News Highlights and Announcements

- **Doe grant joins climate modeling with local, regional empirical data**
  Local and regional researchers collect large amounts of high quality data on climate change and its effects, but the researchers that create the economic and climate models do not always have access to this information. Now, thanks to a $2 million grant from the Department of Energy, the on-the-ground information will get to the modelers through the Penn State Institutes of Energy and the Environment.

- **Four faculty receive WUN support for global research partnerships**
  Four Penn State faculty have been selected to receive funds from the Worldwide Universities Network (WUN) Research Development Fund to participate in collaborative projects in 2011. An international partnership of 16 leading universities, WUN fosters research-based, interdisciplinary collaborations among faculty and students of its member institutions to address problems of global significance.

- **Faculty Spotlight: Lee Newsom’s Cabinet of Wonders**
  Nestled among the dark pines behind the Lion Shrine is the Carpenter Building, home to the Department of Anthropology, the Matson Museum of Anthropology, and the charmingly chaotic laboratory of eminent paleoethnobotanist Lee Newsom. Housing what might be the oldest squash seeds in the world, countless plant samples, and a Periodic Table of Fruits and Nuts, her lab is an impressive emporium of biotic oddities and artifacts.

- **Student Spotlight: Monica Christiansen - Modeling Wind Turbines**
  Some people think they interfere with the natural landscape and some people think they are too noisy. But for Monica Christiansen, wind turbines are really cool.

- **Photo of the Week - Thermoacoustic engine prototype**
  The thermoacoustic engine prototype was developed to convert waste heat from cook stoves to electricity by producing high-amplitude sound within a lumped-element resonator and using that sound to generate electricity by operating a loudspeaker in reverse.

- **We Want YOUR Research Photos for our Photo of the Week Spotlight!**
  A number of you have submitted photos and they are in the cue for posting but we still are requesting interested researchers to submit research photos for the "photo of the week" section on the PSIEE website. Along with the photo, we need a photo caption, photo credit, and short paragraph describing the research related to the photo. Related links are also welcome. See the [PSIEE web](#) for example text.

- **PSIEE is now on Facebook!**
  We now have a Penn State Institutes of Energy and the Environment Facebook page. You can “Like” our page and view updates as we post them.

- **Nature Conservancy Deputy Director for Pennsylvania to speak on campus**
  Nels Johnson will identify the most important risks that climate change poses for Pennsylvania and key steps that
should be taken now to reduce impacts as part of the spring EarthTalks series, “Where Climate Science Meets the Road: Managing Resources for Climate Change.” His talk, “Weathering Climate Change: Strategies for Climate Change Adaptation in Pennsylvania,” is scheduled for 4 p.m., Monday, Feb. 28, in 112 Walker.

- **EESI Announces Spring EarthTalks Seminars on Managing Resources for Climate Change**
  Planning how best to manage resources that will be affected by climate change is the topic of the Earth & Environmental Systems Institute’s (EESI) spring EarthTalks seminar. Speakers from government agencies and nonprofit organizations are among those who will be addressing “Where Climate Science Meets the Road: Managing Resources for Climate Change.”

- **Lorelei Scarbro to speak on mountain top removal in West Virginia**
  Scarbro, native West Virginian and coal miner’s widow from the Coal River Mountain region of the state, will speak on mountain top removal on March 15, 2011. She has become a spokesperson for diversifying “power”, i.e. energy and community power in the mono-economic environment of Boone and Raleigh Counties. [View flyer](#)

- **Call for nominations for ENRI Awards**
  The Environment and Natural Resource Institute (ENRI) presents awards to recognize the achievements of faculty, extension educators, staff, and students in environmental and natural resource sciences.

- **New center to focus on battery, energy storage technology**
  A new research center has been created at Penn State to confront the growing challenges in sustainable energy production and storage. The Battery and Energy Storage Technology (BEST) Center, co-directed by Chris Rahn, professor of mechanical engineering, and Chao-Yang Wang, William E. Diefenderfer chair of mechanical engineering, will focus on addressing energy storage technologies for vehicle electrification, renewable energy and smart grids.

- **Mimicking photosynthesis may hold key to cheap hydrogen for fuel**
  Production of inexpensive hydrogen for automotive or jet fuel may be possible by mimicking photosynthesis, according to a Penn State materials chemist, but a number of problems need to be solved first.

- **U.S. will no longer dominate science and research**
  A shift in the global research landscape will reposition the United States as a major partner, but not the dominant leader, in science and technology research in the coming decade, according to a Penn State researcher. However, the U.S. could benefit from this research shift if it adopts a policy of knowledge sharing with the growing global community of researchers.

