

ASSOCIATION OF ENVIRONMENTAL AND ENGINEERING GEOLOGISTS

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

THE ROCKY MOUNTAIN SECTION NEWSLETTER

www.aegrms.org

MEETING DATE

**THURSDAY
MARCH 16th, 2006**

TIME

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

LOCATION

**Green Center, Colorado
School of Mines
924 16th St.
Golden, CO 80401
See map below**

COST

\$20 Members
\$22 Non-members
Students, Free

RESERVATIONS

c/o AEG Reservation Line
(303) 264-1030
meetings@aeqrms.org
Students RSVP to: Diana
Sitze dsitze@gmail.com
**BY NOON, TUESDAY
MARCH 14TH**

Student Night 2006

Regional Sand and Gravel Resource Assessment on Native Land Allotments, South Central Alaska -

Nathan K. Jenks,
Colorado School of Mines

The Bureau of Indian Affairs-Alaska Regional Office requested an assessment of sand and gravel potential of the more than 15,000 Alaskan Native land allotments. This presentation focuses on methods employed in a study of approximately 225 of these allotments in south central Alaska. As a result of the study, two rankings will be given to each allotment. The first is based on the geology and the probability of finding quality sand and gravel. The second is based on market conditions including size and location of the land allotment.

Phase one of the study includes a literature review and compilation of a database of geologic, soil survey, and other pertinent maps. These maps are georeferenced using GIS and overlain on allotment locations to aid in identifying favorable deposits. Additionally, geomorphic analysis is conducted using stereo photography and topographic maps to identify glacial, glaciofluvial, and alluvial sand and gravel bearing landforms.

Phase two of the study involves reconnaissance fieldwork on sites identified during phase one that are accessible to market and appear to contain sand and gravel. Field work is conducted to confirm information gathered through literature review and geomorphic analysis, obtain material descriptions, and collect samples. Three engineering tests, sieve analysis,

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Los Angeles abrasion, and sodium sulfate soundness will be used to gain a preliminary estimate of material quality.

The final product will consist of a report, maps, and a GIS database that can be used to identify allotments of high priority for detailed resource evaluations, aid in trust land management, and provide information to the landowner.

Debris-Flow Runout Estimations Using Topographic Parameters

Adam B. Prochaska
Colorado School of Mines

Prediction of the runout length of a debris flow is important for the delineation of potentially hazardous areas on the fan and for the siting of mitigation structures. Conventional runout estimation methods are often sensitive to input parameters that may be difficult to estimate with certainty, such as volume, velocity, and frictional parameters. In order to avoid the use of these uncertain and sensitive input parameters, this presentation describes a runout estimation method that is based on easily-measured topographic parameters. Similarly to a runout estimation method developed for snow avalanches, this method predicts a debris flow's angle of reach from the average gradient of the flow path. The accuracy of this method has been compared to accuracies reported in the technical literature for existing runout estimation methods. The robustness of this model has been tested by comparing predicted runout lengths to actual ones for debris flows events occurring outside of the regions used in its development.

CSM Student Section Silent Auction

The Student Section at the Colorado School of Mines will be holding a silent auction at the Student Night Meeting. Bring your cash and plan to bid on a wide variety of items – some geological, some recreational, some just plain fun! This event is the main fundraiser for the students, so please be generous and show your support.

Student Night Sponsors

AEG would like to thank the following sponsors. Without their generous support, this event would not be possible:

AEG
All Service Septic
Becky Roland
Brierley & Associates
Church Onsite Wastewater Consultants

Colorado Geological Survey
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If you would like to be sponsor please fax the attached form to Liv Bowden by March 6, 2006.

AEG RMS In South Dakota

On January 27, 2006, Tim Petz and Ed Friend traveled to South Dakota School of Mines and Technology to talk to the students about engineering geology careers. Over 25 students and a handful of professors attended the discussion and the students had several good questions.

Words from the Chair

It's finally here! Our Annual Student Night!

