

**SFI weekly newsletter for the week of November 16, 2009**  
**A weekly service of SFI**



## Happy Thanksgiving!

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1. TMDL 2010: Watershed Management to Improve Water Baltimore, Maryland November 14-17, 2010
2. "Borrowing Nature's Blueprints: Biomimicry & The Art of Well-Adapted Design" Tuesday Dec 1, 6:30-7:30 p.m.

Please send announcements of your publications, presentations, awards, events, and names of awarded proposals to Denise Heikinen at [dmheikin@mtu.edu](mailto:dmheikin@mtu.edu).

### **SFI NEWS AND ANNOUNCEMENTS**

#### **1. WUD-UP Day at Michigan Tech**

On November 12, 2009 Michigan Tech celebrated World Usability Day in the Upper Peninsula (WUD-UP!). The purpose of Usability Day is to remind designers that tools, devices, services, or software serve us well only when they are made with their human users in mind. A tool is truly usable if it provides a smooth learning process and an efficient, satisfying user experience.

The theme for this year's WUD-UP Day, "Designing from Cradle to Cradle," focused on usability of design related to sustainability. Humanities professor Karla Kitalong's keynote presentation, "Usability in Scientific and Technical Communications," discussed designs for interactive kiosks at an exhibit about water behavior in the Everglades. Before the kiosks are installed at the Museum of Discovery and Science in Florida, they will be revised according to the results of usability tests.

Associate Professor Charles Wallace (CS) presented a WUD-UP workshop in Fisher Hall that gave passersby an opportunity to test design prototypes by manipulating paper mockups and offering feedback. This display drew interest from WLUV TV cameras. Michigan Tech Library's Information Wall featured a revolving photo display of items designed by Rick Loduha, Associate Professor of Art and Design (Interdisciplinary Design) at Finlandia University, and his students. The items have been repurposed from outmoded tools, such as a security wall for a

bike shop made from old bike gears and door handles made from salvaged metal. See <http://www.lib.mtu.edu/infowall/>

A student poster session for WUD-UP Day displayed contributions by Dianna Cacko, Jordan Huffman, Christopher Brown, Ashley Brown, Eric Kinonen, Andrew Manty, Tyler Sutkowi, Stephen Chartier, and Patrick Ranspach.

Also in the MUB Ballroom, speakers Christopher Plummer (Visual and Performing Arts), Rick Loduha (Finlandia U), Rick Donovan (SFI) presented a talk entitled "Sense-Able Sustainability: Three Perspectives." All three spoke about the need for designers to look beyond their specific disciplines. Plummer discussed aural pollution and design carelessness that can impact people's ability to sustain conversation, focus, and health. Loduha pointed out that "Inventive Reuse Design" not only removes items from the waste stream, but forces people to think beyond conventional methods to image innovative applications for old designs. SFI's Donovan reiterated the need for interdisciplinary methods and new approaches to design, but he also reminded the audience that no mechanical design solution can be as complex or as elegant as what the human mind can produce.



Rich Donovan (SFI), Rick Loduha (FU), Christopher Plummer (Vis and Performing Arts) Credit: Emil Groth

WUD-UP Day was sponsored by Michigan Technological University, the Department of Humanities, the Scientific & Technical Communication Program, the School of Business and Economics, the Department of Computer Science, Michigan's Local Technical Assistance Program, the Department of Visual and Performing Arts, and the Sustainable Futures Institute. Plans are underway to make WUD-UP Day events more than a once-a-year occurrence and to invite more participation.

## 2. Meet Michigan Tech's new Sustainability Coordinator



Sustainable Futures Institute had the pleasure recently of meeting Michigan Tech's new Sustainability Coordinator, James Schultz. Following his graduation from Tech, he has worked at Upper Peninsula Power Company for nineteen years and then at Michigan Tech for almost fifteen years, the past twelve years in housing. As Michigan Tech's half-time sustainability coordinator, Jim reports to the Director of Facilities and is charged with coordinating the many ongoing and new sustainability initiatives on campus. He will serve as a liaison with faculty, student, and community groups regarding activities related to environmental sustainability and will make recommendations about the resources needed for campus-wide sustainability. About his new job, Jim

said "I'm excited to be contributing to an effort that will positively impact so many people." He encourages the campus community to contact him at [jschultz@mtu.edu](mailto:jschultz@mtu.edu) with ideas or suggestions.

## 3. Attention Grad Students "Collaborative Technology Innovation for Public Health Improvements in Tanzania." Applications are due December 1, 2009.

The D80 program is happy to announce that it is seeking the second cohort in its NSF-sponsored research program "Collaborative Technology Innovation for Public Health Improvements in Tanzania." While this is a year-long engagement, beginning January 2010, the highlight is ten weeks of field research in Tanzania during June-August. The first year was a fantastic success, based on the collaborations between students and faculty from Michigan Tech, University of Minnesota, University of Dar es Salaam, and community members in Tanzania.

