MESSAGE FROM DONALD FISHER

I hope that you each enjoyed your summer and are ready to begin the fall with renewed energy and enthusiasm. I just returned from my first trip around the world (China, Vietnam, Japan, and The Netherlands) and am definitely ready to settle down to work. The accomplishments of our students, our faculty, our alumni, and our staff are simply extraordinary! I think you will be as amazed by what you see and as proud to be a part of MIE as I am when you read through the MIE Points of Pride. You are smart, you are generous to a fault, you are willing to persevere through thick and thin, you are the best. We have begun the transformation of the machine shop into the Innovation Shop, a transformation that could not have gone forward without the help of Jessica Townsend, an MIE alumna (’94) and now a Professor at Olin College, Professors Frank Sup and Jim Rinderle, and the MIE technical and administrative staff, including Miles Eastman, Al Rakouskas, Jennifer Suglia, and Rick Wynn. Please stop by if you are in the area!

NSF GRANT WILL EDUCATE 24 DOCTORAL STUDENTS STUDYING WIND ENERGY

Principal Investigator Erin Baker of the Mechanical and Industrial Engineering (MIE) Department received a $3.2-million grant from the National Science Foundation Integrative Graduate Education and Research Traineeship program to start an interdisciplinary graduate program in Offshore Wind Energy Engineering, Environmental Science, and Policy. It will train 24 doctoral students over the course of five years in the technology, environmental implications, and social/economic/regulatory challenges of offshore wind farms and add to the department’s already nationally and internationally recognized strengths in wind energy.

The multidisciplinary program will feature 20 faculty members from nine UMass Amherst departments in the College of Natural Sciences, School of Management, College of Social and Behavioral Sciences, and College of Engineering, including James Manwell, Jon McGowan, Matthew Lackner, Yahya Modarres-Sadeghi, and Robert Hyers from the MIE department.

Offshore wind poses extraordinary engineering challenges. But it also poses environmental and public policy challenges that too often are not addressed. Because of this, proposed offshore wind farms have often met with stiff public opposition.

“In general, it has been surprisingly hard to site wind farms,” explains Baker. “Although they’re clean and the energy is free once you install the equipment, there has often been a public backlash against them. We’re trying to address that in a way that faces this public acceptance problem right from the beginning.”
A SHOP WHERE STUDENTS CONCEIVE, DESIGN, AND PROTOTYPE THE FUTURE

The MIE department is working energetically to upgrade its outdated machine shop and turn it into a highly accessible learning environment, one that will give our students the skills they need in order to lead the Commonwealth in the rebirth of manufacturing. The new high-profile Innovation Shop will be outfitted with state-of-the-art machine tools, instruments, and computers to support inventive mechanical engineering projects, including all related design, modeling, manufacturing, and testing activities. The Innovation Shop will feature areas for classroom instruction, team meetings, computer-aided design, fabrication, and assembly.

Spanning graduate and undergraduate education, the new shop will accommodate labs and classes for some of our most important design courses, including MIE 315 Design and Mechanical Components, MIE 415 Senior Design, MIE 497S Super-Mileage Vehicle, and MIE 643 Mechatronics. Jessica Townsend (B.S. ’94) contributed greatly to the overall concept through her meetings with undergraduates and faculty in focus groups and one-on-one. Alumni interested in learning how they can support this effort should contact College of Engineering Director of Development Paula Sakey at 413-545-6396 or psakey@esc.umass.edu.

NEW NSBE PRESIDENT REVITALIZES CHAPTER

Mechanical engineering junior Moijue Kaikai has been busy this year. In addition to his demanding curriculum in mechanical engineering, he took over as president for a largely inactive National Society of Black Engineers (NSBE) student chapter in September. In the process, he re-energized the chapter, which was down to two active members, raising that number to 35. He also raised more than $8,000 to support the society’s activities and pave the way for 20 NSBE members to attend the society’s national conference in Pittsburgh.

MACHLIN ENDOWMENT HELPS EWB HELP THOUSANDS

A $27,500 endowment created by alumnus Charles “Chuck” Machlin (B.S. ’82, MIE) has been set up “in perpetuity” to support the worthy international work done by our campus chapter of Engineers Without Borders (EWB). Machlin’s gifts have previously supported other funding priorities at the College of Engineering, including unrestricted funds to be used at the dean’s discretion, and funding for our summer Research Experience for Undergraduates. EWB is a student organization dedicated to helping local and international communities create sustainable solutions in order to improve their quality of life.

BIG SNEAKERS TO FILL

Senior mechanical engineering major Samuel del Pilar has taken the urban tradition and Hispanic heritage he grew up with in Queens, New York and used it as fancy footwork for his nonprofit educational organization called “Sneakers 4 Success,” which inspires urban youth to pursue a college degree through sneaker culture and footwear design. Del Pilar also drained a three-point shot of sorts at the seventh annual UMass Innovation Challenge when Sneakers 4 Success won a trio of prizes totaling $8,250, including the Audience Choice Prize and the first annual David Wolf Prize of $5,000, sponsored by the intellectual property law firm of Wolf, Greenfield & Sacks, P.C.
MIE ALUM WORKING AS INCUBATOR FOR RENEWABLE ENERGY

Patrick Quinlan, a 1982 graduate of the MIE department and a former associate director for the UMass Wind Energy Center, now makes his living establishing sustainable start-up energy companies in Massachusetts. He is the founder of Celadon Innovation, providing consulting services and renewable energy technology development that directly improves the lives of individuals, families, farms, and communities. Quinlan explains that “Celadon’s vision is the widespread utilization of sustainable practices and technologies that provide lasting energy independence for homes, farms, and communities. A strong part of that vision for me is accessibility to the benefits of sustainable technologies for everyone.”

