Faculty and Staff Meeting
Inaugurating AY 2014-15
August 22, 2014

This presentation is posted on the CEC website under “Faculty and Staff” tab at the top right of the home page.
Agenda

1. Introductions

2. CEC highlights of AY 2013/14
   • Faculty accomplishments
   • Undergraduate and graduate programs
   • Recruitment and experiential learning
   • CEC experiential learning initiatives
   • Advancement, financial matters, communications and PR, Miami / CEC 2020
   • Student accomplishments and awards

3. CEC priorities in AY 2014/15
New Faculty - CSE
Heather Goldsby

Assistant Professor
CSE

• BS, MS, Computer Science & Engineering, Michigan State University
• Dual PhDs: Computer Science and Engineering, and Ecology, Evolutionary Biology & Behavior, Michigan State University
• NSF Postdoctoral Fellow (2011–2014), University of Washington
Daniela Inclezan

- BS, Computer Science, the Technical University of Cluj-Napoca, Romania
- MS, PhD, Computer Science, and MA, Applied Linguistics and Second Language Studies, Texas Tech University
- Last academic year – Visiting Assistant Professor in CSE
Dave Knoester

- BS, Computer Engineering, University of Michigan
- MS, Computer Science & Engineering, Michigan State University
- Dual PhDs, Computer Science and Ecology, Evolutionary Biology & Behavior, Michigan State University
- NSF Postdoctoral Fellow, Michigan State University, 2011-2014
Pierre St. Juste

- BS, MS, Computer Engineering, University of Florida, Gainesville, FL
- PhD, Computer Engineering, University of Florida, Gainesville, FL

Visiting Assistant Professor
CSE
Matthew Stephan

- BSE, University of Waterloo, Canada
- MS, Electrical and Computer Engineering, University of Waterloo, Canada
- PhD, Computer Science, Queen’s University, Canada
Mehdi Safari

Assistant Professor
MME

- BS, Mechanical Engineering, Isfahan University of Technology, Iran
- MS, Mechanical Engineering, Isfahan University of Technology, Iran
- PhD, Mechanical Engineering, Northeastern University, Boston, MA
Seyed A. Soltani

- BS, Mechanical Engineering, Sharif University of Technology, Tehran, Iran
- MBA, the Sharif University of Technology, Tehran, Iran
- PhD, Mechanical Engineering, Wichita State University, KS
John Richter

• BS, MS, Mechanical Engineering, University of Dayton

• Over 20 years of industry product development experience
Steve Schoenbaechler

- BS, ME, Mechanical Engineering, University of Louisville
- Former Engineer Designer - GE Appliances

Instructor
MME
Tareq Hasan Khan

- BS, Electrical and Electronics Engineering, Islamic University of Technology, Bangladesh
- MASc, Electrical and Electronics Engineering, Concordia University, Canada
- PhD, Electrical and Computer Engineering, University of Saskatchewan, Canada

Visiting Assistant Professor
ECE
New Staff – IT Office
Jeff has been employed by Miami University in various positions in IT Services since 2000:

- IT Services Hardware Support Technician
- IT Services Support Desk Analyst
- IT Services Senior Network Control Technician
- IT Network Operations Center
Faculty and staff in new roles
New roles for current faculty and staff

Jerry Gannod
Faculty Fellow in the Office of the Provost

Linda Kramer
Director of Communications
CEC

John Lewis
Systems Administrator
CEC IT

Bob Setlock
Clinical Faculty and Director of High Flight Project
CEC
Faculty Accomplishments
CEC Research Excellence Award

• Nationally recognized expert in the areas of signal processing and optical communications
• Since 2008, in addition to conference proceedings, he has published ten referred journal papers; seven of which were in journals ranked in the top 15% of their fields
• He has received 3 patents and has 4 pending
• His research at Miami University has been supported by grants from National Science Foundation, Air Force Research Lab, Navy Air Warfare Center, Dayton Area Graduate Studies Institute
• He is a PI or Co-PI for grants that have been funded for the total of $1.6 million
Chi-Hao Cheng
Associate Professor, ECE
AY 2013/14 CEC Research Award Recipient
Michael Bailey-Van Kuren is the AY 2013/14 recipient of this award presented at the 2014 CEC Recognition Ceremony in May.

