

Academy of Electrical and Computer Engineering (AECE)
Minutes of Annual Business Meeting
Thursday, April 22, 2010

Attendees:

Max Anderson	Richard Arnold	Eric Aschinger	Lloyd Brunkhorst
Richard Eimer	Michael J. Emanuel	Kelvin Erickson	Jim Fricke
Greg Harris	William Hord	Leonard Laskowski	Dennis Leitertman
James V. Leonard	Russell (Joe) Monie	Paul Nauert	Michael Perry
David Raterman	Neal Schaeffer	George Schindler	Donald Shaw
John Skain	Daniel Smith	Keith Stanek	Paul Stigall
George Tomazi	Roger Volk	Don Willyard	

The annual Meeting of the Academy of Electrical and Computer Engineering was held Thursday, April 22 and called to order at 8:00 a.m. The meeting was held in the Faculty Lounge located in Emerson Electric Company Hall. President Richard Eimer chaired the meeting.

President, Richard Eimer, and Department Chair, Dr. Kelvin Erickson, welcomed the Academy members.

Dr. Kurt Kosbar reported that the Academy awarded a total of eight scholarships this year for \$1,500 each. Trenton Lauer, Melanie Rupprecht, Michael Sherman, and Kam Kit Yiu received the endowed scholarship. Kenneth Scott Campbell, Corbin Michael LeGrand, Matthew Ryan Overmire, and Krystal Marie Thomason received scholarships from the original Academy fund.

Dr. Kosbar reported that currently the ECE scholarship committee selects the scholarship recipients. If the students selected receive other forms of scholarship aid, the Academy scholarships are added on top of their other aid. In other words, their other scholarships are not reduced when a student receives an Academy scholarship. The ECE scholarship committee traditionally does not award Academy scholarships to students who have demonstrated that they already have sufficient aid to cover all of their college expenses.

There is currently talk on campus about centralizing the awarding of scholarship funds. If this occurs, individuals from the campus Student Financial Assistance office would identify students who would receive Academy scholarships. The criteria for selecting students would still be set by the Academy, and monitored by the ECE scholarship committee. An additional change, would be that students could see other campus scholarships reduced, or eliminated, when they received an Academy scholarship. The goal is to reduce the fraction on the General Operating funds spent on students scholarships. As state support erodes, and tuition and enrollment caps limit revenue growth, there is increasing pressure being put on the operating budget for the university.

The Academy indicated to Dr. Erickson and Dr. Kosbar that they would like to see the selection process remain with the ECE Scholarship committee. Part of the motivation for this was to

insure department faculty could use subjective information collected during their interaction with students, when making these awards.

There is another change being discussed for the endowed scholarship. The university currently uses all endowment profits to either fund scholarships, or increase the principle, or corpus. Due to a recent change in state law, the campus can now transfer up to 1% of the corpus annually to the university's General Operation budget - essentially as an investment management fee. This policy will apply automatically to all newly created endowed scholarships. However scholarships created many years ago may be exempt, should the donors of those scholarships opt out of participating.

The Academy elected not to take action on this item, until it sees a written explanation of its options.

Trent Lauer received a \$1,500 scholarship. Trent is currently with the Human Powered Vehicle Team on their way to a National ASME HPV Competition at California State University. Trent's presentation was delivered by proxy. Trent is the oldest of four and the first to attend college. Trent grew up in Lecom, MO. Lecom is a small town south of Rolla. He enjoys music, cycling, football, and basketball. Trent was accepted at other notable schools, but chose S&T for its distinguished programs. He has done research with Dr. Drewniak in the Electromagnetic Compatibility Lab and designed small scale antennas as Bowtie, Tea-Cup and Spiral. Trent majored in EE and majored in Aerospace, because he loves airplanes. Trent is involved in the Chancellor's Leadership Academy, S&T Jazz Band, and the human powered vehicle team. He plans to graduate with his B.S. EE in May 2012 and would like to continue onto graduate school.

Michael Sherman received a \$1,500 scholarship. Michael grew up on the family farm in Mansfield, MO. Michael chose S&T, because it is close to home, has small classes, and our reputable engineering programs. Michael has always been interested in electricity and how it works. Michael is currently a work study student for the VCC on campus. His current activities includes Chess Club, VCC Work Study, helping on the family farm and working with his father's auction business. He enjoys learning about fractal antennas and is environmentally conscious. He would like to go to graduate school and obtain a masters degree in electrical engineering.

