EAPS MEETINGS & EVENTS

FALL FACULTY MEETING SCHEDULE
Tuesday, Oct. 27th and Dec. 1st
HAMP 3201
3:00-4:30 PM

GSA 2015
November 1-4, 2015
Baltimore, Maryland

AGU 2015
December 14-18, 2015
San Francisco, California

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

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

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

COLLOQUIA CONT.

Jerry DeGraff
AEG Jahns Lecturer
“Effective Monitoring for Environmental & Engineering Geology Projects, Case Histories in Mining, Groundwater Contamination & Hot Spring Migration”
Thursday, Oct. 29th
3:30-4:30 PM
HAMP 1252

EAPS NEWS

UPCOMING OUTREACH ACTIVITIES

November 1 - Purdue Convocations Event: Lighting pre show.
November 7 - Purdue Homecoming Celebration held on Stadium Mall between Pharmacy and Armstrong buildings.

These are some of the activities that are already on the books. They will be adding many more throughout the semester. If you would be interested in helping with any of the activities, please contact Steven Smith (mrsmith@purdue.edu)

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.

UNDERGRADUATE NEWS

ASSISTANT PROFESSOR POSITION AT TEXAS A&M UNIVERSITY

The Department of Atmospheric Sciences at Texas A&M University is seeking applications for a tenure-track position at the assistant professor level in the field of physical meteorology, with an emphasis on radiative transfer and atmospheric remote sensing. Candidates are sought with research expertise in one or more of the following areas: radiative transfer, atmospheric remote sensing, and applications of remote sensing observations to broader areas such as climate study, physical meteorology, and atmospheric chemistry. A Ph.D. in atmospheric sciences or a related field is required at the time of appointment. Postdoctoral experience is desirable but is not required. The successful candidate will be expected to maintain a prominent research program and to teach courses at the undergraduate and graduate levels.

To apply, please send a CV, statement of research and teaching interests, and names and contact information for at least three references to:

Prof. Kenneth P. Bowman
Chair, Faculty Search Committee Department of Atmospheric Sciences Texas A&M University
College Station, TX 77843-3150 Email: k-bowman@tamu.edu

The position will remain open until a suitable candidate is found. Initial review of applications will begin on December 1, 2015.

Please see attached position announcement for further details.

HAPPY HALLOWEEN!

OTHER

PURDUE RE-ELECTED TO MEMBERSHIP IN UCAR

Purdue University has been re-elected to a 8-year term of membership in the University Corporation for Atmospheric Research (UCAR), which manages the National Center for Atmospheric Research (NCAR) in Boulder, Colorado, through a continuing cooperative agreement with the National Science Foundation. UCAR was founded in 1960, and Purdue has been a member since 1971. The annual members meeting was held in Boulder on October 13-14, 2015 and the recommendation for re-election by the membership committee presented at that meeting was the following: “The renewal application provides plenty of detail to address the three membership criteria. 1. Program of Studies and Research. Purdue’s contributions at both the undergraduate and graduate level are very strong. 2. Progress in the Atmospheric Sciences. Purdue’s scholarly contributions are massive. 3. Participation in the activities of UCAR. Purdue’s involvement is more than sufficient to merit reappointment.” Attending the meeting from Purdue were 1) Professor Michael Baldwin, Scientific Representative, 2) Professor Dan Dawson, Early-Career Scientist, and 3) Professor Ernie Agee (substituting for Administrative Representative, Dean Jeffrey Roberts).

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OCTOBER WORKSHOPS OFFER INTRODUCTION TO UNIX AND HIGH-PERFORMANCE COMPUTING CLUSTERS

ITaP Research Computing is hosting two free introductory workshops in October covering basic UNIX commands and high-performance computing in a UNIX environment using machines like new Rice cluster and Purdue’s other Community Cluster Program supercomputers. More information: https://www.rcac.purdue.edu/news/791.

Questions: rcac-help@purdue.edu.

The Hands-on UNIX 101 Workshop, to cover topics ranging from logging in, files and directories to permissions, pipelines and scripts, will take place from 3:30-6:30 p.m. Tuesday, October 27, in the Hampton Hall of Civil Engineering, Room 3144. No previous UNIX experience is required to attend. Registration: https://purdue.qualtrics.com/SE/?SID=SV_9SOstn5xxlI2NL.

