

SAN DIEGO ASSOCIATION OF GEOLOGISTS

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SDAG MEETING ANNOUNCEMENT WEDNESDAY, May 19, 2004

*Joint meeting with
American Society of Civil Engineers, Geotechnical Division*

BUILDING ON THE FAULT LINE

OR

"Developing Mitigation Measures for the Hazards Associated with Earthquake Surface Fault Rupture"

presented by

Jonathan D. Bray, Ph.D., P.E.

Professor, Dept. of Civil and Environmental Engineering, University of California, Berkeley

Where: Tom Ham's Lighthouse Restaurant
2150 Harbor Island Drive
San Diego, CA 92101
(619) 292-9110

When: 6:00 pm – Social Hour
7:00 pm – Dinner
8:00 pm – Program



Directions: Tom Ham's is located at the west end of Harbor Island. From Harbor Drive turn south onto Harbor Island Drive. At the second light turn right. Go to the end.

Dinner: Buffet. Hot Entrees: Roast Breast of Turkey, Cheese Enchiladas, and Pasta Primavera (with vegetables).

Served with: Salad Bar, Rice and Vegetable, Coffee, Tea, Milk, or Soft Drink, Bread and Butter. Salad Bar includes: Caesar Salad, Tossed Green Salad, Choice of two Dressings, Marinated Garbanzo Beans, Three Bean Salad, Potato Salad, Waldorf Salad, Pasta Salad, Cottage Cheese and Seasonal Fruit.

Cost: \$25.00 per member and guests, \$10 for students. Add \$5.00 if you did not make a reservation.

Reservations: Make your reservation **online** at www.sandiegogeologists.org or call the SDAG Reservation Hotline at (619) 255-8380, **no later than Noon Saturday, May 15th**.

RESERVATIONS CANNOT BE ACCEPTED AFTER Saturday AT NOON.

SPEAKER:

Jonathan D. Bray, Ph.D., P.E.

Professor, Dept. of Civil and Environmental Engineering, University of California, Berkeley



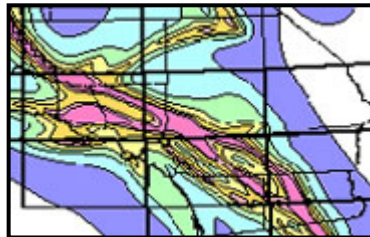
Professor Bray teaches undergraduate and graduate level Soil Mechanics, Foundation Engineering, Numerical Modeling in Geomechanics, and Geotechnical Earthquake Engineering. His research interests include earthquake engineering, geotechnical engineering, physical and numerical modeling, and environmental geotechnics. Professor Bray's impressive list of publications includes papers of local interest and international significance. He has received the Presidential Young Investigator Award, Walter L. Huber Civil Engineering Research Prize, and may other honors and awards too numerous to list.

Professor Bray earned his Ph.D. in Geotechnical Engineering, from University of California, Berkeley, California, in 1990. He earned a MS in Structural Engineering from Stanford University in 1981. He received top honors along with his Bachelor of Science degree from the United States Military Academy, West Point, New York, in 1980. See <http://www.ce.berkeley.edu/~bray/> for a list of publications, research projects, and additional background.

SUMMARY:

Developing Mitigation Measures for the Hazards Associated with Earthquake Surface Fault Rupture

Recent earthquakes have reminded the profession of the devastating effects of earthquake surface fault rupture on engineered structures and facilities. Insights from these events are discussed with special emphasis on describing how ground movements associated with surface faulting affect structures. Analytical procedures that can be employed to evaluate the hazards associated with surface faulting and to develop reasonable mitigation measures are also discussed. A project in Southern California where these procedures were applied is presented to illustrate the insight gained from sound engineering analysis of the problem. Similar to other forms of ground failure, such



as mining subsidence, landslides, and lateral spreading, effective design strategies can be employed to address the hazards associated with surface faulting. These design measures include establishing non-arbitrary setbacks based on fault geometry, fault displacement, and the overlying soil; constructing earth fills, often reinforced with geosynthetics, to partially absorb underlying ground movements; using slip layers to decouple ground movements from foundation elements; and designing strong, ductile foundation elements that can accommodate some level of deformation without compromising the functionality of the structure.

