE. Over the holiday season, I gathered the information from the 2001-2003 issues of TLE and came out with these statistics. The total number of published papers and feature articles in TLE from 2001 to 2003 were 138, 139, and 142, respectively (Figure 1). The average is therefore 140 papers per year.

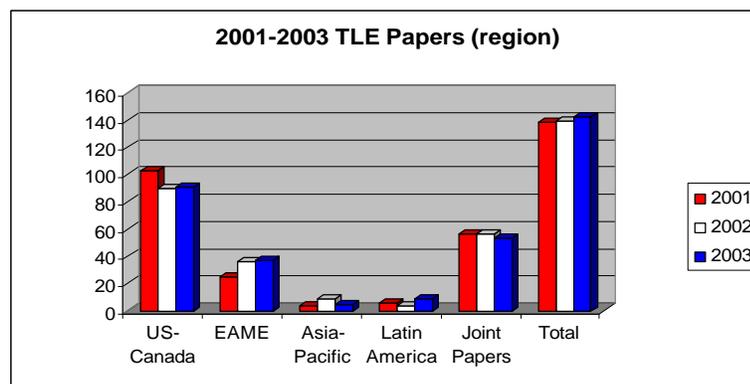


Figure 1.

Original papers, based on the first author's residence, are divided into four regions: US-Canada, EAME (Europe, Africa, and Middle-East), Asia-Pacific, and Latin



America. As expected, majority of original papers came from the US and Canada. The EAME region gained, but the Asia-Pacific and Latin America regions continue to be under-represented. Therefore, I would like to strongly encourage authors from these two regions to submit papers to TLE for consideration.

The number of joint papers represents about 40% of the total papers published over the three-year period. This high figure is truly encouraging for it indicates team effort and collaboration by different authors of different backgrounds. This type of collaboration certainly enhances the quality of a paper.

To examine subject matter, I sorted the papers by the general categories of petroleum (seismic), petroleum (non-seismic), non-petroleum (seismic), and non-petroleum (non-seismic). Figures 2 and 3 show the respective statistical data in years 2001 and 2003. The two numbers alongside each pie slice are the number of published papers and its corresponding percentage. For example, there were eight papers published in 2001 that came from the petroleum industry using non-seismic methods (like potential fields or magnetotellurics) and its corresponding percentage of total published papers was 6%. As expected, the majority of the papers are petroleum-based with the seismic method as the dominant geophysical tool for years 2001 and 2003.

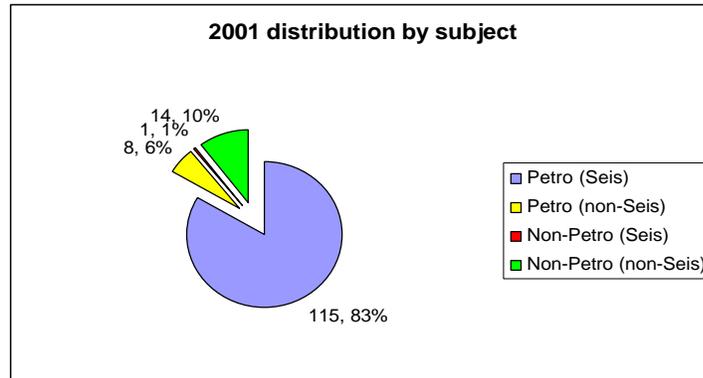


Figure 2.

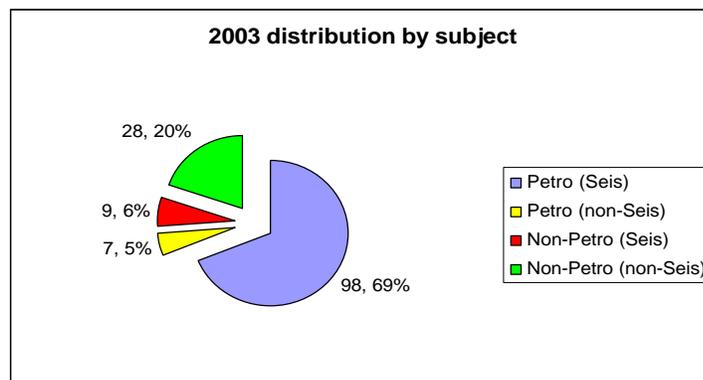


Figure 3.

Near-surface and mining geophysics applications fall under the categories of non-petroleum (seismic) and non-petroleum (non-seismic). For example, a paper that discussed a high-resolution surface seismic survey applied to coal exploration would fall under the non-petroleum (seismic) category, while a GPR paper would be under the non-petroleum (non-seismic) category.

The number of NSG papers in 2001 was minimal, but showed a dramatic improvement in 2003. I believe the diversity of published papers in 2003 is a

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healthier distribution that would benefit the general SEG membership. With this statistical data, I strongly encourage NSG Section members not to wait for special sections on NSG before submitting a paper. They can submit papers at any time for consideration. The TLE has instituted mechanisms in which submitted papers can be allocated to fit several subject categories or can be published as a standalone. Personally, I would like to see various papers using different geophysical techniques with different objectives submitted to special sections.

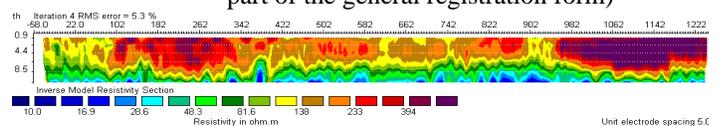
One of my goals is convergence between the near-surface and petroleum geophysics because we share some common challenges, the solutions to which are mutually beneficial to both fields. For example at the SEG 2003 meeting in Dallas, Saudi Aramco recognized the need to have better control of near-surface statics because they can adversely affect their ability to image stratigraphic reservoirs. Through the NSG Section, Saudi Aramco is interested in forming a new committee, called the Geophysical Integration of Advanced Near-surface Technologies for Seismic (GIANTS), to help them develop and apply other geophysical methods to resolve their near-surface statics problems. I am sure very few petroleum geophysicists would ever think of Saudi Aramco partnering with the NSG Section.

