

Department of Earth, Atmospheric, and Planetary Sciences

# EAPS WEEKLY NEWSLETTER February 24, 2025

Facebook LinkedIn Instagram Website

### EAPS MEETINGS & EVENTS

### PURDUE REGISTRAR CALENDARS

EAPS SEMINARS AND EVENTS CALENDAR

EAPS K-12 OUTREACH CALENDAR OF EVENTS

REPORT YOUR OUTREACH AND ENGAGEMENT ACTIVITIES

## CONGRATS, KUDOS, COOL STUFF, AND THUMBS UP!

 Several EAPS members had a great time at the Riverside Skating Center in West Lafayette!



 Congratulations to Ayobami Oladapo for creating a short documentary as part of her Purdue
 Hydrologists Helping Others grant to share the findings from her group's research at Glacier
 National Park with the goal of promoting science outreach, education, and communication.
 You can watch the documentary at:

https://www.youtube.com/watch?v=kNQJi32V7ek

The Crown of the Continent Research Learning Center for Glacier National Park was part of the community collaborator for the H20 grant.

## **NEWS/OPPORTUNITIE S AT PURDUE**

#### DEFENSE CIVILIAN TRAINING CORPS - PURDUE UNIVERSITY

Purdue's Defense Civilian Training Corps (DCTC) is a new program that will build civilian careers in the Department of Defense relating to acquisition, digital technologies, critical technologies, science, engineering, and finance and more. The Defense Civilian Training Corps is a scholarship-for-civilian service award.

### EAPS GRAD STUDENT RESEARCH OPPORTUNITIES

If you are interested in an EAPS grad research opportunity, <u>click here</u> for more information.

### EAPS SEMINAR - MATT PASEK

**Thursday, February 27, 3:30 pm in HAMP 1252** Matt Pasek is a professor at the Rensselaer Polytechnic Institute. Hosted by Ben Pearce.

### EAPS Community Social Hours

On behalf of the EAPS DEI Committee, we are writing to affirm our department's dedication to building an inclusive learning environment where students, postdocs, staff, and faculty from diverse backgrounds and perspectives can succeed. Our department is committed to creating a welcoming and inclusive culture where everyone can thrive as their full authentic selves. We also want to acknowledge that current events happening at the local, state, national, and global level can impact what we're able to bring to our science and work. Going forward, we will be hosting EAPS "Community Social Hours" on Tuesdays from 1:30-2:30 pm in HAMP 2201 that are open to all to be together, support each other, and build community. Please feel free to stop by and hang out. You can join us for a cup of coffee or to eat

your lunch, chat about what's on your mind, bring your laptop and brainstorm how to make a cool new plot, or come sit with us and just 'be'. You are welcome to invite friends and colleagues from other parts of campus as well. – Dr. Ali M. Bramson and the DEI Committee.

#### <u>T 36th Burton D. Morgan Business Concept</u> <u>Competition</u>

Open to all Purdue-registered students – at any level – the 36<sup>th</sup> Burton D Morgan Competition is about creating powerful new business concepts! Students compete for \$50,000 in Prizes while learning how to design the foundation for a potential new venture. Students start with a passion to learn about a problem space, market, or challenge. Through an 8-week learning journey, they discover whether there is a strong business concept hidden in it. Info sessions available on **Feb 14 and Feb 18**. Deadline to submit draft concept and enter the competition is **Feb. 24**. Prizes earned and awarded at Final Event on April 23. More details here.

#### Engineering, Science & Tech Connect Career Fair on the Purdue in Indianapolis Campus Today, Feb. 24 from 11:00 AM to 3:00 PM

Open to all College of Science students. This employer pool is looking for students with a computational background. Register Here

#### College of Science Virtual Career Fair Feb. 25 from 11:00 AM to 8:00 PM

Open to all College of Science students. This employer pool is looking for students with a computational background. Student applicants will need to have experience in computer science, data science, artificial intelligence, statistics. <u>More info here</u>

#### 2025 College of Science Faculty Research <u>Awards</u>

This annual event honors distinguished tenured faculty whose impactful work is advancing scientific discovery and innovation.

