

CGS Monthly Meeting

Tuesday February 17, 2009

Please Note The New Meeting Location

“Active Tectonics Of The Camarillo Fold Belt: New Geochronology, Fault Slip Rate Estimates, And Topographic Analyses”

Presented by:

Duane DeVecchio

University of California, Santa Barbara

Abstract: The Camarillo fold Belt (CFB) in the western Transverse Ranges is composed of several active south-verging folds and reverse faults that pose a potential hazard to nearly one million people living in the cities of Ventura, Camarillo, Thousand Oaks, and Oxnard. We integrate geologic mapping, GIS-based topographic analyses, and optically stimulated luminescence (OSL) and radiocarbon dating to elucidate the relative timing of deformation on active faults, to develop a chronology of deformed surfaces, better constrain the age of the Saugus Formation, and to shed light on the landscape evolution in this part of the western

MEETING INFO: 3RD TUESDAY OF EVERY MONTH (DARK IN JULY & AUGUST)

POINSETTIA PAVILION

3451 Foothill Road Ventura, CA 93003

(See the MAP at the end of this Newsletter for directions.)

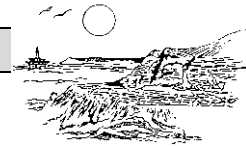
Reservation Deadline: 4:00 PM on WEDNESDAY before the meeting.

E-mail Reservations to: secretary@coastgeologicalsociety.org or visit the CGS website

*****Please specify your dinner choice:** Rice Pilaf; Choice of Bar-B-Q (no sauce on any meats-just grilled) Chicken, Tri-Tip Beef, or Pork Tenderloin; Choice of Mixed Green Salad or Caesar Salad; Garlic Bread (instead of plain bread)

Social Happy Hour - 6:00 p.m., Dinner - 7:00 p.m., Speaker – 8:00 p.m.

\$18 – With Reservation, \$25 - Without Reservation, \$ 10 - For Students and K-12 Teachers



Transverse Ranges. New mapping and age dating of the Saugus Formation exposed in the study area indicate locally that the strata are an order of magnitude younger than previously thought (~20ka vs. 200ka). This chronologic revision has significant implications for the timing and rates of deformation, as well as the seismic hazard in the study area. Additionally, new ages calls into question lithostratigraphic correlation of these regionally extensive strata for the purpose of assessing rates of active deformation in southern California.

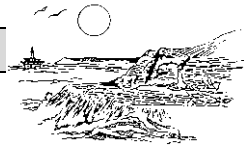
Late Quaternary transpressional deformation, in the CFB, is dominantly accommodated on the highly segmented east-west-striking Simi fault system. Where available, subsurface well data indicates that several of the Quaternary faults are reactivated high-angle (70-80°) Miocene transtensional faults. Where the age of deformed sediments is well-known, vertical uplift rates on several of the active folds are between 1.4 mm/yr - 1.6 mm/yr, which is 3-times greater than most previous estimates based on paleoseismic investigations. Fault segment boundaries locally contain orthogonal faults that act as tear-faults and appear to transfer strain between contractional fault segments. However, changes in the magnitude of deformation and structural relief, and distinct geomorphic changes across several of the segment boundaries suggest tear faults serve as a structural barrier to lateral growth of the folds and faults. These observations suggest north-striking cross faults may potentially constrain earthquake rupture length, thereby limiting the maximum seismic moment magnitude for a particular event. Late Quaternary structural domains in the CFB and within discrete fold complexes appear to young to the west and south with time. We estimate a maximum seismic moment magnitude $M_w = 6.9$ on the Simi fault system if the earthquake ruptured the entire length of the system, and maximum seismic moment magnitude $M_w = 6.7$, if the tear faults serve as a barrier to rupture propagation.

Biography: Duane DeVecchio is a PhD Candidate at the University of California, Santa Barbara and has a M.S. Degree from Idaho State University. His current interests are focused on the interplay between tectonic uplift and surface denudation, and the fluvial response to climate change. His current research involves GIS-based topographic analysis, Quaternary geochronology, and field mapping of youthful folds within the Transverse Ranges of California. He has also conducted extensive research on upper plate deformation and sedimentation in Miocene supra-detachment basins in SE Idaho and the central Mojave Desert.

RESERVATIONS: E-mail Secretary@coastgeologicalsociety.org or visit the CGS website by the Wednesday before the meeting at 4 pm. Please include name and menu choice for each person attending:

- a) Rice Pilaf
- b) Choice of Bar-B-Q (no sauce on any meats-just grilled) Chicken, Tri-Tip Beef, or Pork Tenderloin
- c) Choice of Mixed Green Salad or Caesar Salad
- d) Garlic Bread (instead of plain bread) (Tri Tip, Chicken, or Vegetarian Lasagna)

If you don't make a reservation, it's possible there will not be a meal available for you the day of the meeting.