2004 EXECUTIVE COMMITTEE

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WEBMASTER - Carolyn Glockhoff; *Caro-Lion Enterprises*, Ph: (858) 549-3396; carolyn@caro-lion.com

PRESIDENT'S CORNER:

- **Rocket Science.** We hope everyone enjoyed the Mars and Rocket presentation. Marc Murbach did a nice job- some pretty technical propulsion stuff.
- **Farthest Traveled.** Of the at least 10 past Presidents of SDAG in attendance at the meeting, two of them flew down from Portland, Oregon, to see the Mars presentation - Tom and Dorian Kuper. Thanks for attending. Did everyone see the Pocket Protector (for pens) Tom was wearing? The speaker really wanted it...
- **Great Attendance.** Once again, we had a room full. Thanks to everyone attending this year. How was the location? We thought the food was great. We need feedback. We also could use a couple recommendations for new potential meeting locations. We received a couple suggestions at the meeting by Dr. Berry. Thanks.
- **May 8.** Sunbelt Saturday and OSW (one stop wonder). Please make a reservation on our typical phone line (for reservations for dinner meetings). We need to get a burger (and yes, veggie burger) count. Please let us know by May 5. (Happy Cinco de Mayo!)
- **Next Month's meeting.** George Copenhaver and Charles Coval will talk on the SD & AE railway updates. The meeting will be held the third Wednesday of June (16th). Yes, George, this is a reminder...

ANNOUNCEMENTS:

New San Diego area geologic maps... check them out!

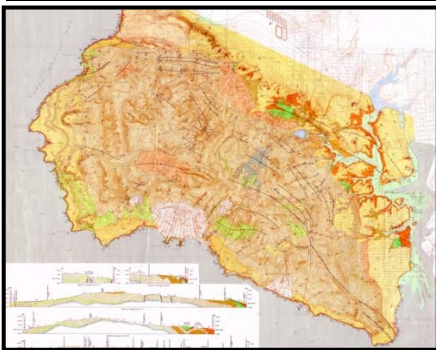
http://www.conservation.ca.gov/cgs/rghm/rqm/southern_region_quads_new.htm

Links at the above site allow you to download PDF files of these brand new geologic maps:

[Morro Hill](#) (3 MB) [Margarita Peak](#) (5 MB) [Valley Center](#) (3.3 MB)
[Bonsall](#) (3.2 MB) [Temecula](#) (4.8 MB) [Las Pulgas Canyon](#) (3.7 MB)
[Otay Mesa](#) (1.2 MB) [Dana Point](#) (2.3 MB) [Pala](#) (4 MB)
[Escondido](#) (2.7 MB) [Pechanga](#) (4.2 MB) [Fallbrook](#) (4.7 MB)
[Jamul Mountains](#) (2.1 MB) [San Vicente Reservoir](#) (1.7 MB) [El Cajon](#) (2.2 MB)
Aguanga Vail Lake



Professional Paper, "Geology and Paleontology of Palos Verdes Hills, California" – Maps Digitized.



Mark Legg and Dick Brown have scanned the color maps in the Woodring, Bramlette and Kew (1946) classic Professional Paper, "Geology and Paleontology of Palos Verdes Hills, California." These maps are available on two CD's. We are making them available for \$10 each, \$20 for both. The CDs include the large geologic map and two smaller detailed geologic maps and the large map of the Pleistocene terraces. These are all the maps in the pocket of the publication. They were scanned at 300 dpi, and are in both TIF and PDF formats on the same CDs.

To order the CDs e-mail Dick Brown at dickbrowngeo@adelphia.net, call (562) 598-0595, or write to:

Dick Brown
296 College Park Dr.
Seal Beach, CA 90740

Include your mailing address, describe which CD (or both) and send a check, payable to "Arthur R. Brown," for \$10 (for one CD) or \$20 (for both CDs).

ANNOUNCING THE SDAG 2004 ANNUAL FIELD TRIP AND CALL FOR PAPERS



JOSHUA TREE NATIONAL PARK October 30-31st

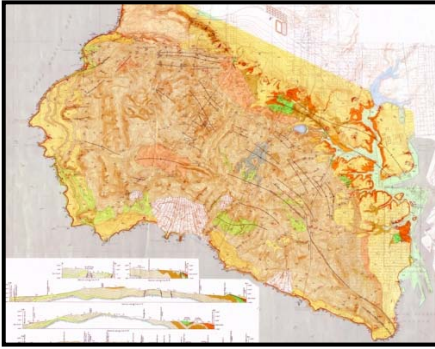
This beautiful gem of Southern California will be the destination for our 2004 field trip. We will be focusing on the higher elevation, Mojave Desert portion of the park. SDAG members will camp in the park, and we will visit several points of interest, including geologic, mining, and cultural. The trip will be limited to 60 individuals, and carpooling is a must to keep things moving smoothly. Field trip stops have not been finalized so contact Margaret Eggers (meggers@eggersenv.com) if you have a specific suggestion. We will make every effort this year to have the field guides printed and available the day of the trip so please submit papers early. Dr. D. D. Trent, co-author of “Joshua Tree National Park: Geology” is scheduled to join us on our trip. Note that Sunbelt Publishing has copies of Dr. Trent’s book (with Dr. Richard W. Hazlett, 2002) for sale! Contact Lowell Lindsay at llindsay@sunbeltpub.com.