EAPS's Associate Professor Michelle Thompson is members has been awarded for her research efforts in space weathering, focusing on sample return missions. Congratulations, Michelle, and great work!!

Thu Feb 27 from 3:00 – 5:00 PM in DSAI 1069 More info here

## **OUTREACH NEWS**

If you have not done your STEM Career video yet please set up a time with Steven to record it. It should only take you ~10 minutes to record the video.

Here is a great example from Jonathan Delph Link to the repository with all of the recorded STEM Career videos: <u>https://purdue.link/STEMrepository</u> If you or your group has worked with or helped with an activity for K-12 students or teachers, please fill out the <u>departmental outreach activity form</u>.

#### Social sites:

<u>Twitter</u> <u>Instagram</u> <u>Facebook Superheroes of Science</u> <u>EAPS departmental outreach web page</u>

#### **Tabletop Gaming Night**

- Dates: First Friday of each Month (September -May): 5:30-9 pm
- Location: HAMP 2244
- Needs: No "needs" here. It's not even an official Dept event. It's just a bunch of us getting together to play board games. Everyone is welcome!

#### 4-H Academy Summer Weather/Meteorology Workshop

- Dates: June 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 2025
  - Reach out to Angie Frost if interested o alfrost@purdue.edu

## **PUBLICATIONS**

- Blevins, A. M., Minton, D. A., Huang, Y. H., Du, J., Tremblay, M. M., & Fassett, C. I. (2025). Apollo Impact Melts Record a Rapidly Declining Impact Rate in the Late Imbrian. *Journal of Geophysical Research: Planets*, 130(2), e2024JE008722. <u>https://doi.org/10.1029/2024JE008722</u>
- Fred-Velez, K., S.L. Pérez Cortés, A.M. Bramson, T.R. Hudgins (2025) Mapping of Potential Mass Wasting on Enceladus. Icarus, 430, 116471, doi:10.1016/j.icarus.2025.116471. <u>https://doi.org/10.1016</u> /j.icarus.2025.116471
- Morgan, G.A., N.E. Putzig, D.M.H. Baker, A. Pathare, C.M. Dundas, M. Russell, M.R. Perry, M. Chojnacki, H.G. Sizemore, A.M. Bramson, E.I. Petersen, S. Nerozzi, R.H. Hoover, Z. Bain (2025) Refined Mapping of Subsurface Water Ice on Mars to Support Future Missions. Planetary Science Journal, 6, 29,

