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

EAPS MEETINGS & EVENTS  

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

SPRING FACULTY MEETING SCHEDULE  
Jan. 12th, Feb. 9th, Mar. 22nd, Apr. 12th, 2016  
HAMP 3201  
3:00-4:30 PM  

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

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

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

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

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  

HOLIDAYS (MAIN OFFICE CLOSED)  
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  

EAPS DEFENSE  
PhD Defense-Haylee Dickinson  
December 4, 2015  
1:00 PM  
HAMP 2201  
Advisor: Andrew Freed  
“Inferred Rheology and Upper Mantle Conditions of Western Nevada and Southern California-Northwest Mexico”  

EAPS NEWS  
DECEMBER HOLIDAY RECESS  
(Dec 24th-Jan 1st)  
The main office will be closed from Dec 24th - Jan 1st due to the extended holiday recess. If you plan to be on campus in HAMP, and have an urgent matter arise related to your office or lab (e.g. leaks, etc.), please call 494-8221, which is the Purdue Dispatcher. They will contact maintenance (1st Responder), fire department, or police as appropriate. If it’s a true emergency, you will need to dial 911.
PROFESSOR ROBIN TANAMACHI WILL BE IN THE NATIONAL GEOGRAPHIC’S FILM: “INSIDE THE MEGA TWISTER”

Robin Tanamachi will be in the upcoming National Geographic's film, “Inside the Mega Twister” that will air on the National Geographic Channel on December 6 @ 10PM EST. It tells the story of the El Reno tornado of 2013.

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.

NUMERICAL MODELING OF CONVECTIVE CLOUDS AND STORMS
EAPS 591
SPRING 2016 (Tues & Thurs. 12:00-1:15 PM)
Instructor: Dan Dawson
CRN: 16199

This course will provide an overview of the history, current status, and theory behind convective-scale numerical weather prediction (NWP), as well as its growing utilization in the operational forecasting and warning decision process for severe convective storms and tornadoes. It is intended for meteorology students who are interested in learning about or participating in this rapidly advancing area of research.

Deep convective storms are responsible for a substantial portion of the world’s severe weather, including flooding rains, large hail, damaging winds, and tornadoes. Numerical modeling has until recently been confined to the simulation and prediction of large-scale weather patterns, such as extratropical cyclones, with many dramatic advancements having been made over the past several decades. More recently, the continued increase in computing power has finally allowed for the reduction of NWP model grid resolutions to the level where individual convective clouds and storms can be explicitly resolved in a timely manner. This is bringing about a revolution in our ability to understand and even predict these phenomena.

Prerequisites: Open to meteorology graduate or senior undergraduate students. No specific course prerequisites; students should be familiar with basic meteorology. Proficiency in a computer programming language. No background in NWP/CFD necessary.

Assessment: 4—5 programming assignments, 1 midterm exam, 1 term project (written and oral, including a modeling or programming component).

Text and materials: lecture notes, journal articles provided by instructor. Optional textbook: “A First Course in Atmospheric Modeling”, by DeCaria and Van Knowe.
GRADUATE NEWS

GRADUATE FELLOWSHIP OPPORTUNITIES AT THE UNIVERSITY AT ALBANY’S ATMOSPHERIC SCIENCES RESEARCH CENTER

The University at Albany's Atmospheric Sciences Research Center (ASRC), Albany, NY, USA, is pleased to announce merit-based first-year fellowships for new ASRC-advised doctoral students. A first-year fellowship includes full tuition (9 credits per semester) and a research assistantship stipend for a 12-month period beginning in late August 2016. All first-year graduate students, domestic and international, interested in being advised or co-advised by an ASRC Faculty member are eligible to apply. Please see attached flier for more details.

~ ~ ~ ~ ~ ~

MERIT-BASED SUPPORT TO GRADUATE STUDENTS

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.

