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Undergrad/Graduate Student News.................................2
University News...............................................................3

DEPARTMENT NEWS

EAPS DEPARTMENT SEMINARS

Nicole Lunning
Smithsonian Institution
Monday, April 10, 2017
10:30 AM
HAMP 2201

Christopher Roemmele
PhD Candidate
Wednesday, April 12, 2017
3:30 PM
HAMP 2201

Marc Caffee
Purdue University
Thursday, April 13, 2017
3:30 PM
HAMP 1252

Carolyn Crow
Planetary Materials Faculty Candidate
Friday, April 14, 2017
10:30 AM
HAMP 2201

EAPS MEETINGS & EVENTS

EAPS FACULTY MEETINGS
May 2, 2017
September 19, 2017
October 31, 2017
November 28, 2017
3:00 PM
HAMP 3201

EAPS AWARDS BANQUET
April 17, 2017
5:30 PM
Ross-Ade Pavilion, Buchanan Club

EAPS ALUMNI ADVISORY BOARD
April 18, 2017
8:30 AM-4:00 PM
HAMP 2201

CoS SPRING FACULTY MEETINGS
April 18, 2017
3:30-4:30 PM
LWSN 1142

EAPS FACULTY/STAFF RETREAT
August 18, 2017
8:30 AM – 3:30 PM
Beck Agricultural Center

EAPS PRIMARY COMMITTEE MEETINGS
September 12, 2017
October 3, 2017
3:00 PM
HAMP 3201

BLACK AND GOLDEN JUBILEE
September 21-23, 2017

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

Chang Liao
April 11, 2017
2:00 PM
HAMP 3214
Advisor: Qianlai Zhuang

Kevin Grady
April 13, 2017
10:00 AM
HAMP 2201
Advisor: Alexander Gluhovsky

Sarah Bischoff
April 13, 2017
2:00 PM
HAMP 3214
Advisor: Lucy Flesch

TERRY WEST ATTENDS GSA

Terry West attended the North Central Section of the Geological Society of America in Pittsburgh, PA on March 18-21, 2017 where he chaired an oral technical session, entitled “Applied Geology: Engineering, Environmental, Geotechnical, Hydro and Geophysical Exploration”. He also presented a paper entitled “Urban Growth Versus Mineral Extraction, A Special Concern Involving An Underground Limestone Mine”. He organized the eleven paper oral session plus a poster session on the same topic. Dr. West has organized a similar technical session for the past six years at the North Central Section meetings. He also attended the breakfast business meeting of the NC Section as a GSA campus representative.

BLACK AND GOLDEN JUBILEE OPEN FOR REGISTRATION

The Black & Golden Jubilee website is now open for registration. For more information on the event: go to the event website. To register, go to the registration website.

UPCOMING OUTREACH EVENTS!

The GLOBE Midwest Student Research Symposium will be held here on campus, in Stewart Center May 19 - 20, 2017.

We need help with the earth cache event on Friday, May 19th! Also, if you would be interested in judging posters and interacting with students on May 20th, please let Steven Smith know. mrsmith@purdue.edu

Please sign up to volunteer for any of these events on the following google sheet: https://goo.gl/LReWG1

STUDENT NEWS

NATIONAL WEATHER CENTER RESEARCH SCIENTIST POSITION

National Weather Center Research Scientist
The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at the National Oceanic and Atmospheric Administration (NOAA) at the National Weather Center in Norman, Oklahoma seeks to fill a Research Scientist position for its collaborative research as a Cooperative Institute with the National Oceanic and Atmospheric Administration (NOAA) Office of Oceanic and Atmospheric Research (OAR) National Severe Storms Laboratory (NSSL) at The National Weather Center in Norman, Oklahoma. The Research Scientist will contribute to NSSL’s Warn-on-Forecast and Spectrum Efficient National Surveillance Radar (SENSR) research effort.

Please see attached description, for more information.

