EES NEWSLETTER
WEEK OF SEPTEMBER 5, 2023

THIS WEEK...

- EES 5010 SEMINAR
- DEPARTMENT NEWS
- JOB OPPORTUNITIES
  - UNDERGRAD/ENTRY-LEVEL
  - PROFESSIONAL/POST-GRAD
- INTERNSHIPS, RESEARCH, SCHOLARSHIPS, FELLOWSHIPS, & GRANTS (UNDERGRAD & GRAD)
- UPCOMING EVENTS

EES 5010 GEO SCIENCE SEMINAR - 9/8/2023
125 TROWBRIDGE HALL - 3:30-5:00PM

Presenter: Dr. David Zakharov - Dept of Geological & Environmental Sciences, Western Michigan University

Title: Reconstructing ancient surface fluids through stable isotope compositions of altered (modified) rocks

Abstract: Almost every rock found at the surface is altered or modified due to the reaction with liquid water abundantly present on Earth. This modification is driven by the reactivity of the Earth's rocky shell in near-surface conditions. The water-rock reactions can be traced through geological time using the isotope exchange between silicates [SiO4—based structures] and H2O, where isotopes of O have masses 16, 17 and 18 Dalton. In this presentation, I highlight the use of stable isotopes as tracers of this fluid reactivity in shallow continental and oceanic crust. Using the recent advances in triple O-isotope geochemistry and in-situ isotope methods, my colleagues and I have looked at some of the oldest examples of Yellowstone-type systems, where heat of the magma and surface waters produced distinct low-δ¹⁸O altered rocks. Such materials represent a chemically resilient isotope fingerprint of ancient atmospheric precipitation that is in turn reflective of climate in distant geological past (i.e., in absence of better proxies). In the presentation I show a recent case study on a magmatic-hydrothermal complex of Neoarchean age that recorded precipitation with δ¹⁸O as low as -18 ‰. High-precision U-Pb zircon ages constrain this record at 2673.5 ± 0.3 Ma. This strategy is used to create temporally constrained quantitative climate reconstructions that aid understanding of continental landmass elevation, relative plate orientation and atmospheric gas content. I will also present some recent work on chemical marine sediments that are traditionally used for paleoclimate reconstructions but suffer from diagenetic alteration. Using tectonic and triple O-isotope context, I show that not every sample can be used to reflect Earth's surface conditions in a straightforward manner. Instead, a new set of questions can be designed to study crustal conditions with materials that are highly susceptible to alteration.

PLEASE NOTE: SEMINAR REFRESHMENTS ARE NOW SERVED IN 135 TH PRIOR TO SEMINAR.

135 IS TWO DOORS DOWN FROM 125 ON THE RIGHT HAND SIDE OF THE MAIN HALLWAY, NEXT TO THE FOSSIL DISPLAY CLOSEST TO THE BACK (IMU-FACING) STAIRCASE.

REMINDERS:
- FINAL EXAM SCHEDULE PUBLISHED - 9/18
- WITHDRAW REGISTRATION DEADLINES
  - 50% OF TUITION DUE: 9/10
  - 75% OF TUITION DUE: 9/17
  - 100% OF TUITION DUE: 9/18
- DEGREE APPLICATION DEADLINE - 9/29
- DEGREE APPLICATION LATE FEE IN EFFECT: 9/30
- MYUI OFFERINGS AVAILABLE TO VIEW/SCHEDULE BUILDER OPEN:
  - SPRING 2024: 10/2
  - SUMMER 2024: 10/2
- PLANS OF STUDY - FINAL EXAM REQUESTS (DEFENSE), GRADUATE STUDENTS: 10/10

IMAGE: BLUE RIDGE MOUNTAINS(GETTY IMAGES)
**STUDENT / UNDERGRAD**

**PHD/MS OPPORTUNITIES WITH K-PG ANTARCTIC FIELD WORK, UNIVERSITY OF ALABAMA**

**UNIVERSITY OF ALABAMA - TUSCALOOSA, ALABAMA**

We are seeking two graduate students for an NSF-funded project to examine the Cretaceous-Paleogene boundary in Antarctica through sediment coring and surface sampling. The project is led by Dr. Tom Tobin and Dr. Becky Totten, both in the Department of Geological Sciences at the University of Alabama, as well as collaborators at other institutions around the country. Positions will be fully funded (stipend, tuition waiver, benefits) by a mix of GRA (Graduate Research Assistant) and GTA (Graduate Teaching Assistant) support, and students may be eligible for internal fellowship awards. We are looking for students to enroll in Fall 2024, and participate in field work planned for Spring 2026, though the start date may be flexible. Specific research areas include sedimentology, sedimentary and invertebrate geochemistry, and micropaleontology. More information, including a form to express interest in the position, are available at: [https://ttobin.people.ua.edu/csi-antarctica.html](https://ttobin.people.ua.edu/csi-antarctica.html)

