



Geophysical Society of Pittsburgh



*Proudly Presents Tuesday, March 5th, 2013
At
Penn Brewery, Pittsburgh, Pennsylvania*

Near-Surface Solutions in Seismic Processing by *Dr. Weizhong Wang*

Abstract: Near-surface variations associated with a rugged terrain and lateral velocity anomalies create not only a statics problem in seismic data processing, but a subsurface imaging problem with the uncertainty of the near-surface structures. In this talk, I will use synthetic models and real data examples to demonstrate the pros and cons of various near-surface methods.

Elevation statics correction is a traditional way to remove the topography effect, but it is not a solution to correct for the near-surface anomalies. The delay-time method (Hagedoorn, 1959) was widely used in refraction interpretation and the statics calculation, but it is not a solution for complex near-surface structures because of its assumption of the flat layers. The GLI method (Hampson and Russell, 1984) can create a good near-surface model if the near-surface structures are layer-based, but it fails when there is a velocity gradient in depth. Traveltime tomography (Zhang and Toksoz, 1998) is better than GLI in this situation. However, because the refraction-based traveltime tomography requires the first-arrival picks, it cannot handle the low velocity anomalies below a high velocity layer. The waveform tomography (Tarantola, 1984) is the best solution in model studies, but I will point out under what circumstances it may fail in processing real data.



Biography: *Dr. Weizhong Wang received his Ph.D. in Automation from Tsinghua University, China in 1989. He then became a postdoctoral fellow at the Geophysical Lab of the University of Toronto, working on Canada's national research project LITHOPROBE. In 1993, he joined Veritas Seismic in Calgary as a research geophysicist, then GeoCenter, and PGS before joining GeoTomo in 2005. He has been leading the efforts of technology development and customer support at GeoTomo LLC.*

*Please RSVP using the PayPal link on the Geophysical Society of Pittsburgh website at: www.thegsp.org
Cost \$35 (\$20 for Students). Meeting Location: Penn Brewery, 800 Vinial St., Pittsburgh, PA 412.237.9400*

Tuesday, March 5th Meeting Menu



TESLA EXPLORATION INC.

5:00 pm Social Hour

This month's social hour is proudly sponsored by

Tesla Conquest!

Beer on Tap:

Penn Marzen, Marzen Style Amber Lager - very tasty!

Penn Dark Lager Beer, European-Style Dark

Penn Gold Lager, Munichener Helles Style

Penn Pilsner, Vienna Style Pilsner

Also Available: Red & White wine

Hors D'oeuvres:

Side of Smoked Salmon with Pumpernickel, Cream Cheese, Chopped Eggs and Red Onions, and Capers

6:00 pm Dinner

Dinner Buffet

Schweinebraten

Smoked Bratwurst Sausages and Sauerkraut

Balsamic Chicken with grilled vegetables,

Beef Tenderloin Medallions with wild mushroom demi glaze,

Rice Pilaf, Fresh Green Beans with Red Peppers

Tossed Green Salad with Ranch, Italian and Balsamic Dressing.

Dessert: Apple and Cherry Pie

Coffee & Cream

7:00 pm Lecture

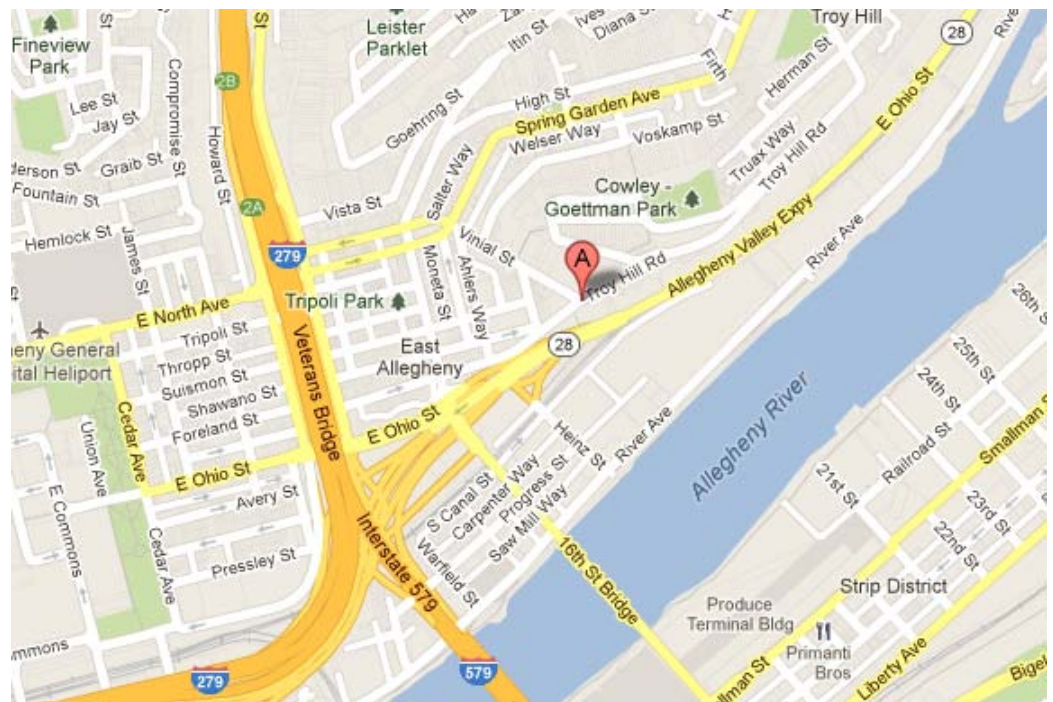
We are pleased to announce that this month's lecture will be held at :