The award committee selected Michael for:

“his long-standing accomplishments in teaching, his contributions to student learning, his inspiration of creativity, innovation and design thinking, and for enriching the lives of people around the world”
MU Distinguished Teaching Award

The Award is conferred upon faculty whose achievements unequivocally merit recognition for excellence in teaching (Associate Professor category)

Students’ remarks about Dr. Moller:

- *I never met nor heard of a professor who was as passionate about the growth of the student as he was about his profession*
- *Dr. Moller became a mentor instead of a professor, a friend instead of a faculty member*
- *I cannot put a value on the profound effect that he had on every aspect of my college career*
Promoted to Professor

Eric Bachmann
CSE

Lei Kerr
CPB

Amit Shukla
MME

Elizabeth Howard
CIT
Other promotions

Jeff Herdtner
Lecturer
ECE

Norm Krumpe
Senior Lecturer
CSE
Lessons for Life

Bo Brinkman is equipping their students with a curiosity for learning that extends far beyond graduation.

Brinkman’s teaching style puts a value on interaction between students and a group learning experience over the traditional lecture.

Bo Brinkman, Associate Professor, CSE pictured in the online story.

The full article is at http://www.ohiomagazine.com/Main/Articles/4871.aspx
Steve Keller was a Fulbright Visiting Professor at Graz University of Technology in Austria for the U.S. Scholar Program in the 2013/14 academic year.

In addition, he conducted a three-week study abroad workshop for CEC students during the 2014 Winter Term.
IEEE-Eta Kapp Nu Award

C. Holmes MacDonald Outstanding Teaching Award

The award "recognizes the central and crucial role of college professors in training and motivating future electrical and computer engineers."

It is given by the IEEE Educational Activities Board and Board of Governors of IEEE-Eta Kappa Nu

Dmitriy Garmatyuk
Associate Professor
ECE
IEEE Fellow

- The IEEE Grade of Fellow is conferred by the IEEE Board of Directors upon a person with an outstanding record of accomplishments in any of the IEEE fields of interest.

- IEEE Fellow is the highest grade of membership and is recognized by the technical community as a prestigious honor and an important career achievement.

Jade Morton
Professor, ECE
Patent Granted to Miami

- A patent will be granted on Miami’s gag-reflex reduction device by the US Patent and Trademark Office.
- This device was invented by Donna Scarborough (Speech Pathology and Audiology) and Michael Bailey-Van Kuren (MME).
A $620,800 grant from NSF will provide funds for mentoring and scholarships for students who participate in a new living learning community (LLC) at Miami University. The LLC will focus on service-learning in computing, and is expected to increase the number of women in computing majors.

This effort will be led by Bo Brinkman, with co-investigators, Amanda Diekman (PSY), Jim Kiper, Peter Jamieson, and Don Ucci.
# Publications Calendar year 2013

<table>
<thead>
<tr>
<th></th>
<th>Peer – reviewed journals</th>
<th>Peer – reviewed conference proceedings</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>CPB</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>ECE</td>
<td>13</td>
<td>22</td>
</tr>
<tr>
<td>MME</td>
<td>16</td>
<td>29</td>
</tr>
<tr>
<td>CEC Total</td>
<td>48</td>
<td>71</td>
</tr>
</tbody>
</table>
Farewell

CEC said goodbye to valued members of the CEC faculty this year

Osama Ettouney  
MME

Janet Burge  
CSE

Jade Morton  
ECE
Undergraduate and Graduate Programs
Undergraduate Curriculum

- CEC First Year Experience - modified EAS 101 course’s objectives, content and delivery, finalized transition to departmental versions of EAS 102