Corbin LeGrand received a \$1,500 scholarship. He will be the first in his family to graduate from a four-year college. Corbin enjoys ice hockey, Frisbee, volunteer work for his church, and music. He participated in Project Lead the Way courses in high school which influenced his choice of schools along with his neighbor's mentoring. Corbin chose computer engineering, because he had a general interest in how computers work. He plans to obtain his B.S. EE in computer engineering with a minor in engineering management. Corbin would like to obtain his master's in computer engineering and then find a career with a large corporation.

Kenneth Campbell received a \$1,500 scholarship. He was valedictorian of his high school class in Appleton City, MO. Kenneth started his college education at Missouri State University in Industrial Management Drafting. His first job was with MEP Consulting Engineering and he

found he loved engineering work. He changed his major to engineering and enrolled in the MSU / S&T Cooperative Engineering Program at Springfield, MO. Kenneth attends the Rolla campus now and is doing undergraduate research with Dr. Reza Zoughi who is his mentor. After he graduates from S&T, he hopes to obtain a job, earn his P.E. licensure, and perhaps attend graduate school in engineering management or obtain an M.B.A.

Dr. Erickson gave a report on the update of the department. Research dollars are going up. FY09 expenditures were \$6.4M. Fall Semester 2009 the department had 132 undergraduate computer engineering students, 226 undergraduate electrical engineering students. Computer engineering had 36 graduate computer engineering students and 130 graduate electrical engineering students. Department has 31 faculty, 3 assistant teaching professors, and 15 staff. The electrical engineering enrollment has been dropping, since students are having more interest in mechanical engineering.

Our students have won the HKN Outstanding Chapter Award. Tori (Ratliff) Simms won the HKN Outstanding ECE Student Award – Honorable Mention. S&T teams finished First and Third place in the IEEE Blackbox Competition. Kathryn Rodhouse won the Missouri S&T Woman Student of the Year – Silver Medal.

The department has received awards for faculty research (Dr. Kumar Venayagamoorthy and Dr. Rosa Zheng), faculty teaching award (Dr. Kurt Kosbar), outstanding teaching awards (Dr. Joe Stanley, Dr. Reza Zoughi, and Dr. Kelvin Erickson). Dr. Kurt Kosbar received the teaching commendation award. Dr. Mariesa Crow and Dr. Chengshan Xiao received IEEE fellows.

The department has 3 new faculty: Dr. John Seiffert (computer engineering), Dr. Theresa Swift (electrical engineering) and Dr. Rohit Dua (computer engineering/electronics with the Cooperative Program with MSU in Springfield, MO).

The department is waiting for Faculty Senate approval to delete the FE exam requirement as part of the degree requirements for both computer and electrical engineering effective fall 2010. Jim Leonard asked for the Academy to conduct a “straw vote” on how many Academy members felt that the department should continue to give the exam to the students. 2/3 of the members felt the exam should be given to students.

Future curriculum changes will be renumbering the course using a 4-digit system. Example: 1xxx – 4xxx are undergraduate courses and 5xxx – 6xxx are graduate courses. Four departments (including ECE) are conducting a pilot program.

The department strategic plan includes:

- working toward being ranked as top 25 in the nation
- establishing endowed teaching chair in circuits and computer engineering
- establishing a laboratory equipment endowment and senior design project endowment
- department to support 3 teams not in Student Design Center
- increase undergraduate and graduate enrollment
- offer more on-line courses
- increase female and minority faculty to 6

- increase scholarship/fellowship endowment
- expand research
- funding for new building addition
- continue expanding the cooperative engineering program with MSU
- establish an automation engineering minor
- update lab equipment in communications system lab and computer engineering SW lab (Linux)
- Update classroom technology
- Replace classroom seats

Academy feedback as follows:

- If students are required to pass the FE exam, the exam should be tied to a course.
- Academy by-laws should be updated.
- Fund raising thoughts to help the department
 - Other campus academy members volunteer for various department activities. Should we develop volunteer opportunities for AECE members?
 - Adopt a registration fee for the annual business meeting and banquet? (One suggestion was made to recommend dues of \$200 for those who attend the annual meeting and \$500 for those who don't.)
 - Advise members of the need to raise monies? Establish new endowments (e.g., a lab equipment fund)?
 - Member could sponsor a middle school child and send to a science camp at S&T.
 - Visit high school guidance counselors in members' areas to promote S&T and reinforce the importance of electrical and computer engineering. Develop acceptable promotional material with the S&T faculty for the visit. Work with Miner Alumni Sections to facilitate such.
 - Teach guidance counselors about the IEEE website (Tryengineering.org) for young people to find out about the engineering field.

