Newsletter

Inland Empire Chapter News

Southern California Section, Association of Environmental and Engineering Geologists

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March 1, 2008 Vol. 4, No. 3

"Application of Surface and Borehole Shear Wave Geophysical Techniques to Engineering Investigations"

Wednesday 19-March-2008

5:00 - 6:00	Geologist Orientation	Bar Room
6:20 - 7:20	Dinner Meeting	Banquet Room
7:30 - 8:30	Guest Speaker Presentation	Banquet Room

Marie Calendars, Redlands

(Meeting Cost $18 to $27, includes taxes and gratuity)
(Fund-raising donation suggested is $5.00, or more)
(***RSVP/Directions below***)

Meeting Details (see inside)
RSVP Due by COB 13-Mar-08
Send Name, Company/Affiliation to
Lbattiato@Kleinfelder.com
or call (909) 793-2691, Kleinfelder West. State "AEG Meeting" in RSVP

Chapter Officers

Chair
Mike Cook
Kleinfelder, Incorporated
(909) 557-1463
MCook@kleinfelder.com

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- Vacant

Vice Chair South
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Lisa Battiato
Kleinfelder, Incorporated
(951) 506-1488
Lbattiato@klenfelder.com

This Month's Speaker :

Dr. Anthony Martin, P.GP., Technical Director, GEOVision Geophysical Services, Corona, California

Abstract

Surface and borehole geophysical techniques can be used to obtain shear (S) wave velocity depth profiles. Surface geophysical methods include the active surface wave (spectral analysis of surface waves and multi-channel analysis of surface waves) and passive surface wave (array and refraction microtremor) techniques. Borehole techniques include the PS suspension logging, downhole seismic, cross hole seismic and seismic cone methods. A common application of these methods is to determine the average S-wave velocity of the upper 30m or 100ft (V_S30) for UBC/IBC site classification for seismic design. Many state and local building

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The AEG Inland Empire Chapter *Newsletter* a monthly publication of Inland Empire Chapter of the Southern California Section, Association of Environmental and Engineering Geologists. For more information visit websites shown in Newshead page 1

Submittals: Deadline 28th of the month. Employment notices, job position vacancy announcements no cost. (See notice inside this *Newsletter*)

Address changes: Send e-Mail to Rick Gundry.

Advertisements: *Newsletter* circulation about 170 in greater inland areas of so. California, and elsewhere. Advertisements welcome also, no cost to post; however, some form donation, recognized list of donors.

codes are based on either the UBC or IBC. These techniques are also used to generate S-wave velocity models for site response modeling and liquefaction analysis.

Other geophysical methods that can involve the measurement of S-waves include the seismic refraction and reflection methods. S-wave refraction surveys are more difficult to implement than the P-wave counterpart but are useful to map shallow sedimentary rock when overlying sediments are saturated. S-wave seismic reflection surveys can image to shallower depth and with better resolution than P-wave surveys and are useful for shallow fault imaging.

Case histories will be presented demonstrating the application of S-wave techniques to near surface geophysical investigations.

Biographical Sketch

Mr. Martin received his B.Sc. in Geophysics from the University of British Columbia, British Columbia, Canada in 1985 and M.S. in Geology (Geophysics Option) from California State University, Long Beach in 1999. Since 1995, Mr. Martin has been the Technical Director of GEOVision Geophysical Services where he manages surface and borehole geophysical investigations applied to engineering, environmental and groundwater projects. From 1987 to 1995, Mr. Martin worked for IT Corporation where he became the Manager of the Geophysics Group. Between 1980 and 1987, Mr. Martin worked as an engineering technician and geologist at Earth Technology Corporation.

Thanks

Thanks to 4 professionals and 3 Sr. Undergraduate students that attended the February Meeting in Moreno Valley, as follows:

Dr. David Oglesby (Speaker), University of California, Riverside; **Mike Cook**, Kleinfelder West, Inc., Redlands; **Mark Doerschlag**, Independent Consultant, Riverside; **RickGundry**, Inland Geologic, Inc., Moreno Valley; **Robert Ellis**, Cal Poly Pomona University, Pomona; **Julie Brown**, Cal Poly Pomona University, Pomona; and **Daniel Heaton**, Cal Poly Pomona University, Pomona

California Department of Conservation
State Mining and Geology Board

The Board approved a schedule for a period of years to conduct Mineral Land Classification Studies throughout California at its February 14, 2008 Board Meeting in Sacramento, California. Additional, the Board approved to continue Official Designation of previously classified areas since 1990 as Known Mineral Resource Areas.

