

# SDAG

JUNE 2023

## PRESIDENT'S CORNER

Hello SDAG Members!

I hope you are all happy and healthy!

A very big thank you to everyone who came and had dinner on an airfield with us! An especially big thanks to Don Barrie who gave a wonderfully rich presentation that surely got everyone excited for the Iceland trip later this year.

This month is the annual joint meeting with SCGS and we are very excited to welcome Jillian Maloney to the SDAG stage!

Her talk is titled: "High-Resolution Geophysical Mapping Offshore Southern California Reveals Active Faulting and Repeated Landslides".

Jillian is an associate professor of geological sciences at San Diego State University. She earned her PhD from Scripps Institution of Oceanography and has a background in marine geology. She is also my grad school advisor and a wonderful person!

Please do not forget to register early!

Also, please fill out and send in your membership forms if you haven't already (and sponsorship forms, too)!

Cheers,  
Luke Weidman  
President, 2023



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# SDAG

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## MEETING ANNOUNCEMENT



## SDAG & SCGS ANNUAL JOINT MEETING



Unfortunately, AMTRAK service is not available in this area due to a [landslide](#). (Oddly coincidental, given this month's topic)  
Pls let us know if you are interested in Carpooling.



**EL ADOBE DE CAPISTRANO**  
31891 Camino Capistrano,  
San Juan Capistrano, CA 92675

**Wednesday June 21**

- 6:00 pm Happy Hour
- 7:00 pm Dinner
- 8:00 pm Program/Questions
- 9:30 pm Meeting Adjourns

**REGISTER**

\$65 Members    \$70 Non-members  
\$40 Students

**DEADLINE: TUESDAY 6/20 - 12 PM**

**PLEASE NOTE: ONLY ONE  
REGISTRATION IS NECESSARY ( SDAG  
or SCGS)**

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A topographic map of a mountainous region, colored in shades of green, blue, and purple, showing elevation contours and terrain features.

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**SPEAKER:**

Jillian Maloney, Ph.D.

Associate Professor

Undergraduate Advisor

Geological Sciences - SDSU

**BIOGRAPHY:**

Jillian Maloney is an associate professor of geological sciences at San Diego State University. She earned her PhD from Scripps Institution of Oceanography and has a background in marine geology. Jillian currently advises PhD, Masters, and undergraduate student research projects. Scientists in her lab seek to understand tectonics and sediment processes on and beneath the seafloor and in coastal areas. They study submarine earthquakes and landslides, which can present hazards to human life and infrastructure. They are also interested in the geologic aspects of ecosystems and how geology can impact habitats, which is important for ecosystem risk assessment and preservation. The group's overarching goal is to better understand the earth to increase human protection from natural hazards and benefit from natural resources.



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## TITLE:

High-resolution geophysical mapping offshore southern California reveals active faulting and repeated landslides

## ABSTRACT:

The Southern California region and its offshore component, known as the California Continental Borderland (CCB), represent a significant part of the diffuse, transform Pacific-North America plate boundary (~500 km wide), accommodating ~50 mm/yr of strain between the Pacific and N. American Plates. How and where these 50 mm/yr of strain are accommodated across this diffuse boundary is an active field of research, but ~20% is estimated to occur on offshore fault systems. Relative to onshore faults, these offshore faults are relatively understudied, and little is known about their slip rates, earthquake history, and potential hazards to coastal communities. Recent high-resolution geophysical surveys have imaged CCB faults at an unprecedented resolution that allows for detailed mapping and the potential for reconstructing earthquake history. Examples from two regions of the CCB will be presented. Fault mapping beneath San Diego Bay imaged active faults that suggest a complex step-over geometry across the bay with implications for earthquake rupture propagation. Further offshore, in the Outer CCB, active faults were imaged across the Cortes and Valero basins. Additionally, multiple landslides were imaged that may have been triggered by earthquakes on these faults. Subbottom data was tied to ODP drill site 1012 in Cortes Basin to provide age constraints on the landslides, with basin-scale slides occurring at ~120 ka and ~340 ka. Future work will include mapping and dating of additional landslides in the outer basins, and comparison to landslide records in other Outer CCB basins. A better understanding of offshore earthquakes and landslides will ultimately improve hazard assessments for coastal southern California.

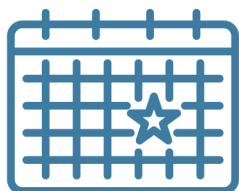


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*Mark your Calendar!*



Our **NEXT MEETING** will be **JULY 19th**.

On this meeting, our guests will be our Student Scholarship Winners who will be sharing their projects with us.

## *Executive Committee*

**PRESIDENT:** Luke Weidman.

lcweidman@gmail.com

**VICE-PRESIDENT:** John Teasley

jtea@cox.net

**SECRETARY:** Mariana Aguilar

petishu@gmail.com

**TREASURER:** Neil Seitz

neilseitz@hotmail.com

*Call for Photos*

Any recent field tips or exciting outings?

