EAPS DEPARTMENT SEMINARS

Kelly Miller
Southwest Research Institute
Wednesday, April 19, 2017
11:30 AM
HAMP 2201

Scott Anderson
AEG Jahns Lecturer
Wednesday, April 19, 2017
3:30 PM
LWSN B155

Naomi Levin
University of Michigan
Thursday, April 20, 2017
3:30 PM
HAMP 1252

Dan Cziczo
Massachusetts Institute of Technology
Friday, April 21, 2017
1:30 PM
HAMP 1252
EAPS PUBLICATIONS


TERRY WEST ATTENDS 132ND ANNUAL MEETING

Terry West attended the 132nd Annual meeting of the Indiana Academy of Science on March 25, 2017 in Indianapolis. He chaired the Engineering Section and coauthored two papers. West, Terry and Jacko, Robert (CE Professor), “Reuse Designs for the Tippecanoe County Superfund Sanitary Landfill Site” and Leffel, Victoria and West, Terry “Combined Sewer Overflow Abatement, Lafayette and West Lafayette, Indiana, a Continuing Story”. Victoria Leffel has an EAPS degree in geology/geophysics and is currently completing an M.S. degree in Public Health. Dr West serves as a member of her research advisory committee.

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

CALLING ALL GRADUATE STUDENTS STUDYING CLIMATE:

Graduate students in MIT's Program in Atmospheres, Oceans and Climate and the Woods Hole Oceanographic Institution are pleased to announce the 11th Graduate Climate Conference! GCC11 is scheduled for November 10-12, 2017 at the Marine Biological Laboratory on the south shores of Cape Cod, MA. This is a unique conference for grad students, organized and run by grad students.

This year's conference is focused on bringing together graduate researchers who think about climate from all disciplines, including but not limited to atmospheric, biological, earth, and ocean sciences, geography, anthropology, public policy, and economics. The conference is unique because only students attend, providing a rare opportunity for the next generation of climate researchers to interact without the inhibitions that accompany the presence of faculty and senior scientists.

Applications will open by the end of April and the deadline for abstract submission will be in June. Food, lodging, and conference registration fees are provided by our generous sponsors; travel grants will be provided on an as-needed basis to as many participants as possible.

For more information, and a link to the application page, visit the official website: http://gradclimateconf.mit.edu. Feel free to

http://www.eaps.purdue.edu/
contact the organizing committee with questions at gcc-2017@mit.edu.

1ST MIDWEST STUDENT CONFERENCE ON ATMOSPHERIC RESEARCH
7–8 October 2017
Urbana, IL

The 1st Midwest Student Conference on Atmospheric Research, sponsored by the Department of Atmospheric Sciences at the University of Illinois at Urbana-Champaign, will be held 7–8 October 2017. Information including registration, abstract submission, schedule of events, and hotel block reservations is posted on the conference website (http://www.atmos.illinois.edu/mscar).

ITaP ANNOUNCEMENT: PURDUE WILL BE PHASING VCRs OUT OF CLASSROOMS

Current plans call for slowly eliminating VCRs from classrooms, removing the outdated technology as it breaks, or not replacing it as a classroom’s technology is upgraded to digital systems, such as Blu-Ray. To read the full article, please click here: https://goo.gl/3Gmtrw

TESSMAN SYMPOSIUM IN HONOR OF IRWIN TESSMAN

Monday, May 1, 2017
Class of 1950 Lecture Hall
9:00 AM – 4:00 PM
Breakfast and lunch provided

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

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 code randomly generated on a smartphone app called Duo or a key fob.