California Department of Conservation California Geological Survey

PUBLICATIONS RELEASE -------- January 31, 2008
Landslide Inventory Maps of the Azusa, Burbank, Glendora, Mt. Wilson, Pasadena 7.5-Minute Quadrangles, Los Angeles County, California
by J.A Treiman and C.J. Wills

These maps present an inventory of existing landslides originally prepared as essential data layers for the delineation of earthquake-induced landslide hazardzones as mandated by theSeismicHazards Mapping Act. These five landslide inventory maps are a continuation of the Landslide Inventory Map Series in southern California. These maps cover portions of the cities of Monrovia, Duarte, Irwindale, Universal City, Arcadia, Glendale, Burbank, San Dimas, La Verne, Pasadena, Sierra Madre, Glendora and unincorporated Los Angeles County.

California Mining and Geology Board

-
SMGB will convene March 13, 2008 with full Board and Committee meetings. Approval of Minutes of the February 14th Meeting will ascertained, which included decision for approval of draft revised California Geological Survey Special Publication No. 117, and the Proposed Schedule for Designation of Minerals Lands. (Editor's. Note: No designation has ocured since 1990.)

California Department of Conservation Board for Geologists and Geophysicists

Two of the four 2008 meetings of the Board will be in southern California locations to be determined. The intervening Board meetings will be held in Sacramento (other than examination Committee Meetings): as follows:

9-May-2008	So Cal (TBD)
22-Aug-2008	Sacramento
14-Nov-2008	So Cal (TBD)

The most recent BGG Newsletter is the Summer 2007 issue.

Meeting Details and Location

Advance RSVP is required by Thursday 13-Mar-08. . Late RSVP is subject to NO placement at meeting and NO food service..

Location:. Marie Calenders, Redlands.

Marie Calendars
1625 Industrial Park Avenue
Redlands, CA 92374
(909) 793-0988

Directions to Meeting.

From I-10 in Redlands, EXIT Alabama Street to turn South. From freeway proceed South on Alabama to immediately TURN RIGHT on Industrial Park Avenue. Proceed about 0.1-mile and TURN RIGHT into parking lot (across from IHOP).

Future Meetings

APR Wednesday April 16th , 2008, Temecula
– – "Rotating Crust along the San Andreas Plate Boundary"
Dr. Nate Onderdonk, Associate Professor of Geology, Department of Geological Sciences, California Stet University, Long Beach, Long Beach, California

MAY Wednesday May 21st , 2008, Redlands
– – "Attack of the Killer Bacteria - The Fate of Perchlorate at the Stringfellow Superfund Site"
Dr. Galen Kenoyer, PG, Principle Hydrogeologist, Kleinfelder West, Inc., Redlands, California.

JUN Wednesday June 18th , 2008, Temecula
– – "The use of velocity-log data oupled to depth-dependent sample collection techniques from production wells"
Dr. John A. Izbicki, Research Chemist, U.S. Geological Survey, California Water Science Center, San Diego, California

JUL Wednesday July 16th, 2008, Redlands

– – "Highwalls to Highways – Engineering Geology Case Studies of Aggregate Mining and Reclamation"
Dorian E. Kuper, AEG President, Engineering Geologist, Kuper Consulting, Portland, Oregon

AUG Wednesday August 20th , 2008, Temecula
– – "Demonstration of Virtual Structural Mapping with Terrestrial Photogrammetry"
Jeffrey R. Keaton, MACTEC, Los Angeles, CA

Future AEG Inland Meeting Locations (Temecula and Redlands, only)

Meetings scheduled in both Temecula and Redlands, alternating, through December 2008, will be at Marie Calender Stores either in Redlands or in Temecula.

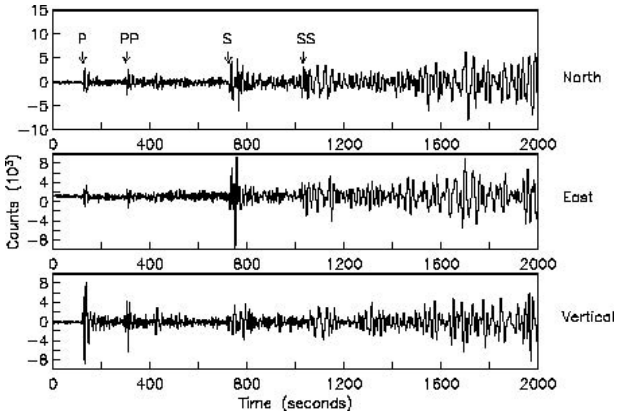
Other Local Meetings/Symposia

May Thursday May 1,2008, Banning, Morongo Casino
5th Annual Riverside County Water Symposium
Morongo Casino Resort and Spa, Banning California
www.rivcoh20.com, (888) 697-5836

