Department of Earth & Atmospheric Sciences

The Weekly News

August 31, 2009

WELCOME!

Distinguished Professor

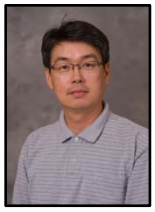
Jay Melosh joined Purdue's Department of Earth and Atmospheric Sciences on August 17. His principal research interests are the ramifications of impact cratering, planetary tectonics, and the physics of earthquakes and landslides. He is also active in astrobiological studies that relate mainly to the exchange of microorganisms between the terrestrial planets.

Dr. Melosh has received numerous awards for his research, including the Barringer Medal of the Meteoritical Society, the Gilbert Award of the Geological Society of America and the Hess Medal of the American Geophysical Union. A member of the National Academy of Sciences and several other prominent national and international panels and committees, Melosh recently was a consultant to the Hayden Planetarium of the American Museum of Natural History. Dr. Melosh's office is in CIVL 3237, and he can be reached at jmelosh@purdue.edu.

US-India Fulbright Visiting Scholar

We are pleased to welcome Dr. Prashant Kumar Shrivastava as a US-India Fulbright Visiting Scholar for the fall semester. Dr. Shrivastava is an Assistant Professor in the Department of Geology at the Govt.V.Y.T.P.G. College in Durg, Chhattisgarh, India. He received his doctorate degree in the field of Ground Water Pollution in 1999 from Ravishankar University, Raipur, India. He is a winner of the Young Scientist Award (1995), Commonwealth Academic Staff Fellowship (2008), and the UGC India Post Doctoral Research Award (2009). His interests are in Hydrogeology, Ground Water Pollution, and Remote Sensing. His recent publications have included work on karst topography, ground water level and quality fluctuations, and surface and ground water pollution. Dr. Shrivastava will be a guest lecturer in several Purdue courses this semester, as well as a seminar speaker at several universities in the Midwest and on the West Coast. He is also working on several manuscripts this semester, as well as pursuing collaborative research with Purdue faculty. Dr. Shrivastava's office is in CIVL 3215, and he can be reached at pshrivas@purdue.edu.

Visiting Assistant Professor



Ki-Hong Min, who received his PhD from Purdue in 2005, has accepted a two-year appointment as a Visiting Assistant Professor to help meet the teaching responsibilities of the atmospheric science program. He is currently teaching Atmospheric Thermodynamics and Atmospheric Observations and Measurements II. Dr. Min's office is in CIVL 4282 and he can be reached at min@purdue.edu.

UPCOMING MEETINGS

Friday, September 4

- ATMS Tea, CIVL 2201 (2:30 p.m.)

EAS SEMINAR

Thursday, September 3, at 3:30 p.m. in CIVL 1252: "Evaluation of Numerical Forecasts of Convective Precipitation Systems Containing Realistic Detail." Michael Baldwin, EAS, Purdue University

Refreshments at 3 p.m. in CIVL 2201

For more information, see the EAS online calendar.

PLEASE MARK YOUR CALENDARS!

This year's EAS Outstanding Alumni are Marlene Breece (1979 BS Atmospheric Science) and Mark Longacre (1981 MS Geophysics). There will be a reception on Friday, September 25, starting at 2 p.m. in CIVL 2201. Seminars will be presented starting at 2:30 p.m., also in CIVL 2201.

OUR RECENT PUBLICATIONS

Tang, Jinyun and Qianlai Zhuang, 2009: A global sensitivity analysis and Bayesian inference framework for improving the parameter estimation and prediction of a process-based Terrestrial Ecosystem Model, *J. Geophys. Res.*, 114, D15303, doi:10.1029/2009JD011724.

WORKSHOP / PRESENTATION

Eric Calais organized and participated in the Advanced Workshop on Evaluating, Monitoring, and Communicating Volcanic and Seismic Hazards in East Africa at the International Centre for Theoretical Physics in Trieste, Italy 17-28 August 2009. New student Elifuraha Saria, Laura Bennati, and D. Sarah Stamps also participated in the workshop. Stamps presented a talk on "Strain rates and large-scale dynamics of the East African Rift".