UNDERGRADUATE RESEARCH AND POSTER SYMPOSIUM

The 2017 Undergraduate Research and Poster Symposium has been set for Tuesday, April 11, 2017. If you are a student, consider participating.

http://www.eaps.purdue.edu/
in this wonderful opportunity, and, if you are a faculty member, consider being a judge for the College of Science. Please think about donating an hour (or more) of your time to participate as a judge, it would be greatly appreciated.

More information can be found on the symposium website. If you have any questions, you can send them to Robin Sipes at rspes@purdue.edu.

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UNIVERSITY NEWS

PURDUE UNIVERSITY CHAPTER OF SIGMA XI
ANNUAL AWARDS BANQUET & NEW MEMBER INDUCTION

Guest Speaker: Jay Melosh
April 12, 2017
6:00 PM
John Purdue Room

Please see attached flier for more details.

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PURDUE TO ADD TWO-FACTOR AUTHENTICATION FOR ALL FACULTY AND STAFF IN SEPTEMBER

Shortly after the start of the fall 2017 semester, all of Purdue’s faculty and staff will need to begin using two-factor authentication, known at Purdue as BoilerKey, to log into the One Purdue (SAP) portal, improving security of personal and University data alike.

ITaP will roll out the new BoilerKey sign-up beginning in mid-April. Purdue faculty and staff can expect direct emails, social media posts and Purdue Today articles to give instructions on how and where to sign up throughout the summer and up until the September 19 deadline. The OnePurdue (SAP) portal allows employees to create leave requests and check paystubs. It also handles many of the University’s business functions.

Implementing Boiler Key at Purdue also protects the University from a growing number of cyberattacks on colleges and universities.

What is two-factor authentication?

Boiler Key adds a second login requirement to go with your password. At Purdue, it’s a numerical...

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http://www.eaps.purdue.edu/
code randomly generated on a smartphone app called Duo or a key fob.

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**PVM RESEARCH DAY KEYNOTE SPEAKER**

Jonna Mazet, DVM, MPVM, PHD
“One Healthy – A Prescription for Preparedness”

**Monday, April 10, 2017**
3:15-4:15 PM
LYNN 1136

Please see attached flier for more details.

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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 Fallon McQuem (fmcquem@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)
Jan. 12 Thijs Heus, Cleveland State University