OTHER

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

Chris Andronicos  Dec. 2nd
Darryl Granger  Dec. 5th

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.
Sept. 22  Subashini Subramanian, PhD Candidate
“Land Surface Effects on the Post Landfall Characteristics of Tropical Cyclones”
  **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”
  **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”
  **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
  **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”
  **Tuesday, 4:00PM, Room 2201/HAMP**
Nov. 12  Prof. Leigh Stearns, University of Kansas  
“Tidewater Glacier Dynamics-What We’re Learning from Increased Observational Data”  
Host: Elliott

Nov. 19  Prof. Susan Brantley, Pennsylvania State University  
“Lithology and Chemical Weathering Reaction Fronts, and Runoff Paths through Hillslopes”  
Host: Melosh

Dec. 3  Prof. Paul Staten, Indiana University  
“Planetary, Paleo, and Pending Hadley Circulations”  
Host: Wu
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.
EAPS 591: Numerical Modeling of Convective Clouds and Storms

Spring 2016, 3 credits
Time: T-Th, 12:00-1:15 p.m.
Location: HAMP 4251
Instructor: Prof. Dan Dawson
Email: dandawson@purdue.edu
Phone: 494-5999 Office: 4277A

This course will provide an overview of the history, current status, and theory behind convective-scale numerical weather prediction (NWP), as well as its growing utilization in the operational forecasting and warning decision process for severe convective storms and tornadoes. It is intended for meteorology students who are interested in learning about or participating in this rapidly advancing area of research.

Deep convective storms are responsible for a substantial portion of the world's severe weather, including flooding rains, large hail, damaging winds, and tornadoes. Numerical modeling has until recently been confined to the simulation and prediction of large-scale weather patterns, such as extratropical cyclones, with many dramatic advancements having been made over the past several decades. More recently, the continued increase in computing power has finally allowed for the reduction of NWP model grid resolutions to the level where individual convective clouds and storms can be explicitly resolved in a timely manner. This is bringing about a revolution in our ability to understand and even predict these phenomena.

Specific topics will include:

- Introduction to NWP. Finite difference methods for discretization of the governing PDEs of atmospheric dynamics and physics. Students will program simple codes demonstrating these methods.
- Introduction to the dynamics of convective storms. Emphasis on quasi-linear convective systems (QLCSs), supercell thunderstorms, and tornadoes.
- Commonly used research and operational storm-scale NWP models. Specific approaches to simulation and prediction. Students will run simulations using a research-grade NWP model and analyze the results.
- Parameterizations of cloud and precipitation physics and other physics.

Prerequisites: Open to meteorology graduate or senior undergraduate students. No specific course prerequisites; students should be familiar with basic meteorology. Proficiency in a computer programming language. No background in NWP/CFD necessary.

Assessment: 4-5 programming assignments, 1 midterm exam, 1 term project (written and oral, including a modeling or programming component).

Text and materials: Lecture notes, journal articles provided by instructor. Optional textbook: “A First Course in Atmospheric Modeling”, by DeCaria and Van Knowe.
Graduate Fellowship Opportunities at the University at Albany’s Atmospheric Sciences Research Center

The University at Albany's Atmospheric Sciences Research Center (ASRC), Albany, NY, USA, is pleased to announce merit-based first-year fellowships for new ASRC-advised doctoral students. A first-year fellowship includes full tuition (9 credits per semester) and a research assistantship stipend for a 12-month period beginning in late August 2016. All first-year graduate students, domestic and international, interested in being advised or co-advised by an ASRC Faculty member are eligible to apply. ASRC is a world-class research center with fourteen full-time faculty focused on all aspects of the atmospheric sciences and spanning the full spectrum from measurement science to coupled modeling. ASRC operates a premier mountaintop observation facility on Whiteface Mountain, NY and co-directs the new, 125-site New York State Mesonet. ASRC is recruiting applicants in the areas of: ice microphysics; wind energy; aerosol-cloud radiation interactions; air-sea interactions; land-atmosphere interactions; air pollution and atmospheric chemistry; and regional and global air pollution and climate modeling. To be considered for a first-year fellowship, applicants must submit by February 15, 2016: (1) an application for admission to the appropriate University at Albany doctoral program and (2) a letter requesting fellowship consideration to the ASRC Graduate Fellowship Committee, c/o Dr. Kara Sulia (ksulia@albany.edu). The letter of request should be a 1-2 page "cover letter" to their doctoral program application alerting the committee to research interests of the applicant and the potential ASRC advisor(s) identified.
While UA’s doctoral program in Atmospheric Science will be an appropriate choice for most applicants, ASRC is also interested in proposals to conduct interdisciplinary research leading to degrees in other areas, including but not limited to: physics, chemistry, environmental health, computer science, information science/geographic information science (GIS), and biology. In most cases, pending satisfactory academic performance, successful applicants can expect comparable support levels in subsequent years. Applicants are strongly encouraged to coordinate their application with a faculty member at ASRC. For more information on ASRC faculty, research areas and affiliations, and the application process, please visit the ASRC student opportunities webpage.