doi:10.3847/PSJ/ad9b24. <u>https://doi.org/10.3847/PSJ/ad9</u> <u>b24</u>

- F.A. Rivera-Adorno, L. Azzarello, M.A. Robinson, Z. C. J. Decker, R.A. Washenfelder, 5 K. Hayden, A. Franchin, C. D. Holmes, C.J. Young, C.D. Fredrickson, B. Palm, C. Schmidt, A. Soja, E. Gargulinski, S. S. Brown, A.M. Middlebrook, A. Laskin. Aircraft Measurements from a U. S. Western Wildfire Demonstrating Day and Night Differences in Chemical Composition and Optical Properties of Biomass Burning Aerosols and their Atmospheric Evolution. ACS Earth and Space Chemistry, 9, 64-75, (2025). https://doi.org/10.1021/acsearthspacechem.4c002 15
- Zhang, O., & Schmitt, D. R. (2025). An optimized 2D/3DFinite-difference Seismic Wave Propagator Using Rotated Staggered Grid for Complex Elastic Anisotropic Structures. Computers & Geosciences, 105850. <u>https://doi.org/https://doi.org/10.1016/j.cageo.2024.1058</u> 50
- Marder, E., Gallen, S.F., Lifton, N.A., Rittenour, T.M., 2025, The Colorado Rocky Mountains awaken: Understanding topographic rejuvenation in postorogenic mountain belts: GSA Today, v. 35, p. 4– 11, https://doi.org/10.1130/GSATG598A.1.
- A. Laskin, C.P. West, A.P.S. Hettiyadura. Molecular Insights into the Composition, Sources, and Aging of Atmospheric Brown Carbon. *Chemical Society Reviews*, 54, 1583–1612, (2025). <u>https://doi.org/10.1039/D3CS00609C</u>
- Kling, A. M., Greer, J., Thompson, M. S., Heck, P. R., Isheim, D., & Seidman, D. N. (2025). Nanoscale reservoirs store solar wind-derived water on the lunar surface. *Earth* and Planetary Science Letters, 651, 119178. <u>https://doi.org/10.1016/j.epsl.2024.119178</u>
- Mijjum, M., Andrews, B., McCoy, T. Corrigan, C., Caffee, M.W., and Tremblay, M. M., 2025, Using micro-computed tomography (μCT) to determine subsample-specific cosmogenic noble gas production rates of enstatite (E) chondrites. *Meteoritics and Planetary Science*, p. 1-22. doi: 10.1111/maps.143091
- Parth Hasabnis, Enhedelihai Alex Nilot, Yunyue Elita Li, Introducing USED: Urban Seismic Event Detection, Computers & Geosciences, Volume 196, 2025, 105815, ISSN 0098-3004, <u>https://doi.org/10.1016/j.cageo.2024.105815</u>. (<u>https://www.sciencedirect.com/science/article/pii/S0098</u> 30042400298X)
- Pascuzzo, A.C., A.M. Bramson, P. Becerra, J.F. Mustard (2025), Development and evolution of icy layer outcrops on Mars' north polar ice cap: Observations of vertical and lateral variability. Journal of Geophysical Research: Planets, 130, e2024JE008377, https://doi.org/10.1029/2024JE008377.
- Bramson, A.M., A.C. Pascuzzo, P. Becerra, J.F. Mustard (2025), Development and evolution of icy layer outcrops on March potth polar ico can: A sublimation based
- on Mars' north polar ice cap: A sublimation-based framework. Journal of Geophysical Research: Planets, 130, e2024JE008360, <u>https://doi.org/10.1029/2024JE008360</u>.
- Vermeuel, M. P., Millet, D. B., Farmer, D. K., Ganzeveld, L. N., Visser, A. J., Alwe, H. D., et al. (2024). A vertically resolved canopy improves chemical transport model predictions of ozone deposition to north temperate forests. *Journal of Geophysical Research:*

## MEETINGS/EXPOS/ OPPORTUNITIES OUTSIDE OF PURDUE

#### 41st Int. Conf. on Radar Meteorology

Abstract submissions now open! The <u>41st International Conference on Radar</u> <u>Meteorology</u> is organized by the <u>AMS Committee</u> <u>on Radar Meteorology</u> and hosted by the American Meteorological Society. The organizers are soliciting oral and poster presentations on a variety of topics.

#### August 25 – 29, 2025 in Toronto, Canada & Online Please submit your abstract online

at https://ams.confex.com/ams/41Radar/cfp.cgi by 3 April 2025 at 5:00 PM Eastern. An abstract fee of \$120 is required at the time of submission. Please note that some abstracts may not be accepted, depending on program constraints, relevance, and merit of subject matter. In such cases, the abstract fee will be refunded. Authors may indicate their preference for an oral or poster presentation during abstract submission. Oral presentation slots are limited—authors may only request one oral submission, but are welcome to present multiple posters. Authors of accepted presentations will be notified via email by late May 2025. Volunteer students are needed for registration and audio/visual support during the conference. Student volunteers are required to be in attendance the entire conference, and be available to work at least a full day from Monday through Friday (with a training on Sunday). For volunteering, the student will get their registration fee waived and \$40.00 per day for food allowance. This program is a first come, first served basis. A limited number of students will be needed for the conference. Those students interested should please contact Jessica Hanley for details.

