

# TECH UPDATE

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## NANOTECHNOLOGY SEMINAR

Nanotechnology – the science and technology of building devices, such as electronic circuits, from single atoms and molecules – is a truly multidisciplinary field that embraces and encompasses all disciplines of natural and physical sciences. Like information technology, nanotechnology will impact our homes, offices, health and manufacturing. To learn more and keep pace with this technological revolution taking place around us, the Industrial Technology Division organized a seminar for its faculty during Spring Semester that featured three speakers with ties to the Society of Manufacturing Engineering – Jane Wellington, Timothy Welbaum and Dr. Manish Mehta. Among the topics covered were the role of SME; the scope, potential and current status of nanotechnology, specifically nanomaterials; and how the U.S. can take the lead in nanotechnology and reinvigorate its manufacturing industry, particularly in Michigan.

## TRENDS IN OCCUPATIONAL STUDIES

Martin Dubois, assistant professor of mechanical engineering technology, Thomas Harrill, assistant professor of electronics and computer technology, and Roop Chandel professor of materials technology were presenters at the annual TRENDS in Occupational Studies Conference in Grand Rapids in October. They spoke on challenges and opportunities in teaching in their respective areas.

Also at the conference, Don Kehrer, assistant professor of automotive engineering technology, and Cheryl Kehrer, professor of counseling, were awarded the Best Team Award for their joint work with the college's Formula SAE Racing Team.



## SARAH SHERIDAN AWARD

DTE Energy employees Maryanne Casha, Michel Cole, Molly Luempert-Coy, Jeffery Donbrosky, Kristina Ward were recently honored with the company's Sarah Sheridan Award for their work with Monroe County Community College in developing the college's new heavy and industrial construction technology certificate program. It's the first program of its kind in our area, and is accredited by the Construction Manager Certification Institute. The program benefits DTE Energy customers in two ways – those seeking jobs in the construction industry now have an accredited educational program, and a workforce of the future will be prepared to build major projects.

## MANUFACTURING STUDENTS TOUR GUARDIAN INDUSTRIES PLANT

Bob Leonard, assistant professor of manufacturing technology, and his Basic Machine Tools class went on a field trip to Guardian Industries in Carleton on October 20. A special thanks to our guide, Larry Southerland for a great tour of the plant.



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## X-TECH

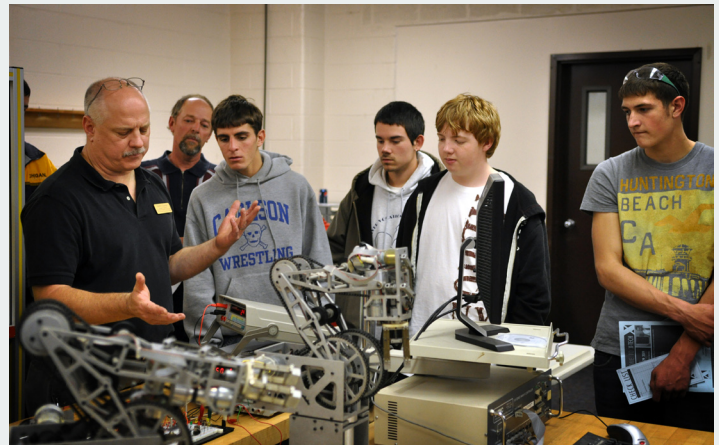
The Industrial Technology Division held X-TECH, its annual open house event, on October 29. The event provided nearly 150 high school students, parents and adults seeking career changes with the opportunity to try their hand at numerous technology demonstrations, including computer-aided design, welding, manufacturing, automation, robotics, metrology, materials engineering and construction. Participants from industry included DTE Energy and Hexagon Metrology.



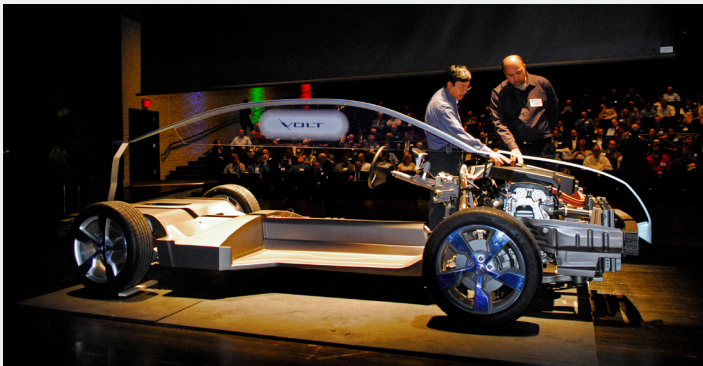
Welding demonstration.  
Photo by Mark Spenoso.