PROGRAM REVIEW

Professor Yuch-Ning Shieh participated in the quinquennial program review of the Division of Mathematics and Physical Sciences at Academia Sinica in Taipei, Taiwan, July 12 - July 15, 2009. Shieh was one of the five invited reviewers from the U.S. to evaluate the research programs and strategic plan for the Institute of Earth Sciences. Other reviewers from Purdue included Professor R. Graham Cooks (for the Institute of Atomic and Molecular Sciences) and Professor Ei-ichi Negishi (for the Institute of Chemistry).

FROM OUR BUSINESS OFFICE

Recent Awards
(September 2008 – Aug 2009)

Bowen, Brenda B.: Exxon Mobil's Global Geoscience Recruiting award for Raul Ochoa. Exxon-Mobil Exploration Company – $5,000

Bowen, Brenda B Depositional and Diagenetic Heterogeneities of the Mt. Simon Sandstone and Eau Claire Formation. Indiana Geological Survey – $112,871

Bowen Gabriel J.: Prediction and Validation of Water Supply Sensitivity Through GIS-based Integration of Environmental, Demographic, and Stable Isotope Data. National Geospatial – Intelligence Agency – $359,988

Braile, Lawrence W.: Processing, Modeling and Interpretation of SAGE Geophysical Data across the Rio Grande Rift, Northern New Mexico. Los Alamos National Laboratory – $86,940

Caffee, Marc W.; Granger, Darryl E.: Facility Support: The Purdue Isotope Measurement Laboratory. NSF – 1,978,583

Calais, Eric: American Geophysical Union-Research Letters. American Geophysical Union – $11,800

Calais, Eric: Exxon Mobil's Global Geoscience Recruiting Award for Laura Bennati-Rassion. Exxon-Mobil Exploration Company – $7,500

Calais, Eric: GPS East Africa-Uganda 2008. Goethe - University Frankfurt – $15,046

Calais, Eric; Freed, Andrew M: Intraplate Strain and Stress in the North American Plate Interior: Collaborative Research with Purdue University and University of Wisconsin. U.S. Geological Survey – $140,323

Cushman, John H.: Modeling the Hydrology of Desication and Cracking of Shrinking Porous Media. NSF – $345,520

Diffenbaugh, Noah S.; Gurney, Kevin R: Impacts of High Resolution Extreme Events on US Energy Demand and CO_2 Emissions in the 21st Century. U.S. DOE – $332,593

Filley, Timothy R.: Acquisition of a Gas Chromatograph-Quadrupole Mass Spectrometer and Upgrade to an Existing Stable Isotope Mass Spectrometer for Continued Biogeochemical Research. NSF – $188,209

Filley, Timothy R.: Collaborative Research: Investigating the soil-earthworm-litter system controls on the stabilization of organic matter in Eastern deciduous forests. NSF – $383,367

Gibson, Kevin D.; Ridgway, Kenneth D.; Lewis, Dwight E.; Ravenold, Kerry N.; Smith, M.J.T.; Zollner, Patrick A.; Zurn-Birkhimer, Suzanne M.: Tecumseh Project: Purdue Program for Native Americans - A Proposal for a Partnership between Purdue University and the Sloan Foundation. Sloan, Alfred P. Foundation – $245,203

Gurney, Kevin R.: CAREER: A Highly-Resolved, Process-Driven Fossil Fuel CO2 Inventory to Advance Carbon Science, Climate Science, Decision Making and Education. NSF – $647,073

Granger, Darryl E.: An Isochron Method for Burial Dating with Cosmogenic Nuclide: Application to River Incision in Southern Africa. NSF – $301,935

Haase, Jennifer S.: Faculty for the Future Program Fellowship. Schlumberger Foundation – $26,090

Haase, Jennifer S.: Renewed Funding: Update to the Evansville Urban Seismic Hazard and Liquefaction Hazard Maps. U.S. Geological Survey – $22,600

Haase, Jennifer S.; Nowack, Robert L.: Evansville PSHA and Earthquake Scenarios in Support of Earthquake Training Exercises. U.S. Geological Survey – $20,000

Harshvardhan: Improving Vertical Profiles of Biomass Burning Emissions Using Satellite Observations and Numerical Modeling. NASA – $30,000

Huber, Matthew: Collaborative Research: Understanding the Role of a High-Latitude Convective Cloud Feedback in Equable and Future Climate Dynamics. NSF – $188,021