Penn Brewery

800 Vinial Street

Pittsburgh, PA 15212 USA

412.237.9400



Geophysical Society of Pittsburgh Upcoming Lecture Series:

March 5th: Near Surface Solutions in Seismic Processing, Dr. Weizhong Wang, GeoTomo , at the Penn Brewery, 800 Vinial St., Pittsburgh, PA 412.237.9400

April 9th: Seismic Imaging of Complex Structure in the Valley and Ridge Province, Karen Lanning, PreSeis (Tentative)

May 7th: 5-D Interpolation, Dennis Langlois, CGG Veritas (Tentative)



Photo: Bill Harbert

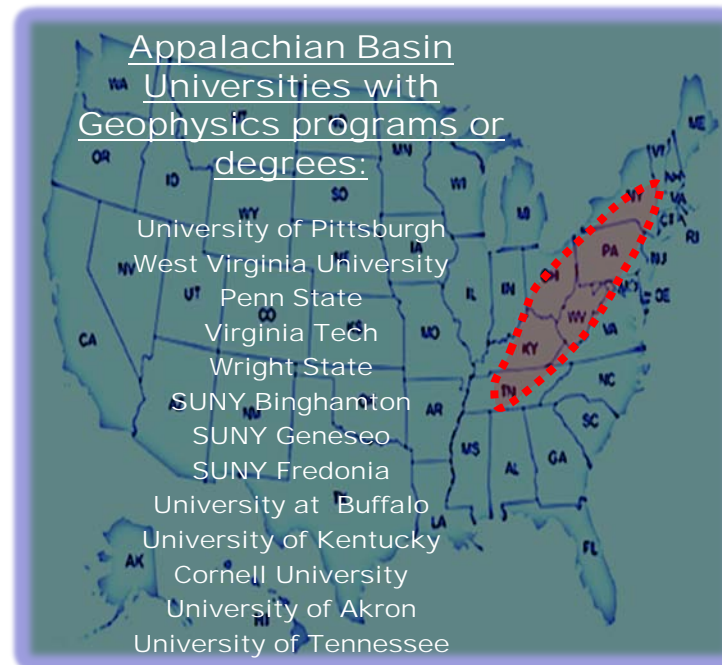
GSP SCHOLARSHIP PROGRAM



The GSP is proud to announce that we have officially established the [Geophysical Society of Pittsburgh Scholarship Fund](#), thru a local scholarship foundation (ACCF)

- *Annual Scholarships up to \$2000 per recipient*
- *Total awards up to \$8000 in annual Scholarships*
- *Local Appalachian Basin Students eligible*
- *Scholarships to be paid directly to University they are attending to offset tuition bills*
- *Awardees will be presented their Scholarships at May Meeting*

Our Mission Statement: "Established in 2013 by the Geophysical Society of Pittsburgh, the purpose of the fund is to provide scholarships for a junior or senior undergraduate pursuing a BS degree with emphasis in geophysics and who is planning to attend graduate school where he/she will pursue a Masters or PHD degree with an emphasis in geophysics; or a graduate student in geophysics or on a geoscience tract emphasizing geophysics. In either case the student should be attending an accredited college or university in the northeast US within the boundaries of the Appalachian basin."



administered thru



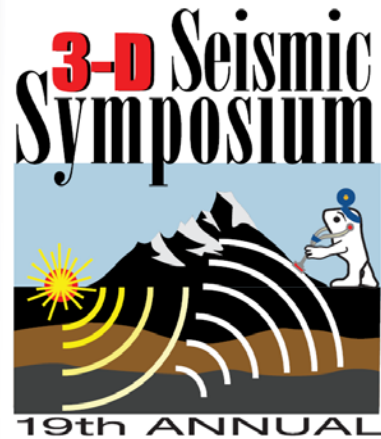
News and Events from Geoscience Organizations