**SHOW OFF YOUR PICTURES!**

Please Submit to: [petishu@gmail.com](mailto:petishu@gmail.com)

**PLEASE SEND YOUR PHOTOS! SHARE YOUR ADVENTURES!**

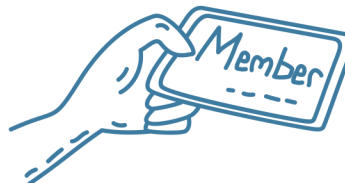


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## 2023 MEMBERSHIPS



PLEASE RENEW YOUR MEMBERSHIPS!

We ask that you take the time to renew your membership for 2023 and if you have not renewed it in a while, this is a great time to resume!

We have made it even easier for you to renew! - now you can fill the form on our website and submit payment electronically! So, if you are anything like me (hardly ever make it to the mailbox) this just makes it so convenient!

If you prefer to renew with a check, there are 2 ways:

1. We will have forms at the check in table at our next meeting.
2. You can download the form using the link below and mail it or bring it to the meeting.

Your membership dues help fund scholarships, publications and, on occasion, cover some of the cost of the meetings. Your contributions are so important to us!

PLEASE RENEW.

**ELECTRONIC MEMBERSHIP RENEWAL**

[Sign Up](#)

**DOWNLOAD PDF FORM**



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# SDAG

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## Research Tool

A comprehensive listing of all papers published by SDAG, whether as annual field trip guidebooks or special publications, is available on our website.

Entries are sorted by primary author, or chronologically by date of publication, starting with our first guidebook in 1972 to Southeast San Diego, as far out as Calico and the Mojave Desert in 2018, and finally up to San Diego's Back Country in 2022-23.

The papers can be accessed or downloaded as .pdf files. They are fully searchable in Adobe Reader or Acrobat, so if you are researching a topic, "oikocryst" for example, you can search for that keyword. This listing will be updated as new books are published. Thanks to Greg Cranham and Hargis + Associates, Inc., for making this possible. See the links below:

[SEARCH BY AUTHOR](#)

[SEARCH CHRONOLOGICALLY](#)

## 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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# SDAG

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## ***SDAG PUBLICATIONS***



We many wonderful publications available for sale!

Please visit the **SDAG WEBSITE** for more details.

## *Sponsorships*

San Diego Geological Society, Inc. (SDGS), is a public benefit 501(c)3 nonprofit educational corporation. You donations are tax deductible.

Your Sponsorship will include a complimentary SDAG membership, and delivery of the monthly SDAG newsletter and announcements to the email address given.

Your donation will further the SDGS mission to promote geology and related fields in the greater San Diego region, operating through the San Diego Association of Geologists (SDAG), a committee of SDGS. To achieve our primary educational objective, we organize frequent field trips and maintain a program of monthly meetings featuring speakers on current geological topics. We also publish field trip guidebooks and other publications related to geology and natural history. We encourage scholarship and research by awarding scholarships from the elementary through graduate levels.



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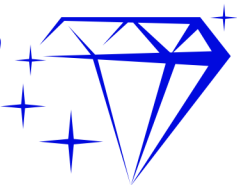


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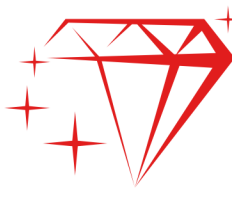


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Dr. Pat Abbott - SDSU Prof. of Geology, Emeritus

Sherry & Marty Bloom

Coyle Browne, PLC.

Dr. Vic Camp

Larry Cann

Joe Corones

Greg Cranham - Consulting Geologist

Dawson & Rosenthal, P.C.

Doan Law Firm

Dr. Margaret R. Eggers, CHG - Eggers Environmental, Inc.

Estey & Bomberger, LLP

Phil Farquharson - Geology Guy

Eldon Gath - Earth Consultants International

Geotechnical Exploration, Inc.

Carolyn Glockhoff - Caro-Lion Enterprises

Cari Gomes - Pinao Consulting

Rob Hawk

Stan Helenschmidt - Helenschmidt Geotechnical, Inc.

Kip Hering

HKM Employment Attorneys

Mark Holt - Discovering Lost America



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- Inspection Support Network
- Tom Lamb
- Lowell E. Lindsay and Diana Lindsay - Sunbelt Publications
- Chris Livesey - Geo Tek
- Dr. Monte Marshall - SDSU Prof. of Geology and Geophysics, Emeritus
- Monte and Diane Murbach - Murbach Geotech
- Mutual Mortgage
- Tod Clark - Pacific Drilling Co.
- Porch Group
- Les Reed - Geotechnical Exploration Inc.
- Gerald Shiller
- Scott Snyder - Snyder Geologic
- David and Jan Steller
- Dr. Anne Sturz
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