

EAPS WEEKLY NEWSLETTER

January 17, 2022

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EAPS MEETINGS & EVENTS

EAPS FACULTY MEETINGS 3-5pm

- **Jan. 25**
- **Feb. 1** (Primary Committee)
- **Feb. 8** (College of Science Faculty Meeting)
- **Feb. 22**
- **March 22**
- **March 29** (Primary Committee)
- **April 12** (College of Science Faculty Meeting)
- **April 19**
- **May 3** (Primary Committee)
- **May 10 (tentative)**

[PURDUE CALENDAR](#) 2021-22

[EAPS K-12 OUTREACH CALENDAR OF EVENTS](#)

[REPORT YOUR OUTREACH AND ENGAGEMENT ACTIVITIES](#)

OUTREACH NEWS

Did you know, faculty use the Superheroes of Science [YouTube](#) channel for broader impacts on their grants and in their instruction? The channel has had over 10,000 views this year so far. Help us continue to grow the channel and increase the impact by subscribing and sharing videos.

The Purdue University Superheroes of Science Podcast is on most podcast players as well as [YouTube](#)!

Social sites:

[TikTok SuperHeroesofScience](#)

[Facebook EAPS Outreach](#)

[Facebook Superheroes of Science](#)

[Twitter EAPS departmental outreach web page](#)

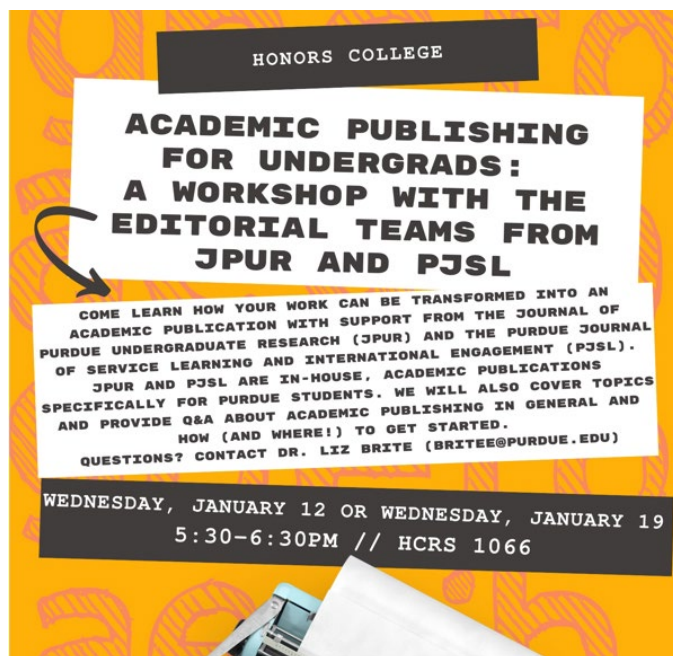
[Instagram](#)

WANT TO HELP OUTREACH? Write a favorable review on the Superheroes of Science podcast. This helps their ratings go up and helps them become more visible in various podcast platforms.

PUBLICATIONS

- Tomlin, J. M., Jankowski, K. A., Veghte, D. P., China, S., Wang, P., Fraund, M., Weis, J., Zheng, G., Wang, Y., Rivera-Adorno, F., Raveh-Rubin, S., Knopf, D. A., Wang, J., Gilles, M. K., Moffet, R. C., **and Laskin, A.:** Impact of dry intrusion events on the composition and mixing state of particles during the winter Aerosol and Cloud Experiment in the Eastern North Atlantic (ACE-ENA), *Atmos. Chem. Phys.*, 21, 18123--18146, <https://doi.org/10.5194/acp-21-18123-2021>, 2021.
- **Wang, S.**, M. Zhou, K. Adhikari, **Q. Zhuang**, Z. Bian, Y. Wang, X. Jin, Anthropogenic controls over soil organic carbon distribution from the cultivated lands in Northeast China, *CATENA*, Volume 210, 2022, 105897, ISSN 0341-8162, <https://doi.org/10.1016/j.catena.2021.105897>.

