

# SAN DIEGO ASSOCIATION OF GEOLOGISTS

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## SDAG MEETING ANNOUNCEMENT

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Wednesday, June 14, 2017

**\*2nd Wednesday\***

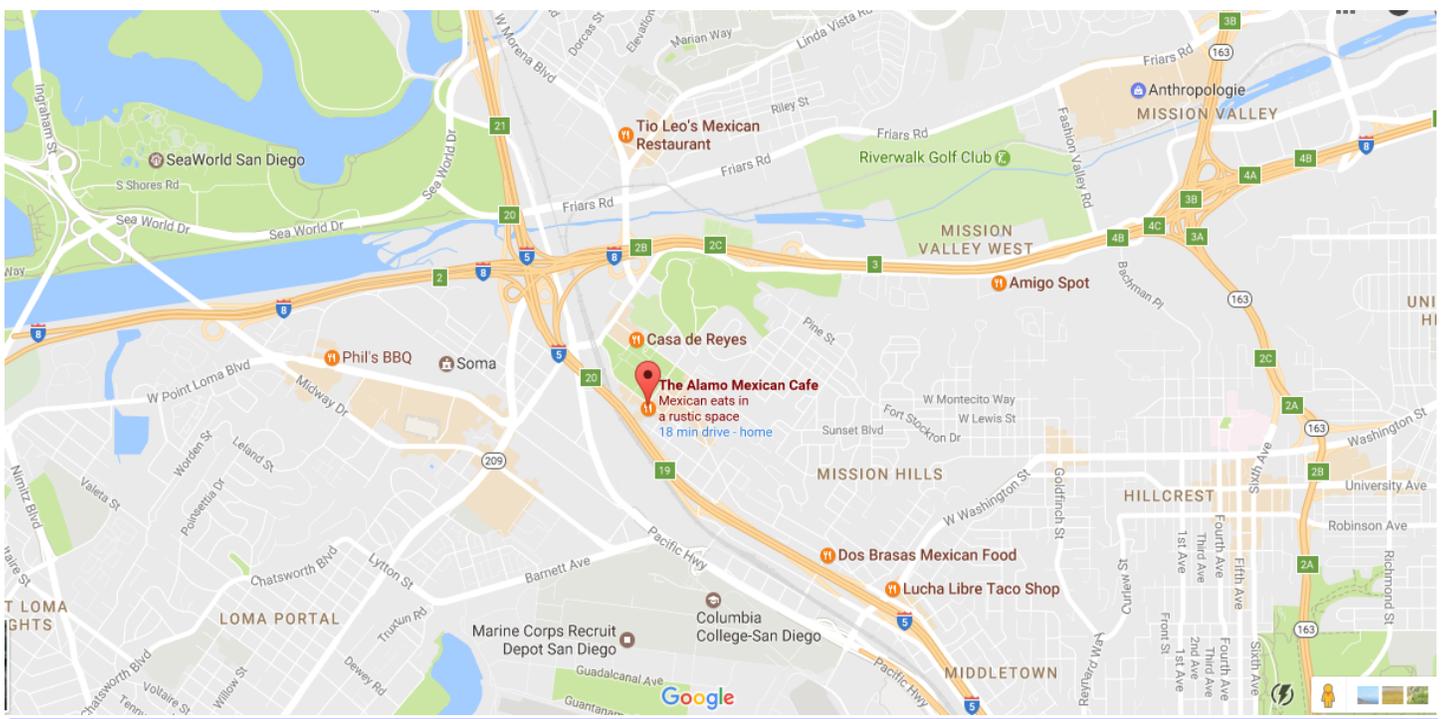
ISLA CORONADOS: THE CARBONATE MODEL AND  
DARWIN'S FIRST SCIENTIFIC STUDY

Presented by: **Jorge Ledesma**

- Where:** **The Alamo Mexican Cafe**  
2543 Congress Street, San Diego, CA 92110 (See Map)
- When:** 5:30 pm - Social Hour  
6:30 pm - Dinner  
7:30 pm - Program
- Dinner:** Mexican Buffett and Cash Bar
- Cost:** \$25 per person, \$5 discount for members, STUDENTS: \$15. Add \$5 if you did not make a reservation.
- Reservations:** Make your reservation online at [www.sandiegoeologists.org](http://www.sandiegoeologists.org) **no later than noon, Monday June 19th**. Reservations cannot be guaranteed after Monday at noon; but are always preferred over walk ins. **EARLY reservations well before the deadline are MUCH appreciated!**
- Directions:** FROM INTERSTATE 5: Take the Old Town Avenue exit. Proceed east on Old Town Avenue. Turn left on to San Diego Avenue and then left at the fork onto Congress Street. The restaurant is located approximately three blocks to the north on the left (west) side of the street.

FROM INTERSTATE 15 SOUTH: Take Highway 163 south to Mission Valley and then take Interstate 8 west. Take the Taylor Street/Hotel Circle exit and head west on Taylor Street. Turn left (south) onto Congress Street. The restaurant is located approximately three blocks to the south on the right (west) side of the street.

## Map:



## ABSTRACT

### ISLA CORONADOS: THE CARBONATE MODEL AND DARWIN'S FIRST SCIENTIFIC STUDY

The south side of the 700,000–160,000 year-old volcanic cone on Isla Coronados (Baja California Sur, Mexico) forms a shelf that converges on older Miocene andesite from the Comondú Group. Later Pleistocene carbonates accumulated on and around the antecedent topography as related by stratigraphic sections strategically located with respect to small andesite islets that formed a fixed barrier along the outer margin of a large lagoon at the foot of the volcano. Distinct facies show the progressive foundering on the island and the infilling of the lagoon about 121,000 years ago during events correlated with marine isotope substage 5e. On the seaward side of the barrier, a basal conglomerate of andesite boulders and cobbles grades into limestone with a diverse shelly fauna and whole rhodoliths in a matrix of rhodolith sand. Similar limestone is found on the lagoon side of the barrier, but features the bivalve *Pina corteziana* from a sheltered environment. Other facies are represented by populations of the coral *Porites panamensis* at different levels of growth and integration. Biocalcarenite derived from the debris of crushed rhodoliths occurs as the most extensive facies in terms of area and thickness. Sheeted layers that dip 20° off the top of the islets toward the volcano are regarded as washover deposits typical of barrier systems. A cobble pavement, interpreted as a ravinement surface, marks a widespread unconformity at the top of the biocalcarenite. This surface was the foundation for a short-lived rocky-shore biota in transition to dense growth of branching *P. panamensis*. The sequence ends with a thin marine terrace deposit that buried the coral thickets at the present 12 m. level.

Below an excerpt from the volume *Gulf of California Coastal Ecology: Insights from the Present and Patterns from the Past*. **Rhodolith Banks.** Some species of coralline red algae grow concentrically around a pebble or a shell fragment and remain unattached on the sea floor, adapting a free-rolling spherical or semi-spherical shape. Rhodolith (meaning “red stone”) is the name applied to this sort of biological concretion. In life, rhodoliths are dark red to rose colored. Vast banks of rhodoliths accumulate throughout the Gulf of California in water as shallow as about 2 m. A good example of a rhodolith bank is found between Isla Coronados and the peninsular mainland at Punta Bajo, in this case dominated largely by a single species (*Lithothamnion margaritae*). Major storms sometimes sweep a multitude of rhodoliths onto the shore to be stranded in a supra-tidal setting, where they quickly bleach under the sun and expire. Individual rhodolith colonies are typically 5 cm in diameter, although the largest exceed 20 cm in diameter as shown by samples from Punta Bajo. Fossil rhodoliths commonly contribute to the fabric of Pleistocene and Pliocene limestone deposits throughout the Gulf of California. **Sandy Beaches and Coastal Dunes.** The tides and waves that sweep clam-flats and rhodolith banks are the means by which biological carbonates are shifted landward to become a significant component of beaches. Furthermore, prevailing winter winds are capable of causing beach deflation by which the finer fraction of beach sand is blown inland to make coastal dunes. The popular camping place at El Requesón south of Mulegé in Bahía Concepción features a beach and tombolo that connects the mainland to Isla Requesón at low tide. Healthy rhodolith banks are located off the north and south ends of Isla Requesón and the beach is dominated approximately 80% by the debris of wave-crushed rhodoliths. Beaches and related dunes can be enriched by the finely fragmented debris of clams and other mollusks, as found in Isla del Carmen.

