“College Conversation”

October 25, 2010

Robert Marley,
Dean
Agenda

- Meet your new colleagues
- Review of FY10
- Preview of FY11 and beyond
- University Priorities
- Update on Strategic Goals Activities
- Q & A
- Other announcements
New Faculty Members

Dr. Jennifer Brown, Chemical and Biological Engineering
Assistant Professor
Ph.D. Chemical Engineering; Montana State Univ. (2007)
Research Interests: Magnetic Resonance Microscopy (MRM) studies of complex fluid dynamics in conjunction with rheometric fluid characterization

Dr. David Claudio, Mechanical & Industrial Engineering
Assistant Professor beginning Spring 2011
Ph.D. Industrial and Manufacturing Engineering; Pennsylvania State Univ. (2010)
Research Interests: Human Factors, Systems Engineering in Healthcare and Energy, Decision Making
New Faculty Members, cont.

Clem Izurieta, Associate Research Professor
PhD Computer Science, Colorado State University, 2009

Research Interests and experience: empirical software engineering, design and architecture of software systems, design patterns, the measurement of software quality and ecological modeling. Dr. Izurieta has approximately 16 years experience working for various R&D labs at Hewlett Packard and Intel Corporation.

Scott Smith, Adjunct Instructor of Construction Eng Tech
MS, Civil Engineering, Montana State University, 1996

Experience and assignments: Smith is formerly a partner with Allied Engineering of Bozeman. Smith has taught or will teach courses in construction equipment and methods, statics, ethics and professional practice, and subdivision design.
Joe Eldring, Adjunct Instructor

Graduate Diploma (M.S.) in Materials Science
Technical University Berlin, Germany, 1992

Professional Background: R&D Toolmaker & Machinist (~8 years)
RWTH Aachen, TU-Berlin, MSU; Materials and Mechanical Engineer
(∼13 years) Electronic Component Design, Manufacturing & Assembly; Project
& Program Manager (∼5 years) Consumer & Medical Device Development
Industrial Technology Development

Assignments:
COE Tech Services Manager (2007-2010)
ENGR310 Instructor and TA (since Jan 2010)
Research Engineer Bio-Mineralization (since Oct 2010)
New Faculty Members, cont.

Bruce Zignego, Adjunct Instructor

BS Mechanical Engineering, Montana State University, 1979

Experience: 31+ years in product development; experience in aerospace industry, computer peripheral industry, and biotechnology; 25+ years with Hewlett Packard, where he was director of one of HP’s largest electro-mechanical design centers. Most recently VP of product development for Foxconn Corp., the world's largest contract manufacturer; experience in R&D, manufacturing, quality, customer support and marketing; has done business in over 20 countries and has lived in Italy and China.

Assignments: IME425 and assisting with ENGR310
Lt. Col. James G. West, Department Head, Army ROTC
Commander – Army Reserve Officer Training Corps at MSU
MS Administration, Central Michigan University (2004)

Previous Assignments: Operations Officer and Executive Officer, Fort Stewart, Georgia; student, Army Command and General Staff College, Leavenworth, Kansas; Training Team Chief, Calhoun, Georgia; Company Commander and Operations Staff Officer, Friedberg, Germany; Staff Officer, Executive Officer, and Platoon Leader, Fort Riley, Kansas
Review of 2010-11

• New President, Provost

• New governance structure
  – University Council, Budget Council, Research Council, Deans Council, Planning Council

• MSU Budgeting process still undetermined
More Budget News…

- A trend towards OTO funding, allocated late
  - $141K allocated in May, 2010, for fall, 2009, growth
  - $64K allocated in Sep, 2010, also OTO
- “Line of Credit” proposed to Provost for “verifiable new costs” (also OTO) in FY11
  - $4M-$6M estimated new revenues in FY11 in addition to approx. $9.5 M carried over by MSU
- $200K approved for “merit” increases
  - Originally set aside by UPBAC in 2009
  - May be extended to other employee categories
Preview of 2011 & Beyond