This has become an important tradition for RMS-AEG. It is an opportunity for students to meet and mingle with the Section Members, to learn a bit of what we do, and possibly find a job. It is an opportunity to help ensure that the Association, the Section, and the industry as a whole remains strong by supporting and encouraging the students to consider career paths in engineering geology, hydrogeology and environmental geology. I would like to thank all who have provided support for this meeting. We couldn't have done it with out you.

It wasn't too long ago that I was a student myself. I joined AEG for a number of reasons. First, AEG seemed to be very active. I could count on a meeting every month, on campus, with interesting

talks. Furthermore, I felt very welcome at these meetings. I remember one of my first student night meetings. I was enjoying visiting the displays when I was approached by this older fellow. Now, I actually knew who he was, but I was a bit taken aback that he wanted to talk to me. He introduced himself, asked about my thesis, my advisors, and so on. At every subsequent meeting we both attended, he would come over to see how I was doing, how things were progressing on my research and so on (he even remembered my name). To this day, I have fond memories of this meeting.

In December, I visited with Jerry Higgins about my idea of compiling a history of the Section. During that discussion, he related a story of one of his first AEG meetings when he was a student. His experience was virtually identical to mine. An older member took a personal interest in Jerry.

What's even more remarkable is that the Jerry and I received this warm welcome from the same person: John Ivey.

So, take the time to meet and talk to the students. It's likely that they may remember it for a very long time. And who knows, maybe you will too.

***NEW!* RSVP For Meetings on the Web**

There is a new and *easy* way to RSVP for the monthly meetings. Just go to www.aegrms.org and click on "RSVP by clicking here". A short form opens up; fill it out and hit submit. Hopefully some of you will try it and we'll see how it works.

Also check out the new calendar. It's a great way to keep all upcoming events, meetings, and dates organized.

Thanks Jill!

May 15-19, 2006
27th Annual Short Course on
Grouting Fundamentals & Current
Practice

Colorado School of Mines

Detailed Course Information:

www.mines.edu/outreach/cont_ed/

Technical Inquiries: Scott Kieffer (303) 273-3714 skieffer@mines.edu

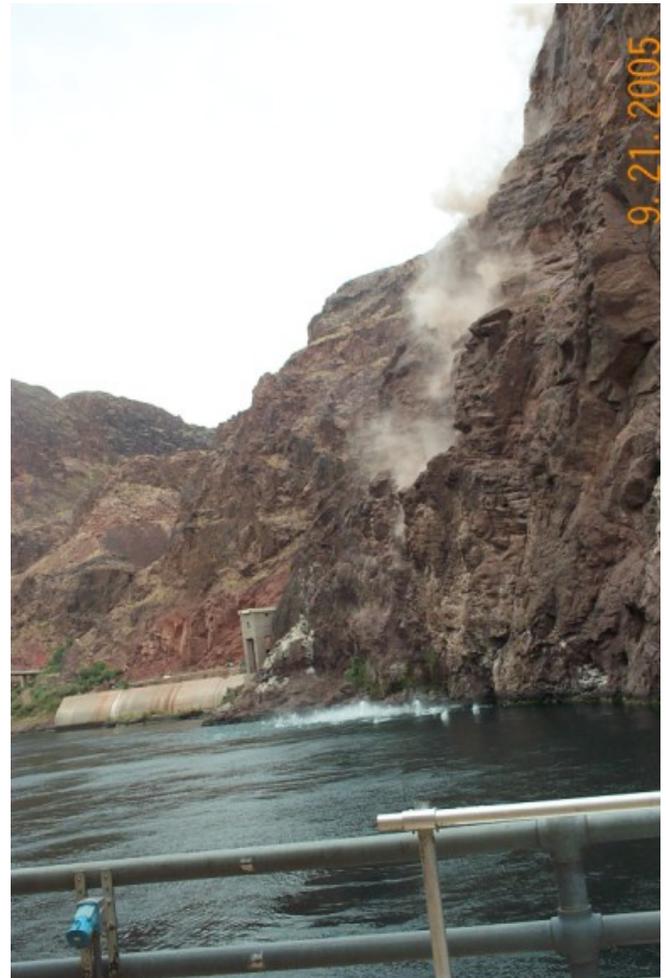
The Colorado School of Mines will host the 27th annual short course on *Grouting Fundamentals and Current Practice*. This course covers injection grouting as a method to improve soil settlement characteristics and strength properties, and to decrease permeability of soil and rock masses. Geological site investigations, equipment and procedures for cement grouting, structural chemical grouting of soil, grouting rock under dams, chemical grouting for water control, grouting of rock anchors, compaction grouting, lifting and leveling, slab jacking, soil nailing, and grouting for underground structures are major topics covered. Principles and case histories are presented, and there is a field demonstration of compaction and permeation grouting, flow of ultrafine cement grout in sand cylinders, grout mixing, rock drilling and packers, and testing grout mobility.

