

Industrial and Manufacturing Engineering Department Annual Report

Calendar Year: January 1, 2012 – December 31, 2012

A. Department/Unit/College Goals and Priorities for the Past Year

The goals of the Industrial and Manufacturing Engineering (IME) Department are to continue to fulfill our mission of teaching, research, and service in industrial and engineering and management and manufacturing engineering; and to participate in the land grant mission of the university through engagement in state, regional and national affairs. The Department offers B.S. and M.S. degrees in industrial engineering & management and manufacturing engineering, and a Ph.D. degree in industrial and manufacturing engineering. IME is served by nine faculty and five technical and office staff. The Department has 192 undergraduate students and 19 graduate students. Priorities for the past year were to

- Maintain IME department operations during faculty and leadership transitions.
- Conduct a successful search to fill two open faculty positions.
- Successfully complete ABET review and accreditation processes for the two undergraduate engineering programs.
- Establish department policies and structures.
- Enhance department climate.

B. Provide Executive Summary of Accomplishments

a. Teaching

- A new technical elective course was added to the MfgE curriculum (IME 437/637: precision manufacturing methods).
- Student rating of teaching averages exceeded college averages (Sprig 2012).
- Bilen-Green received the Blue Key Educator of the Year award.
- Marinov was nominated by IME students for the first NDSU Awards for Excellence in Academic Advising of Undergraduates.
- Wells co-authored a peer-reviewed conference paper which was selected for the Best Paper Award by the American Society of Engineering Educators, Manufacturing Division.
- Wells led the Innovation Challenge program at NDSU. He has mentored several successful student entries for various design and innovation competitions.

b. Research/Scholarly/Creative Activities (tabulate totals)

- Seven new projects were funded in 2012 totaling \$160,314.
- Forty-six peer-reviewed publications were published in journals or conference proceedings.
- Six patent discoveries are in process.
- Shi received the College of Engineering Researcher of the Year award.

c. Service/Outreach/Extension

IME faculty members are active at many levels of service both regionally and internationally. The following list highlights many of the key service contributions:

- Several faculty were members of editorial boards for journals including Energy Science and Technology, Journal of Renewable Energy, International Journal of Manufacturing, International Journal of Quality Engineering and Technology, and

- International Journal of Competitive Benchmarking and Six Sigma
- Farahmand served on the Board of Directors of Minn-Dak Manufacturing and the Veteran Engineering Resource Center National Steering Committee
 - Marinov was invited to join the Technology Advisory Board of a high-tech company located in the Minneapolis/St. Paul area.
 - Shi served on Wind Energy Committee, American Society of Mechanical Engineers
 - Wells served as the Awards Chair, Manufacturing Engineering Division, Society of Manufacturing Engineers.
 - Yadav served as the President of Institute of Industrial Engineers, Quality Control and Reliability Division and Associate Editor of International Journal of Reliability and Safety.

C. Department/Unit/College Goals and Priorities for the Coming Year

- Integrate two new faculty members into the department.
- Continue efforts to solve long-standing teaching (and research) laboratory space constraints.
- Attract, recruit, and retain a diverse group of highly qualified students into our undergraduate and graduate programs.
- Strengthen relationships with alumni and employers of our students.
- Review and update all program curricula and course schedules.
- Continue to establish department policies and structures.
- Provide opportunities for professional development of faculty and staff.
- Provide extension support focused on industrial and manufacturing engineering.

D. Diversity

- Participated in the NDSU NATURE program (Yadav).
- Actively recruited a diverse candidate pool for the open faculty positions.
- Served as NDSU ADVANCE FORWARD Advocates (Marinov and Yadav).
- Provided support to NDU Society of Women Engineers activities.

Research, Scholarly, and Creative Activities

		Total
Peer Reviewed Publications (published in 2012)		46
National or International Invited Presentations (in 2012)		4
Juried presentations/performances/exhibitions (in 2012)		-
Research Grants and Contracts (New funded projects including industry sponsored student projects in 2012) 7	Cumulative Amount:	\$160,314