EAPS WEEKLY NEWSLETTER
5 November 2018

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BE SURE TO CHECK OUT ALL OF THE EAPS COMMUNICATIONS MEDIA!

Facebook
Twitter
Department Magazine
Website News

DEPARTMENT NEWS

EAPS COLLOQUIA

John Wakabayashi
California State University, Fresno
Jahns Distinguished Lecturer
Thursday, November 8, 2018
10:30 a.m.
HAMP 2201

Eugene Ilton
Pacific Northwest National Laboratory
Thursday, November 8, 2018
3:30 p.m.
HAMP 1252

EAPS MEETINGS & EVENTS

EAPS FACULTY MEETINGS
November 20
3:00 PM
HAMP 3201

EAPS PRIMARY COMMITTEE MEETINGS
November 13

CoS STAFF MEETING
December 17
3:00-4:30 PM
WTHR 200

http://www.eaps.purdue.edu/
EAPS DE FENSES MS
Carolyn Box November 9, 2018
1:30 PM
HAMP 4251

Purdue EAPS Well Represented at Severe Storms Conference

A contingent of three faculty and six students from Purdue EAPS attended the American Meteorological Society (AMS) 29th Conference on Severe Local Storms in Stowe, Vermont, October 22-26, 2018. Delivering a total of three oral presentations and 10 poster presentations, the attendees were EAPS faculty Prof. Dan Dawson, Prof. Dan Chavas, and Prof. Robin Tanamachi, graduate students Allison LaFleur, Milind Sharma, Shawn Simmons, Zhanxiang (Henry) Hua, and Funing Li, and undergraduate student Derek Dalman. (See attached photo.)

The AMS Severe Local Storms conference occurs biennially. About 300 people attended this year’s conference, which, according to its website, “covers all topics related to severe local storms and associated hazards of tornadoes, damaging winds, lightning, and flash floods.”

STUDENT NEWS

Graduate Student International Travel Awards

Application Submission Deadline: 4:00 PM November 17, 2018. For travel between January 1 and June 30, 2019. (See attached flyer for complete details)

O’Reilly & Springer Publisher Books

You can access O’Reilly and Springer books on a wide variety of topics for free. Do so by visiting their respective publisher portals (PU login required):

- O’Reilly: https://proxy.com.ezproxy.lib.purdue.edu/registration
- Springer: https://link.springer.com/ebooks

FREE O’REILLY & SPRINGER PUBLISHER BOOKS FOR PURDUE STUDENTS

You can access O’Reilly and Springer books on a wide variety of topics for free. Do so by visiting their respective publisher portals (PU login required):
2019 SUMMER ASSOCIATE PROGRAM

Institute for Defense Analyses (IDA) in Alexandria, VA has a great student internship program for undergraduate and graduate students. IDA is currently looking for applicants for the 2019 Summer Program with potential opportunities in meteorology/atmospheric science.

Applications are due by January 5, 2019.

Click the link below to see the details of the position:
https://chk.tbe.taleo.net/dispatcher/servlet/DispatcherServlet?org=INSTITUTEDA&act=redirectCws&cws=39&redirectUrl=%2Fats%2Fcareers%2Frequisition.jsp%3Frid%3D1165%26org%3DINSTITUTEDA%26cws %3D39

MET TALKS; EXPLORING CAREERS IN GOVERNMENT METEOROLOGY

The AMS Board of Operational Government Meteorologists are hosting a webinar for students who may be interested in a career in government meteorology. Several speakers from across the government spectrum have been lined up and will be having webinar on Wednesday, November 7th between 11:30 a.m. and 3:30 p.m.