- Engineering Management - conducted an analysis of this major’s curriculum, assessment, accreditation, management/leadership, viability of existing tracks and possibility to develop new tracks

- Lockheed Martin Leadership Institute - implemented seven courses for LMLI students and of one course for the general CEC population
• Developed and approved one certificate program, nine major revisions to several majors, and 14 new courses

• CSE 243 Problem Analysis using Computer Tools, a computer literacy course, approved as a Miami plan foundation course, offered in S’14; its approval as satisfying CAS QL requirement pending
Accreditation and Assessment

• Accreditation of our newest major, Bioengineering
  The outcome of the Fall 2013 ABET accreditation visit will be known by the end of August, but based on several ABET communications since the visit we have every reason to believe in a successful outcome

• Supported ABET visit in Engineering Technology on regional campuses

• ECE ABET issues resolved
Graduate programs

- Developed proposal to split Computational Science & Engineering MS degree into two separate degree titles:
  - MS in Computational Electrical and Computer Engineering
  - MS in Computational Mechanical Engineering

- Developed new 3+2 BS/MS program (Physics + CS&E)
- Completed feasibility study for a part-time professional master’s program; decided that the cost/benefit tradeoff does not support moving forward at this time
- First ever active recruitment of international students (Doug Troy – Kurdistan)
## Recruitment
Data as of May 15

<table>
<thead>
<tr>
<th>Category</th>
<th>2013</th>
<th>2014</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>2,983</td>
<td>3,333</td>
<td>11.7%</td>
</tr>
<tr>
<td>Admissions</td>
<td>2,024</td>
<td>2,343</td>
<td>15.8%</td>
</tr>
<tr>
<td>Confirmations</td>
<td>441</td>
<td>417</td>
<td>-5.4%</td>
</tr>
<tr>
<td>Category</td>
<td>Number of undergraduate students Fall 2013</td>
<td>Number of undergraduate students Fall 2014</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------</td>
<td>--------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Domestic</td>
<td>416</td>
<td>361</td>
<td></td>
</tr>
<tr>
<td>International</td>
<td>20</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>Transfer</td>
<td>29</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>465</td>
<td>439</td>
<td></td>
</tr>
</tbody>
</table>
Recruitment notes

- ACT average of confirmed students: 28.7 (University average 27.7)
- Developed and delivered two modules for the newly established Summer Scholars program
- Welcomed the first cohort of Engineering and Computing Scholars
- Engaged CEC Student Council, Theta Tau (engineering fraternity) & Tau Beta Tau (honor societies chapter) in recruitment and yield activities
Experiential learning

Based on exit interviews of 116 students last April 2013

<table>
<thead>
<tr>
<th>Category</th>
<th>% of students reporting experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internships/co-ops</td>
<td>66</td>
</tr>
<tr>
<td>Undergraduate research</td>
<td>41</td>
</tr>
<tr>
<td>Service learning</td>
<td>26</td>
</tr>
<tr>
<td>Professional organizations</td>
<td>44</td>
</tr>
<tr>
<td>Professional training</td>
<td>30</td>
</tr>
</tbody>
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CEC experiential learning centers and initiatives
Lockheed Martin Leadership Institute

- Secured LM’s support for years four and five in the amount of $250k per year
- Finalized and approved certificate program
- Graduated Cohort I, recruited Cohort IV
- Dean’s presentation to Engineering Deans’ Institute in Scottsdale, AR

Cohort I – Graduated!
Suncorp Agile Launchpad

- Signed final agreement with Suncorp (three year, $600k commitment; option for three additional years of funding)
- Operationalized Agile Academy
- Agile Classroom (BEN 213) completed
- EAS 205 Agile Launchpad, offered for the first time for 16 students in Spring 2014, accredited by ICAgile, resulting in students being certified as ICAgile certified professionals
Three cohorts (80 students) engaged in activities in Oxford, Virginia (NASA Launch Facility), and Washington, DC (U.S. Congress)
Bo Brinkman developed, secured approval for and operationalized the Center