Robert Leonard (center) demonstrates. Photo by Mark Spenoso.



Martin Dubois demonstrates. Photo by Mark Spenoso.



## SAE TECHNICAL MEETING

The Technical Meeting of the Society of Automotive Engineers was held at MCCC's La-Z-Boy Center on November 17. Don Kehrer, assistant professor of automotive engineering technology, helped organize the event, which was attended by about 200 people. A prototype of the Chevy Volt was on display and representatives from General Motors and the nation's leading battery manufacturers presented at the event.

SAE photos by Mark Spenoso.





# CONFERENCES ATTENDED BY THE FACULTY

## **ASEE CONFERENCE**

Martin Dubois, assistant professor of mechanical engineering technology, attended the American Society of Engineering Educators 2009 Annual Conference from June 14-17 in Austin, Tex. The conference, attended by over 3000 people, featured 125 exhibitors and 1,500 individual papers. The attendees included college and university faculty and administrators, as well as industry representatives. Content included funding opportunities, retaining and recruiting first-year engineering students, methods for teaching different engineering topics, and the integration of equipment into academic programs. Also noteworthy was a robotic competition/demonstration by two-year engineering schools.

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## **SUSTAINABLE ENERGY WORKSHOP FOR SCIENCE AND TECHNOLOGY TEACHERS**

From June 24-26, Martin Dubois, assistant professor of mechanical engineering technology, and Thomas Harrill, assistant professor of electronics and computer technology, attended the Sustainable Energy Workshop for Science and Technology Teachers at Kettering University in Flint. The daily topics were organized into modules: Introduction to Energy; Hydrogen and Fuel Cells; Biofuels; Wind Energy; and Solar Energy, Energy Resources and Energy Careers. The workshop included a field trip to Kalamazoo Valley Community College that highlighted its wind technician program.

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## **AWEA WINDPOWER CONFERENCE**

Martin Dubois, assistant professor of mechanical engineering technology, and Thomas Harrill, assistant professor of electronics and computer technology, traveled to Chicago in May 2009 to attend the American Wind Energy Association's Wind Power 2009 Conference. The conference, the world's largest on the topic of wind energy took place in the McCormick Convention Center with 1,200 exhibitors representing every stage of the industry. Products exhibited included megawatt scale wind turbines, safety harnesses, 3D simulation software, super capacitors and more. More than 23,000 people attended the conference.

## **NUCLEAR MANUFACTURING OUTREACH WORKSHOP**

On June 3 and 4, the Industrial Technology Division participated in the Nuclear Manufacturing Outreach Workshop hosted by the Nuclear Energy Institute in Detroit. Parmeshwar Coomar, dean of the IT Division, and Martin Dubois, assistant professor of mechanical engineering technology, exhibited on the nuclear engineering technology program. The workshop was held at the MGM Grand Hotel and Casino, and featured world-renowned suppliers such as Westinghouse, General Electric and Bechtel. The workshop was a valuable experience for further enhancement of the Nuclear Engineering Program at MCCC and the development relations with major industrial suppliers in the industry. MCCC was the only community college exhibiting at the workshop.

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## **AWEA SMALL WIND CONFERENCE**

In November, Martin Dubois, assistant professor of mechanical engineering technology, attended the AWEA Small Wind Conference in Detroit. The conference took place at Cobo Hall, and was a scaled down version of a larger event he attended in Chicago. Both conferences showed the growing interest in the wind power industry and were a source of contacts and concepts that will be tapped for the development of wind-related curriculum at MCCC.

# GRANT UPDATE

## WELDING GRANT UPDATE

Through a Department of Labor (DOL) funded Grant, CBJTG, the Industrial Technology Division of MCCC has developed Accelerated Beginning and Advanced welding courses that will allow students — some of who are unemployed and displaced workers to achieve the skills needed to obtain careers in a high demand and high skill occupation as identified by Department of Energy Labor and Economic Growth (DELEG) in the state of Michigan.

Through the grant program the college has been able to offer accredited welding certifications that models after the AWS (American Welding Society) SENSE (Schools Excelling through National Skills Education) program. Upon completion of the program participants will receive AWS entry level weld (QC-10) and advanced weld certifications (QC-11).

In addition to the courses developed, the college's welding lab has been able to procure new equipment reflection most up to date technologies in the welding technologies area.

The grant staff are working with employers and skilled trades agencies in Ohio and Michigan to place graduates on completion of the program. The Welding COE plans to hold several resume writing seminars as well as job fairs and lab tours for employers to see students skill level in welding in the coming months.