GoTo Webinar: https://bit.ly/2CnXSNI

11:30 AM EST: Trisha Palmer (NWS Greenville-Spartanburg)/ Laura Belanger (NWS Peachtree City) – “NWS Application Process and Employment Statistics”


1:00 PM EST: Brandon Bolinski (FEMA) – “Meteorologists Finding their Way into Emergency Management”

1:30 PM EST: BREAK

2:00 PM EST: John Gordon (NWS Louisville) – “How to Separate Yourself From Your Peers in a Competitive Job Market”

2:30 PM EST: Adam Roser (NWS San Diego) – “Interviewing to be a Meteorologist in the NWS: Transitioning from Student to Professional”

3:00 PM EST: Dr. Genene Fisher (NCEP – “NCEP Student Internship Program and other Student Opportunities”

2018 EARTH SCIENCE PASSPORT DAY

Imagination Station
Saturday, November 10, 2018
10:00 AM – 3:00 PM

[See attached flyer for complete details]

GSA AND AGU RECEPTIONS

The GSA Reception is at the J.W. Marriott in Indianapolis, Room 101 on Monday, November 5, from 7-9 p.m.

The AGU Reception is at Matchbox Chinatown in Washington D.C. on Thursday, December 13, from 7-9:30 p.m.

UNIVERSITY AT ALBANY – POST-DOCTORAL RESEARCH

Professor Ryan Torn at the University at Albany is seeking a post-doctoral research with research interests in ensemble forecasting and/or tropical cyclone forecasting and prediction. The research supported by this award will be directed toward assessing probabilistic hazard prediction in the Hurricane Weather Research and Forecasting (HWRF) ensemble prediction system. In addition, the award will support research into understanding the factors that impact position and intensity forecasts.

Candidates should hold a PhD in atmospheric science or related discipline, conferred within the last three years, from a college or university accredited by the U.S Dept. of Education or an internationally recognized accrediting organization, have some experience using

http://www.eaps.purdue.edu/
numerical weather prediction model output, and have the ability to work independently. Ideal candidates would have some experience with model validation.

Terms of appointment are for one (1) year, renewable for one additional year, subject to satisfactory performance. All applicants must address in their applications their ability to work with a culturally diverse population. Applicants are asked to submit electronically: (1) a curriculum vitae, (2) a publication list, and (3) the names of three individuals who can provide a letter of reference and (4) a statement of professional interests to Ryan Torn (rtorn@albany.edu). The position will remain open until it is filled. Preference will be given to applications that are received before November 15, 2018.

APPLY NOW FOR 2019 A OPERATION GROUNDSWELL - BACKPACKING WITH A PURPOSE

2019 APPLICATIONS NOW OPEN!

Discover the wider world and connect with change makers making a positive and lasting impact in their communities.

Operation Groundswell is a non-profit organization that facilitates deeply immersive, educational, and volunteer experiences around the world. We dig into social justice issues while working in solidarity with local activists, non-profits, and communities. We want you to join us in our mission to create a more equitable, just, and sustainable world through travel.

Apply by November 23rd! Programs are filling up quickly, so apply as soon as possible. Financial assistance is available for all students on five- and six-week programs. You may also be able to use our programs for academic credit. Talk to us about your options!

Start your journey at: WWW.OPERATIONGROUNDSWELL.COM
Can’t travel in the summer? We travel all year long!

MS SCHOLARSHIPS AND FELLOWSHIPS

AMS scholarships and fellowships range from $1,000 to $25,000 and are open for applications — whether you will be a college freshman or a graduate student, AMS supports your education and pursuit of a career in the atmospheric and related oceanic or hydrologic sciences.

- 21 Senior Scholarship awards ranging from $2000 to $10,000 are available in 2019 for outstanding undergraduate students entering their final year of study. Applications are due on 8 February 2019.

- AMS Graduate Fellowships include a $25,000 stipend and partial travel support to attend the AMS Annual Meeting. Applications are due on 11 January 2019.

- The AMS Freshman Undergraduate Scholarship program is open to all high school students and designed to encourage study in the atmospheric and related sciences. Applications are due on 8 February 2019.

- AMS Minority Scholarships award funding to minority students who have been traditionally underrepresented in the sciences, especially Hispanic, Native American, and Black/African American students. Applications are due on 8 February 2019.

