

January 14, 2008

## UPCOMING MEETINGS

### Monday, January 14

- EAS Faculty Meeting, CIVL 3201 (11:30 a.m.)

### Friday, January 18

- Graduate Committee Meeting, CIVL 2201 (10:30 a.m.)

## SEMINAR ANNOUNCEMENTS

### Thursday, January 17, at 3:30 p.m. in CIVL 1252:

"Climatology and Trend of Large-Scale Eddy in the Troposphere and Stratosphere Diagnosed with Quasi-Conservative Coordinates." Noboru Nakamura, Department of Geophysical Sciences, University of Chicago

*Refreshments at 3 p.m. in CIVL 2201*

For more information, see the EAS online [calendar](#).

## OUR RECENT PUBLICATIONS

Rauber, R. M., ... S. G. Lasher-Trapp and coauthors, 2007: Rain in shallow cumulus over the ocean—the RICO campaign. *Bull. Amer. Meteor. Soc.*, **88**, 1912-1928.

Rauber, R. M., ... S. G. Lasher-Trapp and coauthors, 2007: Supplement to Rain in shallow cumulus over the ocean. *Bull. Amer. Meteor. Soc.*, **88**, S12-S18.

## MWR EDITOR

On January 1, Jeff Trapp officially began his term as an Editor of *Monthly Weather Review*.

## RECENT PRESENTATIONS

The following presentations were given at the AGU Fall meetings in San Francisco, California, December 10-14:

Detecting the Presence of a Sub-Porosity in an Open Fluid-Filled Fractures. \***A. A. Acosta-Colon**, L. J. Pyrak-Nolte (POSTER)

Oxygen Isotopes of Pedogenic Nitrate: New Paleoproxy for Precipitation in Arid regions. \***G. Michalski** (POSTER)

Paleoenvironments of the Jurassic and Cretaceous Oceans: Selected Highlights. \***J. G. Ogg** (INVITED)

Postseismic Deformation: Measurements, Mechanisms, and Consequences. I Posters (joint with S) Presiding: *E. Fielding, Jet Propulsion Laboratory; A. Freed, Purdue University; I. Johanson, USGS Earthquake Hazards Team*

Long-term post-seismic deformation over Mongolia, a look from InSAR. *B. Osmanoglu, \*N. Gourmelen, E. Calais, F. Amelung* (POSTER)

Cyberinfrastructure for End-to-End Environmental Explorations. *V. Merwade, \*S. Kumar, C. Song, L. Zhao, R. Govindaraju, D. Niyogi* (POSTER)

A method for determining ultra-low concentration of acid-volatile sulfides in sediments and its implication for redox status of aquifer. \**W. Chen, T. Liu, Y. Shieh* (POSTER)

Alternative Measures of Dispersion Applied to PTV Experiments. \***J. H. Cushman**, M. Moroni, N. Kleinfelter-Domelle (INVITED)

Response of California Current forcing to mid-Holocene insolation and sea surface temperatures. \***N. S. Diffenbaugh, M. Ashfaq** (POSTER)

Calibration of Pre-M25 Marine Magnetic Anomalies: Magnetic Polarity Composite of Late Callovian through Kimmeridgian. \***P. A. Przybylski, J. G. Ogg** (POSTER)

Coulomb stress evolution in NE Caribbean over the past 250 years due to coseismic, postseismic and interseismic deformation. \***T. Ali, A. M. Freed, E. Calais**, D. M. Manaker, W. R. McCann (POSTER)

Stress in the Lithosphere: Top-Down or Bottom-Up Control? I (joint with G, S, V) Presiding: *N. Fay, University of Arizona; L. M. Flesch, Purdue University*

Present-day Kinematics of the East African Rift. \**D. S. Stamps, E. Calais, E. Saria, E. Mbede, C. Ebinger, D. Delvaux, F. Kervyn, L. Combrinck, C. Hartnady, J. Nocquet, R. Fernandes*

A Velocity Field for the North American Plate Interior. \***E. Calais**, C. D. DeMets, J. Han (POSTER)

South Asian Summer Monsoon Dynamics in a High-Resolution Nested Climate Model. \***M. Ashfaq, S. Ying, W. Tung, R. J. Trapp**, X. Gao, J. S. Pal, **N. S. Diffenbaugh** (POSTER)

