

**\*The last newsletter before the holidays will be distributed on 12/21/15 and will resume on 1/11/16.**

December 14, 2015

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## EAPS MEETINGS & EVENTS

### CoS SPRING FACULTY MEETING SCHEDULE

Feb. 16 & Apr. 19, 2016

LWSN 1142

3:30-4:30 PM

### EAPS SPRING FACULTY MEETING SCHEDULE

Jan. 12<sup>th</sup>, Feb. 9<sup>th</sup>, Mar. 22<sup>nd</sup>, Apr. 12<sup>th</sup>, 2016

HAMP 3201

3:00-4:30 PM

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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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### AMS 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

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### ALUMNI ADVISORY BOARD MEETING

April 19, 2016

HAMP 2201

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### DEAN'S VISIT TO DEPARTMENT

April 21, 2016

1:30 - 4:00 PM

## HOLIDAYS (MAIN OFFICE CLOSED)

### CHRISTMAS VACATION

Dec. 24<sup>th</sup> - Dec. 31<sup>st</sup>

### NEW YEAR'S DAY

Jan. 1<sup>st</sup>

## EAPS PUBLICATIONS

Austin J. McGlannan and Hersh Gilbert

Crustal signatures of the tectonic development of the North American mid-continent Earth and Planetary Science

Letters Volume 433, 1 January 2016, Pages 339-349

doi:10.1016/j.epsl.2015.10.048

## EAPS NEWS

### DECEMBER HOLIDAY RECESS

(Dec 24<sup>th</sup> - Jan 1<sup>st</sup>)

The main office will be closed from Dec 24<sup>th</sup> - Jan 1<sup>st</sup> 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.

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### 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.

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**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**

**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.

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**THE WOODROW WILSON INDIANA TEACHING FELLOWSHIP**

**APPLICANTS WANTED!**

\$32,000 Stipend Teaching Fellowship

The Woodrow Wilson Indiana Teaching Fellowship seeks to attract talented, committed individuals with backgrounds in the STEM fields—science, technology engineering, and mathematics—into teaching in high-need Indiana middle and high schools. Students who major in the College of Agriculture with a strong science background may also be interested in this teaching program. This fellowship program offers:

- A \$32,000 stipend
- A master's degree from an excellent teacher education program at Purdue University, University of Indianapolis, Indiana University-Purdue University Indianapolis, Ball State University, or Valparaiso University
- Three years of ongoing mentoring as the candidate transitions to teaching
- Lifelong membership in the prestigious national network of Woodrow Wilson Fellows who are intellectual leaders

Eligible applicants include current undergraduates, recent college graduates, mid-career professionals, and retirees who have majored in or had careers in STEM fields but do not hold a teaching license. More details about the program are available at The Woodrow Wilson Teaching Fellowships and Purdue's program, STEM Goes Rural for teacher licensure in biology, chemistry, and mathematics. (Physics majors may apply for the mathematics program and upon completion, add physics to the license via testing.)

The deadline for applying is **January 31, 2016** with the STEM Goes Rural program beginning in **June 2016**. Undergraduates who are not already in a teacher education program may apply even though they will not graduate until **December 2015** or **May 2016**.

For further information, contact Kathy Dietz, College of Education, Office of Graduate Studies, 494-2345, [STEMGoesRural@purdue.edu](mailto:STEMGoesRural@purdue.edu), Office of Graduate Studies College of Education, Purdue University Beering Hall of Liberal Arts and Education, Room 3229 Voice: 765-494-2345 Fax: 765-494-0587 <http://www.education.purdue.edu/gradoffice>

**OTHER**

**ONE HEART SOURCE**

There are opportunities for Purdue University students to engage in volunteering and service-learning abroad with One Heart Source in Jamaica and South Africa next summer.

Their upcoming application deadline is **December 18<sup>th</sup>**.

One Heart Source (OHS) is an entrepreneurial non-profit organization that designs and catalyzes education programs that empower vulnerable people and communities with choice and opportunity. The organization's model of international mentorship connects university students to vulnerable youth and communities across cultural, social, and economic boundaries. With its partner communities in Jamaica, South Africa, and Tanzania, the OHS International Collective provides holistic care and academic excellence as a means of ending the vicious cycle of generational poverty. We believe students of Purdue University would benefit greatly from the experience of volunteering and teaching abroad.

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**DIVISION OF ATMOSPHERIC AND GEOSPACE  
SCIENCES FOR AN EARLY-CAREER SCIENTIST  
NATIONAL SCIENCE FOUNDATION**

The role of a Science Assistant is to support the work of the Division by providing scientific input to the review process, developing tools to analyze the impacts of the Division's scientific programs, and creating outreach materials. The opportunity is term-limited to 2 years, so it is ideal for a

Master's or Bachelor's level graduate who would like to broaden their horizons before beginning a PhD program. This job announcement closes on **Dec. 20, 2015**.

Please see the full announcement at <https://www.usajobs.gov/GetJob/ViewDetails/423260200> and feel free to pass this along to your colleagues and students. Any questions about the opportunity can be directed to Dr. Sarah Ruth ([sruth@nsf.gov](mailto:sruth@nsf.gov)).

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**MATERIALS MANAGEMENT AND DISTRIBUTION  
SERVICES (MMAD) HOLIDAY SCHEDULE**

**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 23<sup>rd</sup>**. Normal operations will begin again on **Monday, January 4<sup>th</sup>**.

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.

**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](mailto: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](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>