Feb. 2 Mark Harrison, UCLA

Feb. 9 Jim Kasting, Penn State University

Feb. 14 Matt Bowers, PhD candidate

    **Tuesday, 4:00PM, Room 2201/HAMP**

Feb. 16 Praveen Kumar, University of Illinois

Feb. 21 Christy Gibson, PhD candidate

    **Tuesday, 4:00PM, Room 2201/HAMP**

Feb. 23 Kate Freeman, Penn State University

Mar. 2 Lou Wicker, NSSL

Mar. 7 Chang Liao, PhD candidate

    **Tuesday, 4:00PM, Room 2201/HAMP**

Mar. 9 Tonglin Zhang, Department of Statistics, Purdue University

Mar. 21 Kevin Grady, PhD candidate

    **Tuesday, 4:00PM, Room 2201/HAMP**

Mar. 23 David Genereux, North Carolina State University

Mar. 30 Richard Rotunno, National Center for Atmospheric Research

Apr. 5 Chen Chen, PhD candidate

    **Wednesday, 3:30PM, Room 2201/HAMP**

Apr. 6 Ken Edgett, Malin Space Science Systems

Apr. 12 Christopher Roemmele, PhD candidate

    **Wednesday, 3:30PM, Room 2201/HAMP**

Apr. 13 Marc Caffee, Department of Physics, Purdue University

Apr. 19 Scott Anderson, Jahns Lecturer

    **Wednesday, 3:30PM, Room B155 LWSN**

Apr. 20 Naomi Levin, University of Michigan

Apr. 21 Dan Cziczo, MIT

    **Friday, 1:30PM, HAMP 1252**

Apr. 25 Sampa Das, PhD candidate

    **Tuesday, 4:00PM, Room 2201/HAMP**

Apr. 27 Mike Willis, University of Colorado Boulder
Asteroids are remnants from the Solar System’s earliest geologic processes. Most meteorites are from main belt asteroids and can provide records of processes in the early Solar System and the subsequent evolution of asteroids during the last 4.5 billion years. In this seminar, I will discuss how meteorite breccias from the surface of 4 Vesta—a nearly intact protoplanet in the main asteroid belt—reveal its early igneous processes and contain information about the petrologic evolution of its surface regolith. Material from other meteorite types has been added to the surface of Vesta by impacts, particularly by carbonaceous chondrite impactors. I will discuss impact melting of carbonaceous chondrites in relation to Vesta and to carbonaceous chondrite-like asteroids, which include the targets of the current OSIRIS-REx (USA) and Hayabusa 2 (Japan) spacecraft missions. Finally, I will present experimental work investigating geochemical and mineralogical changes sensitive to the pressures expected across early Solar System bodies based on their sizes. This seminar will span a diverse range of early Solar System geology recorded in meteorites and asteroids.
Overcoming Geologic Blindness: The Attitudes and Conceptual Understanding of Introductory Geology Students

Christopher Roemmele
PhD Candidate

This research investigated the impact of an introductory geology class on undergraduate students’ attitudes toward and conceptual understanding of geology. The purpose was to identify and combat students’ geologic blindness, a construct of disinterest, disdain, and unawareness of geology, geologic processes and its human impact. To accomplish this, a mixed-methods approach was used. The sample consisted of 289 students enrolled over two semesters in an introductory geology class for non-majors. Quantitative results measured statistically significant negative changes in students’ outlook toward memorization of course material and success in the class. Findings also indicate their position on the importance and usefulness of geology became more negative. There was significant and moderate positive correlation between student attitudes and perceived understanding, and weak positive correlations of both factors toward instructional preferences. However, there was a significant increase in direct content knowledge and understanding of geology’s broader themes. Open-ended responses from participants, and interviews with key informants provided further evidence for these changes. Specific to content and instruction, students found the format of rock and minerals labs and exams difficult and in need of change. They expressed positive attitudes about the hands-on, collaborative nature of these labs, and observation skills to perform them. Curriculum topics judged more interesting were deemed less difficult to understand, and vice versa. Students indicated that explicit instruction on the topic relevance, cross-topic connections, and on-going assessment would help to improve understanding and attitudes. The results provide insight into ways to improve introductory geology courses by addressing geologic blindness.

Note: Different Day and Time

Refreshments at 3:00 pm
Room 2201/HAMP

Wednesday, April 12, 2017
3:30 p.m.
Room 2201 HAMP
Measurements of Multiple Radionuclides in Geologic Materials: Complex Exposures Histories

Marc Caffee
Purdue University

The recent installation of a gas-filled-magnet at PRIME Lab has enabled more precise measurement of 26Al. Using the 10Be-26Al pair complex exposures to energetic particles can be explored. Measurements of 10Be and 26Al in bedrock samples collected from underneath the Greenland Ice Sheet illustrate opportunities and limitations of the technique. The presence of cosmic-ray-produced 10Be and 26Al in these bedrock samples indicates that this bedrock has been exposed to cosmic ray secondaries during the Pleistocene. These measurements, and multiple nuclide measurements of other samples will be presented.
Unlike Earth, the Moon has remained geologically dormant for most of its history. Without resurfacing processes such as plate tectonics and erosion, the lunar surface retains rocks older than 3.9 billion years. At this early stage, the Solar System was witness to major events such as the proposed “late heavy bombardment.” Samples returned from the Moon by the Apollo missions therefore provide a unique window into a key period of solar system history not accessible in the terrestrial rock record. In this talk, I will review some of the outstanding questions about the formation and evolution of the Moon, and detail how the mineral zircon can yield insight into the timing and nature of these processes. In particular, the ability of zircon to record signatures of primary crystallization as well as secondary impact alteration makes lunar zircons ideal for investigating the early magmatic and impact histories of the Moon. Understanding this era in lunar history has implications beyond the Moon including dynamical evolution of the solar system and the conditions under which life first emerged on Earth.
Purdue University Chapter of Sigma Xi
The Scientific Research Honor Society

