Welcome

MIE Industrial Advisory Board
May 5th, 2011
IAB 2010-2011

- David K. Anderson
  - Alden Research Laboratory, Inc
- Paul Banks
  - B2Q Associates
- Paul Benoit
  - Sensata Technologies
- Srinivasa Chandresekaran
  - Sensata Corporation
- Caroline Down-Lyons
  - Pratt & Whitney
- Gary Epstein
  - Enery and Resources Solutions, Inc
- Tom Lyden
  - The Gillete Company
- Dr. Michael Mahoney
  - Saint-Gobain Corporation
- Rajesh Nair
  - Degree Controls Inc
- Martin Ross
  - UTC Power
- Dr. Laura Smith
  - General Dynamics Corporation
- John Stuart
  - PTC
- Paul Wasburn
  - Seagate Technology
The intent of the Chancellor’s Citation Award is to recognize and honor benefited University staff members who have demonstrated outstanding performance in contribution their time and/or skills in helping the University achieve its goals and objectives.

Dorothy Adams
Undergraduate/Graduate Secretary

Only 10 awards university wide
21st Century Leader

The award recognizes graduating seniors who have demonstrated exemplary standards of achievement, initiative and social awareness.

Only 11 awards university wide
Jack Welsh Scholar

Recognizes leadership and executive ability

Only 2 awards university wide

Joseph Bliss
ME 2011
Hiring

• Over 200 applications
• Seven interviewed
• One candidate clear favorite
• Negotiations went on for three weeks
Reza Shahbaziian Yassar

Mechanical & Industrial Engineering
Accomplishments

• Publications
  – 38 peer reviewed articles
  – 3 book chapters

• Grants
  – Over $1M in external funding
  – PI, NSF, A new perspective on energy harvesting nanowires
  – PI, NSF, MRI, Acquisition of an in-situ AFM/STM-TEM system
The demands for renewable energy and improving the efficiency of existing energy technologies have triggered worldwide research on advanced materials for energy storage and conversion. The present talk gives an overview on the PI’s current research on energy harvesting nanowires, Li-ion batteries, and PEM fuel cells. In energy harvesting nanowires research, we have studied the electrochemical coupling in piezoelectric-semiconducting nanowires from both modeling and in-situ quantitative microscopy perspectives. In Li-ion battery work, we have studied the application of Si nanowires and developed a new experimental setup to study the Li-ion intercalation into nanowires. The last, electro-mechanical characterization of degraded and fresh electrode-membrane assembly was performed to understand the Pt degradation and durability of cathode catalyst layer in PEM fuel cells.
Research

• Proposals
  – NSF Engineering Research Center (ERC)
  – NSF Integrated Graduate Education and Research Training (IGERT)
  – NSF Science and Technology Center (STC)

• Value added
  – Support for 10-20 graduate students
  – New faculty lines
ERC (COWE)

- $50M over ten years
- MIE Faculty Leads
  - Jim Manwell, Matt Lackner
- Steps
  - Preproposal
  - Proposal
  - Site visit
  - Reverse site visit
IGERT (Wind Energy)

- $10M over 5 years
- MIE Faculty Leads
  - Erin Baker, Matt Lackner
- Steps
  - Prepropsal
  - Proposal
  - Funding…
STC (CSIDE)

- $50M over ten years
- MIE Leads
  - Fisher, Marquard
- Steps
  - Preproposal
Alumni Relations: Presence

• MIE Website
• LinkedIn
• Facebook
• MIE Newsletter
LinkedIn
Message from Donald Fisher
Head of the Mechanical and Industrial Engineering Department

Dear Students, Staff, Faculty, and Alumni,

I hope that your summer was a good one! I want to welcome students back to campus and wish alumni the best in the coming fall. I know that many of us—faculty and staff, as well as current and former students—don’t necessarily hear about the many achievements of our MIE family and so am taking this opportunity to chronicle some of the achievements of the past year. I especially want to thank everyone for making my first year as Department Head such an enjoyable one!

When you have a chance, please read through our Points of Pride. If you would like to add something, please do not hesitate to email me. You can also find out more on our website, mie.umass.edu. In the meantime, enjoy your fall semester.

Sincerely,

Don Fisher, Professor and Head
fisher@mie.umass.edu
MIE Points of Pride Newsletter
Spring 2011

• Hot off the presses next week
Exploratorium
Fishbowl
Exploratorium
Corporate Relations

• C.R. Bard
  – Tim Collins, IE ’86
  – Mentor-Scholar Program
  – Faculty Research Program

• Stayclassy
  – Pat Walsh, ME ’04;
  – Nonprofit donations startup
Teaching, Degrees

• Jim Rinderle
IAB Infrastructure Initiatives

• Exploratorium
  – Donations
• Innovation Shop
  – Frank Sup
Student/Industry Initiatives

• Olin
Dean Search
Afternoon: Budget

• Jim Rinderle
Faculty Retreat

• Maintaining Excellence
  – Hiring new faculty

• Maintaining Synergies
  – Increasing Ph.D. production

• Maintaining Student Focus
  – Undergraduate Teaching Excellence
Increasing Revenue

• 7 figure solutions
  – ERC, STC, IGERT

• 5 figure solutions
  – Course only master’s degree programs
    • Economic incentives
      – ME (WE)
      – IE (EM)

• Role of IAB
Increasing Visibility

• Increasing PhD production
• Role of IAB
Increasing Undergraduate Teaching Excellence

• Approaches
  – Technologies
  – Undergraduate Mentor/Scholar Fellowships
  – Graduate student teaching assistants

• Role of IAB
  – Undergraduate Mentor/Scholar Fellowships
Infrastructure

• Innovation Shop
  – MIE
• IAB contributions