WiSys TECHNOLOGY FOUNDATION, INC.

NewsLetter

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Promoting growth through innovation.

Undergraduate Research is Celebrated as Key to Economic Growth

Undergraduate research at the comprehensive campuses was celebrated during a November 17th private reception at UW-Stevens Point organized by the UW-Stevens Point Foundation and WiSys Technology Foundation. UW-Stevens Point Interim Chancellor Mark Nook welcomed guests and lauded their dedication to the advancement of scholarship through research.

Faculty and students shared highlights of their projects, emphasizing the value of research in the educational process. They also underscored the importance of undergraduate research programs in leading students to better careers and developing new products and technologies that are critical to the economic growth of the State. Attendees learned about advanced research in areas including bioenergy, biocompatible materials, nanotechnology and pharmaceuticals – a testament to the expertise and knowledge that exists within our comprehensive campuses.

Senator Julie Lassa explains the C.O.R.E. Jobs Act proposal.
Photo by Rob Goodwin, UW-Stevens Point

UW-Stevens Point undergraduate Amanda Ney, who will be the first in her family to graduate from college, emphasized how important her bioenergy research has been to her education. She eloquently summarized the critical role research is playing in her academic life "Because I was given the opportunity to apply those concepts and techniques outside of the classroom within a more relevant context, I understood them better and was able to better retain them as well."

Other speakers included UW-Stevens Point Professors Eric Singsaas, John Droske, and Mike Zach; UW-La Crosse Professor Aaron Monte; UW-Stout Discovery Center Director Randy Hulke; WiSys Managing Director Maliyakal John; and WiSys Trustee and UW-Stevens Point Alumnus Leon Ostroski. *(cont. on p. 2)*

Guay, Singsaas and Wiberley Win WiSys Innovation Scholar Award

WiSys is pleased to announce the recipients of the 2009 WiSys Innovation Scholar Awards for the UW-Stevens Point campus. Drs. Don Guay, Eric Singsaas and Amy Wiberley have been selected for their outstanding research related to biofuels. The three scientists combined their research and expertise in the development of a biofuel production process that breaks down cellulose from paper and forest waste into pulp and converts it into an efficient and marketable biofuel.

Sponsored by Quarles & Brady, a leading intellectual property law firm, the WiSys Innovation Scholar Award program recognizes innovative UW System faculty, staff, and students who make discoveries that benefit society. Selection for the award is based on the innovative concept, broad use, value, and industrial application of the invention. *(cont. on p. 2)*

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Undergraduate Research (cont.)

Julie Lassa, Wisconsin State Senator of the 24th District and Chair of the Committee on Economic Development, stated "As the Research to Jobs Task Force Report published last month points out, with a little help the research departments of the UW campuses…can become an engine of economic growth and job creation that can make Wisconsin the center of entire new industries." Senator Lassa added, "I believe that the work you're doing represents the future of Wisconsin's economy."

UW-Stevens Point student Amanda Ney emphasized the importance of research in her undergraduate education.
Photo by Tom Charlesworth, UW-Stevens Point

The Senator went on to describe the proposed C.O.R.E. Jobs Act bill, a comprehensive package of fourteen economic development proposals put forth by Lassa and her colleagues for job creation, technology development, assistance to small companies to partner with UW campuses to develop products, and training for students. Among the other dignitaries attending the reception was Louis J. Molepske, Jr., Wisconsin State Representative of the 71st Assembly District and Chair of the Assembly Committee on Jobs, the Economy and Small Business, as well as a C.O.R.E. bill author. More information about the C.O.R.E. Jobs Act and the Research to Jobs Task Force Report can be found at the following links:

www.legis.state.wi.us/senate/sen24/news/

www.wisconsin.edu/news/2009/09_2009/Research-To-Jobs-Report.pdf

Senator Lassa was presented with a plaque by Chancellor Mark Nook and Maliyakal John with the inscription "For her leadership, vision and support of undergraduate research in UW comprehensive campuses, leading to job and economic growth for Wisconsin."

WiSys Innovation Scholar (cont.)

