EAPS RELAY FOR LIFE

This year the EAPS Graduate Student Association is participating in the Purdue Relay for Life event held at the COREC on April 7-8th from 6 pm-6 am. We ask that any and all interested should attend or help us with fundraising efforts. Each and every donation helps fund groundbreaking cancer research, patient care programs, and can make a difference in communities like ours.

Please join our team or make a donation at the following URL: 
http://main.acsevents.org/site/TR?team_id=2152663&pg=team&fr_id=81475&s_locale=en_US&et=fCeIDicTablecHnRAH6k9Q

In addition, next Thursday, March 2nd the Stacked Pickle will be hosting a fundraising effort on behalf of EAPS GSA that will go towards Relay for Life. 20% of any EAPS tabs will go toward fundraising - BE SURE TO MENTION “EAPS RELAY FOR LIFE” WHEN YOU GET YOUR CHECK. This is an all-day event! Please mark your calendars and join us in a great cause!

COLLEGE OF SCIENCE STAFF PROFESSIONAL DEVELOPMENT FUND APPLICATION

It is time to request applications for the Summer 2017 Staff Professional Development Fund. These applications should be for professional development opportunities that will take place during the summer (May through early August) months. To apply, please completed the application and return it to Angie Teel by Friday, March 3. A committee of fellow CoS staff members will then meet to evaluate the applications and make the final funding decisions.

BLACK AND GOLDEN JUBILEE OPEN FOR REGISTRATION

The Black & Golden Jubilee website is now open for registration. For more information on the event, go to the event website. To register, go to the registration website.

GLOBE OBSERVER TUTORIALS

GLOBE Observer is an international citizen science initiative to understand our global environment. Citizens make environmental observations that complement NASA satellite data in helping scientists study Earth and the global environment.

EAPS Outreach will be conducting GLOBE Observer tutorials during Purdue Springfest on April 8, 2017.

COLLEGE OF SCIENCE RESEARCH AWARDS

The College of Science Research Awards presentation will take place on Tuesday, February 28 beginning at 3:00pm in LWSN 1142. A reception with the three recipients will immediately follow the presentations.

See attached flyer for this year’s recipients.

STUDENT NEWS

SEVERE WEATHER WARNING DECISION MAKING RESEARCH ASSOCIATE

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma is currently seeking a Research Associate to collaborate with scientists and instructors at the National Weather Service (NWS) Warning Decision Training Division (WDTD) in Norman, OK, on training for severe weather warning decision making.

Applicants should identify expertise within any of the following areas: experience in teaching/training; operational experience related to severe weather forecasting and warning, including winter weather forecasting techniques;
warning-related inputs such as radar, satellite, lightning, and storm-scale models; weather analysis software (such as AWIPS); graphic design or illustration; project management/teamwork; oral and written communication, including collaboration tools; Linux (or Unix) operating systems; programming skills (Python, JAVA, object oriented programming, GIS-based, web-based, etc.); human factors and human performance technology.

To apply for the position, please forward your resume, cover letter and list of three references to:
Tracy Reinke
Executive Director, Finance and Operations
University of Oklahoma CIMMS
120 David L. Boren Blvd., Suite 2100
Norman, OK 73072-7304

For more information, see the attached flier.

---

**CREEK RUN JOB FAIR**

Creek Run Environmental, an environmental consulting firm based out of Montpelier, IN, is currently accepting applications for full-time and summer internship positions in multiple offices throughout Indiana. Creek Run will also have representatives at the Purdue 2017 Emerging Employers Job Fair on **Tuesday, February 28, 2017**.

For more information, go to http://www.creekrun.com/careers/

---

**CROSSROADS GEOLOGY CONFERENCE**

The student members of the Rho chapter of Sigma Gamma Epsilon at Indiana University would like to extend a formal invitation to participate in the 17th annual **Crossroads Geology Conference, March 31 & April 1, 2017** at Indiana University in Bloomington, IN.