The course content is directed toward Owners, Engineers and Contractors that have interest in the capabilities of grouting to solve a broad array of geotechnical and structural problems. Course presentations are made by recognized authorities in the field of grouting. For attendance of the entire course, 3.5 Continuing Education Units will be awarded.

Memories from Vegas 2005



Kristi Ainslie, Mike Hattel, and Ed Friend



Conferences and Symposium, Call for Abstracts on the Website

Information, dates, and website links for the following conferences/symposiums can be found on our website at www.aegrms.org. Also look to the calendar of events on the website for an organized listing and dates of the many upcoming events.

- **First North American Landslide Conference**
- **40th Annual Symposium on Engineering Geology & Geotechnical Engineering**
- **57th Highway Geology Symposium Breckenridge, CO**
- ***GEO-volution: The Evolution of Colorado's Geological and Geotechnical Engineering Practice***

Apply Now for Scholarship Support to Attend 100th Anniversary Earthquake Conference

Join experts from around the world in educational programs on seismic hazard risk reduction.

SAN FRANCISCO – As many as 30 scholarships will be awarded to land use planners, social service providers, emergency managers, risk managers, business resumption specialists, building and public works officials, and those in related occupations to assist attendance for the 100th Anniversary Earthquake Conference Commemorating the 1906 San Francisco Earthquake.

Established by the Earthquake Engineering Research Institute (EERI) in an agreement with the Public Entity Risk Institute (PERI), the scholarships offer each recipient \$1,000 in direct financial assistance which can be applied to any conference cost, including travel, lodging, and registration fee. Recipients within the Bay Area, who do not require air transportation, will receive awards of \$600.

The conference will be held at the Moscone Convention Center in San Francisco, California, April 18 – 21, 2006. The conference includes EERI's 8th National Conference on Earthquake Engineering, the 100th Annual Meeting of the Seismological Society of America, and the '06 Disaster Resistant California Conference of the California Governor's Office of Emergency Services. It will provide an invaluable educational experience in all facets of earthquake risk reduction, from the latest thinking by the nation's leading scientists and engineers to current programs and policies in emergency management. The conference offers a unique opportunity for participants to compare experience and knowledge with attendees from cities throughout the U.S. and numerous other countries.

The four-day conference will include multidisciplinary plenary sessions at the beginning of each day, where leading earthquake

professionals will talk about a centennial perspective on the 1906 earthquake, lessons from recent major earthquakes, a scenario of a modern-day repeat of the 1906 earthquake and visions for the next century of earthquake risk reduction.

There will be more than 100 technical sessions covering issues critical to earth scientists, building owners, planners, building officials, emergency responders, earthquake engineers, policy makers, and disaster mitigation professionals. Additionally, there will be 35 tutorials for professionals in related fields, including teachers and members of the business community; 25 field trips that bring home the realities and science of earthquakes; the semi-annual General Assembly of the Association of Bay Area Governments (ABAG); social events in historic San Francisco venues; scores of exhibits and displays; and hundreds of poster presentations.

To be eligible for a scholarship, applicants should have key responsibility within their organization or agency for an area of risk or emergency management, loss reduction planning, hazards insurance, business resumption planning, social services, municipal development, land use planning, or building code enforcement. Applicants should come from municipal jurisdictions or non-profit institutions or organizations where they have responsibility for one or more of the above areas.

