



ASSOCIATION OF ENGINEERING GEOLOGISTS

"Serving Professionals in Engineering, Environmental, and Ground-Water Geology"

THE ROCKY MOUNTAIN SECTION NEWSLETTER

www.aegrms.org

MEETING DATE

**THURSDAY
APRIL 14th, 2005**

TIME

5:45 p.m. Social Hour
6:30 p.m. Dinner
7:30 p.m. Presentation

LOCATION

**Berthoud Hall, Colorado
School of Mines
1516 Illinois St.
Golden, CO 80401
See map below**

COST

\$20 Members
\$22 Non-members
**Students, Free first time,
then \$10**

RESERVATIONS

c/o AEG Reservation Line
(303) 790-2161 x 243 or
meetings@aeqrms.org
**BY NOON, TUESDAY
APRIL 12th**

Timely and Accurate Subsurface Characterization For Transportation Applications through Seismic Tomography

Khamis Haramy
Geotechnical Engineers
Department of Transportation Federal Highway Administration
Central Federal Lands Highway Division

Optimizing site characterization through all stages of highway construction and operation minimizes project risk and avoids/mitigates additional project costs related to unforeseen subsurface anomalies. The site characterization effort not only seeks to define the geomechanical environment for sound design, but also determines if major structural anomalies may impact the short- and long-term operational aspects of the construction.

Developing the means to cost-effectively, yet comprehensively characterize site conditions over the entire design, construction, and operational term of a project is critical to minimizing project risks and, ultimately, project costs. This paper describes new developments in seismic tomography aimed at providing greatly improved subsurface characterization throughout all stages of project development. Three case studies will be provided of how both risks and costs were reduced through the application of this technology for major transportation projects including bridges and pier abutments, slopes and embankments, foundations, roads and highways, and ground preconditioning methods. More specifically the following case studies where the use of seismic tomography was illustrated will be described in details:

- Case Study 1: Detection of abandoned coal mine entries beneath a retaining wall foundation along US Rout 24 near Peoria, Illinois.

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- Case Study 2: Location of karstic zones and evaluation of the effectiveness of jet grouting to improve the ground bearing capacity for the pier 3 “Bill Emerson Bridge” in the Mississippi River, Missouri.
- Case Study 3: Imaging a collapsed tunnel below the location of caissons for an overpass over I-25 in Colorado.

Words From the Chair

Greetings! I wanted to thank Geobrugg for the great presentation on debris flow mitigation. It was very informative and interesting.

I'm also looking forward to this month's presentation by Khamis Haramy on “Timely and Accurate Subsurface Characterization For Transportation Applications through Seismic Tomography”

As before, if you haven't already, please log onto the website and give your thoughts and opinions on the possible AEG name change. Your input is very important to this process.

Only two more meetings left for the season. Hope to see a great turnout to finish off the year!

Opinions on AEG Possible Name Change

We're sure that most of you received the email from AEG, but we just wanted to encourage and remind you to cast your opinion on the issue.

From AEG President, David Bieber:

A name change requires a change in the AEG Constitution, which requires that a ballot be sent to the entire membership. Enactment of the change requires that two-thirds of the ballots returned within the voting period be cast in favor of the change. The AEG Executive Council and Board of Directors would like opinions from the membership regarding the name change issue.

Please log onto the AEG website, go to the AEG Message Board in the Member Services section, and give us your thoughts. If there appears to be a consensus to adopt the modification to our name, then we will put it to a vote of the entire membership.

Mudslide Symposium, May 24

The Colorado Geological Survey and Colorado School of Mines are hosting a one-day symposium, "Mudslide Mania," on May 24, 2005, at Mesa State College in Grand Junction, Colorado. It will focus of recent advances in the identification, characterization, and investigation of debris flow and alluvial fan areas, and practical uses of such information from a variety of perspectives. This is a must-attend event for anyone who conducts or uses information from site investigations in debris flow and alluvial fan areas.

The symposium is part of the three-day GSA Rocky Mountain Section annual meeting. One-day and three-day registration is available. The preregistration deadline for reduced rates is April 18, 2005. For more information, see the attached announcement in the back of the Newsletter.

Your Business Card Here

The section is looking for companies or individuals who would like to advertise their products or services in the section newsletter and on the website. This is anything from a business card (\$10/month), quarter page spread (\$20/month), to a half page exposition (\$40/month). If you are interested, contact Kristi Ainslie newsletter@aeqrms.org.

RMS 2004-2005 Upcoming Presentations

May 12, 2005 – **Colorado Rockfall Program**
Ty Ortiz, Colorado Department of Transportation

Case Histories

The past two years, we have read about very interesting projects from Harry Siebert and Charlie Robinson. We are still looking for individuals to provide their knowledge and experience to the AEG-RMS community through case histories and articles of interest. Please contact Kristi Ainslie at newsletter@aeqrms.org if you have anything you would like to share.



We would like to take this opportunity to introduce you to Spectrum Exploration, Inc. We offer Geotechnical and Environmental Drilling services to Colorado (*Denver and Colorado Springs shop locations*) and surrounding states.

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***“Mudslide Mania –
Characteristics and Geologic Investigations of Debris Flows
and Alluvial Fans in the Rocky Mountain Region”***

A Symposium

GSA Rocky Mountain Section Annual Meeting,
Grand Junction, Colorado, May 24, 2005

Time and Place

This **full-day symposium** will be held on **Tuesday, May 24, 2005, 8:00 am – 4:00 pm**, at the Weldon Lecture Hall, Wubben Hall, Mesa State College, Grand Junction, Colorado.

It is part of the Geological Society of America Rocky Mountain Section annual meeting, which will have three days of technical sessions (May 23-25) plus optional field trips.

Description of the Symposium

Debris flows (or mudslides, in the popular vernacular) occur on alluvial fans and are common in the Rocky Mountain region. They constitute locally severe geologic hazards that affect human safety and property, yet their triggering mechanisms, flow behavior, and future flow patterns are difficult to predict. There are a variety of end-users of debris flow investigations, each with different needs.

The symposium features 17 invited speakers from a variety of backgrounds and professions. It will focus of recent advances in the identification, characterization, and investigation of debris flow and alluvial fan areas, and practical uses of such information.

The morning session features pertinent characteristics of debris flows in the region, including flow parameters and their estimation, flow modeling, and relationships between wildfires and debris flows. The afternoon session will highlight different types of geologic investigations, the needs of different users of such investigations, and available or needed resources and guidelines.

Costs and Meeting Information

Attendees are encouraged to consider attending the entire meeting and going on one of the optional field trips. One-day and three-day registration is offered. **The last day to pre-register at reduced rates is April 18, 2005.** Register through the GSA web site (listed below).

Meeting and cost information: <http://www.geosociety.org/sectdiv/rockymtn/05rmmtg.htm>

Sessions information and abstracts: <http://gsa.confex.com/gsa/2005RM/finalprogram/>

Session Chairs Contact Information

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