Crossroads is a student-organized event featuring research presentations by graduate and undergraduate students across the Midwest. This conference is open to any student in Earth, atmospheric, or planetary science to present their research. Students from other fields, such as archaeology, physics, or anthropology, are also welcome to present research relating to geological sciences.

Crossroads is free to all students (including meals) and is an excellent opportunity to interact with judges from a variety of industry and academic fields. Awards will be presented to top oral and poster presentations for undergraduate and graduate students. In addition, students are encouraged to participate in networking social, a campus geology tour and a career panel discussion lead by our judges.

For more information, go to http://www.indiana.edu/~sgeweb1.

---

**POSTER PRESENTATION WORKSHOP**

The Poster Presentation Workshop “Creating & Presenting an Effective Poster,” intended for those in undergraduate research who plan to present their posters at the University’s Undergraduate Research and Poster Symposium, will be conducted by Dr. Karen Plaut and Shelby Cummings on Thursday, March 2nd from 6-7:30 p.m. in ARMS 1010. Pizza and drinks will be provided.

---

**STAFF SCIENTIST-DATA PRODUCTS**

Battelle and its affiliate, Battelle Ecology, Inc. manage and operate the National Ecological Observatory Network (NEON) project, which is solely funded by the National Science Foundation. A 30+ year project dedicated to understanding how changes in climate, land use and invasive species impact ecology, the observatory’s scientists and engineers are collecting a comprehensive range of ecological data on a continental scale across 20 eco-climatic domains representing US ecosystems. Our teams use cutting-edge technology, including an airborne observation platform that captures images of regional landscapes and vegetation; mobile, relocatable, and fixed data collection sites with automated ground sensors.

http://www.eaps.purdue.edu/
to monitor soil and atmosphere; and trained field crews who observe and sample populations of diverse organisms and collect soil and water data.

The Staff Scientist – Data Products will manage the efforts for developing and delivering the micrometeorology data product through an internal working group (working Integrated Product Team - wIPT) responsible for delivering Eddy-Covariance data products. Responsibilities include: ensuring delivery of data products and associated documentation, including design, specification, implementation, testing, and publication. This position requires understanding Battelle Ecology, Inc.’s data and sample acquisition systems and their scientific design and goals, and assessing and realizing the utility of algorithms necessary to enable community use of the products. The Staff Scientist will also be expected to interact with external working groups and advisory panels, liaising with the larger ecological modeling and micrometeorology communities to ensure Battelle Ecology, Inc.’s chosen approaches are appropriate.

See attached flyer for additional information.

ADVANCED STUDY PROGRAM (ASP) SUMMER COLLOQUIUM: THE INTERACTION OF PRECIPITATION WITH OROGRAPHY (IPRO)

This is a workshop for graduate students held at the National Center for Atmospheric Research (NCAR) in Boulder, Colorado.

Motivation: Precipitation near significant orography has many climatological, terrestrial and human impacts. Gradients in orographic height lead to large variations in precipitation, land-surface type, vegetation, and watershed properties. Dramatic flooding events linked to orography can also impact the local ecosystem and human activity. A complete understanding of the interactions among all these systems is key but remains elusive.

Students will experience international speakers with observational and modeling expertise across the range of the orographic, precipitation environment. Practical exercises using both the Community Earth System Model (CESM) and the Weather, Research and Forecasting model (WRF) will form the foundation for understanding the orographic precipitation processes in models. The Advanced Study Program colloquium is intended for advanced graduate students.

Tutorials and computer-based exercises will provide experience with a broad range of material, extending across the sub-disciplines of theoretical flow over orography, observational case studies, simple models, moist physical processes, the representation of precipitation-orography interactions in forecast and climate models (WRF and CESM), and the smaller scale applications community.