#### Northern Illinois Field Methods in Environmental Geosciences Summer Course

The Department of Earth, Atmosphere and Environment at Northern Illinois University will be offering our Field Methods in Environmental Geosciences course (EAE 477, 5 credits) this summer

from May 19 – June 18, 2025. Our environmental field camp is designed to train students in field methods and integrative problem-solving preparing students for careers in the environmental geosciences sector. The course covers topics such as field methods in hydrogeology, surface water and vadose-zone hydrology, water quality analysis, environmental surface geophysics, site evaluation and techniques, and regional landscape history and environmental change.

We accept undergraduate and graduate students. Students must have taken a hydrogeology course before enrolling in this field course. For more information please go to our <u>website</u> or contact <u>Megan Brown</u>.

NIU also offers OSHA's Hazardous Waste Operations & Emergency Response (HAZWOPER) training through a 1 credit course, EAE 408, which will be offered **May 12 – 16, 2025**. The 40-hour HAZWOPER Training is required for many environmental geoscience jobs and is a great addition to any resume. Housing is also available on campus during this course. For more information, please visit to our <u>website: go.niu.edu/HAZWOPER</u>.

#### <u>CZNet REU</u>

2025 Critical Zone Network Research Experience for Undergraduates

The CZNet-REU program is a 10-week paid summer NSF Research Experience for Undergraduates (REU). The program runs between **May 28 – August 5**. This program will place undergraduate students at one of the nearly 50 CZ Network research sites distributed in diverse geographic settings across the continental US. Critical Zone science is becoming more important as we try to understand the Earth's living skin, from the top of the vegetation canopy to the depths of the groundwater and all the interactions taking place within that shape our environment and all life within it.

https://criticalzone.org/hub/critical-zonecollaborative-network-research-experiences-forundergraduate-cznet-reu

Applications will be accepted until March 3, 2025.

#### **SCHWEICKART PRIZE**

Propose Solutions. Demonstrate Leadership. Advance Planetary Defense. Are you a graduate student or postdoctoral fellow with bold ideas for planetary defense? The Schweickart Prize invites you to submit an innovative proposal for tackling challenges like asteroid detection, impact mitigation, space law, or public education.

#### What's the Prize?

The winner will be granted a cash prize of \$10,000 USD, receive a prestigious award, be given broad public exposure through a digital press campaign and receive mentorship by the Prize Selection Committee including Apollo 9 Astronaut Rusty Schweickart. Proposals can address diverse challenges in planetary defense, such as:

- Innovative technologies for asteroid detection
- and deflection.
- Legal solutions for asteroid mitigation collaboration.
- Public education strategies for disaster preparedness.
- Financial frameworks for funding planetary defense.

Don't see your focus here? That's okay—creative and novel approaches are encouraged! Sign up for our newsletters to learn more and be invited to upcoming information sessions.

#### Who can apply?

Graduate and/or recent graduate students. Application Deadline: March 5, 2025

How to apply: Visit <u>www.schweickartprize.org</u>

#### Accepting Applications for Office of Science Graduate Student Research Awards

The U.S. Department of Energy's (DOE) Office of Science is pleased to announce that the Office of Science Graduate Student Research (SCGSR) program is now accepting applications for the 2025 solicitation 1 cycle. Applications are due on Wednesday, May 7, 2025, at 5:00 p.m. ET.