- received $11,000 gift from Hillenbrand, Inc. to support research and student projects
- patent application for book-scanning app published and pending examination; Miami undergrad Matt Hodges listed as co-inventor
- AR Center graduate students sharing space with Experience Design MFA students in Hiestand and with CSE Masters students in Benton, which builds a bridge between the two programs
Advancement, financial matters, communications and PR, Miami 2020
Advancement

- New gifts: $585.6k
- Previous pledge payments: $690.6k
- New pledge payments: $123.6k
- Total: $1399.8k

- Three top initiatives: scholarships ($494k), programs ($239k), unrestricted funds ($190k)
- The bulk of the donations came in as cash ($832k)
- Corporate development team met w/ 56 companies and foundations
CEC Donor Wall installed
Financial matters

• Prepared for the upcoming implementation for the RCM financial model, and began planning and managing CEC finances under the model.
• Made operational the CEC fee.
• Identified permanent cut of CEC FY ‘15 budget to the tune of $142,000.
• New revenue opportunities – capitalized on the establishment of the new Winter Term.
Communications and Public Relations

• Revamped CEC Web site:
  - Conducted comprehensive content review
  - Completed migration to Miami’s cascade system
Communications and Public Relations

• Developed and implemented a 2014 CEC theme: “Celebrating Women Leaders”
• Garland Hall naming
• USA Science and Engineering festival
• Social Media continues to be an asset
Celebrating Women Leaders

Linda Gooden
Retired Executive Vice President, Lockheed Martin Information Systems & Global Solutions
Recognition Ceremony Keynote Speaker

Maribeth Malloy
Director, ESH Sustainability and Governance
Lockheed Martin Corporation
Engineering Week Keynote Speaker

Sharon Mitchell
Chair, Miami University Board of Trustees
Retired senior vice president for research and development for global fabric care at Procter & Gamble
Engineering Week Banquet Keynote Speaker
Garland Hall naming

Naming Ceremony: September 9, 2013

The center building of the engineering and computing complex was named for President James Garland, Miami’s 20th president who was instrumental in advancing engineering and computing at Miami.

A portrait for the occasion was commissioned by the President’s office that now hangs in Garland Hall.
Lockheed Martin is the founding and presenting host of the festival. The company turned its space into an innovative engineering and technology Exploratorium.

This was CEC’s first year to have a booth at the festival.
The number of Unique Users who have seen any content associated with our Facebook Page

Most of our stories on the Facebook page are linked to our CEC Experience page in Tumblr, which also links to the CEC website.
Oversees CEC communication efforts

- **Web site**: oversees the content of CEC web site and ensures ADA compliance
- **Social Media**: Maintains current social media sites, post stories; assesses the effectiveness of the sites
- **Publications/Presentations**: provides publication and brand management assistance to departments, centers, institutes, faculty, staff, and students; ensures that communications from CEC are cost effective, professionally done and are in the Miami University brand
- **Special projects**
- **Part time position** (3 days a week / 10 months)
• Developed several iterations of CEC contributions to Miami 2020 Plan
• Finalized the strategic analysis and setting strategic directions phases of the strategic planning process and submitted the document titled “Miami 2020 Plan – CEC contributions”
Provost’s Student Achievement Award

Daniel Ferriell

- Chemical Engineering
  - Minors: Paper Engineering and Mathematics

Nicole Fisher

- Engineering Management
- Business Economics

2 out of 9 MU awards in ‘14
18 out of 79 since ‘08
Recognition Ceremony
Student Speakers

Kelley McGill

- BS in Engineering, Chemical Engineering with Paper Science concentration
- Summa Cum Laude

Richard Marcus

- BS in Electrical Engineering, Computer Engineering
- Minor in Computer Science
- Magna Cum Laude with University Honors
Goldwater Scholarship Honorable Mention

Eric Lee
Manufacturing Engineering and Mechanical Engineering double major

- Eric worked with faculty mentor Kumar Singh, MME, for several semesters on vibration research and has been involved in the development of a Computational-Experiment (ComEx) learning module.