BIRTHDAYS

Marty Frisbee
April 23

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

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
Jan. 12 Thijs Heus, Cleveland State University  
Host: Tung

Feb. 2 Mark Harrison, UCLA  
Host: Caffee

Feb. 9 Jim Kasting, Penn State University  
Host: Melosh

Feb. 14 Matt Bowers, PhD candidate  
Advisor: Tung  
**Tuesday, 4:00PM, Room 2201/HAMP**

Feb. 16 Praveen Kumar, University of Illinois  
Host: Filley

Feb. 21 Christy Gibson, PhD candidate  
Advisor: Filley  
**Tuesday, 4:00PM, Room 2201/HAMP**

Feb. 23 Kate Freeman, Penn State University  
Host: Melosh

Mar. 2 Lou Wicker, NSSL  
Host: Dawson

Mar. 7 Chang Liao, PhD candidate  
Advisor: Zhuang  
**Tuesday, 4:00PM, Room 2201/HAMP**

Mar. 9 Tonglin Zhang, Department of Statistics, Purdue University  
Host: Zhuang

Mar. 21 Kevin Grady, PhD candidate  
Advisor: Gluhovsky  
**Tuesday, 4:00PM, Room 2201/HAMP**

Mar. 23 David Genereux, North Carolina State University  
Host: Frisbee

Mar. 30 Richard Rotunno, National Center for Atmospheric Research  
Host: Agee

Apr. 5 Chen Chen, PhD candidate  
Advisor: Andronicos/Gilbert  
**Wednesday, 3:30PM, Room 2201/HAMP**

Apr. 6 Ken Edgett, Malin Space Science Systems  
Host: Horgan

Apr. 12 Christopher Roemmele, PhD candidate  
Advisor: Shepardson  
**Wednesday, 3:30PM, Room 2201/HAMP**

Apr. 13 Marc Caffee, Department of Physics, Purdue University  
Host: Agee

Apr. 19 Scott Anderson, Jahns Lecturer  
Host: West  
**Wednesday, 3:30PM, Room B155 LWSN**

Apr. 20 Naomi Levin, University of Michigan  
Host: Welp

Apr. 21 Dan Cziczo, MIT  
Host: Agee  
**Friday, 1:30PM, HAMP 1252**

Apr. 25 Sampa Das, PhD candidate  
Advisor: Harshvardhan  
**Tuesday, 4:00PM, Room 2201/HAMP**

Apr. 27 Mike Willis, University of Colorado Boulder  
Host: Elliott
Planetary Materials Faculty Candidate

Volatile Element Distribution During Planet Formation: Lessons from the Rumuruti Chondrites

Kelly Miller
Southwest Research Institute

The Rumuruti (R) chondrites are a rare group of meteorites characterized by oxidized, FeO-rich olivine, abundant sulfide assemblages, distinctive oxygen isotopes, and the presence of amphibole and biotite in some specimens. Understanding whether these features originated prior to accretion or during secondary processing on the meteorite parent body places important constraints on planet formation. I will present arguments for the formation of sulfide nodules in unequilibrated R chondrite clasts as free-floating melt droplets prior to accretion of the parent body. The retention of sulfur imposes important constraints on transient heating events in the disk. I will also discuss the formation of copper sulfide minerals in the R chondrites and implications for the evolution of the parent body.
Natural Hazards, Risk, and the Resilience of Transportation Infrastructure

Scott Anderson
AEG Jahns Lecturer

Natural hazards pose a risk to transportation infrastructure that is often tied to geology. Whether the hazard is from weather and climate, gravity and slopes, or seismic activity, for example, the expression of the hazard in terms of its potential consequence is a function of geologic setting. Not surprisingly, the practice of engineering geology has long had a focus on hazard characterization. This is good because hazard is an important input to risk, and risk is what needs to be measured and managed for the emerging need to optimize performance of transportation infrastructure. One way of managing risk is through building in resilience to natural hazards. How to do this, and to what extent it should be done, are important questions that open up newer areas of practice for the engineering geologist.