Stress in the Lithosphere: Top-Down or Bottom-Up Control? II Posters (joint with G, S, V) Presiding:

*N. Fay, University of Arizona; L. M. Flesch, Purdue University*

Thinking deeply: Is there a contribution to Asian tectonics from large-scale mantle flow? \***L. M. Flesch**, S. D. King, **E. Calais**, M. Hoesly (POSTER)

A Best-fit Lithosphere-Mantle Coupling Model Constrained by Plate Motions and the Velocity Gradient Tensor Field in the Plate Boundary Zones. \*A. Ghosh, L. Wen, W. E. Holt, J. Haines, **L. M. Flesch** (POSTER)

Far-Reaching Transient Motions After Mojave Earthquakes Require Broad Mantle Flow Beneath a Strong Crust. \***A. M. Freed**, R. Burgmann, T. A. Herring

Modeling impact of permafrost dynamics on carbon dioxide and methane cycling in northern high latitudes. \***Q. Zhuang**

Continental Collision: The Lithospheric Scale I (joint with G, S, DI, V) Presiding: **R. L. Nowack, Purdue University; T. Tseng, University of Illinois**

Pole-to-pole sea surface temperatures from the Paleocene-Eocene thermal maximum using organic and inorganic paleothermometers: The ultimate test case for climate models. \*A. Sluijs, S. Schouten, J. C. Zachos, P. K. Bijl, G. Reichart, J. S. Sinninghe Damsté, **M. Huber**, P. N. Pearson, H. Brinkhuis (INVITED)

Investigation of properties of biomass and wildfires to improve global estimates of biomass burning emissions. \***M. Shcherbina Petrenko**, M. Chin, T. Diehl, T. Kucsera, A. Soja (POSTER)

Aliphatic and aromatic plant biopolymer dynamics in soil particles isolated from sequential density fractionation. B Caldwell, \***T. Filley**, P. Sollins, K. Lajtha, C. Swanston, M. Kleber, M. Kramer (POSTER)

Evolution of Plant Biopolymer Chemistry of Above and Below Ground Input in a Thorn Woodland Chronosequence. T. Boutton, \***T. Filley** (POSTER)

Regional water cycle change during the PETM from new records in central Utah and CCSM. \***G. J. Bowen, M. Huber, B. B. Bowen** (POSTER)

Frechet kernels for wave equation reflection tomography on curvilinear coordinates. \*S. Burdick, **M. V. de Hoop**, R. D. van der Hilst (POSTER)

Mantle Lithosphere beneath Tibet: A Synthesis with Special References to Results from Project Hi-CLIMB. \*W. Chen, T. Tseng, **R. L. Nowack**, S. Hung, S. Chung, B. Huang

Imaging the Crust and Upper Mantle beneath the Hi-CLIMB Seismic Array in Tibet Using Gaussian-Beam Migration of Radial Receiver Functions.

\***R. L. Nowack**, W. Chen, T. Tseng, H Seismic Team

Land surface coupling in regional climate simulations of tropical monsoon systems. \*A. L. Steiner, J. S. Pal, J. L. Bell, **N. S. Diffenbaugh**, S. A. Rauscher, F. Giorgi, L. C. Sloan

GPS Detection, Modeling and Energy Estimation of the Ionospheric Wave following the 2003 Explosion of the Soufriere Hills Volcano, Montserrat. \*T. Dautermann, **E. Calais**, G. S. Mattioli

A Conceptual Framework for Assessment of the Benefits of a Global Earth Observation System of Systems. \***S. Fritz**, R. J. Scholes, M. Obersteiner, J. Bouma

Shear wave splitting intensity tomography beneath southwestern Japan and coupling with numerical flow models. \*M. D. Long, **M. V. de Hoop**, R. D. van der Hilst, B. H. Hager (INVITED)

Insights on Lithospheric Foundering from the Sierra Nevada Earthscope Project (SNEP). \*G. Zandt, **H. Gilbert**, A. Frassetto, T. Owens, C. Jones

Radar Interferometry Measures Underground Salt Leaching of Anthropogenic Origin in a Saharan Oilfield. \*K. L. Feigl, A. Aryal, **E. Calais, J. Haase**, C. Thurber

