The EAPS Weekly News

CoS FACULTY MEETING
Dec. 1st
LWSN 1142
3:30 PM
*Provost will join the meeting at 4:00 PM

EAPS MEETINGS & EVENTS

EAPS STAFF MEETING
Nov. 24th
11:45-1:00 PM
HAMP 2201

FALL FACULTY MEETING SCHEDULE
Dec. 8th
HAMP 3201
3:00-4:30 PM

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EAPS FACULTY/STAFF HOLIDAY CELEBRATION
Dec. 9th
12:00-1:30 PM
HAMP 2201

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AGU 2015
December 14-18, 2015
Reception: December 17, 2015
7:00-9:00 PM
ThirstyBear
San Francisco, California

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AMSI 2016
January 10-14, 2016
New Orleans, LA

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LPSC 2016
March 21-25, 2016
The Woodlands, Texas

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EAPS AWARDS BANQUET
April 18, 2016
Buchanan Club of Ross-Ade Pavilion
Reception: 5:30 PM
Dinner at 6:00 PM

DEAN'S VISIT TO DEPARTMENT
April 21, 2016
1:30 - 4:00 PM

EAPS DEFENSES

PhD Defense - Timothy Berry
November 24, 2015
1:00pm
HAMP 2201
Advisor: Tim Filley
Paul Staten
Indiana University
“Planetary, Paleo, and Pending Hadley Circulations”
December 3, 2015
3:30 PM
HAMP 1252

HOLIDAYS (MAIN OFFICE CLOSED)

THANKSGIVING VACATION
Nov. 26th - 27th

CHRISTMAS VACATION
Dec. 24th - Dec. 31st

NEW YEAR’S DAY
Jan. 1st

EAPS COLLOQUIA

Paul Staten
Indiana University
“Planetary, Paleo, and Pending Hadley Circulations”
Thursday, December 3, 2015
3:30 PM
HAMP 1252

*If you are interested in viewing the link below, it is the Purdue YouTube video of the EAPS Energy Series Colloquium, given at Purdue University on Oct. 27, 2015, by Prof. Anthony Ingraffea (Cornell University). The title of the seminar is: “The Science of Shale Gas/Oil: The Latest Evidence on Leaky Wells, Methane Emissions, and Implications for Energy Policy”
https://youtu.be/yrtXImeg2o
EAPS NEWS

EAPS FACULTY AND STAFF RESOURCE FUND

The EAPS Faculty and Staff Resource Fund provides faculty and full-time, permanent staff with a simple, open, and transparent way to request resources they need to be productive in their work. This is not intended to replace other sources (e.g. grants, discretionary accounts, start-up, competitive programs on campus, and usual supplies and expenses), rather it is to meet occasional needs that are important for individual productivity and advancement in cases where these other sources are not available to an individual. Examples include professional development course tuition, office needs, and professional conferences.

Procedure:
Applications to the fund should be sent via email (as a pdf) to the Assistant Department Head. Requests must include the following items and not exceed one page.

- applicants name, position title, email address
- a detailed, one paragraph description of what is being requested
- a short explanation of how this will help the individual be productive in their work
- amount requested (this program will accept requests between $200 and $2,000)
- time constraints on what is being requested (e.g., a deadline for registration)

Request deadline is the 20th of each month. Decisions will be made by the 5th of the following month. All requests will be reviewed by a group including the Assistant Department Head, the Business Manager, and at least two members of the EAPS Executive Committee.

MATHEMATICAL CONTINUUM PHYSICS, MATH 598/EAPS 591
SPRING 2016 (Tues & Thurs. 1:30-2:45 PM)
Instructor: Dr. Jon Cushman
CRN: 15509

Lagrangian and Eulerian coordinate system representations are employed throughout all developments. We begin by constructing the fully non-linear strain tensor and analyze its component’s physical significance. This is followed by development of the integral, and subsequently local forms, of conservation of mass, balances of linear and angular momentum and conservation of energy.