Note: Different Day and Location

Wednesday, April 19, 2017
3:30 p.m.
Room B155 LWSN

Refreshments at 3:00 pm
Room 2201/ HAMP
18\(^{O}/16\(^{O}\) ratios are widely used in paleoclimate studies as proxies for temperature, precipitation amount and hydrologic change, but interpretations of these records are often challenged by the multiple factors that can influence them. Variation in 17\(^{O}/16\(^{O}\) ratios of Earth materials have long been assumed to co-vary with 18\(^{O}/16\(^{O}\) ratios in predictable and uniform ways such that they were not considered useful in studies of Phanerozoic climate. However, recent advances in the ability to measure small differences in D\(^{17}\(^{O}\), the deviation from an expected relationship between 18\(^{O}/16\(^{O}\) and 17\(^{O}/16\(^{O}\) ratios, both in waters and low-temperature materials (e.g., carbonates, bioapatites, silicates, oxides) present the opportunity to use triple oxygen isotope measurements in hydrological and paleoclimate studies. In particular, the sensitivity of D\(^{17}\(^{O}\) to kinetic fractionation means that it can be used to constrain the influence of kinetic effects on variations in d\(^{18}\(^{O}\).

In this talk, I will review the growing number of datasets on the triple oxygen isotope composition of the hydrosphere and present an example of how triple oxygen isotopes in lacustrine carbonate can be used to constrain hydroclimate in the past. A compilation of D\(^{17}\(^{O}\) data from precipitation, which includes snow from polar regions, tropical storms and weekly precipitation collections from mid-latitudes, shows that the D\(^{17}\(^{O}\) of precipitation can range from -0.06 to +0.07‰. In the western U.S., there are clear seasonal differences in D\(^{17}\(^{O}\) of precipitation. A continent-wide survey of tap waters from the U.S. mirrors the variation observed in precipitation. Among leaf waters, D\(^{17}\(^{O}\) values range from -0.28 to +0.04‰ and can vary by as much as 0.16‰ in a plant within a single day. The mass-dependent effects associated with kinetic fractionation are likely responsible for the majority of the observed variation in waters, either during re-evaporation of rainfall in warm climates, snow formation at very cold temperatures, or evapotranspiration. In lakes, variation in D\(^{17}\(^{O}\) can be used to discern the role of evaporative water loss in the overall water balance.
Measurements of aerosol particle size, morphology and chemical composition have been conducted in the laboratory for several decades and have now become an almost routine component of ground based and airborne atmospheric research. Satellites are now able to retrieve many relevant properties that are then compared to in situ measurements. Cloud element data – that is, measurements of droplet and ice crystal size and number and determination of the aerosols upon which they form – is not yet as developed as aerosol data but great strides have been made in recent years. When considering both aerosols and clouds we have now surpassed the point of simply “discovering” particle, droplet and ice crystal properties. Instead, we now have sufficient data to start understanding the impact of measurement uncertainty and how it impacts our understanding of climate. This talk will consider how aerosol and cloud measurements are made with a particular focus natural biological aerosols and anthropogenic particles from combustion. We will discuss how misidentification of particles and uncertainty in cloud formation measurements can propagate into global model predications of climate. Finally, suggestions of how to overcome measurement uncertainty and biases in aerosol and cloud measurements will be made.
1st Midwest Student Conference on Atmospheric Research
7-8 October 2017, Urbana, IL

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This cross-disciplinary conference is open to undergraduate and graduate students from universities across the Midwest. Oral and poster presentations are invited in the following research areas:

- Remote Sensing of Mesoscale Systems
- Observations of Cloud Microphysics
- Urban Environment and Society
- Short-term Predictability and Long-term Variability of Mesoscale Systems
- Weather and Climate Impacts on the Midwestern United States

The deadline to submit abstracts and register for the conference is 1 September 2017. Any questions regarding abstracts should be directed to mscar-abstracts@atmos.illinois.edu and questions involving registration should be sent to mscar-register@atmos.illinois.edu. Authors of accepted presentations will be notified in early September. The cost of registration is $60, which includes the keynote banquet and lunch on Sunday. Presenting a talk or poster is not a requirement to attend the conference and there is no fee for abstract submission.

For additional information, please contact mscar@atmos.illinois.edu.
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