

# EAPS WEEKLY NEWSLETTER

June 13, 2022

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## EAPS MEETINGS & EVENTS

[PURDUE CALENDAR 2022-23](#)

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

[REPORT YOUR OUTREACH AND ENGAGEMENT  
ACTIVITIES](#)

## PUBLICATIONS

- Da Silva, M. P. A., F. Rocadenbosch, R. L. Tanamachi, and U. Saeed, 2022: Motivating a synergistic mixing-layer height retrieval method using backscatter lidar returns and microwave-radiometer temperature observations. *IEEE Trans. Geosci. Remote Sensing*, **60**, 1–18, <https://doi.org/10.1109/TGRS.2022.3158401>.
- Jianzhong Xu\*, Anusha Priyadarshani Silva Hettiyadura, Yanmei Liu, Xinghua Zhang, Shichang Kang, and Alexander Laskin\* "Atmospheric Brown Carbon on the Tibetan Plateau: Regional Differences in Chemical Composition and Light Absorption Properties," ACS Publications, <https://doi.org/10.1021/acs.estlett.2c00016>
- Yue Zhou, Christopher P. West, Anusha P. S. Hettiyadura, Wei Pu, Tenglong Shi, Xiaoying Niu, Hui Wen, Jiecan Cui, Xin Wang\*, and Alexander Laskin\*, "Molecular Characterization of Water-Soluble Brown Carbon Chromophores in Snowpack from Northern Xinjiang, China," ACS Publications, <https://pubs.acs.org/doi/abs/10.1021/acs.est.1c07972>
- Stone, A., Inglis, R., Barfod, D., Ickert, R., Hughes, L., Waters, J., Jourdan, A.-L., Alsharek, A., 2022. Hydroclimatic and geochemical palaeoenvironmental records within tufa: A cool-water fluvio-lacustrine tufa system in the Wadi Dabsa volcanic setting, western Saudi Arabia. *Sedimentary Geology* 106181. <https://doi.org/10.1016/j.sedgeo.2022.106181>
- Zhao, B., Zhuang, Q., Treat, C., & Frolking, S. (2022). A model intercomparison analysis for controls on C

accumulation in North American peatlands. *Journal of Geophysical Research: Biogeosciences*, 127, e2021JG006762.

<https://doi.org/10.1029/2021JG006762> PDF

- Liu, X.; Wang, S.; Zhuang, Q.; Jin, X.; Bian, Z.; Zhou, M.; Meng, Z.; Han, C.; Guo, X.; Jin, W.; et al. A Review on Carbon Source and Sink in Arable Land Ecosystems. *Land* 2022, 11, 580.

<https://doi.org/10.3390/land11040580> PDF

## OUTREACH NEWS

This semester we are scheduling live events for K-12 students again! For both our Hands-on Purdue Science programs (HOPS and AP Fridays) we are offering classrooms the following themes

**Wednesdays and Fridays in May:** Investigating Water Quality

[Check out the online labs and resources outreach has created.](#)

**Social sites:**

[TikTok SuperHeroesofScience](#)

[Facebook EAPS Outreach](#)

[Facebook Superheroes of Science](#)

[Twitter](#) [EAPS departmental outreach web page](#)

[Instagram](#)

**Are you heading out for field work soon? If so, take some video footage or photos for outreach to use for teaching about the amazing things that we research!**

## NEWS/OPPORTUNITIES


### EAPS WELCOMES JENNI MONTES, SENIOR ACADEMIC ADVISOR

[Jenni Montes](#) joined EAPS on Monday, May 16 May, as our new Senior Academic Advisor. Jenni replaces Barbara Walker in this role for undergraduate advising. Jenni comes to us from the College of Science where she has been an advisor for students in Mathematics, Statistics, Actuarial Science, and Physics and Astronomy. Her office and phone are HAMP 2169E and 4-3267. Welcome to EAPS, Jenni!

### REGISTRATION FOR 2022 TAI4ES SUMMER SCHOOL NOW OPEN June 27-June 30

[See website](#) for more information.