To learn more and apply click here.

SAP PORTAL PAUSE DATES ANNOUNCED IN PREPARATION FOR SUCESSFACTORS TRANSFORMATION

Data preparations are underway for the upgrade to SuccessFactors, set to deploy Jan. 1. Nonexempt (i.e., hourly) staff will access SuccessFactors starting with the Dec. 24-Jan. 6 pay period. Exempt staff will access SuccessFactors starting Jan. 2. All employees will use SuccessFactors to view pay statements, adjust tax information, edit bank details, request time off, etc.

http://www.eaps.purdue.edu/
All employees are encouraged to attend the SuccessFactors Resource Fair from 10:30 a.m. to 2:30 p.m. on Thursday (Nov. 1) in Purdue Memorial Union’s South Ballroom to learn more about the upcoming changes.

Pause activities and dates are being implemented to reduce data conversion risk. Managers are encouraged to review the pause dates and adjust their staff hiring process timeline.

All employees should be aware of the Purdue SAP Portal pause on Nov. 28. Nov. 27 is the last day employees can access Purdue SAP Portal via OneCampus to view their salary statement, request leaves online, or update personal information such as bank details, tax withholdings, etc. Employees are encouraged to request their December-dated time off or leaves by the needed time frame.

Here are the dates for the processes/systems that will be affected by the pause:

**Thursday (Nov. 1): Position creation through Human Resources Compensation.** New position creation will pause Thursday. Only mission-critical positions can be created between Nov. 1 and Jan. 1.

**Nov. 9: Existing positions reviewed by Human Resources Compensation.** Existing positions with no changes in responsibilities must be sent to Compensation no later than 5 p.m. Nov. 9 in order to be posted in Taleo.

**Nov. 26: Staff recruitment through Taleo.** The last day to post a staff position in Taleo is Nov. 26. Taleo pauses Dec. 14. Hiring manager may continue to use the candidate pool within Taleo or post the position again through SuccessFactors in January to create a new candidate pool.

**Nov. 27: Employee Self-Service (Purdue SAP Portal).** Last day to access the SAP Portal, complete personal information updates and request online leaves.

**Nov. 30: Leave requests through Form 33Absence.** Last day to submit/approve Form 33Absence.

**Nov. 30: FMLA leave.** Last day to submit December-dated FMLA leave.

**Dec. 6: Personnel Action (PA) forms due to Payroll for December-dated actions for Dec. 1-30 monthly pay period.** As stated on the monthly payroll calendar on the Payroll website.

**Dec. 13: PA forms due to Payroll for December-dated actions for Dec. 10-23 biweekly pay period.** As stated on the monthly payroll calendar on the Payroll website.

**Dec. 14: Staff recruitment through Taleo.** Taleo pauses (hiring managers can continue to use existing candidate pools).

**Dec. 19: Benefit changes.** New hires and individuals with qualifying life events can continue to make changes to benefit elections in Benefitfocus, the online benefit enrollment system, through 5 p.m. Dec. 19.

NATIVE AMERICAN EDUCATIONAL AND CULTURAL CENTER TO CELEBRATE HERITAGE MONTH

Purdue University’s Native American Educational and Cultural Center will host several events to celebrate Native American Heritage Month in November.

“Native American Heritage Month is a celebration to recognize and acknowledge the traditions and contributions of indigenous people,” said Felica Ahasteen-Bryant, director of the Native American Educational and Cultural Center. “We are excited to offer programs that showcase our diverse tribal nations and to address both historical and current issues that impact Native peoples. I encourage the Purdue campus community to join us and gain deeper insight and appreciation of Native American cultures.”

This year’s observance includes an opening celebration with award-winning artist and champion traditional dancer Dana Warrington from 4 to 5:30 p.m. on Thursday (Nov. 1) in Stewart Center, Room 278.