• Loss of Fed Stimulus $$ in FY12

• Estimated State budget reduction of 5%
  – Governor’s preliminary budget

• Performance-Based budget allocation
  – Retention, graduation rates, etc
Preview of 2011 & Beyond

• New programs in COE (since 2009):
  – Masters of Engineering
  – Certificate and Minor in Land-Surveying
  – Aerospace Minor (1st grads in May, 2010)
  – Seamless Masters in Environmental Engr.
  – Mechatronics (final BOR approval pending)
  – MPSEM (proposed)
  – 1st DDP grad in Bioengineering, May, 2010

• Need for University funding tied to cost of programs
University Priorities

“Moving Mountains”

- New Strategic Planning/Program Reviews
- “One University”
- Increase retention
- Increase on-line education
- Identifying focused research/creative act.
- Expand inter-disciplinary programs
- Expand outreach to Tribal communities
- Enhance faculty/staff recruitment
- Streamline processes
Strategic Goals Update

1. Prepare MSU-COE community to engage effectively with global community
Global Advocacy

• Strategic Goal 1: Prepare the MSU COE community to engage effectively with the global community.

  - [http://www.cs.montana.edu/paxton/global](http://www.cs.montana.edu/paxton/global)
Committee

- Ed Adams, Civil Engineering
- Paul Gannon, Chemical and Biological
- John Paxton, Computer Science
- Carolyn Plumb, Dean’s Office
- Joe Shaw, Electrical and Computer Eng.
International Engineering Certificate

1. A COE major chooses a country or region of interest

2. A minimum of 15 credits of targeted coursework must be earned, including language through 201 if relevant

3. The student must spend two weeks or longer in a relevant study abroad, work abroad or service abroad experience
Next Steps

- Gather recommended courses and opportunities
- Attend 13th International Engineering Colloquium at URI in early November
- Vet through COE departments
- Vet through COE advisory board
- Prepare paperwork to offer by Fall 2011
Strategic Goals Update

1. Prepare MSU-COE community to engage effectively with global community

2. Increase cross-disciplinary activities at every level of the COE community—including faculty activity and student experiences
Cross-Disciplinary Activities

Goal 2: Increase cross-disciplinary activities at all levels of the COE community, including not only faculty research and creative activity, but also the student experience.

1) Identify/review everything that is already being done
2) Determine what activities will strengthen and complement (1)
3) Implement these activities
1) Identify/review everything that is being done

- Curriculum
  - ENGR 310

- Research/Creative Activity
  - Topic Oriented Ctrs/Institutes/Pgrms/Facilities
    - CBE
    - OpTeC
    - CBIN
    - TBI
    - WTI
    - ERI
    - IoE
    - Subzero
    - ICAL
    - MMF
2) Determine what activities will strengthen and complement (1)

• Curriculum
  – Increase cross-disciplinary team taught undergrad/grad courses
    (development funds from college)

• Research/Creative Activity
  – Undergrad/grad student cross-disciplinary research experience program (joint funded with college)
  – Proposal development (funds available from college)
3) Implement these activities
Strategic Goals Update

1. Prepare MSU-COE community to engage effectively with global community

2. Increase cross-disciplinary activities at every level of the COE community—including faculty activity and student experiences

3. Establish COE as a leader in the State and National technological community
General
* The department is searching for two new faculty members, both with support from RightNow Technologies
* Hunter Lloyd won the 2010 University Excellence in Outreach Award

International
* We are offering a study abroad course to Kyoto University during the first six week summer session of 2011
* Binhai Zhu was on sabbatical in Japan and China during Spring 2010
* Brendan Mumey is applying to be a Fulbright Scholar to Aalto University in Finland

Leadership
* We hosted a state-wide CS summit in June 2010 so that CS Departments could share ideas
* We are conducting a course swap with UM this year to investigate its viability
* Carroll College students are remotely attending Clem Izurieta's software engineering class
* Denbigh Starkey is vice president for the incipient faculty union