[Students register here](#) [Non-students register here](#)



**Trustworthy Artificial Intelligence for Environmental Science (TAI4ES) Virtual Summer School**  
**June 27 – June 30, 2022** Website: [bit.ly/TAI4ES2022](http://bit.ly/TAI4ES2022)

Participants will gain an understanding of:

- the foundations of trustworthiness for AI
- explanatory AI (XAI) and how explanations, physics, and robustness can help build trust in AI
- the relationship between ethics and trustworthiness
- how machine-learning systems have been developed for a range of environmental science applications

Interactive machine learning Trust-a-thon with beginner and advanced tracks

**Non-Student Registration: (\$25)**  
[events.eply.com/TAI4ES](http://events.eply.com/TAI4ES)  
 Registration fee waivers available – see registration form for more information.

**Student Registration (\$0):**  
[bit.ly/TAI4ESregStudent](http://bit.ly/TAI4ESregStudent)

NSF AI Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography (AI2ES)

Logos: NCAR UCAR, LEAP, Radiant Earth Foundation

**QPR SUICIDE PREVENTION TRAINING**

**6/29** from 10:30 a.m. to 12:30 p.m.

(limit 40) [Register Here](#)

**7/19** from 12:30 – 2:30 p.m.

(limit 40) [Register Here](#)

Office of Graduate Professional Development has partnered with the Office of the Dean of Students to provide a unique training opportunity free to graduate students, faculty, and staff. Please share this information with your students and those in your department who may be interested in attending.

- Question, Persuade, and Refer — the 3 simple steps anyone can learn to help save a life from suicide. Just as people trained in CPR and the Heimlich Maneuver help save thousands of lives each year, people trained in QPR learn how to recognize the warning signs of a suicide crisis and how to question, persuade, and refer someone to help. (QPR Institute, 2022)
- In this workshop, students will Discuss the stigma associated with suicide and provide tips for having an impactful conversation for those in need. Join us as we share how to put into practice the 3 steps that may help prevent suicide.
- Students who attend will receive certification and will become a QPR Gatekeeper.
- Lunch will be served
- To learn more about QPR, visit <https://qprinstitute.com/>
- Participants must have an active Go Sign Me Up account to register. To create an account, please see these [instructions](#).

Feel free to email [profdev@purdue.edu](mailto:profdev@purdue.edu) with any questions you may have!

**85TH ANNUAL MEETING OF THE METEORITICAL SOCIETY**

**August 14–19, 2022, Glasgow, Scotland**

The 85th Annual Meeting of The Meteoritical Society is hosted by the University of Glasgow planetary science research group. The meeting is an excellent opportunity to present and discuss your research and learn about the state-of-the-art advancements in our fields. We will be hosting a hybrid meeting, with in-person and virtual participation options.

**Society Events -**

- **Sunday, August 14:** Meeting registration and a welcome reception begin at 5:00 p.m. British Summer Time (BST) at the Hunterian Museum housed within the historic main building of the University of Glasgow.
- Oral and poster sessions, plenary sessions, and the Barringer Invitational Lecture will take place at the Loch Suite of the Scottish Event Campus.
- **Wednesday, August 17:** Excursions to explore both the city and the neighboring countryside will be offered. The meeting banquet with ceilidh will be held in the evening at the magnificent Kelvingrove Art Gallery and Museum, the U.K.'s most popular museum outside London. The Kelvingrove is home to internationally important natural history and archaeological collections, as well as artwork by Salvador Dalí, Van Gogh, Whistler, Monet, and Botticelli.
- Several pre-meeting workshops (August 13–14, 2022) and post-meeting excursions (starting August 20, 2022) will be offered. See the meeting website for more information.

**Accommodations -** Rooms have been reserved in multiple hotels, offering a range of prices. The Scottish Event Campus is located in the center of Glasgow, with six hotels within easy walking distance and many more just a stroll away. For hotels a little further away, public transportation in Glasgow is frequent and reliable, and the Scottish Event Campus has its own train station, bus stops, and taxi ranks.