Aftershock identification problem via the nearest-neighbor analysis for marked point processes. **A. Gabrielov**, \*I. Zaliapin, H. Wong, V. Keillis-Borok

Capturing Magma Intrusion and Faulting Processes during Continental Rupture: Seismicity of the Dabbahu (Afar) Rift. \*C. J. Ebinger, D. B. Keir, A. Ayele, E. Campbell, M. Belachew, J. Hammond, T. Wright, **E. Calais** (INVITED)

Combined Seismic and Geodetic Observations of Dike Injection in the Dabbahu Rift Segment, Afar, Ethiopia. \*D. Keir, A. Ayele, E. Baker, M. Belachew, **E. Calais**, C. Ebinger, I. Hamling, E. Lewi, E. Jacques, J. Rowland, T. Wright

An Examination of Organic Nitrates Using a 0-D Model and Experimental Data from an Isoprene Irradiation Chamber Experiment. \*A. Cavender, K. Hill, A. Lockwood, L. Mielke, C. Moffat, A. Perring, S. Dusanter, D. Vimal, R. Cohen, P. Stevens, **P. Shepson** (POSTER)

Determination of Isomer-Specific Isoprene Nitrate Production Yields. \*A. L. Lockwood, **P. Shepson** (POSTER)

The Environmental Fate of C60 Fullerenes: A Holistic Approach. \***K. M. Schreiner, T. R. Filley**, R. A. Blanchette, C. Jafvert, R. Bolskar (POSTER)

Shear wave anisotropy beneath the Sierra Nevada range: Implications for lithospheric foundering and upper mantle flow. \*N. B. Badger, I. D.

Bastow, T. J. Owens, G. Zandt, C. H. Jones, **H Gilbert** (POSTER)

Teleseismic Travel-Time Tomography of the Sierra Nevada and its Foundering Lithosphere. \*H. Reeg, C. H. Jones, **H. Gilbert**, T. Owens, G. Zandt (POSTER)

Evaluating and Communicating Seismo-Volcanic Hazards Within and Between Countries in East Africa. \*C. J. Ebinger, G. Yirgu, E. I. Mbede, **E. Calais**, T. Wright (INVITED POSTER)

A multi-scale approach to imaging and Frechet derivatives in wave-equation tomography. \***M. V. de Hoop**, R. D. Van der Hilst, M. Salo, V. Brytik, H. Smith, G. Uhlmann (INVITED)

Predictability of extreme events in spatially distributed driven hierarchical systems. V. Keilis-Borok, **A. Gabrielov**, \*I. Zaliapin

Report on the Special JGE issue on Strengthening Diversity in the Geosciences. \*C. J. Alexander, **E. Riggs**

The Impact of Invasive Earthworm Activity on Biopolymer Character of 'Decayed Litter'. \***T. Filley**, S. Crow, C. Johnston, M. McCormick, K. Szlavecz (POSTER)

Dynamics of the Southwestern Pacific Ocean and the South Pacific Convergence Zone I Posters (joint with A) Presiding: **K. Ridgway**, *CSIRO/CMAR; J. A. Renwick, National Institute of Water and Atmospheric Research, Ltd.*

SPICE: South Pacific Circulation and Climate Experiment. \*A. Ganachaud, W. Kessler, G. Brassington, S. Wijffels, **K. Ridgway**, W. Cai, N. Holbrook, M. Bowen, P. Sutton, B. Qiu, A. Timmermann, D. Roemmich, J. Sprintall, S. Cravatte, L. Gourdeau, T. Aung (POSTER)

Complex Upper Mantle Seismic Structure across the Southern Colorado Plateau / Basin and Range I: Results from Shear Wave Splitting Analysis. \*M. J. Fouch, **H. J. Gilbert** (POSTER)

Complex Upper Mantle Seismic Structure across the Southern Colorado Plateau / Basin and Range II: Results from Receiver Function Analysis. \***H. Gilbert**, M. J. Fouch (POSTER)

Continued dyking in the Dabbuhu Rift segment, Afar, Ethiopia, from radar interferometry. \*I. J. Hamling, D. Keir, A. Ayele, **E. Calais**, C. Ebinger, E. Lewi, G. Yirgu, T. Wright (POSTER)

