

# SAN DIEGO ASSOCIATION OF GEOLOGISTS

http://www.sandiegogeologists.org

SDAG MEETING ANNOUNCEMENT

Wednesday, February 21, 2018 \*3<sup>rd</sup> Wednesday\* <u>Photographing The 2017 Great American Eclipse</u> Presented by: *Chuck Houser, CHg* 

Where:Geocon, Inc. – Upstairs Lounge6960 Flanders Drive, San Diego, CA 92121 (See Map)

When:5:30 pm – Social Hour6:30 pm – Dinner

7:30 pm – Program

Dinner:Mexican Buffet – Tacos and Typical Mexican Fare<br/>Cash Bar (Walawender Tavern)\*Geocon will be checking all student ID's. No alcohol can be served<br/>Anyone under the age of 21\*

- Cost:\$30 Member, \$35 Non-Member, \$15 Students.Add \$5 if you did not make a reservation.
- **Reservations:** Make your reservation <u>online</u> at <u>www.sandiegogeologists.org/meetings</u> no later than noon, Monday, February 19<sup>th</sup>. 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 805: Take the Mira Mesa Blvd (Exit 27) exit. Head east on Mira Mesa Blvd for roughly 2 miles. Turn right onto Flanders Drive and Geocon will be on your left in about 0.4 miles.

<u>FROM INTERSTATE 15:</u> Take the Mira Mesa Blvd (Exit 16) exit. Head west on Mira Mesa Blvd for roughly 3.3 miles. Turn left on Camino Santa Fe and then turn right on Flanders Drive. Geocon will be on your right in about 0.2 miles.

#### Map:





### ABSTRACT

The "Great American Eclipse" of August 2017 was the first time since 1991 a total solar eclipse was visible in the United States, and the 1991 eclipse was visible only in Hawaii! A total solar eclipse is not so much about the roughly 3 hours from start of the eclipse to finish, it IS about the 2 to 6 minutes of Totality, that time during which you don't need solar filters and you can see the suns corona, solar flares, and stars and planets in an effectively night sky condition. Did I mention that totality is only a few minutes? The talk is really about the process of preparing for and photographing the eclipse in several different ways: 800 mm and 500 mm photos of the eclipse during both partial and total phases, wide angle photos during totality, and obtaining a 360 degree panorama during totality where it looks like "sunset" in every direction. The presentation starts out with some of my photography background to the point that the eclipse, in particular our 1 minute and 53 seconds of totality (as viewed from Payette, Idaho), didn't afford the opportunity to "work out" exposures while we were photographing it, so a lot of preparation and practice was needed so when the sky went dark, we weren't still trying to figure stuff out. I will then show a series of photos that show the eclipse from start to totality. Next I go through the process and show the pictures during totality, and then a quick run through the pictures after totality to the end. The presentation includes a series of about 30 photos during totality

showing the corona and solar flares, including one solar flare that appears to lengthen as the moon moves across the sun. So in this presentation, you will see pictures taken about every 5 minutes during the partial phases, and every 5 seconds during totality. You'll see "first bite," sunspots, the sun's corona, solar flares, oh and also the "operating base" and some of the science nerds gathered together during this wonderful event. The last couple of slides look forward to the next total eclipse, April 2024, so for an enthusiast, this presentation could even be used as a "grocery list" for preparing to photograph the 2024 eclipse (Texas to Maine). I plan to have the cameras I used at the talk, including the equatorial mount tripod and clock drive that supported my main camera during the eclipse.

# SPEAKER BIO

Chuck Houser has always been into various sciences (oceanography, astronomy, and of course geology). After a photography class in Jr. High School, he had an interest in photography, in particular photographing interesting and challenging things like lightning, comets, and meteor showers. As an amateur photographer, the opportunity to photograph a total solar eclipse was more than Chuck could resist. Much preparation and practice went into preparing for the "Eclipse Hunt," as he hopes this talk will chronicle.

In his spare time Mr. Houser a hydrogeologist and project manager with SCS Engineers. When not working or capturing beautiful natural events on camera, Chuck and his wife Cindy spend time trying to keep up with their daughters Julianna and Jennifer.

# **UPCOMING MEETINGS**

Meetings are usually held on the 3<sup>ra</sup> Wednesday of the month may change to accommodate the speaker and meeting place schedules. Check the SDAG website for updates

March 21, 2018	Pat Abbott
April 18, 2018	TBD
May 16, 2018	Monte Marshall

# 2018 SDAG EXECUTIVE COMMITTEE

PRESIDENT:	Chris Livesey; liveseychris@yahoo.com
VICE PRESIDENT:	Ken Haase; <u>haase@geoconinc.com</u>
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# SDAG PRESIDENT'S CORNER

February 2018,

We have now stepped through the door of January; looking back, we awarded the remaining scholarship awards, enjoyed a noteworthy rainstorm, a 7.9 magnitude earthquake shake the Gulf of Alaska, and a great One Stop Wonder coordinate by Rob Hawk.