Interested applicants must complete the PERI Scholarship application on the 100th Anniversary Conference website (www.1906eqconf.org). Completed applications must be received by mail at EERI, 499 14th Street, Suite 320, Oakland, CA 94612 or by fax at: 510 451 5411 no later than Wednesday, March 1, 2006. EERI will announce the awards by March 17, 2006.

The 100th Anniversary Earthquake Conference is hosted jointly by the Earthquake Engineering Research Institute, Disaster Relief Resistant California (California's Office of Emergency Services) and the Seismological Society of America.

2006 Roy J. Shlemon Specialty Conference

The 2006 Roy J. Shlemon Specialty Conference is being held May 3-5, 2006 in Durango, Colorado at the Historic Strater Hotel.

The conference subject is "Mass Wasting in Disturbed Watersheds" chaired by Bill Haneberg, Sue Cannon, Paul Santi, and Jeff Coe.

To receive more information and to register for the conference, go to the web site: ww.haneberg.com/watersheds or go to AEG's web site (aegweb.org) and click on the Mass Wasting logo.

The objective of the conference is to bring together practitioners and researchers in order to define the current state of practice and identify unresolved problems with regard to the prediction and mitigation of mass wasting in disturbed watersheds.

Be sure to submit your abstracts to Julie Keaton at aegjuliek@aol.com

To make hotel reservations, call the Strater Hotel at 970-247-4431 and let them know that you are a participant in the "AEG Shlemon Specialty Conference" and receive your group rate.

If you have any questions, do not hesitate to contact Bill Haneberg at bill@haneberg.com

Invited guest speakers include:

1. Tom Koler of the U.S. Forest Service speaking about "Progress in forest engineering geology in the late 20th century and early 21st century -- the integration of engineering geology within ecosystem management of forested lands."
2. Laura Vaugeois of the Washington Department of Natural Resources speaking about "Washington's landslide hazard zonation project: a process for addressing risk to resources."
3. Charlie Luce of the U.S. Forest Service

speaking about "Mass wasting following forest fires: processes at multiple scales."

4. Sue Cannon of the U.S. Geological Survey speaking about "Tools for assessing post-wildfire debris flow probabilities and magnitudes."

5. Jon Major of the U.S. Geological Survey speaking about "Mass wasting in volcanically disturbed watersheds: primary events, landscape responses, and geologically-ecological interactions."

6. Bill Laprade of Shannon & Wilson speaking about "Effects of urbanization on mass wasting -- detrimental and beneficial."

7. Bill Haneberg of Haneberg Geoscience speaking about "Landslides, lasers, and logarithms: the role of emerging technologies in watershed-scale slope stability assessment."

8. Rod Silde of Kyoto University (title to be announced)

Come and join us in Durango and do not miss this exciting conference.

Technical Articles Needed for AEG NEWS

We are always on the alert for short technical articles for the AEG NEWS. Length about 850 words on nearly any subject of interest to the AEG members: Landslides, contaminant plumes, groundwater investigations, dams, etc. In fact we need a technical article for the March issue. Photos are welcome as long as they are reproducible at the scale needed. Ask our section members.

Send your submittal to Allen Shaw and to Andi Ptak. Addresses inside the front cover of the NEWS.

Case Histories/Member Contributions

We are always 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@aegrms.org if you have anything you would like to share. We have had good success with this in the past, so keep it going.

AEG 2006 Annual Meeting

MARK YOUR CALENDARS: AEG-2006 "Northeast Engineering Geology: From Till to Fill" in Boston, Massachusetts; October 30 through November 4 at the Boston Park Plaza Hotel. Special events include: 2 symposia (Big Dig in Boston; and New England State Geologists' Panel -- with the State Geologists from MA, VT, ME, NH, RI, and CT); 4 field trips (The Concord-Lexington Battle of April 19, 1775: A Clash of Continents and Cultures; Geology of Boston Harbor; Influence of Geology on Engineering Design in Boston; and Engineering Geology of the Combined Sewer Overflow Project, Providence, RI); and a Special Event -- Cape Cod Clambake including a tour of Wood's Hole Oceanographic Institute.