Richard Eimer called the afternoon business meeting to order by welcoming the new inductees that were able to attend the business meeting: Eric Aschinger, Michael Emanuel, Paul Nauert, and John Skain.

Melanie Rupprecht received a \$1,500 scholarship. Melanie's home town is St. Louis, MO. Melanie chose S&T because the university is known for its engineering program, the small class sizes and the campus isn't too far from home. She is currently involved in "Women as Global Leaders" and "Girl Meets Missouri S&T". She hopes to be involved in undergraduate research possibly with the human powered vehicle program. Melanie is working on a math minor this summer. Her emphasis areas are circuits and electronics.

Dr. Jonathan Kimball gave the Academy members a presentation. Dr. Kimball is the department's newest faculty member for electrical engineering. He received his BS from Carnegie Mellon in '94, his MS from the University of Illinois at Urbana-Champaign in '96 and his Ph.D from the University of Illinois at Urbana-Champaign in 2007. Dr. Kimball co-founded SmartSpark Energy Systems in 2003/04. His research interests are with power electronics

application such as solid-state transformers, photovoltaic energy systems, both on-grid and remote and wind/water energy harvesting. Dr. Kimball is also interested in digital control, switched-capacitor converters, very high frequency (VHF) converters, and multi-phase converters. He is working on the FREEDM project locally headed by Dr. Mariesa Crow with his focus on solid-state transformers. Another project he is working on is Parallel PV Arrays which is divided into three projects with NSF: science-focused, Leonard Wood Institute: application-focused, military and California Energy Commission: application-focused, residential. His instructional focus is EE 205 Electromechanics, EE 354 Power Electronics, and graduate level Power Converter Design.

Greg Harris, Development Officer, provided an update on the campus and the Advancing Excellence Campaign. The Missouri S&T name adopted in January 2008 appears to have hurt national rankings on the short term, but helped increase interest by out-of-state and international students. Funding has shifted significantly in the last decade as state support has been reduced. State funding is expected to be cut 5.2% for FY11 in exchange for universities agreeing to once again not raise in-state tuition. State appropriations are now 27% of the total S&T budget, with 36% coming from tuition and fees and 20% from grants and contracts. Enrollment continues to grow and is expected to top 7,000 in fall 2010. The campus is at its capacity as enrollment has doubled in the last decade and the numbers of faculty are essentially flat. One-third of the fall 2009 freshmen class were first generation college students. One third were from families with a household income of \$40,000 or less. The average starting salary of S&T graduates is now \$57,000.

The Technology Development Center in the Innovation Park began construction in March 2010 with its completion date to be September 2010. Funding is from bonds that are being repaid from tenant revenue. The Miner Rec (old Holsum Bread Building) will undergo a major renovation to become the Kummer Student Design Center. It was funded from gifts and will be completed in December 2010. An indoor practice facility for intercollegiate athletics will be completed by fall, funded by alumni. The new Fitness Center has been completed, funded by Anheuser-Busch and alumni. The Hasselmann Alumni House will be completed in fall 2012 at the site of the former Uptown theatre. It will be funded by gifts.

The seven year Advancing Excellence Campaign officially ends June 30, but has already exceeded its \$200 million goal. Endowment donors were mailed a registered letter informing them of a change that will take effect July 1 unless they opt out. Missouri House Bill 239 allows its public universities to draw 1% annually from their endowments to support the university's general operating budget. The law was passed to provide a new revenue stream to partially mitigate cuts to state appropriation to public higher education. Discussion followed. See attachment below.

George Tomazi moved to approve the minutes for April 2009. Jim Leonard seconded the motion. Motion carried.

Roger Volk explained and discussed the endowed scholarship budget for March 1, 2009 through February 28, 2010. Since the budget for the endowed scholarship is just informational no vote was needed.

Roger Volk explained and discussed the original Academy budget for March 1, 2009 through February 28, 2010 along with the 2010 – 2011 Proposed Budget that included a recent change to include the purchase of 30 new student chairs for a department class room at \$64.00 apiece.

Don Willyard made a friendly motion to amend the 2010-2011 proposed budget to purchase an additional 30 chairs. No seconded was needed. The members approved by a show of hands.