NEWS/OPPORTUNITIES



HONORS COLLEGE

ACADEMIC PUBLISHING FOR UNDERGRADS: A WORKSHOP WITH THE EDITORIAL TEAMS FROM JPUR AND PJSL

COME LEARN HOW YOUR WORK CAN BE TRANSFORMED INTO AN ACADEMIC PUBLICATION WITH SUPPORT FROM THE JOURNAL OF PURDUE UNDERGRADUATE RESEARCH (JPUR) AND THE PURDUE JOURNAL OF SERVICE LEARNING AND INTERNATIONAL ENGAGEMENT (PJSL). JPUR AND PJSL ARE IN-HOUSE, ACADEMIC PUBLICATIONS SPECIFICALLY FOR PURDUE STUDENTS. WE WILL ALSO COVER TOPICS AND PROVIDE Q&A ABOUT ACADEMIC PUBLISHING IN GENERAL AND HOW (AND WHERE!) TO GET STARTED. QUESTIONS? CONTACT DR. LIZ BRITE (BRITE@PURDUE.EDU)

WEDNESDAY, JANUARY 12 OR WEDNESDAY, JANUARY 19
5:30-6:30PM // HCRS 1066

EAPS GRAD STUDENT RESEARCH OPPORTUNITIES

If you are interested in an EAPS grad research opportunity, [click here](#) for more information.

**ANNOUNCING THE FIFTH HANDS-ON TRAINING
IN HANDLING AND MANIPULATION OF SMALL
EXTRATERRESTRIAL SAMPLES**

April 13–15, 2022

**Purdue University, West Lafayette, Indiana
(Boiler up!)**

Applications are being accepted!

Many current and future extraterrestrial sample collections do and will consist of small particles — less than 100 micrometers across — and these can be challenging to work with. Such samples include Earth-collected cosmic dust, returned comet and interstellar samples from Stardust; and returned asteroid samples from the Hayabusa, Hayabusa2, and OSIRIS-REx missions. In this training, attendees will receive hands-on training in manipulation and micromanipulation of comparable small samples, learning from the experts from the Astromaterials Research Division at Johnson Space Center (JSC) and Purdue University.

Application deadline: January 31, 2022

For training details and to submit your application, please visit the [website](#).

For more information, contact, Meeting and Publication Services, USRA/Lunar and Planetary Institute, meetinginfo@hou.usra.edu

**UNDERGRAD RESEARCH OPPORTUNITY-
ARCTIC REU GREENLAND**

Arctic REU Greenland is an NSF Research Experiences for Undergraduates (REU) site led by Concord University (West Virginia) and Montana State University. The REU is focused on field research in Precambrian metamorphic rocks integrating geologic mapping, structural geology, and earthquake geodynamics.

Travel expenses to the program and full logistical support for fieldwork in Greenland will be provided. Students will receive stipends of up to \$5000 to support their work. Funding for travel to a geologic conference in the fall to present research results is also included.

Field work in Greenland is scheduled for June 23 to August 4, 2022 (pandemic dependent).

Students will participate in online seminars and research activities before field work in April and early May, and again in late-July and August after our return.

Applicants should be undergraduates with a planned date of graduation no earlier than December, 2022. Ideally, applicants should have completed or be enrolled in a course in

mineralogy, petrology, or Earth materials, although exceptions are possible. Coursework in structural geology and/or field geology or field methods is useful. NSF requires REU participants to be US citizens or permanent residents. Because of the late start time in July, students completing a geology field camp early in the summer may be able to attend this REU.

We especially encourage applications from first-generation college students and members of under-represented groups.

[REU website](#)

Application deadline: February 7, 2022

Contact information:

[Joe Allen](#), Concord University, or
[Colin Shaw](#), Montana State

**LUNAR SURFACE SCIENCE WORKSHOP
INCLUSIVE LUNAR EXPLORATION**

[January 26–27, 2022, Virtual](#)

The goal of this LSSW session is to begin an open dialogue about how to explore the Moon responsibly, ethically, and inclusively.

As the Artemis era begins, this is a time to intentionally make key decisions that will impact the lunar and planetary workforce and the future of exploration. Inclusion is one of NASA's core values. This session will discuss best practices related to advancing inclusion and diversity in the lunar science and exploration community and initiate conversations about how to explore the Moon responsibly, ethically, and inclusively. One expected outcome of this session is a publicly available report of key findings and recommendations to NASA and the community, including best practices.