SCGSR application assistance workshops will be held on March 6, 2025, 2:00 p.m.-3:30 p.m. ET and April 10, 2025, 2:00 p.m.-4:30 p.m. ET. The first workshop will provide a general overview of the program and the application requirements. It will also include a time for attendees to discuss their potential research topics and their alignment with the SCGSR priority areas with managers of each participating program office; register here. The second workshop will guide attendees through the application process, answer general questions, provide guidance on proposal writing, and feature discussions with scientists and former awardees; register here. SCGSR is open to U.S. Ph.D. students in qualified graduate programs at accredited U.S. academic institutions, who are conducting their graduate thesis research in targeted areas relevant to DOE's Office of Science.

More information on the SCGSR program can be found by visiting the <u>SCGSR program website</u>, by <u>emailing the SCGSR team</u>, or by attending the program's virtual office hours which will be held every Friday 3:00–4:00 p.m. ET starting on March 7, 2025, via this <u>Zoom link</u>.

#### WESTERN KENTUCKY UNIVERSITY SEEKING FOUR M.S. GRAD STUDENTS

The Department of Earth, Environmental, and Atmospheric Sciences (EEAS) at Western Kentucky University (WKU) is inviting applications for four M.S.level graduate students to start August 2025. Students will work as a part of the state-wide CLIMBS (https://kynsfepscor.uky.edu/climbs/) initiative, a 5-year, \$20 million National Science Foundation EPSCoR grant to advance research in climate resilience for Kentucky. The successful applicants will be expected to contribute to one of the following projects: (a) Identification and analysis of the synoptic-scale atmospheric environments associated with high-impact weather; (b) Dynamical downscaling of future 21st century climate projections for the Mid-South region of the U.S.; (3) Comprehensive assessment of historical state-wide weather and climate-related threats and hazards; and (4) An historical, wide-ranging study of casualties associated with high-impact weather and climate events.

These positions include a 12-month stipend and tuition. Applicants should have a B.S. degree in the atmospheric, environmental, or geographic sciences, or a closely related discipline. Prior experience in computer programming (e.g., Python, FORTRAN, NCL, Linux shell scripting) is necessary, and experience in application to climatic processes, numerical weather simulation, and/or Al-driven data analytics is preferred. Interested candidates are encouraged to contact Dr. Jerry Brotzge (<<u>Jerald.brotzge@wku.edu</u>>) for more information.

#### MASTER OF ARTS IN TEACHING EARTH SCIENCE RESIDENCY PROGRAM

The <u>Master of Arts in Teaching Earth Science</u> <u>Residency Program</u> in the Richard Gilder Graduate School at the American Museum of Natural History in New York City is **looking for graduates with Earth and space science backgrounds** (geology, mineralogy, paleontology, oceanography, astronomy, environmental geology, and more) who want to make a difference in the world of STEM education. This teaching fellowship combines coursework, mentoring, and real-world experience to prepare Earth and space science graduates for rewarding careers as culturally responsive middle and high school teachers.

All degree candidates will receive **free tuition**, **books**, **and a \$40,000 stipend** towards the cost of living. In return, candidates commit to teaching in a high-needs school for three years.

With a sole focus on preparing new Earth science teachers, the program is a full-time, 15-month Master's degree program that takes place at the Museum and in urban partner schools. We seek a student body with a passion for social justice and diverse life and career experiences.

We are currently accepting applicants for the class that will begin in June 2025. Prospective students are encouraged to attend an Information Session or to contact us for more information.

You can also visit the program website to learn more and/or join our mailing list (make sure to click MAT for Earth Science Grads). For questions, you can contact the program office directly at <u>mat@amnh.org</u> or (212) 313-7464.

#### INTERNSHIP OPPORTUNITIES FOR GRADS AND UNDERGRADS - NRO

National Reconnaissance Office (NRO) is currently accepting undergrad and graduate student intern applications for summer 2025. This is what EAPS Alumna Mariah Romero had to say about this program:

"Last summer I supervised three interns that had broad backgrounds (environmental sciences, political science, and earth sciences). I strongly encourage EAPS grads and undergrads to apply. The NRO is interested in individuals from all STEM fields. The intern application is super quick, students just need to fill out the portal and upload their resume/CV and transcript. The 'Apply Now' button is buried under a lot of text and is at the very bottom, left side of the webpage." Additional links about NRO:

#### https://www.nro.gov/

https://www.nro.gov/Careers/Student-Programs/Student-Opportunities/#cadreintern

#### **UCAR STUDENT OPPORTUNITIES WEBSITE**

Check the opportunities website for opportunities at UCAR.