For more information, contact Dick Sherman (General Chair) at

Dick.Sherman@m-e.aecom.com

Upcoming 2005-2006 Presentations

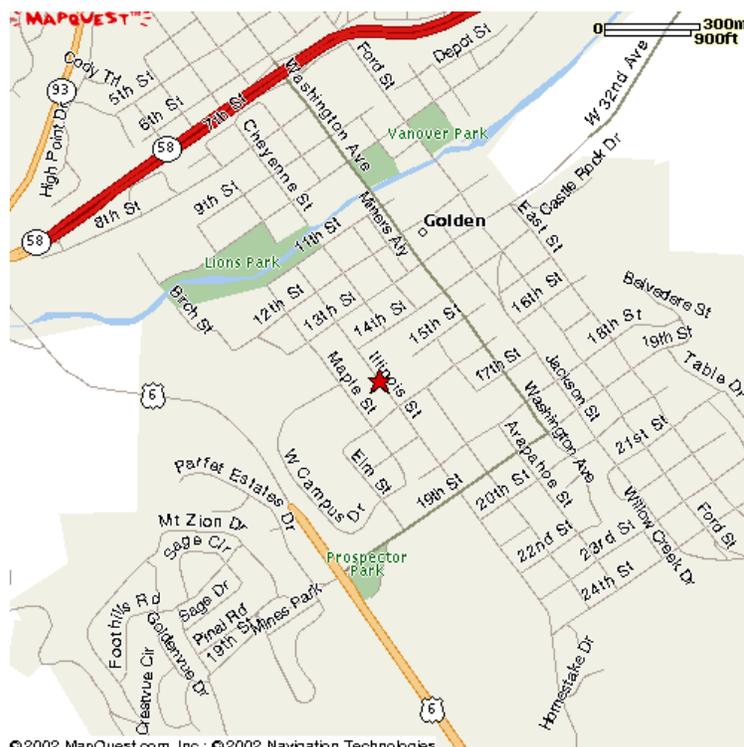
April 13th - Minal Parekh and Kent Pease of Lyman Henn: *Mitigation of Clear Creek Canyon Rockslide*

May 11th - Mike West of Michael West & Associates: subject TBD

TBD - Jerry Higgins, Jahns Lecture.

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@aegrms.org.



COLORADO SCHOOL OF MINES – GREEN CENTER

924 16th St.
Golden, CO 80401



ASSOCIATION OF ENVIRONMENTAL & ENGINEERING
GEOLOGISTS

AEG Student/Career Night

Thursday March 16, 2006
5:30-8:30 PM
Friedhoff Hall at the Green Center
Colorado School of Mines, Golden, CO

Representing professionals in the field of environmental and engineering geology in the greater Denver area, the Association of Environmental & Engineering Geologists (AEG) is hosting our Annual Student/Career Night Banquet. Four students from the Rocky Mountain region will present their research as part of this well-attended networking event.

We would like to invite you to participate as a sponsor for the event. This will be an exciting opportunity for your firm to showcase your services and experience as many as 100 professionals and students in the region. This event also serves as an excellent recruiting opportunity, as the region's best and brightest students will be in attendance. You may serve as a sponsor in one (or both) of two ways:

RESERVE A BOOTH

For only \$100, your firm will receive a 6-foot booth space for your corporate display. In addition, you will receive one complimentary dinner.

SPONSOR A STUDENT DINNER

Every student who attends this meeting receives complimentary admission. For only \$25, you can sponsor a student meal.

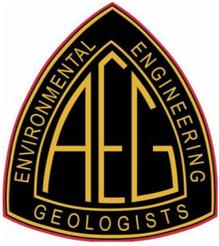
RESERVATIONS

- Yes, I would like to reserve a booth
- _____ Name of Company
_____ Name of Person in Attendance (complimentary)
_____ Additional attendees at \$25 per dinner
- Yes, I would like to sponsor student dinner(s)
- _____ Name of Sponsor
_____ Number of dinners

Please RSVP by fax no later than **February 24**
Fax this form to Liv Bowden at **720.904.1720**

You may pay for your sponsorship at the meeting, or send a check to:

AEG
P.O. Box 280663
Lakewood, CO 80228-0663



DAM REMEDIATION SHORT COURSE:

Pittsburgh, PA
April 1st, 2006

State of the Art in Dam Design, Construction and Remediation: Rock Grouting, Rock Anchors, Cut-off Walls, and Crisis Management

Dr. Donald Bruce (President, Geosystems) and David B. Wilson (Vice President, Gannett Fleming)

Date & Time: Saturday, April 1st, 2006 from 8:00 a.m. to 5:00 p.m. (Registration from 7:30 a.m. to 8:00 a.m.)