Registration fees are not being collected, but registration is required. Registration will be available through January 27. Virtual connection information will be provided to registrants before the session. For more information, contact: [Meeting and Publication Services](#), USRA/Lunar and Planetary Institute

**LOW-COST SCIENCE MISSION CONCEPTS
FOR MARS EXPLORATION
WORKSHOP POSTPONED
PASADENA, CALIFORNIA**

As a consequence of the recent and significant rise in covid-19 cases, the organizing committee for the low-cost science mission concepts for mars exploration workshop has decided to postpone

the meeting. The workshop, originally planned for January 11–13, 2022, is now scheduled for March 29–31, 2022, and will be held at the same venue, the Westin Pasadena Hotel in Pasadena, CA.

SCHOLARSHIP OPPORTUNITY - SWANA

SWANA, a solid waste disposal organization has statewide scholarships available to college students. Applicants must be student members of the organization but membership is free. [For more information.](#)

MASTER OF SCIENCE IN ENVIRONMENTAL SCIENCE FUNDED GRADUATE ASSISTANTSHIP – VILLANOVA UNIVERSITY

The Department of Geography and the Environment at Villanova University invites applications for a graduate student to participate in a [NOAA-funded research project](#) investigating why tornado disaster potential and mortality is greater in the Southeast compared to any other U.S. region. Overall, the project is focused on developing tangible and actionable solutions to the Southeast tornado problem, especially for the region's more vulnerable demographics. We seek a student who is excited to engage in a collaborative, interdisciplinary project that will culminate in an M.S. degree in Environmental Science. The successful applicant will lead and work alongside undergraduates who are assisting on research aimed at uncovering the relationships between tornado risk, warnings, reports, and societal vulnerability. The candidate will also develop a thesis project that supports this funded NOAA project.

The successful candidate must: (1) fulfill all admission requirements for the MS in Environmental Science program and the Graduate College of Liberal Arts and Sciences at Villanova University; (2) have a BS in environmental science, atmospheric science, geography, earth sciences, or related discipline; (3) have existing or be willing to develop their geographic information system (GIS) skillset; and (4) be willing to lead a group of and work alongside undergraduate students to solve problems central to the project goals. We welcome and encourage applicants from groups historically underrepresented in STEM and Environmental Science. The fully funded student position (stipend + tuition waiver) is available starting August 2022. Villanova is a Catholic university sponsored by the Augustinian order,

located in the ethnically, racially, and culturally diverse Philadelphia metro region. Diversity and inclusion have been and will continue to be an integral component of the University's and the Department's missions. To apply, email a cover letter, CV, copies of transcripts, GRE scores, and the names and contact information of three references able to speak about your academic experiences to [Dr. Stephen Strader](#). For full programmatic requirements see here. In addition, we ask the candidate to also **apply to the program using the prior link officially by 1 February 2022**. Only those students who officially apply to the MSES program through the Graduate School by 1 February 2022 will be considered. Note: Please indicate in your application materials that you wish to be considered for "Dr. Strader's NOAA grant funding". Applications will be reviewed beginning 1 February 2022, with funding decisions made by 1 April 2022.

APOLLO 17 – ANGSA WORKSHOP

October 26–28, 2022
Lunar Planetary Institute
Houston, Texas

The 3-day workshop is currently planned as an in-person workshop, October 26–28, 2022, at the Lunar and Planetary Institute in Houston, Texas. The 50th anniversary of the Apollo 17 mission is in Dec. 2022. By every metric, this mission to the Taurus-Littrow Valley (TLV) was the most accomplished of any of the Apollo missions to the moon, leading to 50 years of extensive, continuing analytical investigations of its observations, samples, photography, and geophysical data. The goals of this workshop are:

- revisiting the TLV by integrating new geologic and exploration context, new ANGSA sample data, orbital observations, and the full breadth of data sets from all six Apollo landed missions for a fuller understanding of the moon, the sun, and the earth
 - establishing links among multiple generations of lunar scientists and engineers as we prepare for our future on the moon
 - focusing on scientific and design lessons learned from both Apollo and from ANGSA in preparation for near-term human exploration of the moon.
- We will also focus on specific topics, with short reports expected from the breakout groups and presented during the workshop. Presentations and results of the workshop will form the basis of a special issue in a peer-reviewed journal.