The first 10 week session began on Sept. 28, 2009. For future sessions contact Larry Byrnes, Welding Grant Coordinator at (734) 384-4119.

NEXT WELDING CLASS COMING JANUARY 2010.

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## SOLAR PANEL GRANT UPDATE

Thomas Harrill, assistant professor of electronics and computer technology, and Beth Kohler, coordinator of alumni and resource development, submitted a grant application to Great Lakes Energy Service Incorporated in October. This grant application seeks monies to fund the acquisition of solar photovoltaic panels and possibly a wind turbine for the development of a renewable energy program at the college. On Nov. 24, the Industrial Technology Division was notified that the grant was being considered for funding at \$30,000, the maximum amount. Others who assisted in the completion of the application were Jim Blumberg, director of physical plant, and Martin Dubois, assistant professor of mechanical engineering technology.

## ALTERNATIVE ENERGY COLLABORATIVE GRANT

The Industrial Technology Division was awarded \$133,000 as part of a discretionary grant award to the state of Michigan. A total of 13 Michigan colleges were recipients of this grant – part of the green energy initiative in the state – based on merit of their individual projects. The goal of this project for MCCC is to purchase equipment, support the writing of comprehensive curriculum, fund faculty training during the summer of 2010 at the DTE Energy's Fermi 2 plant, and support scholarship awards to students currently enrolled in the nuclear engineering technology program and help transition the program to a full-fledged MCCC program starting in the winter of 2010. Martin Dubois, faculty in the Mechanical Engineering Technology program, is the lead on this project and managing this grant. The Industrial Technology Division will be holding a conference of other state recipients of this grant in partnership with DTE Energy to showcase our Nuclear Engineering Technology program, next year January of 2010.

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## PROGRAM OF STUDY

Through a \$7,500 grant, Martin Dubois, assistant professor of mechanical engineering technology, will be working on developing a program of study presentation for the mechanical engineering technology program. This will involve collecting data on entry-level requirements for the program, as well as cost, articulation and equipment usage. In addition, documentation needed for state approval for the program will be collected.

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## PERKINS GRANT FUNDING

Current year funding is at \$183,000 for Perkins Grant funding managed out of the Industrial Technology Division. Perkins Grant funding has been used for the following occupational program initiatives: professional development for faculty, equipment purchases, and support for assessment and special populations students.

## CERTIFICATIONS

Alex Babycz, assistant professor of construction management technology, secured the Leadership in Energy and Environmental Design certification and accreditation from the U.S. Green Building Council.

Dr. Roop Chandel, professor of materials technology, secured the American Welding Society's Certified Welding Inspector certification.

Dean Kerste, associate professor of mechanical design technology, successfully complete the Certified SolidWorks Professional Examination. The CSWP exam is a three-part assessment designed to test the ability to design and analyze parametric parts and moveable assemblies using a variety of complex features in the SolidWorks platform. The CSWP examination also assesses design intent, the use of equations, design tables and designing in-context and linked values.

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## STUDENT CERTIFICATION PROGRESS

During the Spring 2009 Semester, Dean Kerste, associate professor of mechanical design technology, proctored the first Certified SolidWorks Associate Examination for a group of students in the mechanical design technology program. The CSWA certification is used as a benchmark to measure the knowledge and competency with SolidWorks software. Monroe County Community College recently became a Certified SolidWorks Testing Site for the CSWA examination. The CSWA exam meets new state requirements for certification in the mechanical design technology program.

Other certifications offered in the Industrial Technology Division include American Welding Society QC-10 and QC-11 certifications.

## NEW HIRES IN THE DIVISION

Monroe County Community College has hired new faculty and staff members for its U.S. Department of Labor grant-funded accelerated welding technology program:

- Larry Byrnes, welding grant coordinator. Byrnes worked in the auto industry for more than 20 years, most recently working for GM from 1992 to 2008. He supervised manufacturing and engineering, along with supervising export compliance. Byrnes holds a bachelor's degree in metallurgical engineering from the University of Michigan.
- Justin Schmidt, welding grant instructor. Schmidt worked for L&W Engineering as a welding and manufacturing engineer from 2005 to 2008. He assisted in the teaching of welding courses at Ferris State University from 2003 to 2004. For the last nine years, he has been self-employed as a welder and fabricator. Schmidt holds a bachelor's degree and associate degree in welding technology from Ferris State University.
- Cameron Albring, program assistant. Albring holds a bachelor of science degree from Bowling Green State University and is working on completing her masters degree in education from the University of Toledo.