**The EAPS Weekly News**

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

December 14, 2015

---

**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. 12th, Feb. 9th, Mar. 22nd, Apr. 12th, 2016  
HAMP 3201  
3:00-4:30 PM

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

**AMS 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

**ALUMNI ADVISORY BOARD MEETING**  
April 19, 2016  
HAMP 2201

**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 PUBLICATIONS**

Austin J. McGlannan and Hersh Gilbert  
Crustal signatures of the tectonic development of the North American mid-continent  
doi:10.1016/j.epsl.2015.10.048

**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.

**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.
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.

~ ~ ~ ~ ~ ~

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. 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. 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 18th.
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.

~ ~ ~ ~ ~ ~

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).

~ ~ ~ ~ ~ ~

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 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.

~ ~ ~ ~ ~ ~

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.