Interdisciplinary
* We are helping to investigate a university-wide web certificate that would involve 5 colleges
* Clem Izurieta and Geoff Poole of LRES are leading a 5-person Computational Ecology Group
* Brendan Mumey is embarking on a new research direction in Green Networking
* Hunter Lloyd and Chris Ching were both a part of the NASA winning Montana M.U.L.E. team
* Hunter Lloyd is involved in a multi-engineering team building a robotic submarine for NAVSEA
Center for Biofilm Engineering Highlights

• Confocal microscope National Science Foundation award of $498,433 for the project: "MRI: Acquisition of a State of the Art Confocal Microscope at the Center for Biofilm Engineering." The NSF grant was awarded in conjunction with a complementary cost-sharing grant of $406,500 from the M.J. Murdock Charitable Trust. The total of the two awards will be applied to the purchase of a Leica SP5 Spectral Confocal system—housed in the Center for Biofilm Engineering—that will revolutionize the microscopic study of microbial biofilms.

• 2010 marks the CBE’s 20th anniversary. Here are highlights from the CBE 2010 Annual Report that show its growth in several areas:
  o expanded research areas from 2 to 8
  o CBE researchers authored 44 publications in the reporting period, including book chapters as well as articles in 29 peer-reviewed journals
  o CBE has 44 graduate students from 9 disciplines, 33 doctoral candidates and 11 master’s candidates
  o CBE engaged 34 undergraduate students, representing 9 disciplines, in research
  o the number of industrial associates has grown from 17 in year one to 33 in 2010
  o in 2010, CBE conducted 40 industry-sponsored testing and research projects for 30 different companies with a total budget of more than $900,000
MMEC highlights

• The Manufacturing Extension Center recently hired MSU ME graduate Jeremy Wolf as the Missoula/Southwest Montana Field Engineer, replacing another MSU grad Kreg Worrest who recently joined MMEC’s MilTech staff. A search is currently underway for a Center business manager.

• MMEC Director Steve Holland recently received a prestigious appointment to the Industry Trade Advisory Committee for Small and Minority Business by the US Secretary of Commerce and the US Trade Representative.

• This fall 275 manufacturing peers and allies from across Montana were treated to a wide variety of breakout sessions and manufacturing plant tours, a keynote address by a successful wind energy component manufacturer from Michigan, and Montana company stories of opportunity at MMEC’s signature conference “Compete Smart.”

• MMEC is one of four Manufacturing Extension Partnership centers that just received a grant to be administered through the BlueGreen Alliance Foundation in cooperation with the American Wind Energy Association, the United Steel Workers, the Global Wind Network and the Alliance for American Manufacturing (AAM) to accelerate the development of domestic supply chains for the emerging wind energy industry.

• The University Technical Assistance Program is again an EDA University Center through a grant to MMEC and has two COE grad students working with manufacturing firms under the tutelage of UTAP Supervisor and MMEC Field Engineer Mark Shyne.
MilTech Highlights

- MilTEch is an outreach collaboration between MMEC and TechLink that works through the Department of Defense to move innovative technologies forward that make the U.S. warfighter safer and more effective.

- Earlier this year MilTech presented the Marine Corps System Command Marine Expeditionary Rifle Squad (MERS) with outcomes of a six month “Design Light Project” aimed at reducing the ever-increasing load that is placed upon the shoulders of the Marine – currently the average combat load is 112 pounds. Using assembled experts in composites, outdoor gear, clothing, electronics, human factors, and manufacturing fields, MilTech analyzed the gear, clothing, weapons, and equipment to identify opportunities for weight and volume savings. This examination resulted in roughly 186 ideas for weight and volume savings. As part of the report out on the large volume of data, MilTech highlighted more promising ideas including prototypes or concept models for some items. At the end of the project, MERS provided additional funding to MilTech to move forward with Design Light II and provide refined prototypes of five of the original concept prototypes, including an integrated pack system to replace separate systems now in use; a portable lightweight water treatment system and compact combat litter.

- MilTech added two new field agents this year to assist manufacturers across country with innovative technologies needed by the Department of Defense to keep the U.S. warfighter safe and effective.
Thank You

Other Questions?

Visit [www.coe.montana.edu](http://www.coe.montana.edu) for updates
Other Announcements

• Anne Camper will serve as Acting Dean
  – December 27 to January 28