



Geophysical Society of Pittsburgh



Proudly Presents Tuesday, January 6, 2015

At

Cefalo's Restaurant, Carnegie, PA

Induced and Triggered Seismicity: Fundamentals, New Observations and Challenges

Dr. William Harbert
University of Pittsburgh

Abstract: Despite decades of international research, earthquakes cannot be predicted. Industries such as geothermal power generation, reservoir construction, water injection, hydrofracturing and mining have resulted in seismic activity. These seismic events and hazards possibly associated with them have led to a series of research, government, and regulatory responses. In this Geophysical Society of Pittsburgh presentation, induced seismicity fundamentals, new observations and challenges associated with induced and triggered seismicity are presented. A fundamental research challenge is posed by induced seismic events in the model of a critically stressed crust. Because of the requirement to engineer structures with respect to expected and accurately known maximum ground shaking this topic is of great importance and rapidly advancing with respect to understanding. Different approaches to real-time monitoring and regulatory responses will also be presented.



Biography: Bill Harbert completed undergraduate degrees in Mathematics/Geophysics and Geology at Western Washington University. His MS and Ph.D. degrees were completed in Geophysics at Stanford University and followed by a National Research Council (NRC) post-doc at the United States Geological Survey in Menlo Park, CA. He has worked in electromagnetic geophysical exploration and petroleum exploration. He was an exchange scientist between the Academy of Sciences of the USSR and the National Academy of Sciences living in Moscow and Siberia for three months. Now a professor of geophysics at the University of Pittsburgh, Harbert's research relates to subsurface geophysical imaging, petrophysics and geographical information systems. Using 4D reflection seismic, potential field and micro seismic methods and closely collaborating with the United States Department of Energy, his students at the University of Pittsburgh work to accurately image surface geometry, remotely determine pore filling phases, and effective stress using geophysical techniques and advanced geophysical processing. The goal of this research is to better understand subsurface structures, subsurface pore filling phases and topologies and dynamic processes at a variety of scales, from microcomputer tomography (CT) scale to log response scale, to vertical seismic profile and cross well tomography scales and surface seismic response scale. They work to determine optimum processing sequences, and realistic field methods and deployment strategies necessary to understand these geophysical processes.

Harbert served as a Full Voting Member, on the Governor's Commission on Mine Voids and Mine Safety. He has been, and is now, a DOE ORISE Research Associate and was a Resident Institute Fellow of the NETL-Institute for Advanced Energy Solution (IAES). He was a member of the Scientific Advisory Board for the In Salah CO2 Injection Project facilitated by British Petroleum. He is presently on the Alta rock Review Board, which focuses on an enhanced geothermal power project funded by the United States Department of Energy.

Please RSVP using the PayPal link on the Geophysical Society of Pittsburgh website at: www.thegsp.org

Cost: \$35 Members, \$40 Non-members (\$20 for Students). Meeting Location: 428 Washington Ave, Carnegie, PA 15106 (412) 276-6600

Tuesday, January 6, 2015 Agenda

5:00 pm Social Hour

This month's social hour is proudly sponsored by

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Beverages:

Beer

Red & White Wines

Fine Spirits

Assorted Non-Alcoholic Beverages

6:00 pm Dinner

Dinner Buffet

Chicken Romano

Roasted potatoes

Mixed veggies

Pasta

Dessert du jour

Coffee & Cream

7:00 pm Lecture

This month's lecture will be held at :

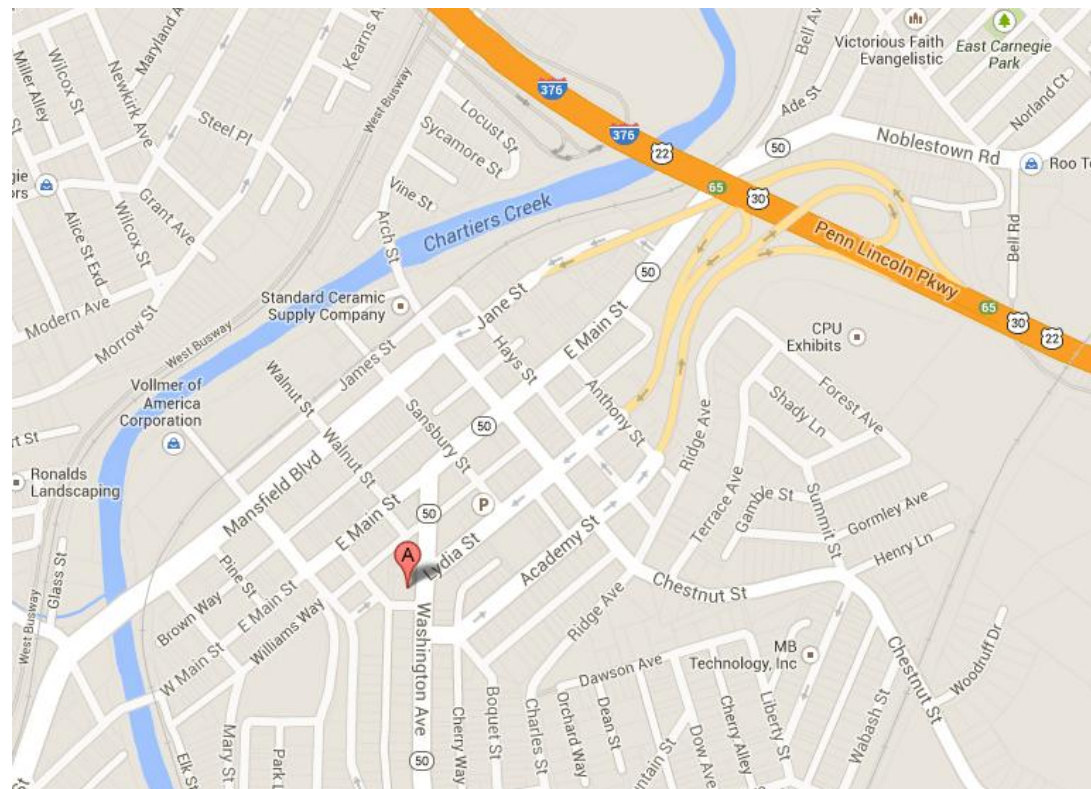
Cefalo's

Banquet & Event Center

428 Washington Ave.

Carnegie, PA 15106

412.276.6600



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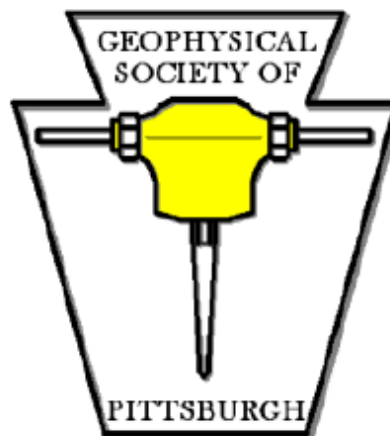
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