Colloquium Dates: June 5-16, 2017
Application Deadline: February 28, 2017
Details: [ASP Summer Colloquium 2016](http://www.eaps.purdue.edu/)
Contact: Diana Zucco, zucco@ucar.edu

FREE ONLINE COURSE ON RESERVOIR GEOMECHANICS

Professor Mark Zoback, Stanford University

Start Date: 3 April 2017

Duration: 10 weeks, 20, 90-minute lectures, 8 homework (HW) assignments

This interdisciplinary course encompasses the fields of rock mechanics, structural geology, earthquake seismology and petroleum engineering to address a wide range of geomechanical problems that arise during the exploitation of oil and gas reservoirs. To date, 7,000 people – principally college students and current industry professionals – have successfully completed the course.

The course considers key practical issues such as prediction of pore pressure, estimation of hydrocarbon column heights and fault seal potential, determination of optimally stable well trajectories, casing set points and mud weights, changes in reservoir performance during depletion, and production-induced faulting and subsidence. The first part of the course establishes the basic principles involved in a way that allows
readers from different disciplinary backgrounds to understand the key concepts.

Reservoir Geomechanics is a practical course for geoscientists and engineers in the petroleum and geothermal industries, and for research scientists interested in stress measurements and their application to problems of faulting and fluid flow in the crust.

The course follows the textbook, Reservoir Geomechanics by Prof. Zoback. The book is recommended, but not required for the course. It is available from Cambridge University Press and Amazon. It is also available in electronic form for the Kindle.

A Certificate of Accomplishment will be issued to students who complete HW assignments with a grade of 70%, or better.

For more information and to enroll go to the following URL:
https://lagunita.stanford.edu/courses/coursev1:Ea rthSciences+ResGeo202+Spring2017/about

RESEARCH EXPERIENCE FOR UNDERGRADUATES ON SUSTAINABLE LAND & WATER RESOURCES

The aim of the proposed REU on Sustainable Land and Water Resources is to introduce undergraduate students to the key elements of research on land and water resources that are essential to improving management practices, with a focus on Community-Based Participatory Research (CBPR) and diverse interdisciplinary research teams. Students will work on one of three teams on projects that integrate Earth-surface dynamics, geology, hydrology and other disciplines. Research teams are hosted on two Native American reservations and at the Univ. MN and projects are developed in collaboration with the tribes’ resource management divisions. The REU incorporates an interdisciplinary team-oriented approach that emphasizes quantitative and predictive methods, CBPR, indigenous research methods, and traditional ecological knowledge.

Project take place on the main campus of the University of Minnesota, Minneapolis; on the Fond du Lac Reservation in Northern Minnesota; and at Salish Kootenai College on the Flathead Reservation in Montana. Students in Civil Engineering, Earth Sciences, Hydrology, Biology, Ecology, Sustainability, Mathematics, and related disciplines are invited to apply. The application deadline is March 2, 2017, and the program dates are June 12 – August 18, 2017.

For a complete list of projects for this year, visit the project website.

UNDERGRADUATE RESEARCH AND POSTER SYMPOSIUM

The 2017 Undergraduate Research and Poster Symposium has been set for Tuesday, April 11, 2017. If you are a student, consider participating in this wonderful opportunity, and, if you are a faculty member, consider being a judge for the College of Science. Please think about donating an hour (or more) of your time to participate as a judge, it would be greatly appreciated.

More information can be found on the symposium website. If you have any questions, you can send them to Robin Sipes at rsipes@purdue.edu.

VII EARTH SCIENCES CONVENTION (EXHIBITION OF PRODUCTS, NEW TECHNOLOGIES AND SERVICES)

The Cuban Geological Society (SCG) is inviting scientists, professionals, technicians, and university students of Geology, Geophysics, and Mining and related Geosciences, to participate in the VII Earth Sciences Convention, to be held at the International Conference Center in Havana, Cuba on April 3-7, 2017.