Interested in joining the 2010 cohort? More information may be found here: [www.d80.mtu.edu/DGSE.html](http://www.d80.mtu.edu/DGSE.html)

#### **4. The Greening of Fleet Services Begins**

Michigan Tech's Fleet Services has been replacing its vehicles with more gas efficient models. See <http://www.admin.mtu.edu/urel/ttoday/previous.php?issue=20091120> for more information.

#### **5. Graduate Certificate in Sustainable Water Resources Systems Approved**

The Center for Water and Society graduate certificate in Sustainable Water Resources Systems was approved on November 6, 2009. The degree schedule is in the design process, and more information will be available soon to explain the process of earning the certificate.

#### **6. Course Announcement – Spring 2010 BL 5380, CRN 14373 Special Topics: Ecosystem Ecology--Lecture, 3 credits**

This course will provide an overview of the history, key concepts, and practice of ecosystem ecology in aquatic and terrestrial environments. We will explore the interconnectedness of nutrient and energy flows through reading and discussing primary literature and regional case studies. Topics covered will include trophic energy transfers, ecosystem production, global nutrient cycling, and ecological stoichiometry. Whenever possible, we will explore these concepts in the context of the history of ecosystem ecology, by reading influential works on energy and material flow from the 1940-70's, and complimenting with studies from recent literature. Readings will come from Schlesinger, WH (1997) Biogeochemistry: An Analysis of Global Change, and Golley, FB (1993) A History of the Ecosystem Concept in Ecology, among other sources.

This course is appropriate for graduate students in Biology, Forestry, Wildlife, and other environmental disciplines. All students should have a firm basis in biology and ecology and a working knowledge of inorganic chemistry. Contact Instructor: Amy Marcarelli, Department of Biological Sciences, [ammarcar@mtu.edu](mailto:ammarcar@mtu.edu) This course will be offered next in Spring 2012

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#### **SEMINARS**

##### **1. Transportation Research and Education Forum Nov. 30**

The Michigan Tech Transportation Institute (MTTI) will host visits from Kirk Steudle, Michigan Department of Transportation director, and Robert Bertini, the US Department of Transportation's Research and Innovative Technology Administration, deputy administrator. See <http://www.admin.mtu.edu/urel/ttoday/previous.php?issue=20091120> for more information.

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#### **FUNDING & AWARD OPPORTUNITIES**

*To submit research proposals through Sustainable Futures Institute, add "SFI" to the DEPT/CENTER/INSTITUTE(S) column for identifying the PI's and co-PI's. SFI Director, David Shonnard, will sign the transmittal sheet on page 3. (If David Shonnard is unavailable for signing transmittal sheets, Rick Donovan can also sign for SFI). Please feel free to contact SFI in regards to proposal development – SFI can serve as a "hub" for bringing together different faculty, merging concepts related to sustainability, providing literature review assistance, etc.*

##### **1. Power Source Materials and Systems -- NRL-WIDE BAA 61-09-02**

Sponsor DOD, Department of the Navy, Naval Research Laboratory (NRL) BAA  
Deadline Continuous.

The NRL is interested in receiving proposals for long-range projects that offer potential for advancement and improvement of naval operations. NRL is interested in receiving proposals for the improvement of power sources for small military systems via materials and systems development. The Alternative Energy Section of the Chemical Dynamics and Diagnostics Branch addresses a variety of Naval problems in power sources, particularly fuel cells and batteries. NRL is interested in receiving proposals that address the synthesis and characterization low cost fuel cell catalysts and high capacity, low impedance battery materials, or ways to lower cost and improve effectiveness through electrode and systems engineering. Systems or systems components for light, efficient power sources are also of interest

Keywords: Batteries, Electric Power Systems, Electronic Materials, Fuel Cells, Systems Engineering  
Bookmark Url <http://fundingopps.cos.com/cgi-bin/fo2/getRec?id=105155>  
URL for more info <http://heron.nrl.navy.mil/contracts/baa/index.htm>

## **JOBS & POST DOCS & INTERNSHIPS, FELLOWSHIPS, SCOLARSHIPS and CFPs**

### **1. Postdoctoral Fellowships at the National Center for Atmospheric Research**

Amount \$48,500 for up to seven new positions

Deadline Jan 05, 2010 Activity Location--Colorado

The National Center for Atmospheric Research (NCAR) is a research institution located in Boulder, Colorado, operated by the nonprofit University Corporation for Atmospheric Research (UCAR) under sponsorship of the National Science Foundation (NSF). Through its Advanced Study Program (ASP), NCAR offers a continuing program of postdoctoral study in the atmospheric and related sciences.