February will be an interesting month; it will be a month without a full moon. On February 1<sup>st</sup> and 28<sup>th</sup> you might say "Rubbish. The moon looks full to me." Awe, but wait, the moon might look full, but it will lack 1-3% for full illumination!

Looking at the forecasted weather for the initial 42% of February, I boldly decree that 2017/2018 shall be known as the year without a winter for San Diego, California. I really hope to be wrong, but maybe I only need to lounge on the warm winter sands to enjoy the SoCal weather and retract my statement.

For this month's meeting we will entertain the celestial objects in the sky. Many have witnessed the Great American Eclipse, but few understand the technical details associated with taking a quality photo. I myself have returned from the field and reviewed photos taken to document critical geologic features, only to be disappointed at the result. Photography is an art that requires a multitude of variables that can arguably be branded a science. I look forward to seeing you at our February meeting when Chuck Houser presenting on Photographing the 2017 Great American Eclipse.

Sincerely,

Chris Livesey

# ANNOUNCEMENTS

#### ASCE San Diego Geo-Institute March Meeting

The ASCE San Diego Geo-Institute chapter is hosting HollyNichols for their March 13, 2018 meeting. She will be discussing the "Oroville Dam-Geology and Why it Matters." More details will follow once the meeting has been finalized.



## 2018 SDAG Field Trip Preliminary Information

We are always looking ahead to next year's field trip. Ken Haase will be leading the expedition. Our area of focus will be the **San Andreas Fault, Rainbow Basin, and Calico Mountain area.** Our target dates are middle to late October of 2018.

We are looking for anyone who has knowledge or interest in those areas to assist in developing part of a program to lead the trip. Send in your ideas, papers, and opinions to Ken Haase at <u>haase@geoconinc.com</u>.

#### ASCE – San Diego Section February 27<sup>th</sup> Meeting – Dr. Lucy Jones, USGS



#### 2/27/18 LIFE SAFETY IN THE CITY THERE'S MORE TO LIFE THAN NOT BEING CRUSHED

The Resilience by Design program adopted by Los Angeles to address earthquake vulnerabilities brought together the earth science, earthquake engineering and public policy professions and worked with hundreds of community organizations to get approval for sweeping seismic resilience legislation. Since their inception, building codes have been based on a principle that safety is the only valid concern of government. If an owner chooses to build a building that is a total financial loss, that is his prerogative but he cannot kill someone in the process. A key factor is that building codes consider buildings in isolation with impacts only on their owners and tenants. But the reality of a major earthquake is that the failure of a building impacts the whole community through economic disruption, population decreases, and cascading failures of engineered and social systems. This talk will explore a conceptual framework for creating a building code that reflects the realities of earthquake losses and the social dynamics of shared economic deciHANDLERY HOTEL 950 Hotel Circle North San Diego, CA 92108 1130am-1pm

> SPEAKER: LUCY JONES, USGS Retired



Dr. Lucy Jones is the founder and chief scientist of the Dr. Lucy Jones Center for Science and Society. With a Bachelor of Arts in Chinese Language and Literature from Brown University and a Ph.D. in Geophysics from MIT, Dr. Jones has been active in earthquake research for decades, including 33 years of federal service with the US Geological Survey. Her work at the USGS included leading the creation of a national science strategy for natural hazards research, creating the first American major earthquake drill, the Great ShakeOut, that has expanded to now encompass 43 million participants around the world in 2015 and writing over 100 published papers on statistical seismology and integrated disaster scenarios.

TO REGISTER, PLEASE GO TO http://sections.asce.org/sandiego/home

# UCSD / CalGeo – 2018 Lecture Series, February 18<sup>th</sup> Meeting – Dr. Thomas D. O'Rourke, Cornell University



http://calgeo.ucsd.edu/ UCSD CalGeo 2018 Lecture Series



Monday, February 19<sup>th</sup> 2018 5:30 pm – 8:00 pm, GEOCON Incorporated, 6960 Flanders Drive, San Diego, CA 92121 Lecture will be preceded by dinner reception sponsored by GEOCON (http://www.geoconinc.com/) Please RSVP @ http://goo.gl/forms/wjZqNvXvFpGAt4et2



Professor Thomas D. O'Rourke Cornell University Thomas R. Briggs Professor of Engineering

#### "Lessons Learned from Extreme Events for Infrastructure Resilience and Sustainability"

Abstract Key lessons from the Tohoku earthquake and tsunami, Canterbury Earthquake Sequence, and Hurricanes Katrina and Sandy, as well as recent hurricane experiences in Texas, Florida, and the Caribbean are discussed with respect to infrastructure resilience and sustainability. Measures being taken in Los Angeles and San Francisco to build resilient water supplies are addressed, including the development of next generation hazard resilient underground infrastructure. The technical, institutional, and social challenges of introducing new technologies and engaging community support are examined, and a strategy for improving infrastructure resilience through smart technologies and policies is proposed.