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## BIO

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Jorge Ledesma-Vázquez taught undergraduate and graduate courses in oceanography, and coastal sedimentology as a member of the Facultad de Ciencias Marinas (Area of Geology) in Ensenada over a 36-year career becoming an Emeritus Professor in 2014. He earned a degree in engineering geology from the Instituto Politécnico Nacional (IPN) in Mexico City in 1977, a Master from San Diego State University in 1991 with the support of Dr. Patrick Abott, and a PhD from the Universidad Autónoma de Baja California in 2000. He holds the national distinction of Investigador Nacional in Mexico, a rating associated with high performance by federal research agencies. His earliest visit to Baja California occurred in 1975 as part of a field trip with classmates from IPN, for which he obtained funding through a personal appeal to the president of Mexico. He has co-lead many research expeditions and field courses involving professionals and students from SDSU, UCLA, UABC, Williams College, UNAM and many other institutions. Since 1985 he has been consulting as part of different companies such as Pelagos Co., Dames and More/Fugro, and John Minch and Associates. Workshops for Mexican agencies such as Comisión Federal de Electricidad (CFE) Geothermal branch. More recently, he has participated in field studies in the Cape Verde, Canary, and Madeira archipelagos that share some similarities with geological processes with the Gulf of California islands. Recently he has been collaborating with the Instituto Nacional de Antropología e Historia in several archeological sites in Baja, as well as with Natural Protected Areas. Such as Parque Nacional Bahía de Loreto. With several published volumes, the jewel of the crown is *Gulf of California Coastal Ecology: Insights from the Present and Patterns from the Past*, published in 2016 by Sunbelt Publications.

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## UPCOMING MEETINGS

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Meetings are usually held on the 3rd Wednesday of the month but may change to accommodate the speaker and meeting place schedules. Check the SDAG web site for updates.

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|-----------------------------------|--|
| July 19 ,2017                     | Joint Meeting with South Coast and AEG<br>Investigations in the Hollywood AP Fault Zone—Michael Reader |
| August 9, 2017<br>*2nd Wednesday* | Timu Gallien and Ron Flick<br>(Joint Meeting with Society of Military Engineers)                       |
| September 20, 2017                | TBD  |

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## 2017 SDAG EXECUTIVE COMMITTEE

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## ***SDAG PRESIDENT'S CORNER***

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### **Presidents Corner, June 2017**

Greetings SDAG members!

Thank you to everyone who attended the May meeting, which was SDAGs first meeting in the Geocon 'Presentation Lounge'. For future SDAG presidents, the venue will always be available for SDAG use, so hopefully the May meeting was the first of many meetings there. I had seating for 57 based on signups, but I think we can easily accommodate 70-80 people if needed, with room to spare. Also, we have taken steps to resolve the 'pointer' issue, swapping the stick (!) for a green laser pointer, which apparently works much better than a red laser on LCD TV screens.

For June, we are going out of town again for our speaker. This time, Jorge Ledesma, Emeritus Professor from UABC and contributor to last year's Baja fieldtrip guidebook, is taking the time to drive up from Ensenada to talk to us. To minimize his drive, we are returning to another favorite venue, the Alamo Cafe in Old Town. I would advise some additional time for parking, as it can be difficult in that area.

For the prime summer months, we have two joint meetings to look forward to. Our usual South Coast joint meeting this year is in July, which also includes members from the Los Angeles chapter of AEG. Michael Reader, the CEO of Group Delta, has kindly agreed to present his company's recent work on the Hollywood Fault Zone for the Millennium Development which should be excellent. For August, we are trying something new, a joint meeting with the San Diego chapter of the Society of American Military Engineers (SAME). Our tentative speaker is Assistant Professor Timu Gallien, from UCLA and Scripps Institute of Oceanography, who will be discussing the effects of sea level rise on coastal infrastructure. The speaker schedule as we transition into late summer and early fall is a little more fluid, so stay tuned for updates.