Warrington will share stories and history from both his Menominee Tribe in Wisconsin and Prairie Band
of Potawatomi of Kansas. Warrington is the featured artist for the fall 2018 Eiteljorg Museum’s Artist-in-Residence Program. The opening celebration is co-sponsored by the Eiteljorg Museum of American Indians and Western Art in Indianapolis.

Another highlight of the monthlong observance will be Purdue’s Literary Reading Series, featuring poet Natalie Diaz at 7:30 p.m. Nov. 29 at Krannert Building’s Krannert Auditorium (Room 140).

Diaz was born and raised in the Fort Mojave Indian Village in Needles, California, on the banks of the Colorado River. She is Mojave and an enrolled member of the Gila River Indian Tribe. Her first poetry collection, “When My Brother Was an Aztec,” was published by Copper Canyon Press. She has received numerous awards, including being named a MacArthur Fellow, a Lannan Literary Fellow and a Native Arts Council Foundation Artist Fellow. She teaches at Arizona State University’s Creative Writing Master of Fine Arts program. Her talk is sponsored by the Creative Writing Program and the College of Liberal Arts.

Other scheduled events, which are open to the public, include:

* **Nov. 2: 9:30 a.m. - 2 p.m.**, Indiana State Capitol in Indianapolis. Native American Indian Days at the State Capitol. This is the opening event to kick off Native American Heritage Month in Indiana. The event includes educational activities and will feature traditional Native American singers and dancers. This event is co-sponsored by the Indiana Native American Indian Affairs Commission.

* **Nov. 6: 6-7:30 p.m.**, Peirce Hall, Room 277. Film screening of “Native America: Episode 3 – Cities of the Sky.” This event is co-sponsored by Purdue Polytechnic Institute’s Office of Recruitment, Retention and Diversity, and the Science Diversity Office.

* **Nov. 8: noon - 1 p.m.**, Native American Educational and Cultural Center. “Tribal Futures – Nightmare or Rebirth?: The Cherokee Nation of Oklahoma Imagines 2028,” presented by Tol Foster. Sponsored by the NAECC in collaboration with Civic Engagement and Leadership Development.

* **Nov. 13: 6-7:30 p.m.**, Third Street Suites Conference Room. Film screening of “Native America: Episode 4 – New World Rising.” This event is co-sponsored by University Residences.

* **Nov. 15: 3-5 p.m.**, Native American Educational and Cultural Center. NAECC Craft Circle, featuring gourd art. Local Native artist Linda Andrews will lead. Bring creative energy for this stress reduction event. Registration required.

* **Nov. 27: 3-4:30 p.m.**, Native American Educational and Cultural Center. NAECC Indigenous Alumni Speakers Series presents RaeLynn Butler. This speaker series features distinguished Native American, Alaska Native and Native Hawaiian Purdue alumni who are making significant contributions in Native American communities and accomplishments in their profession. Butler is from the Muscogee Creek Nation in Tulsa, Oklahoma. She received her bachelor’s degree from Haskell Indian Nations University and her master’s degree in botany from Purdue’s Department of Botany and Plant Pathology in the College of Agriculture. She currently serves as the manager of the historic and cultural preservation department with the Muscogee Creek Nation.

* **Nov. 28: 8 a.m. - 5 p.m.**, Hendricks County Fairgrounds in Danville, Indiana. MESA 15th Annual Multicultural Gathering. “Mother Earth & Father Sky: Environmental Justice, Food Security and Sexual Violence Prevention.” This is a one-day training focused on developing strategies for sexual violence prevention in underserved and underrepresented communities. MESA (Multicultural Education to End Sexual Assault) sponsors this event, and the NAECC serves as a co-sponsor.

* **Dec. 1: noon-4 p.m.**, Native American Educational and Cultural Center. Third annual Native American Winter Art Market. Native American students and local artists showcase their jewelry and artwork. The Purdue and Lafayette community are invited. This event is co-sponsored by Native American Student Association and Purdue AISES (American Indian Science and Engineering Society).