In closing, even though NSG Section members currently do not receive the high glamour and prestige normally experienced by petroleum geophysicists, we too play an integral role in other areas which has resulted in more recognition and respect for near-surface geophysics. I don't want to sound like a Star Wars fan (even though I am), but CONVERGENCE is good.

Short Course Announcement: Capacitively-Coupled Resistivity (CCR) Workshop at the EAGE Near Surface 2004 Conference in Utrecht, Netherlands

Come join in a one-day workshop about the newest geoelectrical technique for engineering, environmental, agricultural, and archaeological geophysics. Theory, Geometrics OhmMapper TRN instrument operation and design, field operations, data processing and editing, and generation of 2-D and 3-D resistivity sections and images will be discussed and demonstrated.

- When: Sunday, September 5th, 8:30 am-6:30 pm
- Where: Nieuwegein's Business Center
- Cost: See the EAGE Near Surface 2004 Conference web page at <http://www.eage.nl/conferences/index2.phtml?confid=26>, click on Technical Programme, then click on Workshops
- Registration: Go to the web page above and click on Registration (the short course registration is part of the general registration form)



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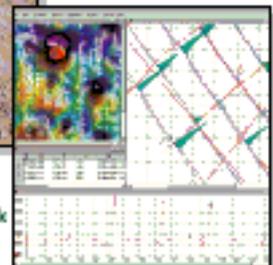
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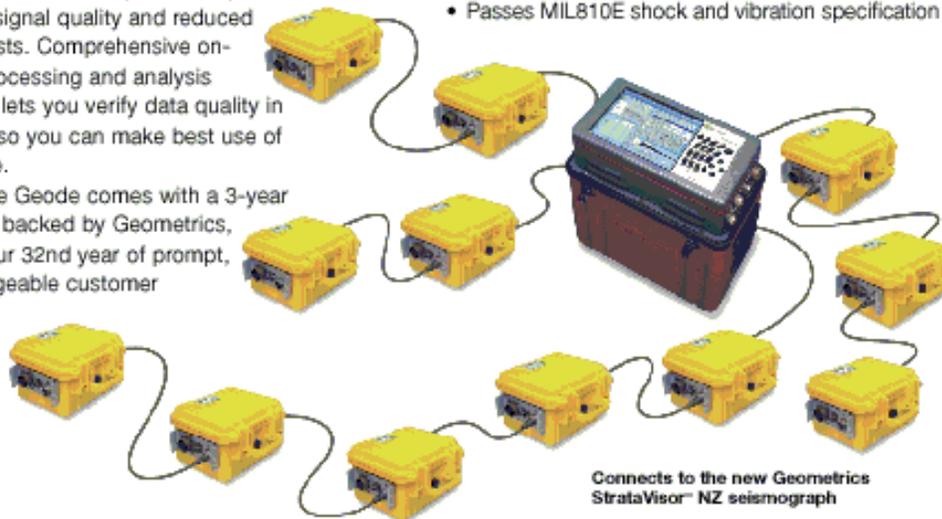


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Near-Surface Geophysics Section of the SEG Student Membership Application

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>.

Student Membership¹

Please clearly print or type all entries.

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*For 2004-2005, Student Membership in the Near Surface Geophysics
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Please print and complete this form and send with applicable attachments via fax, mail, or scan and email to:

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¹A 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.

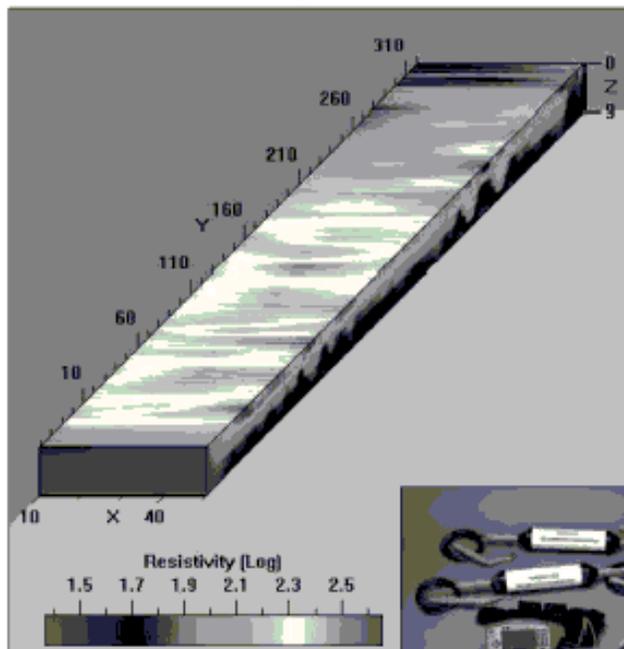
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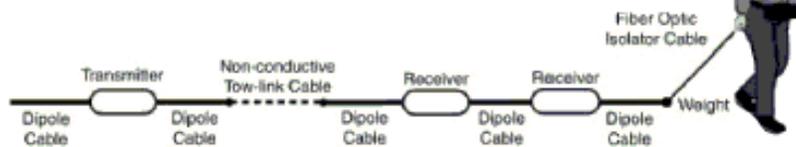
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