Annual Awards Banquet & New Member Induction

Guest Speaker:
Jay Melosh, Distinguished Professor of Earth, Atmospheric and Planetary Science, representing the Purdue team awarded the inaugural NEW HORIZONS grant for:

Extraterrestrial Habitat Engineering

6:00 pm, Wednesday, April 12, 2017.
John Purdue Room in Marriott Hall.
Reservations Required (see below)

RESERVATIONS:
http://www.purdue.edu/research/sigmaxi/
(Contact: Ann Cripe, 494-6855)
In honor of Irwin Tessman

Tessman symposium

Invited Speakers:
Max Gottesman
Columbia University
Eric Keen
Washington University
Jeffrey H. Miller
UCLA
Jack Johnson
Scripps Research Institute
Andrei Fokine
Purdue University
Stefan Pukatzi
University of Alberta
Wei Yang
NIH/NIDDK

Save the Date!
Monday, May 1st, 2017
Class of 1950 Lecture Hall
9 am - 4 pm
Breakfast and lunch provided
Poster session during lunch break
More details coming soon!

Presented by the Microbiology, Immunology, and Infectious Disease area, Biological Sciences
COMPUTATIONAL SCIENCE AND ENGINEERING
STUDENT CONFERENCE (CSESC 2017)
( Hosted by SIAM Chapter at Purdue University)

Date: April 14th, 2017 ( 8 A.M. – 5 P.M.)

Venue: Stewart Center, Purdue Memorial Mall

Agenda:

- Plenary Talks by invited speakers
- Student Talks
- Poster Presentations
- Talks on Professional Development
- Hands-on Training session “Introduction to Big Data with R"
- High Performance Computing Resources at Purdue
- Visit to Data Centers

Attractive Prizes

Conference Link: https://goo.gl/KWlkUk

Registration Link: https://goo.gl/forms/XulphqKJGV1I1cej1

Due Date for Abstract Submission: April 7, 2017

FREE BREAKFAST & LUNCH

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School of Chemical Engineering
School of Mechanical Engineering
School of Aeronautics and Astronautics
School of Electrical & Computer Engineering

CONTACT INFORMATION

Veeraraghava Raju Hasti,
President <vhasti@purdue.edu>

James P Vogel,
Vice President <vogel13@purdue.edu>
National Weather Center Research Scientist

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at University of Oklahoma (OU) seeks to fill a Research Scientist position for its collaborative research as a Cooperative Institute with the National Oceanic and Atmospheric Administration (NOAA) Office of Oceanic and Atmospheric Research (OAR) National Severe Storms Laboratory (NSSL) at the National Weather Center in Norman, Oklahoma. The Research Scientist will contribute to NSSL’s Warn-on-Forecast and Spectrum Efficient National Surveillance Radar (SENSR) research effort.

Background:
The SENSR is a replacement surveillance capability that seeks to address the reallocation and sharing of federal set-aside radio frequency spectrum, cross-agency mission efficiency, national radar consolidation and reduced overall life cycle cost. An important goal of this effort is to evaluate the impact of assimilating weather radar data collected by the adaptive and rapid-scan Phased Array Radar (PAR) technology, which is at least 4-5 times faster than the scanning rate of the current operational WSR-88D, on convective-scale forecasts, using the prototype Warn-on-Forecast system. The incumbent in this position will study the impact of PAR storm observations on the convective-scale ensemble forecasting system’s depiction and forecast of storm location, motion, mode, attributes, etc. that ultimately may be used to increase warning lead times for threats related to severe and hazardous convective weather, e.g., tornadoes, flash floods, large hail and damaging winds. The work will be performed in close collaboration with scientists at OU’s Center for Analysis and Prediction of Storms (CAPS). The dynamic research and operational working environment at the National Weather Center will provide the candidate with ample opportunities for career advancement.