For further information, please contact: www.scg.cu; www.cubacienciasdelatierra.com geociencias@mnhnc.inf.cu or see attached flier.

http://www.eaps.purdue.edu/
SAFETY CHAIR MEETING AND SAFETY FAIR

Purdue's Radiological and Environmental Management department will hold its annual Safety Chair Meeting from 8 a.m. to 11 a.m. **March 1** in Stewart Center, Room 214. Room 218 will feature a safety fair from 7:30 to 11:30 a.m. with a variety of vendor displays and REM representatives to answer questions about safety needs.

Departmental safety representatives and building deputies are invited to attend to hear presentations on environmental health and safety issues and compliance updates. Faculty and staff are welcome to attend any or all of the sessions.

The Safety Chair Meeting is split into three sessions. The first session at 8 a.m. features an occupational safety theme targeting a nonacademic audience. The second session, 9-10 a.m., will apply to all audiences. The third and final session, 10-11 a.m., will have a laboratory theme targeting an academic research audience.

Doug Condon, contractor safety leader from Dow AgroSciences, will discuss that company's successful safety culture implementation during the 9 a.m. session.

The full program agenda is available [here](#).

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](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 Logan Judy ([ljudy@purdue.edu](mailto:ljudy@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/resources/information_technology/index.htm](http://www.eaps.purdue.edu/resources/information_technology/index.htm)

Also, as an additional resource for information about departmental events, seminars, etc., see our departmental calendar at [http://www.EAPS.purdue.edu/events-calendar.html](http://www.EAPS.purdue.edu/events-calendar.html)
NOAA’s Warn on Forecast Program: An Update on the Progress Toward Explicit Ensemble Predication of Convective Weather Threats

Lou Wicker
NOAA’s National Severe Storms Laboratory

Over the last seven years, NSSL and their collaborators have researched the science and technology needed to deploy a real-time storm-scale ensemble system that provides probabilistic forecasts of tornadoes and other thunderstorm hazards on sub-hourly time scales. This new form of guidance will complement existing operational warnings to enable longer warning lead times and potentially fewer false alarms. Developing a rapidly-updating high-resolution system that is forecaster-useable is a challenging task. NSSL’s current thinking is that an ensemble prediction system is needed to facilitate the data assimilation as well as providing estimates of forecast uncertainty. The talk will outline the components of the currently envisioned system and our progress from retrospective cases as well as the results from our realtime prediction system running during May 2015 and 2016. A discussion of the major scientific and technical barriers that need to be addressed before operational testing can begin in the early 2020’s will also be presented.

Thursday, March 2, 2017
3:30 p.m.
Room 1252 HAMP

Refreshments at 3:00 pm
Room 2201/ HAMP
In 2012, the University created a performance evaluation policy for staff which included a focus on capturing the professional development activities of staff throughout the year. The College of Science firmly believes that participation in professional development provides long lasting benefits to both the individual staff member and their department. As such, the College desires to support these activities.

**College of Science Professional Development Philosophy:**

- Professional development participation should be available to all full- or part-time, permanent staff—clerical, service, administrative/professional and managerial/professional.
- Professional development should focus on developing skills that will prepare staff to advance at Purdue or to perform their current duties more effectively.
- All supervisors are strongly encouraged to allow appropriate amounts of time for each staff person throughout the year to attend trainings that will help them accomplish their professional development goals. Approval for participation in such activities should be based on the business needs of each area.

**College of Science Professional Development Fund:**

In order to support staff professional development activities, the College has created a Professional Development Fund to financially assist with participation in trainings that involve fees or the purchase of training materials.

**Professional Development Fund Guidelines:**

- Professional Development funds are to be used to support College of Science staff’s participation in activities that will assist them in developing skills that will prepare staff to advance at Purdue or to perform their current duties more effectively.
- Award applications will be requested three times annually with approximately 10 awards per call. Funds requested may be used to defray costs associated with attending professional meetings or seminars, to participate in workshops, or to enroll in professional-oriented courses related to employment responsibilities. The funds must be utilized within two application cycles (Spring awards utilized by the end of Fall, etc.).
- Applications for amounts of up to $1000 will be accepted.
- Individuals are eligible for one award per calendar year.