In addition to those programs, the center will launch “Natives Helping Natives,” which will include service events for the community. One will be a food drive for a food pantry managed by the American Indian Center of Indiana in Indianapolis. **Food donations may be dropped off at the center through Nov. 14.** In addition, a collection for books,
gloves, hats and scarves will be taken at the center. Those items will be shipped to a school and an assisted living facility in New Mexico that serves primarily Native Americans.

**Writer:** Matthew Oates, 765-496-2571, oatesw@purdue.edu

**Source:** Felica Ahasteen-Bryant, 765-494-4540, felica@purdue.edu

**FACULTY AFFAIRS INITIATIVES UP-TO-DATE WITH DEADLINES FOR 2018-2019**

The website for faculty affairs initiatives in up-to-date with the deadlines for FY 2018-2019 and descriptions of the programs.

[https://www.purdue.edu/provost/faculty/facultyInitiatives/facultyinitiatives.html](https://www.purdue.edu/provost/faculty/facultyInitiatives/facultyinitiatives.html)

Should you have any questions, please contact Jessica Huber ([jhuber@purdue.edu](mailto:jhuber@purdue.edu)).

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**CELEBRATIONS**

Logan Judy
November 6

Timothy Filley
November 10

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**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. Individual email announcements will no longer be sent unless the content is time-sensitive. We will continue to include our publications, presentations and other recent news items as well.

Those using paper copies of the newsletter should go to our newsletter archive on the EAPS website at [http://www.eaps.purdue.edu/news/newsletters.html](http://www.eaps.purdue.edu/news/newsletters.html) and Click on News to access active links as needed. Material for inclusion in the newsletter should be submitted to Katherine Huseman ([khuseman@purdue.edu](mailto:khuseman@purdue.edu)) by 5:00pm on Thursday of each week for inclusion in the Monday issue.

If it is in the newsletter, we assume you know about it and no other reminders are needed. For answers to common technology questions and the latest updates from the EAPS Technology Support staff, please visit: [http://www.eaps.purdue.edu/resources/information_technology/index.htm](http://www.eaps.purdue.edu/resources/information_technology/index.htm).

Also, as an additional resource for information about departmental events, seminars, etc., see our departmental calendar at [http://www.EAPS.purdue.edu/events-calendar.html](http://www.EAPS.purdue.edu/events-calendar.html)
Mélanges are viewed by most in the research community as “subduction channels” that accommodate subduction interface slip across a very broad (kilometers of thickness) shear zone. The mixing of blocks of apparently disparate origin into matrix in this model is attributed to large-scale megathrust slip as well as “return flow” (direction of slip opposite to that of subduction). Detailed field studies indicate that so-called subduction channel mélanges are actually deformed sedimentary deposits, and that mixing of the blocks into matrix took place by submarine landsliding, which is a common phenomenon in large subduction zone earthquakes. Mélanges of this type are simply part of the sedimentary trench fill, and they are locally interbedded with “ordinary” turbidites. Matrix ranges from shaley to sandy and from siliciclastic to serpentinite with gradation and interfingering between these lithologies. Many high-pressure metamorphic blocks were previously metamorphosed and exposed on the surface prior to incorporation into the mélange and resubduction, and some blocks had two prior subduction-exposure cycles. Such histories are recorded in sand-size grains as well. Deformation, variably overprinting these sedimentary mélanges locally results in a secondary tectonic block-in-matrix textures in which there may be “blocks” formed of matrix surrounded by more strongly deformed matrix.
Water Helps the Medicine Go Down: A Common Denominator Determining the Incorporation of Incompatible Species in Swelling Clays and Hematite (α-Fe2O3)