Biography Tom O'Rourke is the Thomas R. Briggs Professor of Engineering in the School of Civil and Environmental Engineering at Cornell University. He is a member of the US National Academy of Engineering, Distinguished Member of ASCE, International Fellow of the Royal Academy of Engineering, Member of the Mexican Academy of Engineering, and a Fellow of the American Association for the Advancement of Science. He received a number of distinctions for his research and teaching, including the Stephen D. Bechtel Pipeline Engineering and Ralph B. Peck Awards from ASCE. He gave the 2009 Rankine and 2016 Terzaghi Lectures. He served as President of the Earthquake Engineering Research Institute (EERI) and as the chair or member of many professional society committees. He received the George W. Housner Medal from EERI in 2016. He authored or co-authored over 380 technical publications. His research interests cover geotechnical engineering, earthquake engineering, underground construction technologies, engineering for large, geographically distributed systems, and geographic information technologies and database management. He served as an advisor on more than 120 projects in 13 different countries, including United States, United Kingdom, Angola, Canada, Ecuador, France, Mozambique, New Zealand, Nigeria, Russia, Trinidad, Turkey, and Venezuela. He testified before the U.S. House of Representatives Science Committee on numerous occasions. He served on government advisory boards, as well as the consulting boards or peer reviews for many projects associated with highway, rapid transit, water supply, and energy distribution systems.

E-mail Contact: Calgeo@ucsd.edu

### **Geological Society of America Annual Meeting**

www.geosociety.org

#### 2018

Field Trip Proposal Deadline: December 1, 2017

Technical Session/Short Course Proposal Deadline: February 1, 2018

### Abstract Deadline: August 14, 2018

Meeting: November 4<sup>th</sup> to 7<sup>th</sup> 2018, Indianapolis, Indiana

# 52<sup>nd</sup> AESE Annual Meeting – Niagara Falls, New York

September 26<sup>th</sup> to 29<sup>th</sup> 2018

Mark your calendars! The 52nd annual meeting of the Association of Earth Science Editors will take place in Niagara Falls, New York, September 26 to 29, 2018.

AESE's meetings generally consist of 2 days of technical sessions and a 1-day field trip. Please join us for a fun-filled and educational experience September 2018. Meeting headquarters will be the Conference and Event Center Niagara Falls. The meeting hotel will be the Sheraton at the Falls, on Third Street, where a block of rooms has been set aside for attendees, at a nightly rate of US\$139 (\$129 for room + \$10 facility fee).

Niagara Falls has been a prime tourist destination since the mid-19<sup>th</sup> century. People come from around the world to see just the falls, themselves. But there is so much more to explore on both the American and Canadian sides of the falls, from world class wineries, Niagara Falls State Park (providing close access to the American and Bridal Veil falls), Niagara Gorge hiking trails, and art galleries to the Schoellkopf Power

Plant museum (providing easy access to the bottom of the gorge), Niagara rapids jet boat tours, Old Fort Niagara, Niagara-on-the-Lake and more....so remember to bring your passports if you wish to take in all that the area has to offer!

The meeting is open to anyone interested in earth science editing, publishing and outreach. The program is in the initial planning stage. Watch for meeting updates on AESE's web page <u>www.aese.org</u>. A closed Facebook group has been set up to share information https://www.facebook.com/groups/123266368358780/. For more information, please contact host chair, Marg Rutka, marg.rutka@ontario.ca, and technical program chair, Phil Farquharson philfarg@gmail.com.

### Yonder Dynamics – UC San Diego Student Robotics Organization



Allison Kubo is the Science lead for Yonder Dynamics a university rover team at UC San Diego and an Earth Science student at Scripps. She reached out to SDAG looking for sponsors for their rover this year. Part of the competition is an analysis of the geologic settings of the area and soil retrieved by the rover which incorporates soil moisture, conductivity, and chemical testing.

She would be happy to partner with SDAG or anyone interested in the project.

Here are links to the team's website and sponsorship package: <u>Yonder Dynamics</u> <u>Yonder Dynamics Sponsorship Package</u>

#### **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.sandiegogeologists.org/SDAG Pubs authors.pdf

http://www.sandiegogeologists.org/SDAG Pubs chronological.pdf

#### 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 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 (<= 11,000yr) 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: <u>http://www.sandiegogeologists.org/Faults\_map.html</u>

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 (<u>dianemurbach@gmail.com</u>), 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

### **Request for 2018 SDAG/SDGS Publication Sponsors**

On behalf of the San Diego Geological Society, Inc. (SDGS), a public benefit 501(c)3 nonprofit educational corporation, we would like to request tax deductible Donations for our San Diego Association of Geologists (SDAG) group. The list of paid Sponsors and the forms to become a Sponsor are located on the SDAG web site at: <u>http://www.sandiegogeologists.org/Sponsors.html</u>.