Huber, Matthew; Bowen, Gabriel J.: Collaborative Research: P2C2 Integrating Proxies and Earth System Models to Elucidate Water Cycle Dynamics: Did Global Warming Cause an Enhanced Hydrological… NSF – $472,346

Krockover, Gerald H.; Bayley, William G.: Standards Based Integrated Science Instruction for the Middle Grades SBII. IN Commission for Higher Education – $437,322

Lasher-Trapp, Sonia G.; Baldwin, Michael E.; Riggs, Eric M.; Trapp, Robert J.: Numerical The Application of a Successful Research-based Laboratory Model to Atmospheric Science. NSF – $150,000

OUTREACH OPEN HOUSE

Purdue University Department of Earth and Atmospheric Sciences is committed to helping teachers in the classroom. The EAS K-12 Outreach has many opportunities for educators. We would like to invite anyone interested to our open house

Monday, August 31, 2009
4 – 7 p.m.
Held in room 2201 in the CIVL building on the Purdue University West Lafayette Campus

Check out our Equipment / kit loaning materials

Learn about:

- Workshops we offer
- Visits to the department
  - ° Demos, Tours, activities
  - ° Geology Self-Guided Walking tour

Check us out: *www.purdue.edu/eas/outreach*

FROM DELHI TO PURDUE: UNFORGETABLE EXPERIENCE

by

Dr. Prashant Kumar Shrivastava
US-India Fulbright Visiting Professor
Dept. of Earth & Atmospheric Sciences
Purdue University

I came here to West Lafayette on 15 August 09. The first week was unique-excitement, anxiety, expectation all rolled into one. I was at once a student, scholar, tourist and my country's "ambassador". I found Americans to be genuinely friendly, reaching out to accept me as one of them, as a part of their family and society. The outcome of my visit to Purdue University reinforces my belief that people, no matter where, are by and large the same- with the same essential goodness, aspirations and anxieties.

The first week was difficult. A chance to meet new people, understand the way of life here, roughing it out on my own, learning new things the hard way, all have given me, a new zest in life. Being more reserved by nature did not deter me from being assimilated into American Society, and making several new friends and acquaintances. It gives me the opportunity to understand them without being intrusive, share my own culture and values and discuss some of my own thoughts and beliefs. Our discussions sought meaning to what makes us different and we discovered even more ways in which we were all similar, especially where it mattered.

In the first week of my Fulbright Fellowship, I witnessed the dynamics of American family life, a football game and much more. While talking to Americans, sometimes I have to repeat myself to be understood. A bus driver taught me how to pronounce some words in the American way. My bus rides gave me glimpses of real Americans from various walks of life. The homeless with their belongings, student in a rush, physically challenged in wheel chairs, women with shopping carts are my daily companions.

In India, students are reluctant to speak in class due to either diffidence or perception that it is disrespectful. In Purdue University, I found the relationship with teachers to be informal, usually on a first-name basis and with an air of familiarity, quite uncommon in Indian scene.

My host, Department of Earth & Atmospheric Sciences, Purdue University had a wealth of readily accessible resources for students and family. The excellent libraries and a vibrant campus scene always provided everyone with something to do. Purdue University students and faculty are of the opinion that global awareness and international experience as key value added components of education.

I hope, my fellowship trip will make my life richer, a chance to be a part of the daily lives of American people. The Fulbright fellowship has given me a new perspective due to opportunities it offered.

My faculty associate in Purdue University, Prof. Jon Harbor, is a wonderful person. He helped me a lot in several ways. I wish to learn lot from his experience of research and teaching in coming days. Cooking vegetarian Indian food in my flat at Purdue Village is an enjoyable pastime for me.

It is a week now since I came from India to the USA, the body is adjusting to the American clock and the daily routine. Finally, I am grateful to the Fulbright

Program and USEFI, CIES, IIE, for giving me this rare opportunity and Purdue University, Indiana along with Govt.V.Y.T.P.G. College, Durg, Chhattisgarh, India for the encouragement.

EAS TECHNOLOGY SUPPORT NEWS

Fall Technology Newsletter available

The fall edition of the EAS Technology Newsletter is available at http://www.purdue.edu/eas/resources/it/newsletter/fall-2009.html. Included in this newsletter are: a link to updates in ITaP labs, the hypocenter backup policy, information about guest account creation, and many other useful notes.