Roger Volk made a motion to approve the amended March 1, 2010 through February 28, 2011 Proposed Academy Budget which included the purchase the 60 new chairs. The motion was carried.

George Schindler gave a report for the Membership Committee. There were seven nominations for membership in 2010. Three of the seven nominations were from members. Five accepted the invitation to join. George reported that currently recommendations come from the AECE members and the Development Office. This information is not usually complete, so the membership committee would like to be able to solicit interest and information from the prospective nominees without a commitment to an invitation.

The committee would like to change the by-laws to let possible new members know they are being considered. Discussion followed.

Don Shaw made a motion to let the Membership Committee work with the Development Office and then call potential nominees to ask them if they are interested. Bill Hord seconded the motion. Motion carried.

Jim Fricke made a motion to elect Jim Leonard and David Raterman to a 3-year term on the Board of Directors with their terms to expire in 2013. The motion carried.

Richard Eimer reported that the Chancellor's Academy Presidents Forum is scheduled for tomorrow, April 23, 2010. Some highlights from the 2009 meeting were: Homecoming 2009, the proposed Missouri concealed weapons law, and accreditation update on North Central. North Central had concerns about the labs being dated.

Richard Eimer poled the other academies on campus to find out how they conducted their business. Richard then called a board meeting to report on the findings. The board discussed:

- The possibility of more board meetings.
- Appointing a By-laws Committee to discuss updating the current by-laws.
- Appointment of George Tomazi as chair of an ad hoc committee to review the AECE and Department website for possible recommendations for improvements.

Richard Eimer appointed Dennis Leitnerman to chair and convene an ad hoc committee for evaluation of the AECE Bylaws and to make recommendations to the full Academy on any changes.

Richard Eimer announced that next year's Academy business meeting and banquet will be held on Thursday, April 14, 2011. OGS weekend is April 15 through 17, 2011.

Roger Volk moved that the meeting be adjourned at 3:45 p.m. George Schindler seconded the motion. Motion carried.

The next AECE Meeting and Banquet of the Academy of Electrical and Computer Engineering will be Thursday, April 14, 2011. Mark your calendars and plan to attend.

Minutes submitted by Roger Volk

June 22, 2010

House Bill 239 1% Endowment Assessment Fee Implementation

In July 2009, the UM Board of Curators approved a new endowment spending policy that will allow for an additional 1 percent distribution, over and above the ~5 percent annual distribution, to be used to replace a portion of existing general revenue support as allowed by House Bill 239¹.

Implementation of this statute at Missouri S&T includes the following:

- Registered letters were sent last week giving the option to "opt-out" of this assessment fee to the following groups:
 - All living donors with current Missouri S&T endowments created prior to July 1, 2010
 - All endowments initiated by a campus academy
- Living donors that have created endowments since July 1, 2007, which already contain the current Missouri S&T 1% endowment fee language, will be contacted by Development personnel to explain the change in fee calculation². These endowments will be amended to reflect HB 239. **NO** endowment will have both 1% assessments applied.
- New endowment agreements will include this language effective July 1, 2010.
- Department chairs/program directors will have the option to "opt-out" for all endowments benefiting their department/program which have numerous donors contributing the fund.
- Departments/programs which benefit from endowments that originated from one major donor, who is now deceased, will **NOT** be given the "opt-out" option.

The 5% gift assessment fee on all cash gifts received by the University or the Alumni Association is not affected by HB 239.

The 1% endowment assessment will be combined with student fees and state appropriations to fund our campus operation and partially mitigate the effects of potential budget cuts associated with declining state support.

¹ In July 2009, Missouri Governor Jay Nixon signed House Bill 239 which seeks to identify additional fund to replace a portion of the existing general revenue support for higher education. House Bill 239 allows the UM Curators to use up to two percent of the endowment's total market value to support internal endowment administration and development functions.

² If we assume a 5% annual distribution:

Current 1% assessment fee -	\$100,000 endowment	
		value plus earnings
	5% annual distribution	\$5,000
Minus	1% endowment value	<u>\$1,000</u>
		\$4,000

Total available to dept./program \$4,000

New endowment value - \$95,000

NOTE: This assessment has never been applied.

House Bill 239 -	\$100,000 endowment	
		value plus earnings
	5% annual distribution	\$5,000
	1% Endowment Fee(HB239)	<u>\$1,000</u>
		\$6,000

Total available to dept./program \$5,000

New endowment value - \$94,000