- He is undergraduate assistant in the vibrations lab and a member of the mechanical and manufacturing engineering student advisory council.

- He is a member of the university honors program and a member of the Lockheed Martin Leadership Institute.
The Fourth Annual ION autonomous Snowplow Competition, took place in St. Paul, Minnesota, January 2014

RedBlade won:
Golden Snow Global Award ($7000)
Golden Shovel Award ($500)
Golden Pen Award ($500)

Students: Robert Cole, Richard Marcus and James Morton
Advisors: Jade Morton and Peter Jamieson
CPB students awarded grant

"From a river through a seed“ - Engineering students showcase their sustainable water filter at the U.S. EPA's People, Prosperity and the Planet (P3) competition

The Miami team was one of 40 university teams nationwide that were each awarded a $15,000 grant in the U.S. EPA's People, Prosperity and the Planet (P3) competition. Advisor: Jason Berberich
Jamie Morton receives NSF Graduate Research Fellowship

He is quadruple major in computer science, electrical engineering, engineering physics, and mathematics/statistics, and a minor in Chinese. He has been involved in research in the field of computational biology since his first semester at Miami.

Jamie will continue his computational biology research through the doctoral program at the University of Colorado Boulder’s BioFrontiers Institute
CPB students present at conferences

Emily Maggio and Sarah McMullen placed 3rd in the Best Student Paper competition for their presentation at the Rocky Mountain Bioengineering Symposium and International Society of Automation Symposium (ISA) in Denver, CO.

Alex Naber co-presented a paper with Dr. Yousefi at the 2014 SFB Meeting in Denver, CO. The co-authors were Carlie Focke, Cara Janney, Katelyn Reichenbach, Charles Shaw, Sarah Szekely, and Liam Taylor.
MME students were presenters at the 2014 US National Congress on Theoretical and Applied Mechanics

Presenters were: Ryan Ettenhofer and Richard Brown, undergraduate research scholars, and Mark Fellows, an MS student in the Computational Science and Engineering Program.

Advisors: Fazeel Khan, Kumar Singh, and Amit Shukla. They were supported by Ohio Space Grant Consortium and Miami University’s Undergraduate Summer Scholars Program.
CSE and Eli Lilly collaborate

Lilly Maps – the app

• It was started as a Senior Capstone project by Computer Science majors, using the Agile Process, and was sponsored by the Lilly IT Miami Recruiting Team

• Goal of the app:
  • Provide users with accurate directions across campus
  • Utilize Google Maps to provide directions from building to building
  • The app maps campus buildings, parking lots, indoor concourses, shuttle stops, and primary Lilly landmarks
  • Development was completed this summer by a Lilly IT team
  • It is now live and in use by Lilly employees
Two design projects were selected to receive IEEE-Cincinnati Outstanding Project Awards

- **Project:** *Interactive Display of the ECE showcase computer*
  Students: Patrick Cutno, Tuo Li, Scott Mogul. Advisors: Qihou Zhou and Chi-Hao Cheng

- **Project:** *Pulley Tower Modernization*
  Students: Alex Williams, Joshua Collins, Cory White. Advisor: Peter Jamieson
Miami / CEC 2020 Plan

• Convert CEC response to “Miami 2020 Plan – Goals & Metrics” into “CEC 2020 Strategic Plan,” a plan guiding our efforts in the next five years

• Be guided in our work by, but not limited to, the unifying and foundation goals as well as objectives and metrics put forward in the Miami’s plan

• Engage key CEC constituents in this undertaking
  o Academic and Administrative Leadership
  o Faculty and Staff
  o Advisory Council
  o Student Advisory Council
Development of the CEC 2020 Strategic Plan