CALL FOR PAPERS!!

Although the field trip will focus on the Mojave Desert portion of the park, submissions which include or focus on the Colorado Desert portion of the park will also be welcome. Potential subjects may include updates on geologic/fault interpretations, weathering phenomena, local flora and fauna, and cultural, mining or historical interests. Please contact Margaret if you would like to discuss a potential paper. The deadline for submission of papers and associated graphics is July 15th. Text can be an unformatted WORD file, with graphics in JPEG or TIF format (no PDFs or AutoCAD files please!). Call Margaret if you have formatting questions.

MARK YOUR CALENDARS TODAY!

Professional Paper, "Geology and Paleontology of Palos Verdes Hills, California" – Maps Digitized.



Mark Legg and Dick Brown have scanned the color maps in the Woodring, Bramlette and Kew (1946) classic Professional Paper, "Geology and Paleontology of Palos Verdes Hills, California." These maps are available on two CD's. We are making them available for \$10 each, \$20 for both. The CDs include the large geologic map and two smaller detailed geologic maps and the large map of the Pleistocene terraces. These are all the maps in the pocket of the publication. They were scanned at 300 dpi, and are in both TIF and PDF formats on the same CDs.

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296 College Park Dr.
Seal Beach, CA 90740

Include your mailing address, describe which CD (or both) and send a check, payable to "Arthur R. Brown," for \$10 (for one CD) or \$20 (for both CDs).

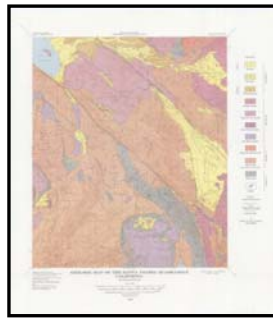
SDAG Historical Geologic Map Archive



USGS WSP 446 Plate 1 (1919)



WSP 446 Plate VI (1919)



Bull. 177 Plate 1 (1958)



Bull 159 Plate 1 (1951)

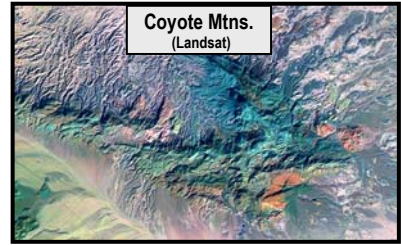
A hearty "Thank you!" for your suggestions and contributions. We have been all but overwhelmed. We have made a good start to meeting our goal of making a CD-ROM containing a set of digitally scanned maps available to SDAG members. In addition to Ellis & Lee's 1919 maps (left, center left), we have Merriam's Santa Ysabel quadrangle map (center right), Cuyamaca Peak quad map from CDMG Bulletin 159 (right), Blake's 1856 geologic map (the first in San Diego), Plate 1 from F.H. Weber's 1963 County Report 3, and relevant maps from SDMG Bulletin 170. Please let us know what other rare, out-of-print geologic maps you would like to see in SDAG's electronic archive. We would like San Diego area geologic maps of regional scale (covering 7.5-minutes or more), and in the public domain. If you have a pristine copy of a rare geologic map, we would like to borrow it for scanning. Please contact **Greg Cranham** at gcranham@hargis.com, or **David Bloom** at secretary@sandiegogeologists.org or (619)524-6967.

SDSU GEOLOGY DEPARTMENT SEMINARS for 2004

Departmental Seminars on Wednesdays. <http://www.geology.sdsu.edu/seminars/>

SDAG Wear: - Monte (Murbach) has a variety of shirts, hats, visors and even a nice vest with the SDAG logo. A small selection is available for purchase at the meetings; all SDAG wear can be ordered from Monte.