The 2nd –law of thermodynamics is postulated for the entire body and employed to develop fully non-linear constitutive relations which are subsequently linearized near equilibrium for many classes of fluids and solids. Maxwell’s equations of electrodynamics are introduced, coupled with the conservation and balance laws and subjected to the 2nd –law to obtain generalized field equations. Averaging principles are employed to obtain the conservation and balance laws for mixtures of species and phases of relevance to porous media. Applications are presented for swelling biopolymers (foods and cells), drug delivery substrates, geophysical media (soils, aquifers and petroleum reservoirs), electro-active polymers (soft robotics), and fuel cells (flow batteries). The common structure of all these examples is highlighted.

GRADUATE NEWS

The EAPS Department provides the opportunity for merit-based support to graduate students to present their research at professional conferences. The maximum yearly amount of department support is $400 per graduate student (each fiscal year). Submit your form to Kathy Kincade (Room 2169D/HAMP) no later than one month prior to the start of the conference you plan to attend. Requests after the fact or after that timeframe will not be accepted.

GRADUATE ASSISTANTSHIP OPPORTUNITIES AT UIUC 2016-2017

Please see the attached flier for information regarding the various graduate programs and research/teaching assistantship opportunities for Graduate Students in fall 2016.

OTHER

TOYS FOR TOTS

The Veterans Success Center (PMU Room 284), will be accepting donations of new, unwrapped toys until December 18, 2015.
dogtags@purdue.edu, 765-494-7638.

DHS HS-STEM 2016 SUMMER INTERNSHIP PROGRAM

The Department of Homeland Security sponsors a 10-week summer internship program for undergraduate and graduate students majoring in homeland security related science, technology, engineering and mathematics (HS-STEM) disciplines. The program provides students with quality research experiences at federal research facilities located across the country and allows students the opportunity to establish connections with DHS professionals.

Graduate Students receive a $700 stipend per week plus travel expenses
Undergraduate Students receive a $600 stipend per week plus travel expenses

Areas of research: Engineering, computer science, mathematics, physics, chemistry, biological / life sciences, environmental science, emergency and incident management, social sciences, and many more.

10-week research experiences are offered at: Coast Guard Research and Development Center ● Homeland Security Studies and Analysis Institute ● Customs and Borders

How to Apply: Applications and supporting materials must be submitted at https://www.zintellect.com/Posting/Details/1468
Detailed information about the internships can be found at http://www.orau.gov/dhseducation/internships/

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ASSOCIATE RESEARCH SCIENTIST POSITION

The International Research Institute of Columbia University invites applications for an Associate Research Scientist. The position will be within the Financial Instruments Sector Team and mainly associated with CGIAR Research Program on Climate Change, Agricultural and Food Security Theme 2: Adaptation Through Managing Climate Risk.

The Associate Research Scientist will research, develop and use tools to contribute to the design of index insurance contracts for smallholder farmers, with explicit attention to basis risk, factors that determine economic viability of insurance and female and male farmers' willingness to pay, including crop simulation models, economic models, remotely sensed rainfall data and stochastic weather generation techniques. Research, develop and apply tools to understand information flows among smallholder farmers and other public and private stakeholders involved in index insurance initiatives, and gender-sensitive training and communication tools to improve informed uptake of insurance and female and male farmers. Provide capacity building and operational support to existing agricultural index insurance programs, including development of funding proposals.

Please visit their online application site at https://academicjobs.columbia.edu/applicants/Central?quickFind=61797

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MATERIALS MANAGEMENT AND DISTRIBUTION SERVICES (MMAD) HOLIDAY SCHEDULE

November: Materials Management and Distribution Services, which includes Purdue’s Surplus Store, will be shut down for Thanksgiving vacation on Thursday, November 26th and 27th with normal operations starting back up on Monday, November 30th. Please make sure to drop off any outgoing packages to MMDC no later than 4:00pm on Wednesday, November 25th.