As always, please feel free to contact me at [adams@geoconinc.com](mailto:adams@geoconinc.com) if you have questions, suggestions etc. regarding all matters SDAG related. I look forward to seeing everyone again on the 14th at the Alamo Café in Old Town!

Regards,



**Rupert Adams PG, CEG** | *Sr. Project Geologist/SDAG President*

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# ANNOUNCEMENTS

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## SDAG Fall 2017 Fieldtrip October 14th and 15th 2017. Optional Night on the 13th.

The 2017 SDAG field trip is fast approaching! The trip dates are October 14th and 15th (with an optional night of the 13th). This is a last call for ideas and papers before the trip is petrified. Please submit your ideas, comments, and papers by June 15th to [liveseychris@yahoo.com](mailto:liveseychris@yahoo.com). Once the trip is finalized, redirecting for a potential stop becomes more difficult. I am reluctant to dilute too much before we all have a chance to provide input, however, thus far expect a couple short, but moderate hikes along with a couple visits to old mines.

-Chris Livesey (SDAG Vice President)

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## Geological Society of America Annual Meeting

<https://www.geosociety.org/>

### 2017

Abstract Deadline: August 1, 2017

Early Registration Deadline: August 18, 2017

Meeting Dates: September 22-25, 2017 in Seattle, Washington

### 2018

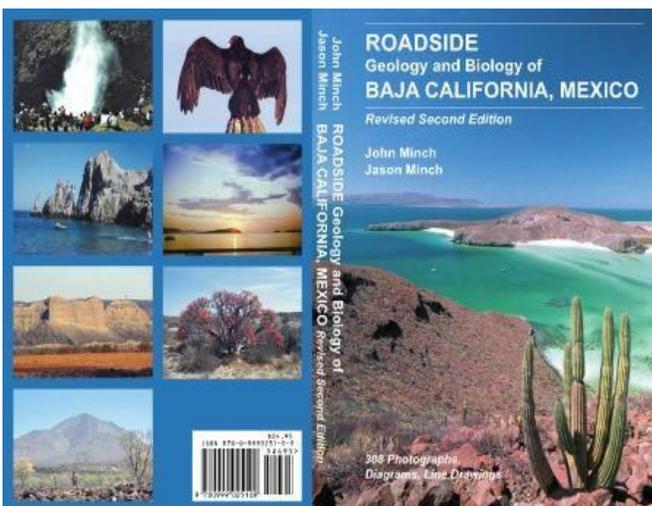
Field Trip Submission Deadline: December 1, 2017

Session and Short Courses Deadline: February 1, 2018

Abstract Deadline: August 14, 2018

Meeting Dates: November 4-7, 2018 in Indianapolis, Indiana

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The 2nd edition of Roadside Geology and Biology of Baja California will be available at the June 14<sup>th</sup> SDAG meeting, Completely updated and revised. Over 300 color photos, sketches, and drawings, 6x9, full color, 288 pages. List Price \$25. Introductory meeting price: \$20 cash, or \$22 check made out to “John Minch Publishing”.

## JOB OPPORTUNITY

*de maximis, inc.*, a nationwide firm specializing in **project coordination**, currently has opportunities in Southern California. We are currently looking to fill the following position:

**Project Manager**: Candidate would have a B.S. Degree in Geology, Biology, Chemistry, or Engineering (Mechanical, Chemical or Civil). Professional Registration or ability to obtain within two years, and Masters degree is a plus. Candidate should have 5 to 10 years relevant experience in the environmental consulting industry and familiarity with local regulatory agencies, RWQCB, DTSC and EPA and guidelines especially CER-CLA and the NCP. Familiarity with chlorinated solvents, such as TCE is a plus.

Candidate needs to have demonstrated site investigation/remediation knowledge. Working knowledge of groundwater monitoring, treatment system design, construction or operation including systems such as Air Stripping, SVE, DPE, LGAC, and VGAC are a plus. Additional skills include work plan and report preparation, task management, cost estimating and scheduling experience. The candidate should be detail oriented and have excellent verbal and written communication skills. Position will be based in Southern California (preferably Orange or Los Angeles County but San Diego County is acceptable) and will require some travel. OSHA 40-hour training and valid California driver's license required.