Glasgow is undoubtedly one of Europe's most dynamic cultural capitals, steeped in culture, rich in history, and alive with excitement. It is also an easy destination to reach and travel around, with three international airports within an hour's drive and good rail, subway, and bus links. For more information, visit the [meeting website](#).

**20TH MEETING OF THE VENUS EXPLORATION ANALYSIS GROUP (VEXAG)**

**November 7-9, 2022**

**Pasadena, California/Virtual**

To include as any participants as possible and consider the possible impact of COVID-19 on in-

person attendance, components of the meeting will be available virtually. Election Day in the U.S. is November 8 -- remember to vote early if you plan to attend the meeting in person.

The annual meeting is a forum for scientists and engineers to discuss NASA/U.S. exploration of Venus.

**Important:** To be added to the mailing list to receive additional information about this meeting, submit an indication of interest.

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### **EAPS GRAD STUDENT RESEARCH OPPORTUNITIES**

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

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### **ANCIENT VENUS CONFERENCE JULY 25-27, 2022**

**Lunar and Planetary Institute  
Houston, Texas/Virtual**

The conference will be hybrid -- in-person at the Lunar and Planetary Institute (LPI) in Houston, Texas and virtual. As a prelude to the flotilla of spacecraft that will target Venus in the next decade, the LPI's Venus Science Initiative aims to consolidate our understanding of that veiled planet, explore new hypotheses from the data in hand, and encourage innovative ways to exploit measurements from upcoming spacecraft. Venus's origin and history remain enigmatic -- current data appear inadequate or of insufficient precision to provide unambiguous answers to many fundamental questions, including how Venus formed and whether it ever had oceans and/or habitable environments. The high temperature of Venus's surface allows rapid reactions between the planet and the atmosphere, implying system-level feedbacks among its atmosphere, surface, and interior. Further, Venus is our best local example of other terrestrial exoplanets, permitting a stronger understanding of other solar systems and their formation processes. In this initiative of four conferences, we will address these and other questions about Venus and provide a forum for scientific anticipation of coming spacecraft data.

**Objectives:** Venus is now shrouded in a thick, hot greenhouse atmosphere. What was Venus before the greenhouse, or has it always been this way? As Venus aged, how have the exchanges among its interior, surface, and atmosphere changed, and how did each of these reservoirs evolve?

Thematically, the conference will focus on four main topics, while cementing the discussion around our knowledge of ancient Venus:

1. Accretion history of Venus
2. Evolution of the volatile inventory and climate on Venus
3. Habitability of ancient Venus
4. Geodynamics and surface processes through time

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### **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](#).

**Fall Application Deadline:** October 1

**Spring Application Deadline:** March 1

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### **EXOPLANETS IN OUR BACKYARD 2 NOVEMBER 2-4, 2022 Pasadena, CA/Virtual**

The Venus Exploration Analysis Group (VEXAG) meeting is scheduled two days after the Exoplanets workshop. As it becomes available, more information regarding the VEXAG meeting will be posted on the VEXAG website. Exoplanets in Our Backyard 2 is a workshop hosted by the Venus Exploration Analysis Group (VEXAG), Outer Planets Assessment Group (OPAG), Exoplanet Exploration Program Analysis Group (ExoPAG), Mars Exploration Program Analysis Group (MEPAG), and Mercury Exploration Assessment Group (MExAG). The goal of the workshop is to examine and discuss exoplanet-solar system synergies on planetary properties, formation, evolution, and habitability. Topics include comparative planetology on worlds near and far; solar system studies as a baseline for studies of extrasolar planetary properties and evolution; and lessons learned on planetary statistics, demographics, and system architectures from extrasolar planetary systems. This workshop aims to foster and build new collaborations among scientists in the solar system and exoplanet communities and to help guide the direction of

future exploration and observations of worlds in the solar system and beyond. [More info.](#) For more information, contact: Meeting and Publication Services, USRA/Lunar and Planetary Institute, [meetinginfo@hou.usra.edu](mailto:meetinginfo@hou.usra.edu)

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### **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.