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. With your \$100 "EMERALD" donation, your name/business will be listed as a sponsor on the SDAG web site (http://www.sandiegogeologists.org/) and in the monthly SDAG meeting newsletters. With your \$500 "RUBY" or \$1,000 or more "DIAMOND" level donation, your business card will also be included on the SDAG web site and in the monthly SDAG meeting newsletters. In addition, as a "\$1,000 or more DIAMOND" level donation you will be presented with a thank you plaque.

Should you have any questions regarding a Sponsorship, please contact our non-profit SDGS Secretary (Diane Murbach) at 619-865-4333.

### **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.

# **Geo Job Listings**

Trevet is an Environmental and Engineering Consulting Firm headquartered in San Diego, CA. We are seeking a **full-time stafflevel Geologist or Environmental Scientist**. Two to five years of experience preferred. At a minimum a bachelor's degree in geology, engineering, or a related scientific discipline is required. Must be eligible to work in the United States, and on Department of Defense installations. Ability to travel for extended duration (2 to 3 weeks) is required. The ideal candidate will possess great attention to detail, excellent written and verbal communication skills, and ability to work independently and within a team.

Duties will include a combination of field and office related tasks.

#### Field experience should include:

- Installation of soil borings using multiple drilling methods
- Describing soil using the USCS and ASTM classification systems
- Installing and abandoning groundwater monitoring wells
- Field sampling of groundwater, soil, and soil gas
- Remediation system operation and sampling

Field work may be performed at project sites with environmental media (e.g., soil, sediment, groundwater, surface water, etc.) that has been impacted with hazardous substances and/or hazardous wastes.

#### Office experience should include:

- Field data collection, analysis, and interpretation
- Preparation of data in visual, graphical, and tabular formats
- Technical report writing

#### Other Requirements

Familiarity with CERCLA/RCRA requirements

OSHA 40-Hour HAZWOPER Training with current 8-hour refresher class preferred.

Trevet is an Equal Opportunity Employer

#### Please apply at

http://w w w .trevetinc.com/

# PHOTO OF THE MONTH

If you would like to submit a photo, email them to <u>secretary@sandiegogeologists.org</u> and I will try and put them in the newsletter. Provide a short description of the picture.



An approximately 20 ft long tower of sandstone that collapsed intact onto the opposite wall of Slot Canyon near the western slopes of Borrego Mtn. Slot canyon is a fairly well-travelled attraction in Anza-Borrego State Park. I can't imagine why this seemingly fragile tower of moderately cemented sandstone stayed intact but you can be sure that it could fail onto the trail below at any time.

Photo and caption provided by Mike Hart, CEG



Hargis + Associates, Inc. is an environmental consulting firm specializing in hydrogeology and engineering. We are headquartered in San Diego, California and have offices in Mesa and Tucson, Arizona. Our practice areas include all aspects of hydrogeology and engineering.

As a client service organization, we pride ourselves in being attentive and efficient in meeting our client's needs and solving their problems. In addition to our technical expertise, communication and responsive coordination are hallmarks of our reputation.

We invite you to explore our website to learn more about our firm and the services we provide. We welcome the opportunity to discuss our consulting expertise directly with you. *Contact: Dr. David R. Hargis* 

# P Mobile Geochemistry Inc.

H&P Mobile Geochemistry is an industry-leading provider of environmental lab services. With ten mobile labs and five direct push sampling trucks and unparalleled experience, H&P's repertoire of environmental lab services includes many forms of environmental lab sampling techniques all the way to on site field analysis services. H&P has successfully and accurately performed environmental lab services delivering quality results to our clients for over 16 years. 2470 Impala Dr., Carlsbad, CA 92010

(800) 834-9888

#### Contact: Louise Adams or Suzie Nawikas



- Dr. Pat Abbott SDSU Professor of Geology, Emeritus
- Marty and Sherry Bloom
- Joe Corones
- Greg Cranham Consulting Geologist
- Damon DeYoung Battelle
- Dr. Margaret R. Eggers, CHG <u>Eggers Environmental</u>, <u>Inc.</u>
- Karen Evans for Jim Evans (Deceased)
- Phil Farquharson <u>Geology Guy</u>
- Carolyn Glockhoff <u>Caro-Lion Enterprises</u>
- Cari Gomes
- Dr. Sarah Gray
- Blayne Hartman Hartman Environmental Geoscience
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