2004 SDSU Geology Alumni Field Trip took place in the Coyote Mtns. last month. Thanks to Joe Coronas for organizing such a successful trip. It was well attended. And fun was had by all:



Monte Marshall
Sue Tanges
Richard Larive
George Johnson
Bert Vogler
Kellen Chrisman
Kellen's friend
Rob Hawk
Debbie Stonehouse
Ricky Wallace
Steve Harrison
J. R. Morgan

Bill Elliott
Doug Tanges
Tyler Tobias
Donna Gooley
Perry Crampton
Mark Snow
Todd Greer
Brenden Hawk
Mike Dose
Bob Stroh
David Bloom
George Morgan

Lowell Lindsay
Diana Lindsay
Brad Tobias
Joe Coronas
Perry Crampton
Bert Vogler
Bryan Voss
Bob Wallace
Toni
Alexandra Stroh
Harry Snowden
Carole Ziegler

Robert Chrisman
Fernand Kuhr
Richard Raczkowski (Ski)
Rosemarie Doss Ballance
Mark Ledergerber
Richard (Jr. College Instructor)
Robert Weems
Andrew Weems
Bonnie Weems

For more variety and impact with Power Point presentations and speeches, call SDAG Member **Russ Daubert**, Professional Communication Training at (619) 938-0429. Email: procommtraining@cox.net

On Granite:

"...What they had long seen through magnifying lenses as specimens held in the hand-or, in thin slices under microscopes-did not always register identically in the eyes of these machines. Andesite, for example, had been given its name for being the predominant rock of the high mountains of South America. According to the machines, there is surprisingly little andesite in the Andes. The Sierra Nevada is renowned throughout the world for its relatively young and absolutely beautiful granite. There is precious little granite in the Sierra. Yosemite Falls, Half Dome, El Captain-for the most part the "granite" of the Sierra is granodiorite. It has always been difficult enough to hold in the mind that a magma which hardens in the earth as granite will-if it should flow out upon the earth-harden as rhyolite, that what hardens within the earth as diorite will harden upon the earth as andesite, that what hardens within the earth as gabbro will harden upon the earth as basalt, the difference from pair to pair being a matter of chemical composition and the differences within each pair being a matter of texture and of crystalline form, with the darker rock at the gabbro end and the lighter rock the granite. All of that-not to mention such wee appendixes as the fact that diabase is a special texture of gabbro-was difficult enough for the layman to remember before the spectrometers and the electron probes came along to present their multiplex cavils. What had previously been described as the granite of the world turned out to be a large family of rock that included granodiorite, monzonite, syenite, adamellite, trondhjemite, alaskite, and a modest amount of true granite. A great deal of rhyolite, under scrutiny, became dacite, rhyodacite, quartz latite. Andesite was found to contain enough silica, potassium, sodium, and aluminum to be the fraternal twin of granodiorite. These points are pretty fine. The home terms still apply. The enthusiasm geologists show for adding new words to their conversation is, if anything, exceeded by their affection for the old. They are not about to drop granite. They say granodiorite when they are in church and granite the rest of the week."

-- John McPhee, Basin and Range. 1980 FSG

SDAG NEWSLETTER IS DIGITAL! If we don't have your e-mail address, or your email address changes, or if you have problems with the electronic format please contact **David Bloom** at 619-524-6967 OR secretary@sandiegogeologists.org.

DO YOU HAVE AN ANNOUNCEMENT?? Do you have an event, job opening, field trip or other announcement you would like to share with our members?? Just call or email our SDAG Secretary, **David Bloom** at 619-524-6967 OR secretary@sandiegogeologists.org.

SDAG PUBLICATION ORDER FORM

(619) 258-4911
 fax: (619) 258-4916

P. O. Box 191126
 San Diego, California 92159-1126

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LIST	QUANTITY	PRICE	TOTAL
<i>Landslides in Crystalline Basement Terrain</i> Evans (1988)		\$ 5.00	\$
<i>Seismic Risk in the San Diego Region</i> Roquemore, Tanges and Wright (1989 - proceedings)		10.00	
<i>Geotechnical Engineering Case Histories in San Diego County</i> Hoobs (1990)		10.00	
<i>Environmental Perils, San Diego Region</i> Abbott and Elliott (1991)		10.00	
<i>Natural History of the Coronado Islands, Baja California, Mexico, Revisited</i> Perry (1992)		10.00	
<i>Geology and Natural History, Camp Pendleton US Marine Corps Base, San Diego County, California</i> Rosenberg (1994)		15.00	
<i>Paleontology and Geology of the Western Salton Trough Detachment, Anza-Borrego Desert State Park, California</i> Remeika and Sturz (1995)		15.00	
<i>Geology and Natural Resources of Coastal San Diego County, California</i> Munasinghe and Rosenberg (1996)		Out of print	
<i>Santa Cruz Island Geology Field Trip Guide</i> Boles and Landry (1997)		15.00	
<i>Geology and Geothermal Resources of the Imperial and Mexicali Valleys</i> Lindsay and Hample (1998)		15.00	
<i>Water for Southern California</i> Cranham (1999)		15.00	
<i>Geology and Enology of the Temecula Valley</i> Birnbaum and Cato (2000)		15.00	
<i>Coastal Processes and Engineering Geology of San Diego, California</i> Stroh (2001)		25.00	
<i>Geology of the Elsinore Fault Zone San Diego Region</i> Murbach and Hart (2003)		25.00	
SUBTOTAL:			
Postage and Handling \$4.00/book (unless picked up):		4.00	
TOTAL:			

rev. 02/04

DATE OF ORDER: _____

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1. Prices subject to change without notice. _____
2. Allow 4 weeks for delivery. _____
3. Make checks payable to SDAG at address above. _____
4. Bookseller discount off list price is 40%,
 resale number required. Phone: _____