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### **ANNUAL MEETING OF PLANETARY GEOLOGIC MAPPERS**

**June 22–23, 2022**  
**Flagstaff, Arizona/Virtual**

The Annual Meeting of the Planetary Geologic Mappers is scheduled to be held on June 22–23, 2022, at the Northern Arizona State University in Flagstaff, Arizona, with virtual participation available.

The annual meeting will bring together community members to report progress on geologic mapping projects, discuss a wide range of mapping strategies, and coordinate map-based scientific

investigations of planetary surfaces at multiple scales. Specific attention will be focused on how geology-based site characterization can support human exploration. Abstracts are solicited for topics, including progress reports on active mapping investigations, mapping strategies, mission support, community resources, and education. Group discussions will address map data standardization and dissemination, map-based investigations of geologic processes, ways to modernize and improve geologic maps for human and robotic exploration, and the use of geologic maps to support exploration. Important: To be added to the mailing list to receive additional information about this meeting, submit an indication of interest.

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### **WORKSHOPS ON IN SITU EXPLORATION OF THE GIANT PLANETS II**

**July 12-14, 2022**

**Johns Hopkins Univ. Applied Physics Laboratory,  
Laurel, Maryland**

The [Workshop on In Situ Exploration of the Giant Planets II](#) will build upon the results of the Workshop for In Situ Exploration of the Ice Giants held in Marseille in February 2019 addressing in situ exploration of the ice giants.

**Registration:** Registration on-site will be limited to 100 attendees, with pre-registration required. No onsite registration will be available. Registration details will be posted at a later date. Registered attendees will receive an email from Houston Meeting Info with virtual connection information. For more information, contact: Meeting and Publication Services, USRA/Lunar and Planetary Institute, [meetinginfo@hou.usra.edu](mailto:meetinginfo@hou.usra.edu)

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### **ANNUAL MEETING OF THE LUNAR EXPLORATION ANALYSIS GROUP**

**August 23–25, 2022**

**Johns Hopkins University Applied Physics  
Laboratory, Laurel, MD/Virtual**

The 2022 Annual Meeting of the Lunar Exploration Analysis Group is scheduled for August 23–25, 2022, and will be held in person in Laurel, Maryland with an opportunity for virtual participation.

#### **Abstract Deadline Approaching**

[Call for Abstracts - Abstract submission deadline:](#) June 9, 2022, 5:00 p.m. U.S. Central Daylight Time (GMT -5)

**Registration** - Registration fees are not being collected for this workshop, but [registration is](#)

[required](#). Advance registration is required for in-person attendance. There will be no onsite registration.

**In-Person Registration Deadline: August 9, 2022**

**Virtual Registration Deadline: August 25, 2022**

In-person attendees must complete the COVID-19 [Visitor Screening form by August 9, 2022](#).

Check the meeting website and the JHU APL website often for updated COVID-19 protocols.

Available Awards

[Visit the meeting website](#) for instructions on how to apply for the available awards.

- LEAG Service Award
- Larry Taylor Travel Fund
- Bernard Ray Hawke Next Lunar Generation Career Development Award
- LEAG Early-Career/Student Travel Support

## POSITIONS AVAILABLE- CAREER OPPORTUNITIES

### METEOROLOGIST POSITIONS AVAILABLE TEGNA

Multiple [meteorology positions](#) are open with TEGNA.

### 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

### 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](http://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](#).

### 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](#).

### POSITIONS AVAILABLE IN METEOROLOGY AND ATMOSPHERIC SCIENCE

[View current career listings](#)

### AGI GEOSCIENCE JOB CENTER

[Check listings here.](#)

### GRADIENT CORP

## **MULTIPLE OPPORTUNITIES**

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

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](#).

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## **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.

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## **NATIONAL WEATHER SERVICE POSITIONS AVAILABLE**

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

# **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](#) by **5:00pm on Thursday of each week for inclusion in the Monday issue.**