Inverse scattering with SKKS code waves: imaging the "D" from the core side. \*P. Wang, **M. V. de Hoop**, R. D. van der Hilst (POSTER)

Mantel Convection Models of the "D" Region. A van den Berg, \*D. Yuen, **M. de Hoop**, R. van der Hilst (POSTER)

Snow and Ice Photochemistry in Polar Regions, and Interactions with a Changing Climate. \***P. B. Shepson** (INVITED)

Predicting Coral Bleaching: Remote Sensing vs. In Situ Measurements of Sea Surface Temperatures. **M. Huber**, \***R. J. van Hooidek**, M. M. Guillaume, H. J. Bruggemann (POSTER)

A method to objectively optimize coral bleaching prediction techniques. \***R. J. van Hooidek**, **M. Huber** (POSTER)

Investigation of the Spatial Heterogeneity and Fluxes of Carbon Dioxide Using a Lagrangian Approach from an Aircraft. \***D. K. Martins**, C. Sweeney, B. H. Stirm, **P. B. Shepson** (POSTER)

Climatic Feedbacks between Tropical Cyclones, Temperature and Vertical Ocean Mixing. \***R. L. Srivier**, **M. Huber** (POSTER)

Inverse scattering of ScS and SKKS waves: High resolution, large scale imaging of Earth's core-mantle boundary region. P. Wang, \*R. D. Van der Hilst, **M. V. de Hoop**, S. Shim (INVITED)

Monitoring the East Australian Current - a historical perspective and future plans. \***K. Ridgway**

Development of a new method for determination of atmospheric halogen atom and halogen oxide concentrations. \*P. J. Tackett, **P. B. Shepson** (POSTER)

Effects of the Yellowstone Hotspot on Western U.S. Stress and Deformation. \*C. M. Puskas, R. B. Smith, **L. M. Flesch**, K. Settles

Prediction of Continental-Scale Net Ecosystem Carbon Exchange by Combining MODIS and AmeriFlux Data. \*J. Xiao, **Q. Zhuang** (POSTER)

Fine Scale Imaging of Structure at and Near the Mantle Transition Zone Using a Generalized Randon Transform. \*Q. Cao, R. van der Hilst, **M. de Hoop**, S D Shim (POSTER)

Multiples: From Artifact Prediction to Image Reconstruction via Illumination. \*A. E. Malcolm, **M. V. de Hoop**, B. Ursin (POSTER)

Statistical Analysis of Common Image Point Gathers at and Near the Core-Mantle Boundary. \*P. Ma, P. Wang, L. Tenorio, **M. V. de Hoop**, R. van der Hilst

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#### RECENT MEETINGS ATTENDED

Terry West and recent PhD graduate, Yinghui Sui, attended the combined meeting of the Association of Environmental and Engineering Geologists (AEG) and the American Society of Civil Engineers (ASCE) in Chicago on January 9, 2008. At the meeting attended by about 50 professional geologists and geotechnical engineers, the program, given by Frank Kendorski, consulting geological engineer, was entitled, "Constructing an Underground Freezer and Storage Facility in a Stone Mine" (in Valmeyer, IL). This was an opportunity for Dr. Sui to network with these individuals to indicate her availability for employment.

## REMINDER ABOUT REMOTE ACCESS TO IT RESOURCES

Purdue provides remote access to certain IT resources in order to enable productivity and quick response to requests. However, with remote access, the danger of a security breach increases greatly. It is worthwhile to review the University's policy regarding remote access in order to protect your data. If you are working with sensitive or restricted data, you are required to use Purdue's VPN services when connecting remotely. If you have any questions about this policy, or other University IT policies, please contact [eas-itap@purdue.edu](mailto: eas-itap@purdue.edu).

Remote Access to IT Resources policy:

[http://www.purdue.edu/policies/pages/information\\_technology/v\\_1\\_6\\_interim.html](http://www.purdue.edu/policies/pages/information_technology/v_1_6_interim.html).

Other Purdue IT policies:

[http://www.purdue.edu/policies/pages/information\\_technology/info\\_tech.html](http://www.purdue.edu/policies/pages/information_technology/info_tech.html).

SecurePurdue

website:

<http://www.purdue.edu/securepurdue>.