**PROFESSIONAL / POST-GRAD**

**FACULTY POSITION IN CRITICAL ZONE GEO SCIENCES, UTAH STATE UNIVERSITY**

**UTAH STATE UNIVERSITY - LOGAN, UTAH**

The Department of Geosciences and the Ecology Center at Utah State University (USU), Logan, invite applications for an academic-year (9-month), tenure-track Assistant Professor position in interdisciplinary Critical Zone Geosciences, anticipated to begin August 2024. We seek candidates who conduct innovative, interdisciplinary, and quantitative investigations across a range of critical zone (CZ) processes linked to societal importance. Successful candidates will demonstrate outstanding potential for excellence in research through development of a vibrant, externally funded research program and will contribute to our graduate and undergraduate curriculum. We are especially interested in candidates committed to advancing access and opportunity in the geosciences. Learn more about the Department of Geosciences and Ecology Center online. Visit [https://careers-usu.icims.com/jobs/6893/assistant-professor/job](https://careers-usu.icims.com/jobs/6893/assistant-professor/job) for more details and to apply. Required materials include cover letter; CV; statement of research interests, vision and societal impacts; statement of teaching and mentoring philosophy and contributions toward equitable learning; names and contacts for three references; and one representative publication. Please contact Tammy Rittenour, Search Committee chair, tammy.rittenour@usu.edu, with inquiries. USU is an AA/EO employer.

Review of applications begins on October 15, 2023.

The Butte office of the Montana Bureau of Mines and Geology seeks a highly motivated Hydrogeologist to work in the Ground Water Investigation Program (GWIP). This program evaluates local- to regional-scale hydrogeologic systems, with studies that encompass groundwater/surface-water interactions, and groundwater quantity and quality. This position will be focused on designing projects, collecting and interpreting geologic and hydrologic data, and writing reports.

Responsibilities of the successful candidate include:

- Assist with developing work plans and the design of monitoring networks;
- Assist with field work, including groundwater-water level monitoring, surface-water monitoring, water sampling, aquifer testing; and data management, analysis, and interpretation;
- Develop hydrogeologic conceptual models, including groundwater budgets;
- Work in a team to write reports and publish research results; and
- Present results at public and scientific meetings.

The hiring level will range from Assistant to Associate Hydrogeologist dependent on qualifications and experience at the time of offer. The MBMG is a department of Montana Technological University, but this is a non-tenurable, non-teaching position. Employer sponsorship of work visas is not available.

Below is the link to the full job description: [https://montanatechuniversity.applytojob.com/apply/wNmyDCUTOR/Hydrogeologist](https://montanatechuniversity.applytojob.com/apply/wNmyDCUTOR/Hydrogeologist)
TENURE-TRACK JUNIOR FACULTY POSITION, EARTH AND PLANETARY SCIENCES, STANFORD DOERR SCHOOL OF SUSTAINABILITY
STANFORD UNIVERSITY - STANFORD, CALIFORNIA

Stanford University invites applications for a tenure-track Assistant Professor in Earth and Planetary Sciences. We invite candidates that have completed or will soon complete their Ph.D. in a broad range of areas including but not limited to geochemistry, sedimentary geology, and structural geology. We also encourage applicants that apply their disciplines in the context of field research, planetary science, or both. The successful candidate will serve as faculty in the Stanford Doerr School of Sustainability. Candidates must have an exceptional record of scholarly work, demonstrate a dedication to teaching, and an established commitment to diversity, equity, and inclusion. Application materials need to be submitted online at this link. The deadline to submit your application is October 30, 2023. Late applications will not be accepted.

Applications must include:
1. Cover letter
2. Curriculum vitae
3. Contact information for three reference letter writers
4. Combined research and teaching statement (not to exceed 3 pages)

The Earth and Planetary Sciences Department, Stanford Doerr School of Sustainability, and Stanford University value faculty who will help foster an inclusive academic environment for colleagues, students, and staff with a wide range of backgrounds, identities, and outlooks. Candidates may choose to include as part of their combined research and teaching statements a brief discussion about how their work and experience will further these ideals. Additional information about Stanford's IDEAL initiative may be found here: https://ideal.stanford.edu/about-ideal/diversity-statement.

Stanford is an equal employment opportunity and affirmative action employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, protected veteran status, or any other characteristic protected by law. Stanford welcomes applications from all who would bring additional dimensions to the University's research, teaching and clinical missions.