The Department of Energy projects the production of biofuels in the U.S. to be 2.3 million barrels per day by the year 2030. Currently there are nine pulp mills in Wisconsin (two of which have been closed) that would be ideal sites for biofuel production. The utilization of these paper mills for biofuel production would create jobs and greatly influence Wisconsin's economy.

Eric Singsaas is a Professor of Biology at UW-Stevens Point with interests in plant physiology, tree biology, and ecophysiology. Dr. Singsaas studies isoprene, a precursor to various materials such as rubber, jet fuel, biofuel, adhesives, and latex. **Don Guay** is an Assistant Professor of Paper Science and Engineering at UW-Stevens Point and focuses his research on the use of enzymes to release glucose from forestry waste or wood for conversion into biofuels. **Amy Wiberley** is a postdoctoral researcher in the Department of Biology at UW-Stevens Point. She earned her PhD in Botany at the University of Wisconsin-Madison in 2008.

Drs. Don Guay, Eric Singsaas and Amy Wiberley, winners of the 2009 WiSys Innovation Scholar Awards.
Photo by Rob Goodwin, UW-Stevens Point

The group recently received a $2 million grant from the U.S. Department of Defense to continue their research in collaboration with private companies in Wisconsin. This research project is an example of the extraordinary progress comprehensive campuses are making towards becoming economic engines of Wisconsin. We congratulate Drs. Singsaas, Guay, and Wiberley for their exceptional contributions to the UW System and society as a whole. An award ceremony will take place at UW-Stevens Point in early 2010.

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Medical Device Gathering March 5 at Aurora BayCare, Green Bay

In our ongoing effort to facilitate collaboration among Wisconsin research institutions, a Medical Device Collaborative Gathering organized by WiSys and co-sponsored by Aurora BayCare, BioForward, Marshfield Clinic and Wisconsin Entrepreneurs' Network will be held at Aurora BayCare on March 5. The event will bring together researchers and representatives from the UW System, industry and sponsoring organizations to network and describe their capabilities and interests in the medical device field in order to facilitate potential collaboration.

To register or for more information, visit www.wisys.org or contact Allyson Hauser (ahauser@wisys.org; 608.890.2660) or Annette Paul (annette.paul@aurorabaycare.com; 920.288.3127).

A **Nanotechnology Collaborative Gathering** will be held in early Spring (date TBD). Contact Ally Hauser (ahauser@wisys.org; 608.890.2660) if you are interested in participating.

3rd Annual WSTS July 22-23 at UW-Green Bay

The exciting technology advances that UW comprehensives are making through collaborations and partnerships with other Wisconsin research institutions and industry will be the focus of the 3rd annual Wisconsin Science & Technology Symposium planned for July 22-23 at UW-Green Bay.

Researchers from the UW System, Marshfield Clinic, BayCare Health Systems, Aurora Health Care and other institutions and industry will showcase their research in areas including nanotechnology, biomass utilization, clinical and medical sciences, pharmaceutical development, and new polymers and composites. Organized by WiSys and UW-Green Bay, WSTS 2010 will promote collaborations between researchers throughout the State, and highlight the role that technology development is playing in Wisconsin's economic growth.

Watch for details on www.wisys.org, or contact Lisa Murray (608.263.2819; lmurray@wisys.org) for sponsorship opportunities or more info.

WEN Provides Assistance for SBIR/STTR Funding Programs

Small Business Innovation Research and Small Business Technology Transfer Program (SBIR/STTR) funding programs are viable pathways for supporting collaborative research efforts among government, industry and academia. Annually, more than $2 billion of SBIR/STTR funding is set aside for small businesses to research, develop and commercialize technologies for domestic and international markets. **Recent UW System National Science Foundation SBIR grant recipients include Oshkosh Nanotechnology LLC, a start-up company focusing on energy storage founded by Charles Gibson, UW-Oshkosh; and NovaScan LLC, a start-up company focused on cancer detection technology founded by Bill Gregory, UW-Milwaukee.**

The WEN Regional Directors are uniquely qualified and experienced to help businesses understand and "learn the ropes" about federal R&D funding, commercialization efforts and financing opportunities. Available assistance includes:

1. Expertise, coaching, and guidance with respect to technology assessment and commercialization, business planning, raising capital, and securing state and federal grants and contracts.