Manuscripts for this special issue will be due within three months after the workshop.

SCIENCE OBJECTIVES FOR HUMAN EXPLORATION OF MARS WORKSHOP

**May 2–5, 2022
Denver, Colorado**

We are happy to announce the Science Objectives for [Human Exploration of Mars Workshop](#) currently planned to be held in person May 2–5, 2022, in Denver, Colorado. The workshop is co-sponsored by NASA's Science Mission Directorate and the Human Exploration and Operations Mission Directorate to actively engage the scientific community to determine what science could be done by human crews on the martian surface and how it can be achieved. This workshop will discuss the highest priority science objectives for a first human mission to Mars and then develop several different possible concepts of operation that will enable that science. With the Artemis missions, humans will return to the Moon using innovative technologies to explore the lunar surface. We will use what we learn on and around the Moon to send the first astronauts to Mars. A human mission to Mars will be a landmark achievement and a golden opportunity to conduct groundbreaking science on Mars. The potential scope of the science activities is extraordinary. Important: To be added to the mailing list to receive additional information about this workshop, submit an indication of interest. For more information, contact [Meeting and Publication Services](#), USRA/Lunar and Planetary Institute.

MS AND PHD EAPS STUDENTS BROADEN YOUR GRAD EXPERIENCE

For those MS and PhD students in EAPS that would like to broaden their graduate experiences while at Purdue, EAPS is affiliated with the Computational Interdisciplinary Graduate Programs (CIGP) at Purdue. While working toward a graduate degree in EAPS, graduate students can also have a concentration (specialization) in the area of Computational Science and Engineering (CSE). For more information, [click here](#). A short video about the CIGP/CSE program can be found [here](#).

Spring Application Deadline: March 1

Fall Application Deadline: October 1

POSITIONS AVAILABLE- CAREER OPPORTUNITIES

USGS GEOCHRONOLOGY DATABASE IS HIRING AT THE MASTERS LEVEL

Facility Operations Specialist

The USGS geochronology database (still in beta form, but hoping to go live in 2022) team is hiring at the master's level (GS-9, [see here](#) for qualifications). The hire will work with our team to continue building and populating the database. We're especially looking for people with experience with geochronology and/or databases.

We expect an ad to go live on USA Jobs soon. The system will likely only accept the first 100 applicants, which is often reached within the first day of posting. Anyone interested can contact Leah Morgan (<mailto:lemorgan@usgs.gov>) with questions.

BRYAN ENVIRONMENTAL CONSULTANTS

Homewood, IL

SEEKING PART-TIME TO FULL-TIME POSITIONS

- Bachelor's or Master's degree in environmental engineering, civil engineering, geotechnical engineering, geology
- Knowledge of State and Federal environmental regulations a plus
- Experience with Phase I and II Environmental Site assessments a plus
- Strong writing skills
- Proficient in all Microsoft Office applications
- Must have cell phone and computer (laptop)
- Valid Driver's License

WANG ENGINEERING

SEEKING Engineering Geologists, Geotechnical Engineers

Contact: [Cornelia Lidia Marin](#), PG

ARGONNE NATIONAL LABORATORIES

Environmental Sampler/Scientist

POST-DOC OPPORTUNITY - AIR FORCE SCIENCE & TECHNOLOGY FELLOWSHIPS

The National Academies of Sciences, Engineering, and Medicine administers postdoctoral and senior research awards at the U.S. Air Force Research

Laboratory (AFRL), the U.S. Air Force Institute of Technology (AFIT), and the U.S. Air Force Academy (USAFA) under the [Air Force Science & Technology Fellowship Program \(AF STFP\)](#).

Seeking highly qualified candidates who are U.S. citizens and hold, or anticipate earning, a doctorate in a variety of fields of science or engineering.

Application deadline dates (four annual review cycles): February 1, May 1, August 1, November 1

Awardees have the opportunity to:

- Conduct independent research in an area compatible with the interests of the Air Force laboratories
- Devote full-time effort to research and publication
- Access the excellent and often unique Air Force research facilities
- Collaborate with leading scientists and engineers
- Awardee benefits:
- Base stipend starting at \$76,542; may be higher based on experience
- Health insurance (including dental/vision), relocation benefits, and a professional travel allowance

Applicants should contact prospective AFRL, AFIT and USAFA Research Adviser(s) at the lab(s) prior to the application deadline to discuss their research interests and funding opportunities.