MIE FACULTY AND STAFF CHOSEN FOR KEY AWARDS

Several faculty and staff members distinguished themselves and the MIE department by receiving important awards. Professor Joseph Goldstein received the Chancellor’s Award for Outstanding Accomplishments in Research and Creative Activity. Professional Technician Al Rakouskas was awarded the Chancellor’s Citation. Professor Jim Rinderle was awarded the College of Engineering Outstanding Teacher Award. Assistant Professor Jenna Marquard won the COE Outstanding Junior Faculty Award. The Minerals, Metals & Materials Society (TMS) awarded Professor Robert Hyers the 2012 Brimacombe Medal “for sustained excellence and achievements in materials science and engineering through process modeling and experiments on the nature and properties of liquid metals.” Meanwhile, Assistant Professor Ashwin Ramasubramaniam has been chosen by TMS as one of two recipients for its Young Leader Professional Development Award.

LLOYD FELLOWSHIP ESTABLISHED FOR ENTERING MIE DOCTORAL STUDENT

Alumnus Ken Lloyd (B.S. ’73, MIE) has established the Kenneth A. Lloyd Fellowship, which will help launch the doctoral careers of five female doctoral students in the MIE department, giving to each student more than $25,000 during their first year of graduate studies. At a time when education is increasingly unaffordable and women still make up a small minority of the professoriate, this gift will be transformative. Mr. Lloyd is currently the vice president and general manager of Electro Switch Corporation in Weymouth, Massachusetts. A longtime supporter of the College of Engineering, Mr. Lloyd has a history of generosity to UMass Amherst, having made previous gifts to create the Kenneth A. Lloyd Scholarship Endowment and the Kenneth A. Lloyd Engineering Scholarship Endowment.

ALUM’S COMPANY CITED BY BOSTON GLOBE

Altra Industrial Motion, whose CEO Carl Christenson is an alumnus and avid supporter of the MIE department, was recently named as the Boston Globe’s number 3 company in its “Top 100” list and its number one industrial company. “From elevators to wind turbines, lawn mowers to warships,” as the Globe article noted, “Altra’s 20 companies make products that propel and harness the movement that powers industry.” Christenson has been a major contributor to the MIE department’s new Innovation Shop and Class-E “Exploratorium” student space and has been a leader on the College of Engineering Advisory Board.
INTERN WORKS ON FUKUSHIMA NUCLEAR INCIDENT

Imagine being a summer intern and being thrust into the cleanup planning for one of the three most famous nuclear power plant events in history. That’s what happened when senior mechanical engineering major Richard Lau was doing an internship for The Shaw Group office in Stoughton, Massachusetts and suddenly found himself on a team working on the Fukushima Daiichi nuclear disaster. The job of his team was to design vessels for filtering out cesium, one of the byproducts of nuclear fission, in the radioactive cooling water at the Fukushima I Nuclear Power Plant, following the earthquake and tsunami on March 11, 2011.

ELITE PROGRAM TRAINS TODAY’S MIE STUDENTS TO BECOME TOMORROW’S CORPORATE LEADERS

“According to a new study of 36 million Facebook profiles, 3,337 company founders and CEOs across all industries hold an advanced degree in engineering, while 1,016 have advanced business degrees.” This news was reported in an article in the January 31, 2011, edition of the Wall Street Journal. That’s the kind of reality that motivated the MIE department to add a powerful leadership component to its curriculum, the brand new Engineering Leadership, Innovation, Teaching, and Entrepreneurship (ELITE) Program. The ELITE Program will equip some of the department’s best and brightest students with the leadership, entrepreneurial, and communications skills to expand the pool of engineers who become CEOs, founding officers, supervisors, directors, managers, and teachers. Funding for the program came from the generous and continuing support of alumnus Robert Hagerty, B.S. ’74.

PETERS GIFT TO BENEFIT CAREER SERVICES AND DPO

UMass Amherst alumni Charles and Karen Peters of Weston, Massachusetts have pledged $100,000 over four years, to be divided evenly between the university’s College of Engineering and the Isenberg School of Management. Charles Peters studied in the MIE department. The gift is officially named the “Charles and Karen Peters ’87 Engineering and Management Student Support Fund.” In the College of Engineering, this gift will support the Career Planning and Student Development Center and the Diversity Programs Office, enabling both programs to provide workshops, networking, and experiential learning for undergraduate engineering students.

TEAM ZOOM MASS INFLATES MPG WITH INCREDIBLE SHRINKING CAR

On June 7 and 8, the streamlined, three-wheel car built by the UMass Amherst Supermileage Vehicle (SMV) Team, which calls itself Zoom Mass, rolled smoothly through the Society of Automotive Engineers (SAE) Supermileage® competition in Marshall, Michigan with a car shell made of shrink wrap and an emergency engine getting a tightfisted 843 mpg and running mainly on true grit, improvisation, and elbow grease. “As usual, we ran into a number of technical difficulties, which included killing an engine, two batteries, and a starter motor,” says SMV faculty advisor Jonathan Rothstein of the MIE department, “but we persevered!”

MARQUARD GRANTED COLLEGE’S 24TH NSF CAREER AWARD

The National Science Foundation (NSF) has notified Dr. Jenna Marquard of the MIE department that she has been awarded a prestigious $400,000 NSF Faculty Early Career Development (CAREER) grant for a research project entitled “Computational Approaches to Model Physicians’ and Patients’ Interactions with Health Information Technology.” Specifically, her project will focus on computerized health information technology designed to improve the health, clinical care, and cost of management for diabetics and patients with high blood pressure. Her research will upgrade the technology by modeling how doctors and patients interact with these information systems and then engineering more user-friendly computer interfaces for them.