**MARK YOUR CALENDAR:****• Upcoming CGS meeting:**

March 17, 2008:

Geology of Mars: Update from the Recent Missions

By Dr. William "Bruce" Banerdt, MER Project Scientist, Geophysics & Planetary Geosciences, Jet Propulsion Laboratory, Pasadena

April 21, 2008:

Climate Change in the Geologic Record

By Dr. David Lea, Professor, Dept of Earth Science, University of California, Santa Barbara

May 19, 2008:

Deepwater Clastic Reservoirs: Ventura Basin & Beyond

By Dr. Jon Schwalbach, Geologist, Aera Energy

June 16, 2008:

Engineering Geology of the St. Francis Dam Disaster, LA/Ventura County

By Dr. David Rogers, Professor, Missouri University of Science & Technology

UPCOMING EVENTS:**• THE 47th Annual VGMS Gem, Mineral, Lapidary, & Fossil Show**

The Ventura Gem and Mineral Society will host its 47th Annual Gem, Mineral, Lapidary, and Fossil Show on Sat., March 7, 2009 (10:00 AM to 5:00 PM) & Sun., March 8, 2009 (10:00 AM to 4:00 PM), at Seaside Park (Ventura County Fairgrounds) located at 10 W. Harbor Blvd., Ventura, California. Admission is free, and activities include demonstrations, door prizes, silent auctions, children's activities, and a "Country Store." For more information please contact the show chair Andy Anderson, (805) 987-0043, vgms_editor@roadrunner.com, or dealer chair Kathryn Davis, (805) 647-3096, or visit the society's website www.vgms.org.

• The 2009 Pacific Section AAPG Convention will be hosted by the Coast Geological Society May 3 - 7, 2009 at the Ventura Marriott. Tom Hopps will serve as the Convention Chairman and Gene Fritsche will be the Technical Chairman. More Information Coming Soon.**• 6-Day Grand Canyon Rafting Adventure with CLU Geology Professor Bill Bilodeau June 28 through July 4, 2009. Please see attached flyers for details and application.**

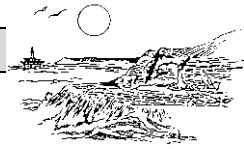
Grand Canyon Flyer 2009.doc



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• Upcoming Events at the California Oil Museum: See www.oilmuseum.net

CGS MEMBERSHIP: CGS membership is through Pacific Section AAPG. Be sure to select **Coast Geological Society** as your local affiliated society.



To join CGS, please go to: www.psaapg.org/member.html

CGS OFFICERS DIRECTORY:

President: **Dave Panaro**, Fox Canyon GMA, 805-654-2327, president@coastgeologicalsociety.org

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Treasurer: **Leni Field**, treasurer@coastgeologicalsociety.org

Secretary: **Stephanie Lapeyre-Montrose**, Stantec, 818-292-7035, secretary@coastgeologicalsociety.org

VOLUNTEER OPORTUNITY

1. Los Colinas Middle School is looking for volunteers for science night. Please see attached notice for more information.



Microsoft Office
Word Document

EMPLOYMENT

2. JMAR & Associates has a job opening for a Geophysicist. Please see attached flyer for more information.



Acrobat Document

3. DMI-EMK Environmental Services has a job opening for a full-time employee based out of their Ventura office. Please see attached flyer for more information.

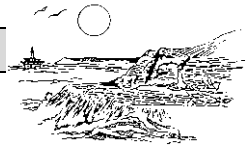


Staff-Project
Position.pdf

NOTICES

1. *No-Cost* Employment Announcements (Help Wanted & Job Wanted) are available on our website! Also, business card ads and employment ads available in the newsletter! Contact secretary@coastgeologicalsociety.org
2. If you forward the email notice to another party, cc: secretary@coastgeologicalsociety.org in the email, we will put your party on the monthly notification list. There is no cost to receive CGS email notifications.
3. Buy your raffle tickets! Money generated goes toward scholarships, field trips, etc., to promote the advancement of Geosciences. Check the CGS supported activities on our website (3 Tickets for \$1).
4. Always needed: **Sponsors for our meetings!** Sponsors get a beautiful colored banner hung at the meeting, and the opportunity to distribute their literature and introduce their businesses, as well as the satisfaction of having supported a great organization! Sponsorships are \$300 per meeting and may be shared between two individual sources. Contact vicepresident@coastgeologicalsociety.org for info.

MEETING PLACE: MAP AND DRIVING DIRECTIONS



Meetings are held at the Poinsettia Pavilion, 3451 Foothill Road, Ventura, CA 93003.
The website for the Poinsettia Pavilion is: www.poinsettiapavilion.com.

The location is off Hwy 101 at the South Seaward Exit, which turns into Foothill Road. Please see the map below for a more detailed view and directions.