#### 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 <u>Air Force Science & Technology</u> <u>Fellowship Program (AF STFP).</u>

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 <u>www.nas.edu/afstfp</u>.

#### AWG BRUNTON AWARD AND BRUNTON FIELD PROJECT AWARD

The AWG Brunton Award and Brunton Field Project Award promote the future of field mapping and data acquisition for the upcoming generation of people whose gender identity has been historically underrepresented in the geosciences. Applicants should have a passion for and exceptional experience with field work, including internships, field camp, coursework with a field-based research component, or research. The AWG Brunton Award has been active for >20 years and provides Brunton compasses to 1-2 awardees each year. The AWG Brunton Field Project Award started in 2022 and awards a Brunton compass and up to \$1000 to support field activities to each of 1-2 awardees each year. Learn more here. Deadline for entry is Dec. 15<sup>th</sup> of each year.

AGTECH INDUSTRY CONNECT PROGRAM March 5-6, 2025 University of Illinois Urbana-Champaign Meeting info

#### 56th LUNAR PLANETARY SCIENCE CONFERENCE

March 10-14, 2025 The Woodlands, Texas / Virtual <u>Meeting info</u>

LUNAR SURFACE SCIENCE WORKSHOP April 9-10, 2025 Virtual Meeting info

### 8TH INTERNATIONAL PLANETARY DUNES WORKSHOP

May 19-22, 2025 Sardina, Italy / Virtual Meeting info

#### 87TH ANNUAL MEETING OF THE METEORITICAL

<u>SOCIETY (METSOC)</u> July 14-18, 2025 Perth, Western Australia <u>Meeting info</u>

#### WORKSHOP ON BENNU AND RYUGU:

SAMPLES FROM THE EARLY SOLAR SYSTEM October 7-9, 2025 Houston, TX / Virtual Meeting info

#### <u>SECOND WORKSHOP ON ICES IN THE SOLAR SYSTEM</u> January 5-7, 2026 Montreal, Canada

## POSITIONS AVAILABLE-CAREER OPPORTUNITIES

- <u>Postdoctoral Fellow Atmospheric</u>
   <u>Observations</u> University of Puerto Rico
   <u>Postdoctoral Fellow Interdisciplinary</u>
   <u>Climate Science</u> University of Puerto
   Rico
  - o Interested candidates email:
    - Dii Email Dr. Héctor Jiménez (<u>hectorj.jimenez@upr.edu</u>) and Dr. Rosimar Rios-Berrios (rberrios@ucar.edu)
- <u>Assistant Professor of Meteorology-</u> <u>Aviation</u> – Tenure-Track University of Oklahoma, Norman, OK
- <u>Mesonet Manager Professional</u> University of Maine, Orono ME

•

- Open Rank Professor, Atmospheric Sciences, Tenure Track – University of North Dakota
- Future Faculty in the Physical Sciences
   (FFPS) Fellowship Princeton
- <u>Multiple Positions</u> with Enviroforensics
- Meteorology and Atmospheric Science

   multiple positions from various companies
- AGI Geoscience Job Center <u>multiple</u> <u>positions</u>
- Gradient Corp <u>multiple opportunities</u>. contact <u>Qian Zhang</u>
- National Weather Service <u>multiple</u>
   <u>opportunities</u>

## **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 <u>David Siple</u> 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, <u>click here</u>. As an additional resource for information

http://www.eaps.purdue.edu/

about departmental events, seminars, etc., see our <u>departmental calendar</u>.