For detailed program information, to search for AFRL, AFIT, and USAFA Research Opportunities, and to contact prospective Research Adviser(s), visit www.nas.edu/afstfp.

PURDUE ENVISION CENTER (UNDER ITAP) **RECRUITING EAPS STUDENTS**

At the Envision Center looking to recruit EAPS students with background and interest in weather visualization. Details on the job opening can be found [here](#).

M.S. GRAD RESEARCH ASSISTANTSHIP: **IDAHO STATE UNIVERSITY & USGS**

Water Science Center at the Idaho National Laboratory

Overview: The graduate student will work with faculty in the Department of Geosciences at Idaho State University (ISU) and geoscientists at the U.S. Geological Survey (USGS) Water Science Center at the Idaho National Laboratory (INL). Ongoing work by the USGS at the INL aims to characterize the eastern Snake River Plain aquifer with respect to the migration of radioactive and chemical wastes. To this end, the USGS has drilled deep boreholes in order to monitor groundwater

and better constrain the stratigraphy beneath the INL by regionally correlating subsurface volcanic and sedimentary rocks. The rock core recovered from these boreholes also offers a unique 4D perspective on the spatial, temporal, and geochemical evolution of this active volcanic province. The details of the MS thesis project are flexible but will fit within the framework of the USGS's goals to better characterize the subsurface; it may also contribute to the INL's active Probabilistic Volcanic Hazard Assessment. The student will work with surface and subsurface data (including logging of basalt-dominated core) and likely apply various analytical techniques (e.g., geochemical analysis, geochronology, petrography, etc.). The start date is August of 2022.

Qualifications: B.S. in geology or related field; minimum undergraduate GPA of 3.0; and three excellent letters of recommendation. GRE quantitative, verbal, and writing scores above the 50th percentile are preferred. The student must be able to work in a collaborative environment with ISU faculty and the USGS. For information about ISU Geosciences or the USGS Water Science Center, visit [here](#) or [here](#)

Funding: The two-year MS project in the ISU Department of Geosciences is fully funded by the USGS. The student will receive a monthly stipend, including summer support, and a tuition scholarship to pursue graduate studies. Support also includes a \$5,000 research budget and \$1,500 for conference travel.

To apply: Email a letter of interest and CV/resume to Dr. [Kendra Murray](#). Then, **submit a formal application for this position by January 31, 2022**, of intent. More information about the application process and requirements can be found [here](#).

ASST PROFESSOR IN FLUVIAL AND/OR
COASTAL GEOMORPHOLOGY -
UNIVERSITY OF TEXAS, RIO GRANDE VALLEY
<https://careers.utrgv.edu/postings/31230>

NATIONAL WEATHER SERVICE **POSITIONS AVAILABLE**

[Check here for available positions](#) with the National Weather Service.

ASTROCAMP

AstroCamp is looking for graduating students (undergraduate or graduate) for a full-time program instructor position for physical sciences and astronomy concepts at their [outdoor science school in California](#). Link to job [here](#).

AGI GEOSCIENCE JOB CENTER

[Check listings here.](#)

GRADIENT CORP
MULTIPLE OPPORTUNITIES

Please feel free to contact [Qian Zhang](#) if you are interested in applying and/or have any questions about the company and the opportunities.

FURMAN UNIVERSITY

Assistant/Associate/Professor in Water Resources

The Department of Earth, Environmental, and Sustainability Sciences at Furman University invites applications for a tenure-track Assistant/Associate/Professor position in Water Resources beginning in August 2022. The successful candidate will have a Ph.D. in Earth Sciences with a specialization in hydrology, hydrogeology, hydroclimatology, or closely related fields prior to August 1, 2022. Candidates must demonstrate a commitment to excellence in teaching, mentoring, and establishing a productive research program that leads to transformative experiences for undergraduate students through mentored thesis research, which is a required hallmark of our program. We seek candidates whose teaching and scholarship align with the department's integrated focus on sustainability, resilience, equity, and social justice within the context of the water, energy, food, and climate nexus. Teaching responsibilities consist of four courses with labs per year, including an introductory level earth science course and upper-level courses in Hydrogeology and Watershed Hydrology. In addition, there will be opportunities to offer a first-year writing seminar and courses in the area of candidate's expertise.