The Hands-on Clusters 101 Workshop, which will hit subjects including job submission, queues and cluster environments and include a simple hands-on lab, will take place from 3:15-6:30 p.m. Thursday, October 29, in the Hampton Hall of Civil Engineering, Room 3144, followed by a tour of Purdue’s research computing data center. Registration: https://purdue.qualtrics.com/SE/?SID=SV_1Y6QF4T3l7zNvQQ9.
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 www.purdue.edu/eas/ 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.purdue.edu/eas/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
Title: TBA
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
Title: TBA
**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
Title: TBA
**Tuesday, 4:00PM, Room 2201/HAMP**
<table>
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<tr>
<th>Date</th>
<th>Speaker</th>
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<tr>
<td>Nov. 12</td>
<td>Dr. Dave Finnegan, US Army Corps</td>
<td>Elliott</td>
<td>“Automated LiDAR Scanning of a Tidewater Glacier: Helheim Glacier, Southeast Greenland”</td>
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<td>Nov. 19</td>
<td>Prof. Susan Brantley, Pennsylvania State University</td>
<td>Melosh</td>
<td>TBA</td>
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<td>Dec. 3</td>
<td>Prof. Paul Staten, Indiana University</td>
<td>Wu</td>
<td>“Metrics, Mechanisms, and Magnitudes of Tropical Widening in a Warming Climate”</td>
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Abstract: We will explore some myths and realities concerning large-scale development of the unconventional natural gas/oil resource in shale deposits. On a local scale, these concern geological aspects of the plays, and the resulting development and use of directional drilling, high-volume, slickwater, hydraulic fracturing, multi-well clustered pad arrangements, and the impacts of these technologies on waste production and disposal, and possible contamination of water supplies. On a global scale, we will also examine the cumulative impact of unconventional gas development on greenhouse gas loading of the atmosphere. This loading involves technical, scientific, and policy questions that will be identified and partially answered.

Dr. Ingraffea is the Dwight C. Baum Professor of Engineering Emeritus and a Weiss Presidential Teaching Fellow at Cornell University where he has been since 1977. He has authored with his students and research associates over 250 papers, and is Past-Director of the Cornell Fracture Group. For his research achievements in hydraulic fracturing he has won the International Association for Computer Methods and Advances in Geomechanics "1994 Significant Paper Award", and he has twice won the National Research Council/U.S. National Committee for Rock Mechanics Award for Research in Rock Mechanics. He became a Fellow of the American Society of Civil Engineers in 1991, and named the Dwight C. Baum Professor of Engineering at Cornell in 1992. His group won a NASA Group Achievement Award in 1996, and a NASA Aviation Safety /Turning Goals into Reality Award in 1999 for its work on the aging aircraft problem. He became Co-Editor-in-Chief of Engineering Fracture Mechanics in 2005. In 2006, he won ASTM’s George Irwin Medal for outstanding research in fracture mechanics, and in 2009 was named a Fellow of the International Congress on Fracture. TIME Magazine named him one of its “People Who Mattered” in 2011, and he became the first president of Physicians, Scientists, and Engineers for Healthy Energy, Inc. (www.psehealthyenergy.org) in that same year. He is a co-author of recent papers on methane emissions (2011, 2012), wellbore integrity in Pennsylvania (2014), and on conversion of New York (2012) and California (2014) to wind/sun/water power for all energy uses in the next few decades.
Effective Monitoring for Environmental and Engineering Geology Projects, Case Histories in Mining, Groundwater Contamination and Hot Spring Migration

Jerry DeGraff
AEG Jahns Lecturer

Monitoring is often part of environmental or engineering geology projects. Monitoring of surface crack development over an active coal mine, herbicide movement in groundwater, and long-term temperature and pH trends in areas of hot springs illustrate how this activity can develop information important to project objectives. The presentation will also explore how to ensure the effectiveness of monitoring efforts.

Thursday, October 29, 2015
3:30 p.m.
Room 1252 HAMP

Refreshments at 3:00 pm
Room 2201/HAMP
Assistant Professor at Texas A&M University

The Department of Atmospheric Sciences at Texas A&M University is seeking applications for a tenure-track position at the assistant professor level in the field of physical meteorology, with an emphasis on radiative transfer and atmospheric remote sensing. Candidates are sought with research expertise in one or more of the following areas: radiative transfer, atmospheric remote sensing, and applications of remote sensing observations to broader areas such as climate study, physical meteorology, and atmospheric chemistry. A Ph.D. in atmospheric sciences or a related field is required at the time of appointment. Postdoctoral experience is desirable but is not required. The successful candidate will be expected to maintain a prominent research program and to teach courses at the undergraduate and graduate levels.

The Department of Atmospheric Sciences is one of the largest such departments in the U.S., offering degree programs at all levels and research activities across the full spectrum of the atmospheric sciences. Resources available for teaching and research include the Texas A&M Supercomputing Center; the Center for Geospatial Sciences, Applications, and Technology; the Texas Center for Climate Studies; and the Center for Atmospheric Chemistry and the Environment.

The Department of Atmospheric Sciences is part of the College of Geosciences, which also includes the Departments of Geology and Geophysics, Geography, and Oceanography. Texas Sea Grant, the Geochemical and Environmental Research Group, and the International Ocean Discovery Program are also part of the College of Geosciences. Texas A&M University, a land-, sea-, and space-grant university, is located in a metropolitan area with a dynamic and international community of over 250,000 people. Texas A&M University is an affirmative action/equal opportunity employer committed to excellence through the recruitment and retention of a diverse faculty and student body and compliance with the Americans with Disabilities Act. We encourage applications from minorities, women, veterans, and individuals with disabilities. Texas A&M University also has a policy of being responsive to the needs of dual-career partners.

To apply, please send a CV, statement of research and teaching interests, and names and contact information for at least three references to:

Prof. Kenneth P. Bowman  
Chair, Faculty Search Committee  
Department of Atmospheric Sciences  
Texas A&M University  
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