The expected base pay range for this position is $126,000-$145,000. Stanford University has provided a base pay range representing its good faith estimate of what the university reasonably expects to pay for the position. The pay offered to the selected candidate will be determined based on factors including (but not limited to) the experience and qualifications of the selected candidate including years since terminal degree, training, and field or discipline; departmental budget availability; internal equity; and external market pay for comparable jobs.

For general questions regarding this position, please contact Claudia Baroni at cbaroni@stanford.edu.

INTERNERSHIP, RESEARCH, SCHOLARSHIP, FELLOWSHIP, & GRANT OPPORTUNITIES
RESEARCH
SPRING 2024 U.S. DEPARTMENT OF ENERGY SCIENCE UNDERGRADUATE LABORATORY INTERNSHIPS (SULI) PROGRAM

Applications for the Science Undergraduate Laboratory Internships (SULI) Program are now open for the 2023 Fall Term. Are you an undergraduate student pursuing a degree in science, technology, engineering, or math (STEM) or recent graduate who completed an associate's degree or bachelor's degree in STEM? Do you want to develop and hone your research skills at a national laboratory while learning from some of our nation's best scientists and engineers? Then the Science Undergraduate Laboratory Internships (SULI) program is for you. As a SULI participant, you'll gain valuable hands-on research experience and build your professional network while collaborating on an exciting project under the guidance of a mentor. You will also have opportunities to present your research to your mentors and peers, join in social activities, and engage in a variety of professional development activities to enhance your career skills. Learn more about SULI and get your questions answered by program managers and lab representatives! A total of two informational workshops will be held for SULI. One workshop will provide an overview of the program's application process and requirements. The second workshop will include a panel discussion featuring SULI and other DOE internship program alumni. Note: attendance at the first workshop is not required to attend the second workshop.

1st workshop: August 10, 2023 from 3:00 – 4:00 pm EDT (register here: https://www.zoomgov.com/meeting/register/vJIsd-uggjwrE1yMv9Qi0bw25d4czil7QQ8)

2nd workshop: September 6, 2023 from 2:00 – 3:00 pm EDT (register here: https://www.zoomgov.com/meeting/register/vjltcu2gqT8oEkyzGwWVkw1dzwcbsQg6WT0)

The SULI program is sponsored and managed by the Department of Energy (DOE) / Office of Science's Workforce Development for Teachers and Scientists (WDTS) program in collaboration with 17 DOE national laboratories and facilities across the U.S.

Application deadline is October 4, 2023 at 5:00PM EDT.
**UPCOMING EVENTS**

**UNIVERSITY OF IOWA CAMPUS EVENT: ENVIRONMENTAL LAW SOCIETY CO-HOSTED EVENT**

September 7, 2023 from 12:45 – 1:45 pm in Levitt Auditorium of Boyd Law Building: A Preview for the upcoming Supreme Court session, in collaboration with Environmental Law Society, ACS and Fed Soc. Each org - ACS, ELS, and Fed Soc - will each choose one law faculty member to speak on an upcoming Supreme Court case. Food and drink will be provided: https://events.uiowa.edu/79859

**UNIVERSITY OF IOWA CAMPUS EVENT: DISCOVER STUDY ABROAD - FALL 2023 - VIRTUAL EVENT**

Would you like to study abroad during your time at the University of Iowa, but don’t know where to start? Attend our weekly Virtual Discover Study Abroad info sessions to learn how study abroad works and find the right international opportunity for you!

Discover Study Abroad sessions are the first step for interested students to learn more about the study abroad process and ask any questions they may have, covering topics such as study abroad locations, eligibility, deadlines, academics, and more.

Sessions are offered weekly.
When: Tuesdays at 12:30 p.m. and Fridays at 11 a.m.
Where: Zoom (meeting details provided to registered participants)
How Long: 30 minutes

To register for a virtual Discover Study Abroad session, please follow these steps:
1. Decide which date you would like to attend. **Sessions are offered every Tuesday at 12:30 p.m. and Friday at 11 a.m.**
2. Email study-abroad@uiowa.edu with the date you wish to attend and your UID number.
3. The Study Abroad office will email a confirmation that you are registered for the Discover Study Abroad session you requested.
4. Five minutes before the session, you will receive an email with the Zoom meeting link included. You can use this link to access the Discover Study Abroad virtual session.

Learn more: https://international.uiowa.edu/study-abroad/first-steps

**WANT TO SHARE SOMETHING IN THE WEEKLY EES NEWSLETTER?**

The EES Department newsletter is published every Tuesday during the academic year, apart from semester breaks.

If you would like to add an event, club meeting, or other item of interest, please submit an email to clas-ees@uiowa.edu, with the subject heading “Newsletter item,” on Fridays by noon, and your submission will be added to the following Tuesday’s newsletter.

Thank You & Have a Great Week!