POSTDOC RESEARCH ASSOCIATE - TEXAS A&M

Texas A&M is looking for a postdoc starting in the January-May 2022 time period. This opportunity is part of the TAMU component of the DOE TRACER project. While there is an aerosol-cloud interaction component, they are particularly

looking for someone with experience or interests in idealized modeling of convection and/or radar analysis. They are also looking for someone that can take a leading role in field deployments (mobile radiosonde launches) in summer 2022. [LEARN MORE](#)

POSTDOC IN STABLE ISOTOPES AND REACTION KINETICS – INDIANA UNIVERSITY

[Applications](#) are invited for a Postdoctoral Research Associate at Indiana University, USA. The project aims using non-traditional stable isotopes to measure reaction rates and understand the mechanisms of mineral-aqueous solution reactions. See our recent publications for details (Zhu et al., 2016, Chemical Geology; Zhu et al, 2020, 2021, GCA). The project will employ a combined experimental, analytical, theoretical, and modeling approach.

The successful candidate will hold a Ph.D. in earth sciences or a closely related field. A strong background in either stable isotopes or kinetics and thermodynamics is required. Experience performing aqueous geochemical experiments, and using geochemical equilibrium and kinetics models is highly desirable.

Salary is competitive and includes fringe benefits. The initial appointment will be for one year, with the expectation of renewable for another two years, subject to performance and funding availability. The candidate will be based on the Bloomington campus of Indiana University, and will have access to an extensive suite of analytical tools, including MC-ICP-MS, TIMS, ICP-OES, ICP-MS, FESEM, and FETEM.

OPEN POSITIONS AT UTAH STATE

Assistant Professor, Climate Resiliency Extension Specialist

- We seek an individual with expertise in climate mitigation, adaptation, and resilience science alongside a depth of knowledge in any related natural resource management field (e.g., water resources and conservation, water quality, aquatic ecology, fish ecology, fisheries management, plant, riparian, and wetland management, biogeochemistry). Successful candidates must have a commitment to stakeholder engagement, co-production of knowledge, collaborative decision-making, teamwork, and communication, as well as strong interpersonal skills. We are particularly interested in innovative candidates committed to helping natural resource managers adapt to and mitigate

climate change impacts. The primary clientele for this Extension Specialist will be local, federal, and state agency staff and/or industry partners charged with managing natural resources in Utah and throughout the Intermountain West. The position consists of 60% extension, 30% research, and 10% service, with an anticipated start date of August 1, 2022.

Assistant Professor, Climate Data Analysis- We seek an engaging educator and researcher with the technical proficiency and broader conceptual awareness of climate science who can help position and adapt watershed science research and management within the realities of the climate emergency. Other valuable characteristics include experience working with large, multi-dimensional data (e.g., netCDF, HDF, GRIB, TIFF), climate model outputs (i.e., CMIP GCMs, downscaled data), translating gridded climate data into other formats for hydroclimate and ecological analysis, uncertainty and risk quantification, meteorological station time series data, and/or making climate data tools for policymakers and decisionmakers. Other preferred characteristics include proficiency in Python and/or R, strong data visualization and communication skills, and experience leading collaborative efforts. The position consists of 60% teaching, 30% research, and 10% service, with an anticipated start date of August 1, 2022.

**POSITIONS AVAILABLE IN METEOROLOGY AND
ATMOSPHERIC SCIENCE**

[View current career listings](#)

NEWSLETTER INFO

IMPORTANT NOTICE ABOUT THIS NEWSLETTER

This newsletter is used as the primary information source for current and upcoming events, announcements, awards, grant opportunities, and other happenings in our department and around campus. Active links to additional information will be provided as needed. Material for inclusion in the newsletter should be submitted to Cheryl Pierce (pierce81@purdue.edu) **by 5:00pm on Thursday of each week for inclusion in the Monday issue.**

For answers to common technology questions and the latest updates from the EAPS Technology Support staff, [click here](#). As an additional resource for information about departmental events, seminars, etc., see our [departmental calendar](#).