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## UPCOMING EVENTS ON THE ITAP TRAINING CALENDAR

ITaP is providing several training courses this month, including several covering Blackboard Vista 4. For this month's calendar, visit <https://www.itap.purdue.edu/training/calendar/>. A full listing of courses offered by ITaP can be found at <https://www.itap.purdue.edu/training/>. The EAS IT website has a list of various training opportunities on campus at <http://www.purdue.edu/eas/resources/it/training.htm>.

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## FORECAST GAME BEGINS MONDAY

The next session of the Purdue University Forecast Game begins Monday, January 14. The game is open to all Purdue faculty, staff, students, alumni, and emeriti. To find out more, visit <http://wxp.eas.purdue.edu/forecast> or e-mail Ben Cotton ([bcotton@purdue.edu](mailto:bcotton@purdue.edu)).

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## A NOTE FROM OUR ACADEMIC COUNSELOR

### Research Internships

National Science Foundation (NSF) offers many summer research opportunities for undergraduate students. Visit [http://www.nsf.gov/crssprgm/reu/reu\\_search.cfm](http://www.nsf.gov/crssprgm/reu/reu_search.cfm) to explore opportunities. Please note requirements and deadlines!

Visit [www.scied.science.doe.gov](http://www.scied.science.doe.gov) to learn more about the following programs from the Department of Energy: Science Undergraduate Laboratory Internship (SULI) Program and Pre-Service Teacher (PST) Program.

## International Technical Internships

Visit

<http://www.iaesteunitedstates.org/IntProgs/Placement/> to learn about international opportunities in several different countries.

## Work and Study Abroad

**February 1** is the deadline for summer internships in London, Sydney, and select study abroad programs. Callouts this week as well. Check it all out at: <http://www.studyabroad.purdue.edu/>. NOTE: Passports are needed for most programs, and the wait time is around 4 months. If you are considering any international study or work, proof of your passport application is required, and applying for a passport a year ahead is recommended.

## More Internships!

Looking for an internship with an Indiana company? See the possibilities here: [http://www.tap.purdue.edu/Summer\\_Intern\\_Program/Default.aspx](http://www.tap.purdue.edu/Summer_Intern_Program/Default.aspx).

[Interns for Indiana Callout](#) – Monday, January 14, 2008, 4 p.m., Morgan 129 and January 15, 4 p.m., Morgan 129. [Application](#) deadline is **Friday, January 18, 2008 at 5 p.m.** Contact: Amy Childress, [childres@purdue.edu](mailto:childres@purdue.edu) (765) 496-3590. The IFI program matches juniors, seniors, and graduate students with local high-tech start up firms. Students spend 100-125 hours/semester working on the internship while attending classes. Participants receive a \$500 stipend per semester and can use experience toward capstone credit in the Certificate for Entrepreneurship and Innovation.

[Diversity in the Law](#), Friday, February 15, 2008 in Chicago, IL. Purdue will sponsor a group of students. Diversity in the Law provides an exciting opportunity for students from all backgrounds to gain a perspective of careers in the law industry in the private and public sector. Students also can attend a **Law School Fair** at the end of the day. Applications are due by Wednesday, **January 16, 2008 at 4 p.m.** Contact: Claudine Meilink [cmeilink@purdue.edu](mailto:cmeilink@purdue.edu) (765) 494-3988.

More information and links about internships from the College of Science web page: [http://www.science.purdue.edu/careers/experience/internship\\_resources.asp](http://www.science.purdue.edu/careers/experience/internship_resources.asp).

### Calendar

**Friday, January 18**, is the last day to drop a class without a record of it on your transcript; March 17 is the final deadline day to drop a spring class.

No Classes Monday, January 21. A list of activities, etc., celebrating the "Promises to Keep" can be found at: <http://www.purdue.edu/mlk2007/index.shtml>.

Nancy

**HAPPY BIRTHDAY!!!**

John Cushman – January 19



### ABOUT THIS NEWSLETTER:

This weekly newsletter will be 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 department web site ([www.purdue.edu/eas/](http://www.purdue.edu/eas/)). Material for inclusion in the newsletter should be submitted to Gina Richey ([grichey@purdue.edu](mailto:grichey@purdue.edu)) by **Friday noon** of each week for inclusion in the Monday newsletter.

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>.