- **Multiple approaches necessary to tackle world’s food problems**
  Researchers need to use all available resources in an integrated approach to put agriculture on a path to solve the world's food problems while reducing pollution, according to a Penn State biologist. Changes in national and international regulations will be necessary to achieve this goal.

- **Small Business Development Centers to discuss clean technology**
  The Pennsylvania Small Business Development Centers will host a discussion forum on clean energy technology opportunities and challenges in Pennsylvania. The Pennsylvania Clean Technology Forum is open to the public, and will be held from 10 a.m. to 6 p.m. on Monday, March 28, at the Crowne Plaza Hotel in Harrisburg, Pa.

- **Air quality research in South Africa**
  Anne Thompson, professor of meteorology at Penn State, is a recent recipient of a Fulbright Scholarship to work in South Africa. Her work builds international networks to study the vertical structure of ozone and air quality that helps NASA to evaluate and validate measurements from polar orbiting satellites.
Assessing the human impacts of mountaintop removal mining
Mountaintop removal mining, a particularly destructive form of surface mining which involves literally blasting away the tops of mountains to get at the coal reserves below, impacts vast areas of West Virginia, Virginia and Kentucky. Brad Woods, who received his doctorate in rural sociology and human dimensions of natural resources and the environment at Penn State in May 2010, describes his research into how mountaintop removal has impacted communities across Appalachia.

CarbonEARTH program facilitates science education, teaching
Faculty in Penn State's Eberly College of Science and the Center for Science and the Schools (CSATS) in the College of Education have launched a new program to develop graduate expertise in science communication by incorporating science and technology research into local elementary and junior high school classrooms.

Engineering mechanics student wins $10,000 EcoCAR assistantship
Shawn Getty, a graduate student in engineering mechanics, has won a $10,000 assistantship as part of the EcoCAR: The NeXt Challenge competition.

Pennsylvania schools sought to participate in Wind for Schools program
The Wind Application Center at Penn State is now accepting applications for Pennsylvania's new Wind for Schools project. The program aims to engage rural elementary and secondary school teachers and students in wind energy education while educating college students about wind energy applications.

Ag Sciences faculty members, grad student receive national honors
Four faculty members in Penn State's College of Agricultural Sciences -- David Mortensen, William Curran, Sjoerd Duiker and Jeffrey Hyde -- and graduate student Matthew Ryan were honored Feb. 7 by the Weed Science Society of America for their outstanding contributions to the field of weed science.

Videos highlight Penn State's breadth of alternate energy research
View five brief videos, part of Penn State's Advancing Energy series, that highlight a small sample of the variety of cutting-edge energy research at Penn State.

Other news of interest

Earth Hour scheduled for March 26, 2011
At 8.30 p.m. on Saturday 26 March 2011, Earth Hour will celebrate a worldwide commitment to ongoing change for the betterment of the one thing that unites us all– the planet. To learn how you and your organization can participate, visit http://www.earthhour.org and view the official YouTube video. Please pass on and share with your colleagues and networks.

EPA soliciting input
Research innovations are needed to meet the environmental challenges of the 21st Century. EPA is aligning and integrating its research into six priority areas to meet these needs. EPA's Office of Research and Development (ORD) is reaching out and engaging input from its external stakeholders for input in this realignment. One such approach is to use Ideascale (an interactive website) to solicit comments. To register for Ideascale please use this URL for verification http://css.ideascale.com/a/pvrfy/908779-kpmwcidsnx-12014 Password : G(30<(?@ For more information please email : kuhn.kevin@epa.gov and francis.elaine@epa.gov.

Share information on EPA’s Watershed Central Wiki
Please consider sharing your watershed tools, research results, and expertise with watershed groups, local
governments, and state watershed agencies working to protect and restore their water quality and natural areas. You can just view the site or add your own information by becoming a registered user. If you register, you will be prompted for an "EPA sponsor." You may use Stuart Lehman as EPA sponsor: Stuart Lehman, Environmental Scientist, Nonpoint Source Control Branch, U.S. Environmental Protection Agency; 202.566.1205; 202.566.1332 fax; email: Lehman.Stuart@epamail.epa.gov.

- **NCSE Climate Change Education Modules Available**
Using NASA data, 8 modules have been developed for use in general education courses on climate change that colleges and universities across the country can readily adopt and adapt. Contact Andy Jorgensen at andy.jorgensen@utoledo.edu for more details.

- **RIO 2012: United Nations Conference on Sustainable Development**
Secretary General Ban ki-moon launched the High-level Panel on Global Sustainability (GSP) comprised of 21 members, to create a new blueprint for a sustainable future on a planet under increasing stress resulting from human activities. To find out more, visit their newsletter: Rio 2012: Making it Happen - Newsletter of the United Nations Conference on Sustainable Development.