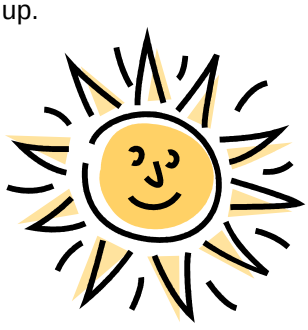
Linux software updates

The wgrib software package (http://www.cpc.noaa.gov/products/wesley/wgrib.html) has been added to the default software list for EAS Linux machines. wgrib is a program to manipulate GRIB files and is located in /opt/wgrib.

The GMT, IDL, and WDSS-ii packages are ready for update. GMT 4.5.0 can be found in /project/devo/b/gmt-4.5.0. IDL 7.1 is available in /project/devo/b/idl-7.1. WDSS-ii December 2008 is available in /project/devo/b/WDSS2 (32-bit) and /project/devo/b/WDSS2-x64 (64-bit). These packages will be installed on Tuesday, September 8. Please report any problems encountered during testing to eas-itap@purdue.edu.

FORECAST GAME BEGINS AUGUST 31

The nth year of the Purdue University Forecast Game begins on Monday, August 31. The Forecast Game is open to all Purdue students, faculty, and staff. Face off against your friends as you battle to predict the fury of Mother Nature. See http://wxp.eas.purdue.edu/forecast for more information or e-mail bcotton@purdue.edu to sign up.



A NOTE FROM OUR ACADEMIC COUNSELOR

Study Abroad Fair

Wednesday, September 2, Memorial Mall. 10 a.m. – 3 p.m. Learn about the 200 + study abroad programs, ranging from one week to one year. Talk with students who have studied abroad, program reps, and the study abroad staff. The EAS web site has information about two specifics programs: http://www.purdue.edu/eas/academic_programs/undergraduate/study_abroad.html.

Can you see yourself in Australia? EAS student Jon Buening did, Monash, Spring 2009.

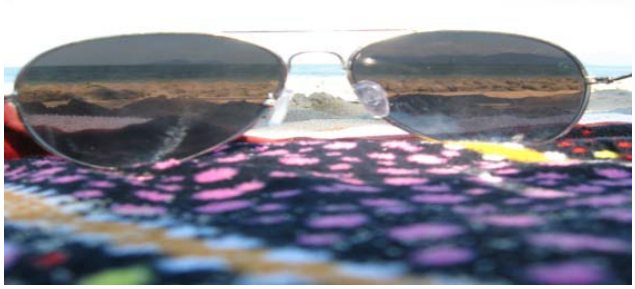


Photo courtesy of J.Buening

TEACH Grant

If you would like to teach and are looking for an opportunity, see this link (http://www.purdue.edu/dfa/fast/teachgrant0910.php) for information about a new federal Teacher Education Assistance for College and Higher Education (TEACH) Grant. This grant is available to specific Purdue University West Lafayette undergraduate and graduate students in the 2009-10 academic year (Fall 2009, Spring 2010, and Summer 2010). Earth/Space Science is included in this grant.

Dates

September 1: Purdue Pugwash Callout. To all interested students, faculty, and staff.

As an organization that promotes examination of the social implications of science and technology, they host small group discussion events on science and engineering, topics ranging from space to biology throughout the semester. These events are moderated by invited professors and/or industry representatives. For more information, visit Pugwash at www.purdue.edu/pugwash.

September 7, Monday. The last day to drop a course through myPurdue and not have it appear on your academic record.

September 7 is also Labor Day – No classes.

Nancy

ABOUT THIS NEWSLETTER:

This weekly newsletter is the place to look to keep up with departmental happenings, announcements (seminars, student group events, scholarship and award deadlines, departmental committees), job and grant opportunities, and anything else you need to know about the department. It should cut down on the glut of email and other forms of separate announcements – **if it is in the newsletter, we assume you know about it** and no other reminders are needed. Past issues will be available on our departmental web site (www.purdue.edu/eas/). Material for inclusion in the newsletter should be submitted to Gina Richey (grichey@purdue.edu) by **Friday noon** of each week for inclusion in the Monday newsletter.

For answers to common technology questions and the latest updates from the EAS Technology Support staff, please visit http://www.purdue.edu/eas/resources/it.

Also, as an additional resource for information about departmental events, seminars, deadlines, etc., see our departmental calendar at http://calendar.science.purdue.edu/eas/seminars.