AEG Spring Field Trip

APR Saturday April 5, 2008
"Emerson Fault Rupture, 16 Years Later"

For details or your input, contact Chapter Field Trip Committee Chairman Mark Spykerman, Earth Systems Southwest at: MSpyckerman@eathsys.com



June 28, 1992, 4:57 am PDT Landers Great Earthquake (Mw 7.3), largest aftershock, Big Bear Moderate Earthquake (Ms 6.4) a few hours later.

SHORT COURSES

Continuing Education Course

MAR M-T-W, March 18-20, 2008, Los Angeles
"Principles of Groundwater Flow & Transport Modeling"
Groundwater Resources Association of California @ UCLA Extension Building, University of California, Los Angeles, Los Angeles, California

*(*Detailed Information pages at rear of *Newsletter)*

MAY Saturday May 17th , 2008, Riverside
"2007 California Uniform Building Code"
Several speakers and hands-on session with laptops. University of California Extension Center, Riverside California, sponsored by AEG Inland Empire Chapter

Continuing Education Ongoing Short Courses

An Online course

"An Introduction to Landslides or Mass Wasting"
AIPG Accredited (3.5 CEU's)
rgfont@geosciencedm.com,
slbishop@geosciencedm.com
www.geodm.com Robert Font, Ph.D.

POSITION VACANCY ANNOUNCEMENT

PALEONTOLOGICAL FIELD MANAGER
SAN DIEGO NATURAL HISTORY MUSEUM

Coordinate paleontological field activities (i.e., supervision of field monitors in prospecting for and collection of fossils and the recording of stratigraphic, taphonomic, geographic, and topographic data) and production of final project reports that summarize the methods and preliminary results of paleontological salvage activities. Other duties include generation of initial discovery letter reports for City, County, and/or State agency managers and generation of paleontological resource assessment technical reports. Opportunities also include paleontological field work in the Southern California region and working with the extensive fossil collections of the San Diego Natural History Museum.

Qualified candidates must have at least a B.S. Degree in Geology or Paleobiology; 2 to 3 years of relevant experience (especially sedimentary geology and paleontology); excellent supervisory/managerial, verbal, written, and interpersonal skills; and a strong work ethic, intense drive, and initiative for quality and customer service. This position is a regular, full-time salaried position with a generous benefits package (e.g., full medical and 401K plan). Compensation will be based on individual qualifications and experience (annual salary range $40,000 to $60,000). Please send resumes to Yvonne Kugies (ykugies@sdnhm.org).

Inland Empire Chapter Officers and

Section/National Contact Information

AEG Inland Empire Chapter, P. O. Box 8944, Moreno Valley, CA 92552-8944

http://www.aegsc.org/chapters/inlandempire

AEG Southern California Section Web-site

http://www.aegsc.org/

Association of Environmental and Engineering Geologists (Headquarters)

http://www.aegweb.org

Connecting . . .

Professionals

Practice,

And the Public

GROUNDWATER RESOURCES ASSOCIATION
of California

Principles of Groundwater Flow & Transport Modeling

2. March 18-20, 2008
UCLA Extension Building - Los Angeles, CA

MCLE Will be Available

Limited Space Available -- Remember to Register!

To Register - http://www.grac.org/modreg.htm

Course Description

The use of computer modeling tools has become a standard practice in many groundwater investigations. Groundwater resources evaluation, groundwater quality assessment, contamination site assessment and remediation, environmental impact review, and other groundwater related activities frequently rely on computer models as a means of understanding groundwater flow and the fate of contaminants in the subsurface. This course introduces the conceptual principles and practical aspects of groundwater modeling in an intuitive yet comprehensive manner. The course objective is to demystify the use of groundwater models by providing solid understanding of the principles, methods, assumptions, and