The postdoctoral program provides an opportunity for recent-Ph.D. scientists to continue to pursue their research interests in atmospheric and related science. The program also invites postdoctoral physicists, chemists, applied mathematicians, computer scientists, engineers, and specialists from related disciplines such as biology, geology, science education, economics, and geography, to apply their training to research in the atmospheric sciences.

Bookmark Url <http://fundingopps.cos.com/cgi-bin/fo2/getRec?id=16102>

URL for more info [http://www.asp.ucar.edu/pdf/pd\\_announcement.php](http://www.asp.ucar.edu/pdf/pd_announcement.php)

### **2. NSF and Other Summer Undergrad and Grad School and Post Doc Funding**

#### **For Undergraduates:**

Paid Summer 2010 Undergrad Research Placements!!!

Over 400 programs -Undergraduate REU and Other Summer Research Opportunities: See

[www.PathwaysToScience.org/SummerResearch.asp](http://www.PathwaysToScience.org/SummerResearch.asp) <http://www.PathwaysToScience.org/SummerResearch.asp>

#### **For Those Considering Grad School:**

Opportunities at over 150 colleges and universities: [www.PathwaysToScience.org/Grad.asp](http://www.PathwaysToScience.org/Grad.asp)

Professional Development and Support: Alliance for Graduate Education and the Professoriate (AGEP): see [www.agep.us](http://www.agep.us)

#### **For Financial Support in Graduate School Opportunities:**

Bridges, GK-12, IGERT and NSF Grad Research Fellowship programs provide generous stipend (\$30,000 per year) and tuition support for students through the National Science Foundation: [www.PathwaysToScience.org/Grad.asp](http://www.PathwaysToScience.org/Grad.asp)

#### **For Post-Doc Opportunities:**

[www.PathwaysToScience.org/PostDocs.asp](http://www.PathwaysToScience.org/PostDocs.asp)

Websites: [www.pathwaystoscience.org](http://www.pathwaystoscience.org); [www.agep.us](http://www.agep.us) <<http://www.agep.us/>>;

[www.ibparticipation.org](http://www.ibparticipation.org) <<http://www.ibparticipation.org/>>; [www.msphds.org](http://www.msphds.org) <<http://www.msphds.org/>>;

[www.mainstem.org](http://www.mainstem.org) <<http://www.mainstem.org/>>\_\_

## **EVENTS & CONFERENCES**

### **1. TMDL 2010: Watershed Management to Improve Water**

**Quality American Society of Agricultural & Biological Engineers Baltimore, Maryland November 14-17, 2010**

Submission of abstract deadline: Dec. 15, 2009



The conference will be the fifth in a series sponsored by ASABE focusing on watershed management and TMDLs (Total Maximum Daily Load) to address water quality issues. The purpose of the conference is to report ongoing research and outreach efforts related to TMDL development and implementation, and watershed management in

general. More information at <http://www.asabe.org/meetings/tmdl2010/index.htm> See Call for Papers:  
[http://www.asabe.org/meetings/tmdl2010/ASABE\\_TMDL\\_2010.pdf](http://www.asabe.org/meetings/tmdl2010/ASABE_TMDL_2010.pdf)

**2. "Borrowing Nature's Blueprints: Biomimicry & The Art of Well-Adapted Design" Tuesday Dec 1, 6:30-7:30 p.m.  
HOK/Bill Valentine Lecture in Sustainable Design: Janine Benyus**

Biomimicry is a design discipline that seeks sustainable solutions by emulating nature's time-tested patterns and strategies. The goal is to create products, processes, and policies--new ways of living--that are well-adapted to life on earth over the long haul. Biomimics around the world are learning to grow food like a prairie, cool buildings like a termite, harness energy like a leaf, create color like a peacock, compute like a cell, and run a business like a redwood forest. These bio-inspired designs are elegant, functional, and life sustaining. Besides helping our species earn a longer stay on the planet, biomimicry has the potential to change the way we view and value non-human nature. It encourages us to view nature not as a source of goods, but as a mentor, a source of wisdom. In this special tribute to Bill Valentine, Janine Benyus, the author of *Biomimicry: Innovation Inspired by Nature*, will highlight the Biomimicry Guild's exciting alliance with HOK, which has embraced biomimicry as one of the most important tools used by their designers to create built environments in partnership with nature. For more information visit: Biomimicry Guild <http://www.biomimicryguild.com/> For event details contact: Brooke King (bking@gsd.harvard.edu) 6:30pm - 7:30pm · Piper Auditorium

Webcast live (and posted a few days following the lecture ) at this URL:

<http://www.gsd.harvard.edu/events/webcasts/>

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