Cost: By March 22, 2006 After March 22, 2006 thru March 29, 2006
 \$175 for members of AEG; \$195 for members of AEG;
 \$195 for non-members; \$215 for non-members;
 \$35 for college students (must include a copy of college ID w/ form) No student rate shall be offered after 3/29

Attendees that register after 3/29 or at the door on 4/1 will be required to pay \$225.00, so please register early!

Location: Holiday Inn, Greentree—Executive Ballroom, 401 Holiday Dr, Greentree, PA 15220
 (Located minutes from downtown Pittsburgh and convenient to the Pittsburgh airport)

Room Rate: Discounted room rates are available at the Holiday Inn for \$79.00 per night plus tax & fees.
 Ask to speak with Chaz Letzkus (412-922-8100) to receive the discounted AEG rate.

Seminar Description: Dr. Donald Bruce and David B Wilson, two authorities in the design of dams, will each spend a half of a day speaking on dam stability and current practices related to seepage and crisis management of dams. This short course is designed for geologists, engineers, designers and contractors who want to learn from case histories and cutting edge practices used to rehabilitate and stabilize dams. Participants will receive a copy of all course materials.

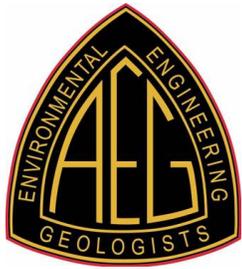
Course Topics:

- ❖ **Rock Anchors for Dams:** The results of a National Research Program, which has collated data from over 360 dams that have been anchored in North America since 1968. Evolution of practice as seen through the successive versions of "standards" is traced.
- ❖ **Cut-Offs for Embankment Dams.** This provides a review of the different seepage cut-off techniques which can be utilized, often in combinations.
- ❖ **Crisis Management - What Happens When Fast Flows Develop.** A brief step-by-step review of the eight basic steps to take for the logical management of a project which can be termed an emergency.
- ❖ **Dam Grouting Techniques: Typical Applications of Grouting, Recent Advances in Grouting Technology (Balanced Stable Grout Mixes and Computer Monitoring, Control, and Analysis), Rock Grouting Fundamentals, Quantitative Design of Grouting, Verification of Grouting Results.**
- ❖ **Recent Rock Grouting Case Histories: Dams, Environmental Applications, Karst Grouting.**

Course Instructors:

Dr. Donald Bruce, Ph.D., C.Eng., L.G., L.E.G., is President of Geosystems, L.P. He specializes in geotechnical construction processes, particularly anchoring (his Ph.D. dissertation topic), drilling and grouting. He has over 30 years experience in the dam anchoring business and works on projects throughout North America and four other continents. Donald is currently Chairman of the Geo-Institute's Grouting Committee, and Chairman of the International Workshop on Micropiles. He is also an active member of PTI's Committee on Rock and Soil Anchors and is a co-author of the past (1996) and new (2004) Anchor Recommendations. He has almost 200 publications and is co-author of a new book on *Dam Foundation Grouting*. He is the recipient of the Kapp and Baker Awards from ASCE.

David B. Wilson is a Vice President and Practice Leader for Gannett Fleming, Inc.'s Earth Sciences & Hydraulics Practice. He has a B.S. and M.S. from Lehigh University and has 33 years of professional experience. He is an active member of ASCE, ASDSO, SAME, and USSD. He has authored more than 30 technical papers dealing with dam design, grouting, seepage investigations & analyses, instrumentation, roller compacted concrete, and sinkhole remediation for structures. Mr. Wilson is one of four co-inventors of the IntelliGrout System; He has also been an instructor for the Corps of Engineer annual Embankment Dam Safety Course held at the Waterways Experiment Station in Vicksburg, MS.



