DEPARTMENT NEWS

EAPS DEPARTMENT SEMINARS

Sampa Das
PhD Candidate
Tuesday, April 25, 2017
4:00 PM
HAMP 2201

Mike Willis
University of Colorado, Boulder
Thursday, April 27, 2017
3:30 PM
HAMP 1252

TERRY WEST ATTENDS SEMI-ANNUAL MEETING OF THE ASSOCIATION OF STATE BOARDS OF GEOLOGY

Terry west attended the semi-annual meeting of the association of state boards of geology (asbog) on April 6-9, 2017 in Flagstaff, Arizona. ASBOG administers the registration of geologists exams required in some 26 states of the U.S. He serves as member at large on the Council of Examiners that write and evaluate the two registration examinations, the fundamentals and the practice exams.

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

CONGRATULATIONS TO MARIAH ROMERO AND WILLIAM ODOM!!

Mariah Romero and Will Odom were each awarded a grant from the American Federation of Mineralogical and Geological Societies.

CALLOUT FOR FALL LEARNING/ENGAGEMENT PROGRAM FOR GRAD STUDENTS AND POST DOCS

GK-12: Engaging graduate students and post-docs in integrating and communicating their research in middle school classrooms.

GK-12 is an exciting program organized through the Graduate School that gives Masters, Ph.D., and Post-doctoral students a mentored, in-depth opportunity to share their research with K-12 students and teachers in a local middle school.

This provides graduate and Post-doctoral students with enhanced skills and experience in outreach, teaching, and communication of their research with diverse audiences. Past participants have found that it makes them more competitive for academic and professional jobs.

After an initial training session, participants in the GK-12 program will learn from and assist teachers in a local middle school for approximately one day a week for 10 weeks, and by the end of the semester they will develop and teach a lesson that brings their interests and research into a middle school classroom. This is an extension of a very successful externally-funded program that ran for several years, and has now been successfully transitioned to a graduate school program. While this program does not provide funding directly to the student or post doc, some modest funding is available for expenses associated with materials for in-class activities. Students may elect to register for 2 credit hours for their involvement, or simply do this program as a voluntary activity, and the program is open to all Masters, Ph.D., and Post-Doc students at Purdue (any and all disciplines).

For more information on the Fall 2017 program, please attend our Callout / Information Session Friday April 28th, from 4-5pm in Hampton Hall of Civil Engineering, Room 2244 and check out the

http://www.eaps.purdue.edu/
two-page brochure that outlines the program for this coming semester at:

https://www.dropbox.com/s/jrqvww3clscyt2m/Fall%202017%20Participant%20Brochure.pdf?dl=0.

For any additional questions or information please contact the program coordinator, Mohan Yang, at yang1178@purdue.edu.

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**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 contact the organizing committee with questions at gcc-2017@mit.edu.

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**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).

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**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

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**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

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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 McQuern (fmcquern@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
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<tr>
<th>Date</th>
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<td>Jan 12</td>
<td>Thijs Heus</td>
<td>Cleveland State University</td>
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<td>Mark Harrison</td>
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<td>Praveen Kumar</td>
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<td>Lou Wicker</td>
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<td>Chang Liao</td>
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<td>Tonglin Zhang</td>
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<td>Ken Edgett</td>
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<td>Scott Anderson</td>
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<td>Sampa Das</td>
<td>PhD candidate</td>
<td>Harshwardhan</td>
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<td>Apr 27</td>
<td>Mike Willis</td>
<td>University of Colorado Boulder</td>
<td>Elliott</td>
<td>Room 2201/HAMP</td>
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Biomass Burning Aerosol Transport over the South African-Atlantic Region: Perspectives from Multi-models and Satellite Observations

Sampa Das
PhD Candidate

Open biomass burning (BB) is a major source of trace gases and carbonaceous aerosol particles in the atmosphere. Although BB occurs globally, there are particular features associated with different types of vegetation and climate regimes. In the southwestern African Savanna, there is seasonal burning of agricultural residue in the Austral spring (July-October) contributing to about one-third of the global BB emissions. The optically thick aerosol plumes produced by this burning are primarily transported westward for thousands of kilometers by the free-tropospheric winds over the Atlantic region. However, unlike smoke from industrial activity and biofuels that intermingles with clouds in most regions, smoke layers in the Southeast (SE) Atlantic have been observed to mainly overlie the vast stretches of marine stratocumulus clouds. Towards this end, we evaluated the simulations of long-range transport of BB aerosol by five state-of-the-art global aerosol models over the complete South African-Atlantic region using Cloud-Aerosol Lidar with Orthogonal Polarization (CALIOP) observations. This talk will present and discuss the common features of model-simulated aerosol long-range transport and vertical distribution that were distinct from that of CALIOP and the implication of these differences on the underlying clouds over the ocean and eventually on Earth's radiative balance. Furthermore, the investigations into possible causes of differences between modeled and CALIOP aerosol transport over the ocean will be discussed.