December: Beginning December 24, 2015 through January 3, 2016, which includes the 3 additional recess days, there will be no mail delivery as Purdue University’s normal operations will be virtually shut down. Please make sure to drop off any outgoing packages to MMDC no later than 4:00 pm on Wednesday, December 23rd. Normal operations will begin again on Monday, January 4th.

If you have FedEx or UPS packages that need to go out you will have to process them online and call FedEx or UPS directly to schedule a pickup.

BIRTHDAYS

Robert Nowack Nov. 24th
James Ogg Nov. 25th
Paul Shepson Nov. 29th

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 (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/info_tech/index.php.

Also, as an additional resource for information about departmental events, seminars, etc., see our departmental calendar at http://calendar.science.purdue.edu/eas/seminars
PURDUE UNIVERSITY
Department of Earth, Atmospheric, and Planetary Sciences
Colloquia – Fall 2015
Thursdays at 3:30 PM, Room 1252 HAMP (unless noted)

Sept. 22  Subashini Subramanian, PhD Candidate
          “Land Surface Effects on the Post Landfall Characteristics of
          Tropical Cyclones”
          Advisor: Niyogi
          **Tuesday, 4:30PM, Room 2201/HAMP**

Sept. 24  Dr. Joseph Morris, Lawrence Livermore National Laboratory
          “Hydraulic Fracture Simulation: Rising to the Challenge of
          Unconventional Reservoirs”
          Host: Cushman
          **EAPS Energy Colloquium**

Oct. 1   Prof. Nathan Sheldon, University of Michigan
          “When Did the Terrestrial Biosphere Become Important to Global
          Biogeochemistry”
          Host: Horgan

Oct. 8   Prof. Blair Schoene, Princeton University
          “Constraining Crustal Evolution on Very Short and Very
          Long Timescales”
          Host: Caffee

Oct. 15  Prof. Qianlai Zhuang, Purdue University
          Title: TBA

Oct. 20  Haylee Dickinson, PhD Candidate
          “Inferred Rheology and Petrology of the Southern California and
          Northwest Mexico Mantle from Postseismic Deformation Following the
          2010 El Mayor-Cucapah Earthquake”
          Advisor: Freed
          **Tuesday, 4:00PM, Room 2201/HAMP**

Oct. 22  Prof. Victor Gensini, College of DuPage
          “Tornadoes: Past, Present and Future”
          Host: Agee

Oct. 27  Anthony Ingrafea, Cornell University
          “The Science of Shale Gas/Oil: The Latest Evidence on Leaky
          Wells, Methane Emissions, and Implications for Energy Policy”
          Host: Cushman
          **EAPS Energy Colloquium**
          **Tuesday, 7:00PM, Room 112/PHYS**

Oct. 29  Prof. Jerry DeGraff, AEG-Jahns Lecturer,
          “Effective Monitoring for Environmental and Engineering Geology
          Projects, Case Histories in Mining, Groundwater Contamination and
          Hot Springs Migration”
          Host: West

Nov. 5   Prof. Kim Novick, Indiana University
          “Mechanisms Limiting Forest Carbon Uptake and Water Use
          During Drought”
          Host: Welp

Nov. 10  Kimberly Hoogewind, PhD Candidate
          “How Will Severe Thunderstorms Respond to Anthropogenic
          Climate Change: Insights from High-resolution Dynamical Downscaling”
          Advisor: Baldwin
          **Tuesday, 4:00PM, Room 2201/HAMP**
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<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Institution</th>
<th>Topic</th>
<th>Host</th>
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<tr>
<td>Nov. 12</td>
<td>Prof. Leigh Stearns</td>
<td>University of Kansas</td>
<td>“Tidewater Glacier Dynamics-What We’re Learning from Increased Observational Data”</td>
<td>Elliott</td>
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<td>Nov. 19</td>
<td>Prof. Susan Brantley</td>
<td>Pennsylvania State University</td>
<td>“Lithology and Chemical Weathering Reaction Fronts, and Runoff Paths through Hillslopes”</td>
<td>Melosh</td>
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<td>Dec. 3</td>
<td>Prof. Paul Staten</td>
<td>Indiana University</td>
<td>“Planetary, Paleo, and Pending Hadley Circulations”</td>
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Planetary, Paleo, and Pending Hadley Circulations