Solving Water Problems in Oil and Gas Production: New Technologies for Cost Savings and New Revenue Flows **26-27 February 2013 | Fort Worth, Texas**

Water concerns are intensifying as issues around hydraulic fracturing, new regulations, drought, and surface water management continue to dominate the public. More information on this Workshop can be obtained at <http://www.aapg.org/gtw/fortworth2013/index.cfm>

The 19th Annual 3-D Seismic Symposium, jointly sponsored by [the Rocky Mountain Association of Geologists](#) and the [Denver Geophysical Society](#), will be held **Tuesday, March 5th, 2013 at the Downtown Sheraton Hotel in Denver, Colorado.** 3-D Symposium will highlight 12 presentations, concentrating on case histories in resource plays using large-scale 3-D seismic surveys. Case studies include Rocky Mountain projects in the Niobrara, Bakken, and Piceance, along with other analog plays from the US (Fayetteville, Marcellus, and Eagle Ford), and Western Canadian Basins. Attendees to this year's Symposium will witness the most up-to-date concepts and workflows in our industry, with many of the talks being presented here in public for the first time. Early Registration is currently available by contacting either [DGS](#) or [RMAG](#) societies or via the [3-D Symposium website](#)



The Symposium on the Application of Geophysics to Engineering and Environmental Problems ([SAGEEP](#)) provides geophysicists, engineers, geoscientists and end-users from around the world an opportunity to meet and discuss near-surface applications of geophysics.



“We are excited to announce [NAPE East](#) in Pittsburgh following the tremendous success of this year's Winter NAPE. While we broke records for attendance, exhibitor participation and charitable donations here in Houston, it is still difficult for companies in many parts of the country to get to Houston for NAPE so we are going to bring the Expo to them by expanding regionally.” - Marty Schardt, Executive Vice President of the American Association of Professional Landmen (AAPL) and General Partner of NAPE

News and Events from Geoscience Organizations



WORKSHOP
SEG/SPE Workshop
**Seismic While Drilling:
Managing Risk and Optimizing Well Placement**
Moody Gardens Hotel & Convention Center
Galveston Island, TX • 1-3 May 2013

Top international E&P operators, service companies, and applied research personnel will gather to discuss the latest advances in Seismic-While-Drilling (SWD). The Abstract submission deadline is 15 February 2013. For more information see: <http://www.seg.org/documents/10161/7379860/GALV13-Call4Papers.pdf>



UNCONVENTIONAL
RESOURCES TECHNOLOGY CONFERENCE
FUELED BY SPE • AAPG • SEG
12-14 August 2013 • Denver • Colorado Convention Center

Pittsburgh Geological Society

The PGS Generally Meets on the 3rd Wednesday of the Month From September through May. More information is available at <http://www.pittsburghgeologicalsociety.org/>



P·A·P·G

Pittsburgh Association of
Petroleum Geologists

An AAPG Affiliated Society

www.papgrocks.org

The PAPG Generally Meets on the 2nd Monday of the Month From September through May. More information is available at <http://www.papgrocks.org/>

We would like to thank our 2012-2013 Corporate Gold Sponsors:

GOLD



We would like to thank our 2012-2013 Corporate Silver and Bronze Sponsors:

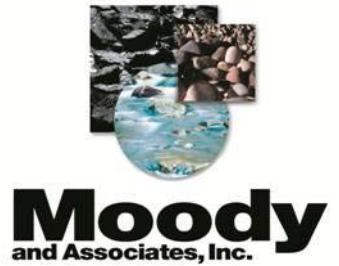
SILVER



Where energy meets innovation.

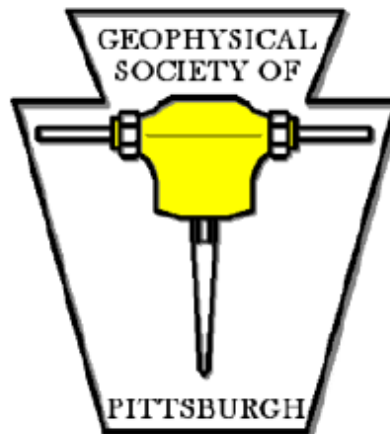


BRONZE



2012 - 2013 GSP OFFICERS

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Your Dues and Sponsorship in Geophysical Society of Pittsburgh go toward:

- *Outstanding Monthly Lecture Series*
- *SEG Distinguished Lecturers*
- *Annual Scholarship Awards*
- *Annual Golf Outing*
- *Short Courses*

Please contact Eddie Gonzales (egonzales@dawson3d.com) for Sponsorship Opportunities.