Responsibilities:
The incumbent will conduct experiments on how to best assimilate high-temporal-resolution PAR storm observations in a convective-scale numerical model using an ensemble-based data assimilation approach. The incumbent will publish the results in peer-reviewed literature and present them at conferences.

Required Qualifications:
1. A Ph.D. Degree (or be in the final stages of dissertation completion before applying) in meteorology, atmospheric science or closely related area.
2. Research experience with convective-scale numerical weather prediction (NWP) models (WRF-ARW), ensemble data assimilation software (e.g. GSI EnKF, DART) and severe convective weather.
3. Experience with Linux (or Unix) operating systems, programming (e.g., Fortran, C, C++) and scripting (e.g. Python, NCL) skills.
4. Excellent oral and written communication skills (including papers published in or submitted to refereed journals) and an ability to work both independently and cooperatively with others.

Salary will be competitive depending on experience and qualification with University of Oklahoma benefits. Information on benefits may be found at http://hr.ou.edu/Employees/New-Employees-at-OU/OU-Benefits-Overview. The start date for the position can be as early as May 1, 2017.

To apply for the position, please forward your resume, cover letter and list of three references to:

Tracy Reinke, Executive Director, Finance and Operations
University of Oklahoma CIMMS
120 David L. Boren Blvd., Suite 2100
Norman, OK 73072-7304
treinke@ou.edu
ATTN: SENSR
UNDERSTANDING STANDING ROCK

An Interdisciplinary Discussion on the Dakota Access Pipeline

6pm April 11 - PFEN 241

Dr. Chris Andronicus - Structural Geologist, Purdue
Dr. Marty Frisbee - Contaminant Transport Specialist, Purdue
William Yeatman - Assistant Director, Center for Energy and the Environment, CEI
Raul Garcia, J.D. - Legislative Council, Earth Justice
Dr. Kim Osborne - C-SPAN Chair Professional in Residence, Purdue

Register at www.purdue.edu/gradschool/ese/keystone

Fourth annual ESE Keystone Series

The Keystone Series explores contentious interdisciplinary topics relating to the environment. Sponsored by the Purdue Graduate Student Government and the Ecological Sciences and Engineering Interdisciplinary Graduate Program
JONNA MAZET, DVM, MPVM, PHD

Professor of Epidemiology and Disease Ecology, University of California, Davis
Executive Director, One Health Institute, University of California, Davis

Dr. Jonna Mazet earned her doctorate of veterinary medicine, masters of preventative medicine, and her PhD in epidemiology from UC Davis. In addition to her faculty appointment in the Department of Medicine and Epidemiology in the UC Davis School of Veterinary Medicine, she serves as the Executive Director of the UC Davis One Health Institute (OHI). Dr. Mazet specializes in emerging infectious diseases and wildlife epidemiology, and as director of OHI, focuses on global health problem solving.

“One Health - A Prescription for Preparedness”

The frequency of pandemics is increasing, driven by surging populations, environmental change and globalized trade and travel. The SARS, pandemic influenza, MERS, Ebola and Zika virus outbreaks illustrate that we are ill-prepared to mitigate the impact of a novel zoonotic virus or prevent its emergence – leaving humanity vulnerable to catastrophe. Only a small proportion of viral threats have been identified (estimated to be much less than 1%). The One Health approach has now been applied in over 30 countries, providing a proof of concept that viruses and their associated risk ecology can be identified in advance of spillover. Activities in these countries also provide evidence that a global initiative to identify and characterize most significant viral threats circulating in the world is achievable over the next ten years at a total cost less than the financial burden of response to just one spillover – a critical and essential step towards ending the pandemic era.

MONDAY, APRIL 10, 2017 | 3:15 - 4:15 P.M. | LYNN 1136

JOIN US FOR THE
Annual PVM Research Day
vet.purdue.edu/research/research-day.php
vet.purdue.edu/research/phi-zeta-society.php