

For more information about
*Connecting industry with academia,
providing solutions, and
technology transfer*

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*Supporting manufacturing industries
by providing opportunities for collaboration
with faculty and students and serving as a
resource and partner to our constituents.*



WESTERN MICHIGAN UNIVERSITY
College of Engineering and Applied Sciences

Connecting industry with academia

Western Michigan University is a vibrant, nationally recognized student-centered research institution with an enrollment of nearly 30,000. WMU is focused on delivering high-quality undergraduate instruction, advancing its growing graduate division and fostering significant research activities.

WMU is one of only 102 public universities placed in the highest category of doctoral-research universities by the Carnegie Foundation for the Advancement of Teaching—"Doctoral/Research Universities-Extensive."

The Manufacturing Research Center (MRC) is a multidisciplinary operation within the College of Engineering and Applied Sciences. The MRC supports manufacturing industries by providing opportunities for collaboration with faculty and students and serving as a resource and partner to our constituents. The MRC emphasizes applied research in engineering and the sciences.

Call the MRC if you would like to see improvements in the areas of:

Manufacturing processes
Products
Quality
Cost reduction
Productivity
Technology competitiveness
Material utilization
Waste reduction
Pollution avoidance
Energy conservation
Student recruitment

The Manufacturing Research Center can provide you with access to WMU's state-of-the-art laboratories, centers, institutes, faculty and students with expertise in:

Advanced materials testing	Machine design
Atomic force microscopy	Machining
Computer aided design and manufacturing	Metrology
Computer integrated manufacturing	Nanotechnology
Computer simulation	Optical inspection methods
Facilities design	Plastic injection molding
Finite element analysis	Precision engineering
Green manufacturing	Quality assurance
Industrial materials and processes	Quality control
Instrumentation and process control	Semiconductors and ceramics
	SEM/TEM
	Statistical process control (SPC)
	Tribology

providing solutions

Some of the centers and institutes offered by the College of Engineering and Applied Sciences include:

Center for Advanced Smart Sensors and Systems
Center for Coating Development
Center for Excellence in Occupational Safety
Center for Information Technology and Image Analysis Research
Center for Ink and Printability
Center for Integrated Design
Center for Recycling Technology
Computational Science SuperComputing Center
Human Performance Institute



Dr. John A. Patten

About the Director . . .

John A. Patten, PE, CMfgE, Ph.D. joined Western Michigan University in 2003 as the first director of the Manufacturing Research Center. The MRC was formed by Western Michigan University to serve as a

resource to the manufacturing sector in Western Michigan. In addition to serving as director of the MRC, Dr. Patten is also professor and chair of the Department of Manufacturing Engineering at WMU.

Patten comes to WMU from the University of North Carolina, Charlotte, where he served in several capacities including professor and program coordinator for manufacturing, professor of mechanical engineering, and professor of manufacturing engineering technology. During his tenure at UNC Charlotte, Patten developed the manufacturing engineering technology program and as part of the program established the Computer Integrated Manufacturing Laboratory that housed the university's CAD/CAM and robotics facilities. He also started the inter- and multi-disciplinary precision engineering program at UNC Charlotte and was instrumental in the design of the Cameron Applied Research Center which includes the Center for Precision Metrology. Patten facilitated the purchase of approximately \$2 million in equipment for the initial equipment to outfit this facility.

leveraging resources

The
Manufacturing Research Center