**Application Deadlines:**

- Spring Application Call – application due by first Monday in October; decisions made by November 30
- Summer Application Call – application due by first Monday in March; decisions made by April 30
- Fall Application Call – application due by first Monday in June; decisions made by July 31
Dating Early Human Evolution with Cosmic Ray-produced Radionuclides

Our knowledge of early human evolution and migration out of Africa is strongly limited by a lack of reliable dating methods. Although the fossil record in East Africa has been exquisitely well dated by interbedded volcanic ash layers, other sites across most of Asia, Europe, and southern Africa remain poorly dated. In this talk I will show how we can use rare nuclides that are produced in mineral grains by secondary cosmic rays (i.e., cosmogenic nuclides) to date the sediments associated with fossils or stone tools found on ancient river terraces or in caves. The cosmogenic nuclides $^{26}$Al and $^{10}$Be build up in the mineral quartz when it is exposed at the ground surface, and then decay by radioactivity after the quartz is buried. By measuring $^{26}$Al and $^{10}$Be with accelerator mass spectrometry and accounting for the buildup and decay of the two nuclides simultaneously we can determine the burial age of the deposit. Examples from China and South Africa show how the cosmogenic nuclide method is impacting the history of early human evolution and migration.

Bio: Dr. Granger joined the Purdue faculty in 1996, and has been affiliated with the PRIME Lab accelerator mass spectrometry facility. He holds a Ph.D. in geology from the University of California, Berkeley, and a B.S. in physics and scientific instrumentation from Carnegie Mellon University. His research largely focuses on geologic applications of cosmogenic nuclides produced in mineral grains, especially for problems related to landscape evolution, caves, and archaeology. He has authored or coauthored over 70 peer-reviewed papers, including 5 in Nature and Science. He is a fellow of the Geological Society of America and a recipient of an NSF CAREER award. He has been featured in two National Geographic documentaries, and his research has been highlighted 3 different times in Discover magazine’s top 100 science stories of the year.
Oxygen present at ~20% in Earth’s atmosphere comes mostly from photosynthesis that occurs in cyanobacteria, green algae and higher plants. This oxygen is generated from water by a process which evolved about 3 billion years ago. The light driven water splitting achieved in the oxygen evolving complex (OEC) of Photosystem II is a critical process that sustains our biosphere. It has also inspired research into artificial photosynthesis which aims at converting sunlight into fuels for clean and sustainable energy. Photosynthetic water splitting is fascinating in its efficiency, however, it is not yet understood. Achieving new energy solutions based on concept of artificial photosynthesis requires understanding the molecular mechanisms of water splitting. At the heart of the water splitting process occurring in the Photosystem II is the Mn₆Ca cluster embedded in a fine tuned protein environment. Using spectroscopic techniques we have determined the geometry of the Mn₆Ca cluster and followed evolution of its electronic structure in time during the formation of O₂ molecule. Our experiments were supported by computational analysis and electronic structure calculations. While Mn is an earth abundant element, efficient Mn based molecular catalysts for artificial Photosynthesis have not been yet demonstrated. Ru based molecular catalysts of water oxidation are available with variety of ligand environments and provide convenient systems for mechanistic analysis. We have used in situ EPR, X-ray spectroscopy and resonance Raman measurements to characterize catalytic Ru complexes under water splitting conditions and detect reactive intermediates. Uncovered molecular mechanisms allowed to move forward to design a more efficient water splitting assemblies for future production of so called solar fuels.