- Review and modify, where appropriate, CEC mission and vision
- Identify Central Principles that guide our plan
- Within each Central Principle develop Strategic Initiatives
- For each Strategic Initiative conduct Benchmarking and SWOT analysis
- Within each Strategic Initiative formulate specific, measurable, agreed upon, realistic and time/cost bound (SMART) Goals
- Within each SMART Goal develop Action Plan consisting of tactics
- For each tactic determine Timeline and identify Responsible Individuals
Metric 1: Improved retention and graduation rates

AY 2014/15: Focus on first year experience

- Redesign the introductory CEC 101 course “Engineering, Computing and Society”
- Embed retention strategies in the recently developed, department-based, 102 courses
- Design curricular and other strategies to improve the sophomore to junior retention rate
Metric 4: Faculty scholarship

AY 2014/15: Focus on graduate programs

• Secure BOR approval and implement redesigned MS in Computational Science and Engineering
• Develop new MS programs in Mechanical Engineering and Electrical and Computer Engineering
• Enhance financial support for graduate students
• Conduct a feasibility study focusing on CEC becoming a PhD granting academic unit
Metric 5: Experiential learning research with undergraduates

**AY2014/15: Focus on incentives**

- Enhance academic and financial incentives for students
- Increase student participation in conferences seminars, workshops and exhibitions
- Incentivize faculty to engage undergraduate students in their research
- Augment research opportunities with scholars outside Miami (e.g., AFRL, NASA, National Research Labs, research abroad)
- Increase undergraduates engagement in research from ~ 80 (40%, Class ‘13) to ~ 160 (50%, Class ‘18)
- Incorporate research-oriented outcomes into selected courses
AY 2014/15: Focus on international internships

• Engage MUDEC in developing international internship opportunities
• Forge new international collaborations resulting in internship opportunities
• Collaborate with AIMS to involve CEC students in the San Francisco internship program
• Enhance networking with key employers in engineering and computing fields
AY 2014/15: make progress toward goals for Class ’18 (vs. Class ‘14)

• Increase professional organization membership from 44% to 60%
• Increase student participation in community service from 26% to 45%
• Increase student participation in professional training from 30% to 45%
• Double students’ involvement (from about 180 in Spring 2014 to about 360 in Spring 2018) in CEC experiential-learning centers (LMLI, Agile Launchpad, Mobile Learning, Augmented Reality, High Flight, others?)
Engage the recently hired assistant provost for e-Learning and her staff in the development of a relevant CEC plan.

- Identify courses that are taken by Miami students at other institutions, and explore the possibility of offering highly demanded courses in online format by Miami faculty.
- Develop a curricular plan for progressing high priority courses from a traditional to a hybrid and/or to an online format.
- Encourage faculty participation in relevant e-learning workshops offered by CELTUA or the E-Learning Office.
Other metrics high on CEC 2014/15 agenda

18. Diversity and campus climate

20. Study abroad and away

28. External funding

29. External partnerships
Key strategies for the next three years

1. Hire additional 10 tenure-track faculty to decrease the student – faculty ratio that over the last six years increased from 18:1 to 35:1
   - Four in AY 2014/15 (and two replacements)
   - Three in AY 2015/16
   - Three in AY 2016/17

   Goal: 1425 students and 56 faculty; 25:1 ratio

2. Secure financial resources indispensable for accomplishing our goals (CEC fee, RCM, advancement /external relations, summer/winter)
Other priorities not necessarily directly related to 2020

- Fall 2016 general ABET visit
- Engineering Management program
- New governance document for our college radically changed as a result of transitioning regional campus departments
- 2014 Theme: Celebrating Women Leaders
- 2014/15 Global Theme: Destination India
CEC priorities in 2014-15 will be further discussed in divisional and departmental meetings.

Have a fruitful and rewarding academic year!