*de maximis, inc.* offers competitive salaries and benefits, and a challenging work atmosphere. To learn more visit our website at: [www.demaximis.com](http://www.demaximis.com).

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

*de maximis, inc.*

Attention: Mike Palmer

1322 Scott St, Suite 104

San Diego, CA 92106

[mpalmer@demaximis.com](mailto:mpalmer@demaximis.com)

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## **Interactive Fault Map for San Diego**

As part of the update for the San Diego-Tijuana Earthquake Planning Scenario, Working Group No. 1's "Fault Map Subcommittee" has completed the first publicly available bi-national active and potentially active fault map. This interactive GIS map includes the first publicly available active and potentially active fault map locations from the City of San Diego. The City of San Diego fault locations and activity of faults are based chiefly on interpretation of information contained in geologic reports by private consultants. The City of San Diego identifies active faults as Holocene ( $\leq 11,000$ yr) and potentially active as Quaternary (up to 1.6my). City of San Diego fault investigations are ongoing that may require future revision of this map. This map is not a substitute for a site specific fault investigation. The map also includes an updated fault map layer from the State CGS. CGS suggests users defer to the City of San Diego fault data, where marked, for increased accuracy. The map also integrated the faults south of the border for a bi-national cross border view. You can expand the map legend on the left side to see the fault ages and sources for each layer that can be turned on or off for the map view. You can select from 1 of 12 base maps. You can click on the fault line on the map to see the meta-data source. This map includes the yellow dashed SURFACE FAULT RUPTURE location layer that will be used for the infrastructure, social, and economic impacts and emergency response for the update to the Earthquake Scenario. In addition, active and potentially active fault investigation locations from private companies are planned to be added to this map as a resource. This map is an on-going project and resource as our knowledge increases about local active and potentially active faults.

The link is available at: [http://www.sandiegogeologists.org/Faults\\_map.html](http://www.sandiegogeologists.org/Faults_map.html)

I would like to thank Carolyn Glockhoff for her endless GIS work, Jim Quinn and the City for providing their data and time, Jerry Treiman with CGS for his time preparing the Surface Rupture and providing their new State fault data layer, and Luis Mendoza at CICESE for providing the faults south of the border. Please contact Diane Murbach ([dianemurbach@gmail.com](mailto:dianemurbach@gmail.com)), Chair for the SD-TJ Earthquake Scenario Working Group #1 - Earth Science, if you have any questions, or see any errors on this new fault map.

**Diane Murbach** (619) 865-4333

Engineering Geologist, C.E.G.

[www.murbachgeotech.com](http://www.murbachgeotech.com)

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## ***CALL FOR ARTICLES***

SDAG invites members to submit articles on their current research or an interesting project they are working on for publication in the monthly newsletter. The article should be no more than 1 page in length. Photos are welcomed; too. Please submit articles to the SDAG secretary via email.

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## ***PHOTO OF THE MONTH***



I thought it interesting to add a picture of the very recent landslide along Highway 1 in Big Sur as our 2016 Field Trip centered around landslides. They anticipate work to take up to a year to repair. They are unsure whether they will go over, under or through to create access once again.

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## ***SDAG RESEARCH TOOL***

**SDAG RESEARCH TOOL** - A comprehensive listing of all papers published by SDAG, whether as annual field trip guidebooks or special publications, is now available on our website. Entries are sorted by primary author, or chronologically by date of publication, from our first guidebook in 1972, up the San Luis Rey River in 2013, from Coast to Cactus in 2014, and finally over the edge to the Coyote Mountains in 2015. These can be accessed or downloaded as .pdf files. They are fully searchable in Adobe Reader or Acrobat, so if you are researching a topic, "tsunami" for example, you can search for that keyword. This listing will be updated as new books are published. Thanks to Greg Peterson and Hargis + Associates, Inc., for making this possible. See the links below:

[http://www.sandiegoeologists.org/SDAG\\_Pubs\\_authors.pdf](http://www.sandiegoeologists.org/SDAG_Pubs_authors.pdf)

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