Bio: Yulia Pushkar graduated with MS in Physical Chemistry from the Moscow State University, Russia in 1999. She obtained PhD in Biophysics in 2003 from Free University Berlin studying mechanisms of the electron transfer in the Photosynthetic proteins. She worked as a postdoctoral researcher at the Physical Biosciences Division of the Lawrence Berkeley National Laboratory until she obtained a faculty position at Purdue University in 2008. In 2014 she was promoted to associate professor.
Plamen Stefanov  
Professor of Mathematics

Local Boundary Rigidity

Anisotropic media can be modeled with Riemannian metrics. The rigidity problem consists of recovering the metric in a domain, up to an isometry, from the distance between boundary points. We show that in dimensions three and higher, knowing the distance near a fixed strictly convex boundary point allows us to reconstruct the metric inside the domain near that point, and that this reconstruction is stable. We also prove semi-global and global results under certain convexity conditions. The problem can be reformulated as a recovery of the metric from the arrival times of waves between boundary points; which is known as travel-time tomography. The interest in this problem is motivated by imaging problems in seismology: to recover the sub-surface structure of the Earth given travel-times from the propagation of seismic waves. In oil exploration, the seismic signals are man-made and the problem is local in nature. In particular, we can recover locally the compressional and the shear wave speeds for the elastic Earth model, given local information. The talk is based on joint work with Uhlmann (UW) and Vasy (Stanford).

Bio: Plamen Stefanov joined the Department of Mathematics at Purdue in 2000. He received his Ph.D. in math from the University of Sofia in 1988. Since then, and before coming to Purdue, he has worked at universities in Bulgaria, Finland, France, Canada, Brazil and the US. His research is in analysis and applied analysis; most recently in the field of Inverse Problems and applications of microlocal analysis. In particular, his most recent work is focused on mathematical inverse problems arising in various medical imaging methods, geometry, seismology, radar imaging and cosmology.
Creating & Presenting an Effective Poster
Dr. Karen Plaut, Ph.D., Senior Associate Dean & Director of Research
& Shelby Cummings, Senior in Biochemistry

Sample Poster Session

Poster Presentation Workshop
• Thursday, March 2, 2017
• 6:00-7:30 pm (presentation, example posters & Q&A session)
• Pizza & drinks provided
• Armstrong Hall, Room 1010
• Open to All Undergraduate Students

Sponsored by: PURDUE AGRICULTURE
The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma is currently seeking a Research Associate to collaborate with scientists and instructors at the National Weather Service (NWS) Warning Decision Training Division (WDTD) in Norman, OK, on training for severe weather warning decision making.

The duties of this position are:

1) Integration of NWS operational warning decision making principles of science, technology, and human factors into support of training development and delivery.
2) Collaborate with WDTD instructors in a project-based environment to develop and deliver training on the WSR-88D and its applications to meteorological and hydrological operations.
3) Develop technical expertise with AWIPS-2; products and applications with respect to WSR-88D, MRMS, satellite, lightning and convective-allowing models; and the warning decision-making process.
4) Acquire skills in operation of Linux and Windows workstations to support development of simulations and other tools for warning decision-making training.
5) Participate in experimental warning/forecast exercises and WDTD training workshops.
6) Attend meetings and professional conferences to become knowledgeable of new meteorological applications and to interact with the applied-research community.
7) Review technical/professional publications and attend seminars to stay abreast of current developments in meteorological applications.
8) Perform related duties as assigned.

The minimum qualifications for the position are:

1) A Master’s Degree in Meteorology, Atmospheric Science, or related area; or
2) A Bachelor’s Degree in Meteorology, Atmospheric Science, or related area and at least three years’ experience in operational meteorology or applied research.

Emphasis will be place on applicants with severe weather experience.

Applicants should identify expertise within any of the following areas: experience in teaching/training; operational experience related to severe weather forecasting and warning, including winter weather forecasting techniques; warning-related inputs such as radar, satellite, lightning, and storm-scale models; weather analysis software (such as AWIPS); graphic design or illustration; project management/teamwork; oral and written communication, including collaboration tools; Linux (or Unix) operating systems; programming skills (Python, JAVA, object oriented programming, GIS-based, web-based, etc.); human factors and human performance technology.

Normal working hours will be observed except for occasional irregular hours during data collection, warning/forecast experiments, or workshops conducted at remote sites. Incumbents will receive training and gain expertise in the latest training technology and warning decision-making methodologies.