- **ENERGY GLOBE Award submission deadline June 17, 2011**
The ENERGY GLOBE Award is presented in the Categories Earth, Water, Fire, Air and Youth and distinguishes particularly sustainable projects. The Award is presented at the national and international level. No project is too large or too small.

(View all news)

**Upcoming student research exhibitions**

- **Gamma Sigma Delta Annual Graduate and Undergraduate Research Expo; March 16-17; 2011**
Undergraduate and graduate students advised by a faculty member in the College of Agricultural Sciences are eligible to participate. About $3700 in prize monies will be awarded. Application deadline is Friday, February 25, 2011.

- **26th Annual Graduate Exhibition; March 27, 2011 - Noon - 3:00 p.m.**
Submission deadline has passed.

- **14th Annual Environmental Chemistry Student Symposium; April 8-9, 2011**
The deadline for Presentation Abstract Submissions is March 4, 2011. Please start submitting your abstracts. There are a limited number of time-slots for oral presentations and early submissions are given priority, so get those abstracts in!

**Select Campus Events**

**February 25, 2011**

- **Geography Coffee Hour**
  **Kusam Naithani, "Coping with ecological complexity in an uncertain world"**
  4-5 p.m.; 112 Walker Building

**Saturday February 26, 2011**
Lectures on the Frontiers of Science
Matt Thomas, "Climate Change and Disease"
11:00 a.m.; 100 Thomas Building

February 28, 2011

IST 590 Speaker
Hsinchun Chen, University of Arizona, "From Design Science to Security Informatics and Business Intelligence: CyberGate, Coplink, Dark Web, and AZ BizIntel"
11:15 a.m. - 12:30 p.m.

CLIMA Seminar
Klaus Keller, "Towards an Integrated Assessment of Geoengineering Proposals: Uncertainties and Information Needs"
Noon, 541 Deike (video-link to Carnegie Mellon University)

Plant Biology Seminar
Timothy McNellis, "Molecular Mechanisms of Bacterial Disease in Apple, Onion, and Arabidopsis"
12:10 p.m.; 108 Wartik Laboratory

Plant Pathology Seminar Series
Mark Guiltinan, "Ethnogeopaleo-pathogenomics of Theobroma cacao"
3:30 p.m.; 112 Buckhout Laboratory

Earth Talks Speaker Series
Nels Johnson, Nature Conservancy, "Weathering Climate Change: Strategies for Climate Change Adaptation in Pennsylvania"
4:00 p.m.; 112 Walker Building

March 1, 2011

Marcellus Brown Bag Series
John Yilin Wang, "Stimulation of Shale Gas Reservoirs"
Noon - 1:00 p.m.; 301 Steidle Building

Mechanical Engineering Seminar Series
Robert McCormick, National Renewable Energy Laboratory, "Title TBA"
4:00 p.m.; 135 Reber Building

Geosciences Colloquia
Holly Michael, University of Delaware, "In search of a mitigation strategy for groundwater arsenic in the Bengal Basin: Is deep groundwater the solution?"
4:00 p.m.; 22 Deike Building

March 2, 2011

Earth System Science Center (ESSC) Seminar
Holly Hamilton, "Observations of Tropical Cyclone Boundary Layer Winds in the Core of Hurricane Ike"
11:15 a.m.; 529 Walker Building
Meteorology Colloquia

Keith Dixon, GFLD, "Investigating the Potential for Decadal Climate Predictability: Efforts at NOAA/GFDL"
3:30 p.m.; 112 Walker Building
(View all calendar of events)

Featured conferences

- **Battery and Energy Storage Technology (BEST) Day**
  Event includes presentations on Penn State energy activities, battery manufacturing demonstrations, a poster session, lab tours and a special ribbon cutting ceremony for the new Battery Manufacturing Laboratory. Learn about Penn State’s battery and energy storage capabilities and mingle with researchers during an evening reception. Scheduled for March 11, 2011; free but registration required.

- **Philadelphia Low Impact Development Symposium: Greening the Urban Environment**
  Abstract deadline extended to March 4, 2011.

- **Marcellus Shale Academic Applied Research Conference**
  The Marcellus Shale Multi-State Academic Applied Research Conference will: 1) bring together researchers from across the Mid-Atlantic region to help identify the research needs related to the impacts of Marcellus Shale development, 2) identify on-going research activities related to Marcellus Shale, 3) build multi-institutional academic partnerships focused on Marcellus Shale, 4) endeavor to develop a broad applied research agenda that includes natural resource, wildlife, social, community and economic implications as well as research on production methods/technologies, and 5) help inform outreach and education. The conference will be structured to highlight what we know and what we do not know. The conference tone will be one of respectfulness that allows for disagreements and that builds collegial relationships. This conference is a collaboration between Cornell University, Penn State University, and West Virginia University. Scheduled for May 10-11, 2011 in Altoona, PA.