2. Strategic connections to resources, information, human and financial capital, advisers, and potential strategic partners.

For more information about SBIR/STTR assistance, please contact Pat Dillon (dillonp@uwec.edu; 715.836.5056). For information about WEN and the assistance offered to small businesses, please contact Ashwini Rao (ashwini.rao@uwex.edu; 608.263.0398) or visit www.wenportal.org.

January 15, 2010 is the full proposal deadline for the 2010-2011 UW System Applied Research Grant and Joint UW System-WiSys Applied Research-WiTAG (WiSys Technology Advancement Grant) Programs.

Visit WiSys.org and click on ARG/ARG-WiTAG for more information and application materials.

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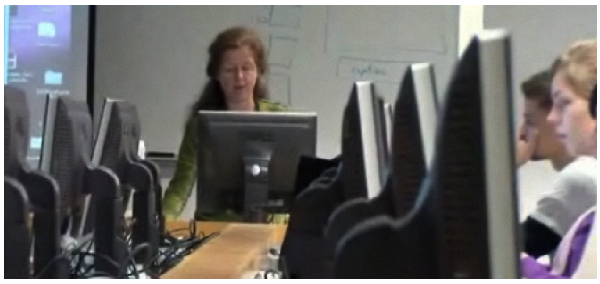
Discoveries and the People Making Them:

Interactive Media Research

Many people don't realize the importance of media arts and game development in academics, and Dr. Elena Bertozzi, a professor at UW-Whitewater, is hoping to change that. "Play is how intelligent beings learn complex tasks. We can teach people complex concepts through play and learn even more by building compelling games," says Dr. Bertozzi, who has been creating and studying interactive media for over fifteen years.



Dr. Elena Bertozzi leads her students in the lab (screenshot from http://storybridge.tv/elena video)

Dr. Bertozzi is the Founder and Director of the Engender Games Group lab (EGG), a research group at UW-Whitewater comprised of students and alumni who design, build, and test games. (Projects can be reviewed at uww.edu/games.) Most of Dr. Bertozzi's conventional research lies in the topic of gender and power in technologically-mediated environments. Since gaming is traditionally a male-dominated field, she aims to involve more women in interactive media design and develop games that women are interested in playing. She explains, "Play is practice with power. Learning how to be constructively competitive is very important to success in life."

Currently, Dr. Bertozzi teaches classes in the Media Arts and Game Development sequence at UW-Whitewater. Regarding her love of teaching and the web, Dr. Bertozzi says, "Every time I show someone how to take a few lines of code and make it into a webpage that can be seen anywhere in the world, I get to share in some of their amazement." Dr. Bertozzi has been in the process of establishing an undergraduate program in game development at UW-Whitewater, which is anticipated to begin in the fall of 2010. She is looking forward to the collaborative projects that will be created between students in the program and members of the community.

Dr. Elena Bertozzi earned her PhD in Media and Communications from the European Graduate School in Switzerland.

- by Elizabeth Konkol, WiSys Intern

New Programs, Technologies Featured at Workshop

Over 50 UW System faculty, students and industry representatives participated in a Game Development (including media arts) and Distance Learning Workshop organized by WiSys and UW-Whitewater in October. Dr. Bertozzi played a key role in planning presentations and breakout sessions focused on academia & undergraduate programs related to media arts and game development, the importance of multidisciplinary collaboration, and minorities in the gaming industry. She also led an in-depth discussion about the business side of the gaming industry and the use of social media.

Joining the Media Arts and Games Development Program at UW-Whitewater, new curricula in game development, media arts and distance learning have been established at UW campuses including Stout, Eau Claire and Stevens Point.

For more information please visit www.wisys.org and click on "For Researchers" then "Collaborative Events." If you are interested in WiSys organizing a collaborative gathering on a specific technology topic, please contact Allyson Hauser at ahauser@wisys.org or 608.890.2660.

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