2004 CORPORATE SPONSORS - THANK YOU!!

A significant portion of the SDAG operating and scholarship budget is provided by corporate sponsorship. Please consider becoming a Corporate Sponsor for 2004! In addition to monthly recognition for your contribution, you will be entitled to a free Internet "link" from the [SDAG Website](#), and all Corporate Sponsors are listed in the front of the annual SDAG Field Trip Volume.

Dr. Sarah Gray - University of San Diego	Dr. Monte Marshall
Sue Tanges, Southland Geotechnical Consultants	Dr. Margaret Eggers, Eggers Environmental, Inc.
David and Jan Steller	Dr. Anne Sturz
Dr. Richard Berry	Hargis + Associates, Inc.
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Joe Coronas, City of San Diego	Mr. Clive Moody, Fugro West, Inc.
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JOB OPENINGS!

 **KLEINFELDER** is seeking a **Senior Environmental Engineer for their Temecula office**. Qualifications: Job Code #292: Seeking individual with management experience (personnel and projects). Positions require BS degrees in civil, chemical, mechanical, or environmental engineering; MS degrees with EIT, PE, or certification preferred. Ten plus related experience required. To submit a resume online, go to [Kleinfelder.com](#) and click on "Careers." (1203)

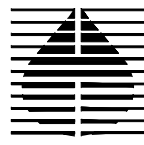
Fossil Preparator, Department of Paleontology
San Diego Natural History Museum

The Department of Paleontology at the San Diego Natural History Museum has an opening for a Fossil Preparator. This position is funded by paleontological mitigation contract work for construction primarily in coastal San Diego County. This full-time (40hrs/week) position requires preparation of fossil vertebrates, invertebrates and/or plants. Prior fossil preparation experience and working knowledge of modern preparation techniques and materials is preferred. Starting hourly wage will range between \$12 and \$15 depending upon level of experience. Please send resumes to Thomas A. Deméré, Curator, Department of Paleontology, San Diego Natural History Museum, P.O. Box 121390, San Diego, CA 92112-1390 or by e-mail at <mailto:tdemere@sdnhm.org>. EOE

Assistant Professor, Geology

The San Diego Community College District is accepting applications for the position of Assistant Professor, Geology at Mesa College to begin Fall 2004. For additional requirements and application materials please visit: <http://www.sdccd.net/employment>. EOE

Hargis + Associates, Inc., a San Diego based consulting firm (**and SDAG Corporate Sponsor**) specializing in **hydrogeology and engineering**, currently has opportunities in both our Mesa, Arizona and San Diego offices. We are currently looking to fill the following positions:



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Qualified candidates should send resumes, along with a cover letter summarizing experience and salary requirements to:

Hargis + Associates, Inc.
Attention: Kim Stransky
2365 Northside Drive, Suite C-100
San Diego, CA 92108

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\$10.36-\$12.48/HR

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The selected individual will be supervised by

California-registered geologists and/or civil engineers, and will perform engineering and geologic work applicable toward registration.

The student ideally will have some academic background pertaining to geology/civil and/or engineering geology/geotechnical engineering. In addition, familiarity with computer word processing programs, spreadsheets, databases, strong reading and reasoning skills are important considerations. Work experience in the Civil/Geotechnical engineering fields will also be considered. Interested individuals should contact Robert N. Hawk, Senior Engineering Geologist at 619-446-5288 or George Varshock at 619-446-5304. Resumes may be sent to:

Robert N. Hawk, PE
Senior Engineering Geologist
City of San Diego
Development Services
Land Development Review Division
1222 First Avenue, MS 502
San Diego, CA 92101-4155

or FAXED to the above at: 619-446-5499

Or emailed in .PDF or Word format to: rhawk@sandiego.gov

The selection process is ongoing. Resumes may be kept for subsequent open positions

San Diego Association of Geologists
c/o David M. Bloom
3728 Mt. Almagosa Place
San Diego, CA 92111