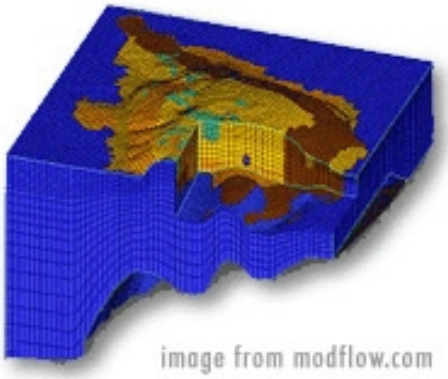
limitations of groundwater models, as well as hands on experience with the planning, preparation, execution, presentation, and review of a modeling project. The first half of the course reviews the concepts of groundwater flow and transport, and of finite difference and finite element methods. It provides an overview of various software programs for ground water flow and transport modeling and accompanying pre- and post-processing programs. The second half of the course features hands-on exercises based on the USGS MODFLOW flow model and a compatible transport model. Exercises include site-specific models as well as basin/watershed wide models. The course is taught by experienced instructors familiar with many aspects of groundwater modeling and California hydrogeology. At the end of the course, participants should be able to understand and actively engage in planning, supervision, and/or review of groundwater modeling projects.

Who Should Attend

The short-course is intended for professional consultants, technical personnel in engineering/geology firms and irrigation/water districts, regulatory agency specialists and managers, and those in the legal community specialized on groundwater issues. Participants should have a working knowledge of the principles of groundwater hydrology and be familiar with the PC Windows environment. No formal training in computer programming is necessary.

Course Topics

> principles and concepts of groundwater modeling
> overview of groundwater modeling software
> conceptual model development
> data collection and preparation
> model grid design
> boundary conditions: concepts and application
> implementing rivers, lakes, recharge, drainage,
> and other special situations
> modeling multiple aquifer systems
> sensitivity analysis, model calibration and verification
> contaminant transport modeling
> capture zone analysis



Course Instructors

Graham E. Fogg, Ph.D., is a professor of hydrogeology with the Hydrology Program of the Department of Land, Air, and Water Resources, University of California, Davis. He received a B.S. in hydrology at the University of New Hampshire, a M.S. in hydrology from the University of Arizona, and a Ph.D. in geology from The University of Texas at Austin. He is currently teaching undergraduate and graduate courses in groundwater hydrology and groundwater modeling. His research interests include geologic-geostatistical characterization of subsurface heterogeneity, mass transport in heterogeneous porous media, numerical modeling of groundwater systems, and regional system hydrogeology. Fogg has 20 years experience characterizing and analyzing groundwater under a diversity of conditions in the southwest and western United States.

Thomas Harter, Ph.D., received a B.S. in hydrology from the Universities of Freiburg, Germany and a M.S. in hydrology from the University of Stuttgart, Germany. He received his Ph.D. in hydrology (with emphasis on subsurface hydrology) at the University of Arizona, where he became the 1991 Harshbarger fellow for outstanding research in subsurface flow and transport modeling. In 1995, he joined the faculty at the Department of Land, Air, and Water Resources, University of California, Davis. Harter is in charge of the University of California Cooperative Extension Groundwater Hydrology Program. His research focuses

on nonpoint-source pollution of groundwater, groundwater resources evaluation under uncertainty, groundwater modeling, and contaminant transport. Dr. Harter has done extensive modeling of heterogeneous aquifer/vadose zone systems.

Peter Schwartzman, M.S., received a B.A. in geology and environmental studies from University of Pennsylvania and a M.S. in hydrology from the University of Arizona. He currently provides hydrogeologic consulting as an associate at Pacific Groundwater Group in Seattle, Washington. Schwartzman has had extensive experience in hydrogeologic characterization and groundwater flow modeling. He has contributed to development of groundwater modeling software and is experienced with a variety of models and modeling interfaces. He is interested in modeling regional flow systems, stream-aquifer interactions, and contaminant transport simulation.

Course Benefits

At the end of the course, participants should have:
> a well-founded knowledge of the principles in groundwater flow and transport modeling.
> familiarity with the major elements of groundwater modeling studies.
> hands-on experience in designing simple groundwater flow and transport studies with MODFLOW using popular groundwater modeling software.
> a fundamental understanding of the capabilities and limitations of groundwater modeling.
> an understanding of the appropriate role of groundwater models in groundwater assessment and management.

Course Location

The Course will be at the UCLA Extension Building (rooms 215 & 219 at Le Conte Avenue and Gayley Avenue, SW perimeter of the campus), 10995 Le Conte Avenue, Los Angeles, CA.

For more information, contact Mary Megarry at GRA, mmegarry@nossaman.com or 916-446-3626.

To Register - http://www.grac.org/modreg.htm

GRA is dedicated to resource management that protects and improves groundwater through education and technical leadership.