- **Innovating Policy for Chesapeake Bay Restoration**
  The purpose of this one-day conference is to foster innovative thinking on the suite of federal and state policies needed to reduce water pollution in the Chesapeake Bay. Presenters will examine shortcomings of existing policy approaches and highlight opportunities for correcting those deficiencies from economic, political, legal, ecological, and policy perspectives. The conference will also examine issues related to the pace and magnitude of the nutrient and sediment reductions, efficient and fair allocations of load reductions between states, the structure of interstate agreements, ecological and economic uncertainty, and adaptive management. Scheduled for March 29, 2011 in Cambridge, MD.

(View all upcoming conferences)

Select Employment Opportunities

- **Union of Concerned Scientists (UCS) opportunities**
  UCS is seeking a resource economist (deadline for applications is March 14) and a Director for the Climate and Energy Program (deadline middle of March).

- **International Council on Clean Transportation Internship**
  The International Council on Clean Transportation (ICCT) is a non-profit organization working on policies to
reduce conventional pollutant and greenhouse gas emissions from the transportation sector. For support of our Technology & Innovation team we are currently offering an internship opportunity.

Select Funding Opportunities

- **Metabolomics for a Low Carbon Society (METABOLOMICS) A Joint NSF-JST Program** (May 13)
- **U.S. Offshore Wind: Removing Market Barriers** (March 11)
- **U.S. Wind Power: Next Gen Drivetrain Development** (March 7)
- **U.S. Offshore Wind: Technology Development** (April 1)
- **Power Electronics R&D for Electric Utility** (March 18)
- **DOI Regional Climate Science Centers** (May 6)
- **Fiscal Year 2011 Pollution Prevention Grant Program** (March 28)
- **PA 2011 Conservation Innovation Grants** (March 31)
- **Low-Emissions Asian Development (LEAD) Program** (March 17)
- **Technical Assistance to Build More Sustainable Communities** (March 31)
- **Installation Energy Technology Demonstrations** (March 24)
- **Scientific Discovery through Advanced Computing Institutes** (May 2)
- **Cooperative Training Partnership in Environmental Sciences Research** (April 11)
- **Air Quality Technical Management Assistance for Indonesia** (April 15)
- **FY 2011 Environmental Studies Program** (April 15)
- **NINDS Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellows in MD-PhD programs** (April 8)
- **IC CAE Program** (April 5)
- **Small Scale Field Tests of Geologic Reservoir Classes** (April 5)
- **Chemical Approaches to Target Validation for Drug Resistant Pathogens** (June 15)
- **Graduate Automotive Technology Education (GATE) Centers of Excellence** (April 18)
- **University Turbine Systems Research Program** (April 1)
- **A Cooperative Agreement to advance our understanding of and ability to anticipate changes in the Earth’s environment** (April 1)
- **Mexico's Reduces Emissions from Deforestation and Forest Degradation** (March 31)
- **Chemistry and Materials Research in Cultural Heritage Science** (May 11)
- **Northeast Region Marine Mammal Grant Program** (April 26)
- **Geophysics** (June 5)
- **Living Stock Collections for Biological Research** (July 6)
- **Targeting Resistance in Select Gram-Negative Pathogens** (May 26)
- **Hydrologic Sciences** (June 1)
- **Reducing Mercury Use and Release in Francophone West Africa Artisanal and Small-Scale Gold Mining** (March 21)
- **Extension Integrated Pest Management Coordination and Support Program** (March 29)

(View all 31 recent announcements | View all open 189)
Special Funding Announcements

- **FOA: U. S. - India Joint Clean Energy Research and Development Center**
  Applicants are asked to submit questions regarding the Draft FOA no later than March 7, 2011 at 1:00 pm to the following e-mail address: JCERDC@HQ_DOE.GOV. All questions and comments will be reviewed by DOE and considered for inclusion in the final FOA, as applicable. It is anticipated that the competitive FOA will be released in March 2011.

- **PIRE Downselect**
  OVPR is conducting a downselect for the NSF Partnerships for International Research and Education (PIRE) program. NSF has posted anticipated revisions, which include the elimination of the preliminary proposal requirement; a limit of ONE full proposal from each eligible institution; and an exclusive focus on Science, Engineering, and Education for Sustainability (SEES). Notice of Intent to OVPR due March 7, 2011.

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In order to make this listserv useful for our subscribers, we appreciate your feedback! Please send your comments/suggestions to Patricia Craig at plc103@psu.edu. Please use “PSIEE listserv” in the subject line. If you have information that you would like us to distribute please send that as well. Thanks!

Thank you for your continued interest in the Penn State Institutes of Energy and the Environment!

Best regards,

Patricia Craig