Paul Staten
Indiana University

Hadley circulations are common, characteristic circulations of the atmospheres surrounding stellar planets. Our understanding of Hadley cell dynamics informs our study of exoplanets, terrestrial paleo-environments, and anthropogenic climate change. This talk will review some basic Hadley cell dynamics, along with their manifestation in planetary atmospheres as well as in the earth’s past. This talk will also highlight some refinements in Hadley cell dynamics in recent decades, and their implications for the Hadley cell and the tropics in a warming climate.

Thursday, December 3, 2015
3:30 p.m.
Room 1252 HAMP

Refreshments at 3:00 pm
Room 2201/HAMP
The Veterans Success Center
PMU Room 284
Will be accepting donations
Of new, unwrapped toys
Until December 18, 2015

dogtags@purdue.edu
765-494-7638
OUR DEPARTMENT

The University of Illinois Department of Atmospheric Sciences is the home of 16 faculty, more than 50 graduate students and more than 90 undergraduate students. The Department has been at the forefront of research and education since its inception in 1982. We offer a unique and varied program of graduate training and research, built around the fundamental scientific tools of our discipline: observation, modeling and theory.

GRADUATE STUDENT CAREER DEVELOPMENT

We promote the career development of our graduate students through many avenues. Graduate students are given opportunities to attend national and international conferences and are strongly encouraged to publish their research in top atmospheric science journals. Many students participate in field campaigns, workshops, or in other scientific forums. Students also have opportunities to interact with experts from National Center for Supercomputing Applications (NCSA), Illinois State Water Survey, National Weather Service and various other departments on campus.

GRADUATE RESEARCH ASSISTANTSHIP OPPORTUNITIES IN FALL 2016 (Topics and numbers of openings)

- Larry Di Girolamo: new satellite mission development (1); new cloud and aerosol remote sensing algorithms for existing satellites and Big Data challenges (1); problems in 3-D radiative transfer through cloudy atmospheres (1); field experiments to study cloud-aerosol-radiation interactions (1).
- Francina Dominguez: land–atmosphere interactions over South America (1)
- Deanna Hence: orographic influence on extratropical cyclone fronts (1), tropical cyclone surface wind loads (1)
- Atul Jain: impacts of climate variability/change on crop productivity using an earth system model (1)
- Sonia Lasher-Trapp: high-resolution simulations of entrainment in cumulus clouds (1) and influence of microphysics upon cold pool and resulting secondary convection (1); relative importance of warm rain and ice processes to heavy convective rainfall (1).
- Greg McFarquhar: model representation of ice cloud properties and processes (1), microphysics of nocturnal thunderstorms (1)
- Steve Nesbitt: radar and microphysical studies of precipitation (1, co-advise with McFarquhar), scatterometer observations of the dynamics/mesoscale structure of oceanic heavy precipitation events (1)
- Bob Rauber: orographic cloud processes (1)
- Nicole Riemer: aerosol-cloud microphysics and chemistry process modeling (1); scientific computing and algorithms for petascale aerosol models (1)
- Ryan Sriver: climate change uncertainties and impacts (1)
- Jeff Trapp: connections between severe thunderstorms and climate change/variability (1); convective dynamics and predictability (1)
- Zhuo Wang: subseasonal to seasonal prediction and predictability of weather and climate extremes (1); vorticity and convective evolution leading up to tropical cyclone formation (1).
- Donald Wuebbles: Climate impacts (1 or 2)

We will also offer 8-10 teaching assistantships for other research topics.

To apply online, go to http://www.grad.illinois.edu/admissions/apply. Deadline: January 15.

Question about our graduate program? Contact Dr. Zhuo Wang (zhuowang@illinois.edu)