Supervision will be provided by CIMMS staff. Technical oversight will be provided by CIMMS staff, NWS meteorologists, and WDTD management. The incumbent will work under general supervision but is expected to determine action to be taken in handling all but unusual situations. Incumbents in this position are not expected to supervise other employees, but may serve as leaders of technical teams.

The beginning salary will be salary commensurate with experience with University of Oklahoma benefits. Information on benefits may be found at http://hr.ou.edu/Employees/New-Employees-at-OU/OU-Benefits-Overview.

To apply for the position, please forward your resume, cover letter and list of three references to:

Tracy Reinke
Executive Director, Finance and Operations
University of Oklahoma CIMMS
120 David L. Boren Blvd., Suite 2100
Norman, OK 73072-7304
treinke@ou.edu

JOB REFERENCE: WDTD – Severe Weather

The University of Oklahoma is an equal opportunity/Affirmative Action employer.
# CROSSROADS GEOLOGY CONFERENCE 2017

## TENTATIVE SCHEDULE

### FRIDAY MARCH 31

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM</td>
<td>breakfast</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>poster session 1</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>break</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>lunch</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>poster session 2</td>
</tr>
<tr>
<td>1:00 PM</td>
<td>break</td>
</tr>
<tr>
<td>2:00 PM</td>
<td>keynote talk</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>poster session 3</td>
</tr>
<tr>
<td>4:00 PM</td>
<td>break</td>
</tr>
<tr>
<td>5:00 PM</td>
<td>break</td>
</tr>
<tr>
<td>6:00 PM</td>
<td>Networking Social at Crazy Horse (214 W. Kirkwood Ave. Bloomington, IN 47404)</td>
</tr>
</tbody>
</table>

### SATURDAY APRIL 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM</td>
<td>breakfast</td>
</tr>
<tr>
<td>8:30 AM</td>
<td>break</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>awards ceremony</td>
</tr>
<tr>
<td>9:30 AM</td>
<td>judges career panel discussion</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>break</td>
</tr>
<tr>
<td>10:30 AM</td>
<td>campus geology tour</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>lunch</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>lunch</td>
</tr>
</tbody>
</table>
Staff Scientist-Data Products
Location: Boulder, CO, US

COMPANY OVERVIEW
Battelle and its affiliate, Battelle Ecology, Inc. manage and operate the National Ecological Observatory Network (NEON) project, which is solely funded by the National Science Foundation. A 30+ year project dedicated to understanding how changes in climate, land use and invasive species impact ecology, the observatory’s scientists and engineers are collecting a comprehensive range of ecological data on a continental scale across 20 eco-climatic domains representing US ecosystems. Our teams use cutting-edge technology, including an airborne observation platform that captures images of regional landscapes and vegetation; mobile, relocatable, and fixed data collection sites with automated ground sensors to monitor soil and atmosphere; and trained field crews who observe and sample populations of diverse organisms and collect soil and water data. Once structures are completed, a leading edge cyberinfrastructure will calibrate, store and publish this information. The Observatory includes more than 500+ personnel and is the first of its designed to detect and enable forecasting of ecological change at continental scales

Job Location: Boulder, CO

JOB SUMMARY
The Staff Scientist – Data Products will manage the efforts for developing and delivering the micrometeorology data product through an internal working group (working Integrated Product Team - wIPT) responsible for delivering Eddy-Covariance data products. Responsibilities include: ensuring delivery of data products and associated documentation, including design, specification, implementation, testing, and publication. This position requires understanding Battelle Ecology, Inc.’s data and sample acquisition systems and their scientific design and goals, and assessing and realizing the utility of algorithms necessary to enable community use of the products. The Staff Scientist will also be expected to interact with external working groups and advisory panels, liaising with the larger ecological modeling and micrometeorology communities to ensure Battelle Ecology, Inc.’s chosen approaches are appropriate.