Eugene Ilton
Pacific Northwest National Laboratory

A common strategy for the geologic sequestration of actinides and greenhouse gases is the formation of a stable host phase. Idealized scenarios include the formation of carbonates and reduced forms of U, such as UO₂, that lower solubility and restrict transport. With respect to CO₂, however, formation of carbonates can be slow, particularly in reservoirs that are depleted in reactive alkaline-Earth silicates such as olivines and pyroxenes. In this regard, we have shown that common swelling clays that are ubiquitous in depleted oil and gas reservoirs, and that are a large phase fraction of (relatively shallow) cap-rocks that seal the reservoir, can intercalate appreciable CO₂ under certain conditions. Surprisingly, H₂O can facilitate CO₂ intercalation and CO₂, in turn, can synergistically promote hydration and expansion of the interlayer region. How a nominally non-polar and a polar volatile interact to modify the properties of an ionic solid is discussed with relevance to CO₂ storage and cap-rock behavior. With respect to uranium, maintenance of reducing conditions required to stabilize UO₂ over millennia can be difficult if not impossible to guarantee. Thus there is interest in encapsulating or incorporating the oxidized species (U⁶⁺) in cheap and abundant stable phases such as hematite (Fe₂O₃) and goethite (FeOOH) either as an engineered product or as the result of interactions between U and corroding steel containers. Indeed, up to about 1 mole % U⁶⁺ can be incorporated in hematite under low T hydrothermal conditions. Given such a large charge imbalance (+3) and that U⁶⁺ in solution strongly prefers uranyl symmetry that is incompatible with the hematite structure, it is surprising that U⁶⁺ can reach the level of a minority dopant. However, attempts to understand exactly how U⁶⁺ is accommodated by the hematite structure has been elusive, with a number of studies putting forth wildly different interpretations of essentially identical EXAFS data. Recently, we applied ab initio molecular dynamic (AIMD) to interpret the EXAFS of U⁶⁺ associated with hematite and discovered that U⁶⁺ does substitute for Fe³⁺ in octahedral sites, but that both charge balance and the preferred symmetry of U⁶⁺ are accommodated by localized partially protonated Fe³⁺ vacancies (P Fe). In other words, the local environment around U⁶⁺ is more like hydrohematite than hematite. Implications for the stability of U⁶⁺/P Fe hematite are discussed as well as the possible generality of H₂O/P Fe increasing the solubility of so-called incompatible impurities in nominally anhydrous hematite.

Thursday, November 8, 2018
3:30pm
Room 1252/HAMP

Refreshments at 3:00 pm
Room 2201/HAMP
2019 College of Science Graduate Student International Travel Awards

Application Submission Deadline: 4:00 PM November 17, 2018

For travel between January 1, 2019 and June 30, 2019

~ 2 or 3 awards ranging up to $800 for international travel will be awarded~

Prerequisites:
• must be a full-time PhD student within the Department in the College of Science

must be making an oral or poster presentation at an international conference

Priority will be given to:
• travel to make an oral presentation at a conference
• attendance at an interdisciplinary conference
• students who have passed their prelims

To apply, please send electronically as one file:
• CV (2 page limit)
• brief summary of research (1 page limit)
• brief statement of purpose for attending conference specifying whether your presentation is oral or poster
• provide web link to conference
• letter of support from research advisor

Send applications to Robin Sipes at rsipes@purdue.edu
Met Talks: Exploring Careers in Government Meteorology

Wednesday, November 7, 2018 | 11:30 AM – 3:30 PM EST

GoTo Webinar: https://bit.ly/2CnXSNI

Hosted by the American Meteorological Society Board for Operational Government Meteorologists

11:30 AM EST: Trisha Palmer (NWS Greenville-Spartanburg) / Laura Belanger (NWS Peachtree City) – “NWS Application Process and Employment Statistics”


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3:00 PM EST: Dr. Genene Fisher (NCEP) – “NCEP Student Internship Program and other Student Opportunities”
Ernjoy a journey through the Earth Sciences!
Practice your scientific skills with 10+ hands-on activities!
Complete them all to win cool prizes and the title of Junior EAPS Scientist!