Pittsburgh, PA
April 1st, 2006

DAM REMEDIATION SHORT COURSE -REGISTRATION FORM-

Please fill out the information below and submit it with your payment. Feel free to photocopy this form, if submitting payment for more than one attendee. Thank you.

Name: _____

Organization Member (circle): AEG / ASCE / Other: _____

Address: _____

City/State/Zip: _____

Phone: _____ Fax: _____

Email: _____

Amount Enclosed (\$): _____

To receive the discounted early registration rate, the payment and registration form must be post marked by **March 22, 2006**. Payments made after this date must be adjusted based on the criteria described in the "cost" section of this announcement.

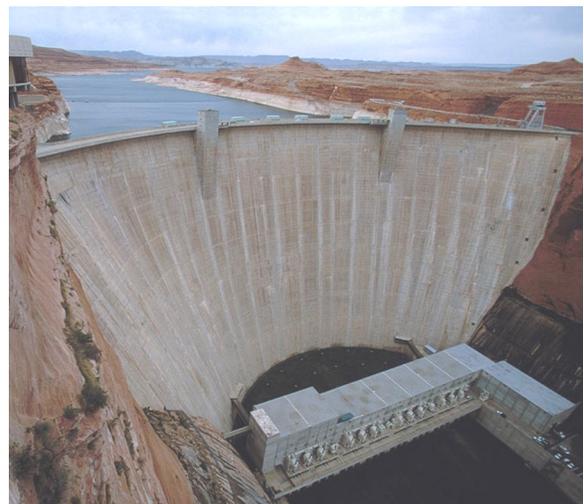
Registration includes course materials as well as lunch and morning/afternoon refreshments.

Make check payable to:

**Association of Engineering Geologists –
AO Section**

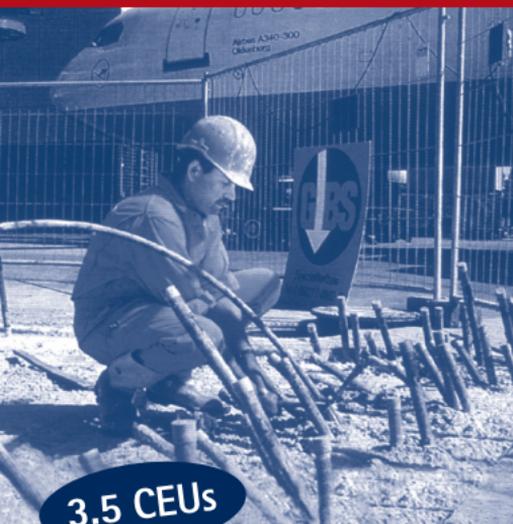
Mail Registration Form and Check to:

**Gannet Fleming, Inc.
Attn: Matthew Morris, AEG Treasurer
Foster Plaza III, Ste. 200
601 Holiday Drive
Pittsburgh, PA 15220**



27th ANNUAL SHORT COURSE ON

GROUTING FUNDAMENTALS & CURRENT PRACTICE



May 15-19, 2006
Colorado School of Mines
Golden, Colorado



Office of Special Programs
& Continuing Education and
Department of Mining Engineering

3.5 CEUs

The Colorado School of Mines will host the 27th annual short course on Grouting Fundamentals and Current Practice. This course covers injection grouting as a method to improve soil settlement characteristics and strength properties, and to decrease permeability of soil and rock masses. Geological site investigations, equipment and procedures for cement grouting, structural chemical grouting of soil, grouting rock under dams, chemical grouting for water control, grouting of rock anchors, compaction grouting, lifting and leveling, slab jacking, soil nailing, and grouting for underground structures are major topics covered. Principles and case histories will be presented. There will be a field demonstration of compaction and/or penetration grouting, flow of ultrafine cement grout in sand cylinders, grout mixing, rock drilling and packers, and testing grout mobility.

For detailed course information and registration, visit

www.mines.edu/outreach/cont_ed/

For technical info contact, Scott Kieffer: 303-273-3714; skieffer@mines.edu