Tuesday, April 25, 2017
4:00 p.m.
Room 2201 HAMP

Refreshments at 3:30 pm
Room 2201/ HAMP
Now You See It, Now You Don’t: Rapid Collapse of an Arctic Ice Cap

Mike Willis
University of Colorado, Boulder

Cold based ice caps and glaciers are thought to respond slowly to environmental changes. As sea ice cover evolves in the Arctic, a feedback process alters air-temperatures and precipitation patterns across the region. During the last decades of the 20th century the land-terminating western margin of the Vavilov Ice Cap, on October Revolution Island of the Severnaya Zemlya Archipelago, advanced slowly westwards. The advance was driven by precipitation changes that occurred about half a millennia ago. InSAR shows that in 1996 the margin sustained ice speeds of around 20 m/yr. By 2000 the ice front had moved a short distance into the Kara Sea and had transitioned to a marine-terminating front, although an ice apron around the ice margin indicates the ice there was still frozen to the bed and there is no evidence of calving in satellite imagery.

In 2013 ice motions near the terminus had accelerated to around 1 m/day. By late 2015 the main trunk of the newly activated outlet glacier attained speeds of 25 m/day and the inland portion of the ice cap thinned at rates of more than 0.3 m/day. The acceleration of the outlet glacier occurred due to its advance over weak, water-saturated marine sediments that provide little resistance to ice flow, and to the removal of lateral resistive stresses as the glacier advanced out into an open embayment. Longitudinal stretching at the front forces an increase in the surface slope upstream. Rapid rates of motion inland generate frictional melt at the bed, possibly aided by cryohydrological warming. Large areas of the interior of the Vavilov ice cap are now below the equilibrium line and the grounded portion of the ice cap is losing mass at a rate of 4.5 km³ w.e./year. The changes at the Vavilov are likely irrecoverable in a warming climate due to a reduction in the accumulation area of the ice cap. Increased precipitation drove the advance, which accelerated due to the presence of soft sediments. The acceleration lowered the elevation of the interior portion of the ice cap to a point from which it cannot recover. A second, similar collapse seems to be underway at basin-2 on the southern margin of the Austfonna Ice cap in Svalbard.
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).

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.
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!

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

In honor of Irwin Tessman

Tessman Symposium

Presented by the Microbiology, Immunology, and Infectious Disease area, Biological Sciences
Jeffrey Rosenthal is a professor in the Department of Statistics at the University of Toronto. He received his BSc in Mathematics, Physics, and Computer Science from the University of Toronto, his PhD in Mathematics from Harvard University, and tenure in the Department of Statistics at the University of Toronto all by the age of 29. Rosenthal authored the bestseller, *Struck by Lightning: The Curious World of Probabilities*, which led to numerous media and public appearances, and to his work exposing the Ontario lottery retailer scandal.

Monte Carlo algorithms have completely revolutionized statistical computation, allowing previously intractable models to be easily solved. In particular, Markov chain Monte Carlo (MCMC) algorithms have allowed for the use of Bayesian inference in a multitude of settings. This talk will present simple graphical examples to illustrate the workings of MCMC, and is designed to be accessible to everyone.

Jeffrey Rosenthal is a professor in the Department of Statistics at the University of Toronto. He received his BSc in Mathematics, Physics, and Computer Science from the University of Toronto, his PhD in Mathematics from Harvard University, and tenure in the Department of Statistics at the University of Toronto all by the age of 29. Rosenthal authored the bestseller, *Struck by Lightning: The Curious World of Probabilities*, which led to numerous media and public appearances, and to his work exposing the Ontario lottery retailer scandal.

The Pritsker Distinguished Lecture Series is in honor of Dr. Alan Pritsker, who made tremendous contributions to the field of industrial engineering, in particular the area of simulation. Alan was pivotal in building the Purdue Industrial Engineering School’s reputation and helped it become a beacon in research and thought leadership over the past fifty years.