ESSENTIAL DUTIES AND RESPONSIBILITIES
- Support the development of Battelle Ecology, Inc.’s eddy covariance data products, including managing cost and schedule.
- Provide technical guidance on the development of Battelle Ecology, Inc. data products, particularly eddy covariance data products.
- Coordinate porting/testing/validation of all Micrometeorology science code into operational cyberinfrastructure, including development of standardized plans for transferring science code into the cyberinfrastructure
- Coordinate implementation, dataflow and data formats for public access
- Support working groups and product teams (internally and externally) to address cross-cutting science issues associated with sensor and algorithm deployment, implementation, maintenance and QA/QC
- Provide expertise and feedback in designing, developing, and implementing state-of-the-art tools for manipulating, processing, and analyzing Battelle Ecology, Inc. wide variety of data.

REQUIRED: EDUCATION, EXPERIENCE, KNOWLEDGE AND SKILLS
- Ph.D. with applicable experience in an environmental science field, such as community land modeling, micrometeorology, biometeorology, ecosystem science, or atmospheric sciences
- Two or more years’ experience (may be postdoctoral)
- Sound understanding of a wide range of sensors and measurement techniques, and their associated data acquisition and analysis procedures
- In-depth knowledge of quantitative uncertainty analyses, time-domain, frequency-domain and QA/QC procedures Experience with combining data of different types and from multiple spatial & temporal scales
Proficiency in one or more programming languages, such as Fortran90+, Java, Python, C/C++
Experience with common statistics packages, such as R or SAS

PREFERRED EDUCATION, EXPERIENCE, KNOWLEDGE AND SKILLS

- Demonstrated experience leading teams
- Demonstrated experience working with interdisciplinary teams
- Knowledge of soil, tower, and airborne sensors and measurement techniques and their associated data acquisition and analysis procedures.
- Demonstrated experience working at the micro- to meso-meteorological scale
- Ability to develop dataflow designs for different and contrasting types of data
- Experience in operationalizing science code and working with large, complex data sets
- Design of data visualization tools
- Demonstrable knowledge of two or more ecological sciences relevant to Battelle Ecology, Inc.
- Peer-reviewed journal publications and a record of professional accomplishment related to the Battelle Ecology, Inc. mission

Apply to: www.neonscience.org

Battelle Ecology, Inc. provides employment and opportunities for advancement, compensation, training, and growth according to individual merit, without regard to race, color, religion, sex, national origin, sexual orientation, gender identity, marital status, age, genetic information, or disability. Our goal is for each staff member to have the opportunity to grow to the limits of their abilities and to achieve personal and organizational objectives. We will support positive programs for equal treatment of all staff and full utilization of all qualified employees at all levels within Battelle Ecology, Inc.
VII EARTH SCIENCES CONVENTION
EXHIBITION OF PRODUCTS, NEW TECHNOLOGIES AND SERVICES

XII Geology Congress (GEOLOGIA `2017)
IX Geophysics Congress (GEOFISICA `2017)
VII Mining Congress (MINERIA `2017)
VI Oil and Gas Congress (PETROGAS `2017)
XIII Informatics and Geosciences Congress (GEOINFO `2017)

The Cuban Geological Society (SCG) is pleased to invite scientists, professionals, technicians and university students of Geology, Geophysics, Mining and related Geosciences, to participate in the VII Earth Sciences Convention, and Exhibition of Products, New Technologies and Services, to be held at the International Conference Center of Havana, Cuba on April 3-7, 2017.

The convention welcomes presentations about Cuba, the Caribbean and other regions or in general about the geology, geophysics and mining experiences in the search and management of natural resources, including minerals (metals, industrial), water, oil and gas, construction, earthquake research and other geohazards, education of geosciences; as well as any other related to the sustainable exploitation of natural resources.

We invite professional societies, institutions and non-government organizations to organize workshops, round tables and meetings during the Convention.

Dr. Manuel A. Iturralde Vinient
President of the Cuban Geological Society

www.scg.cu; www.cubacienciasdelaterra.com
geociencias@mnhnc.inf.cu