

Academy of Electrical and Computer Engineering (AECE)
Minutes of Annual Business Meeting
Thursday, October 6, 2021

Members Attending:

Eric Aschinger
Michael Emanuel
Alan Erickson
Kelvin Erickson
James Fricke
Ron Kochanowicz
Vincent Kunderman
Len Laskowski
Mark Nealon

Jim Paunicka
Christopher Philipp
George Schindler
Donald Shaw
John Skain
George Tomazi
Roger Volk
Steve Watkins
Ron Willoughby

The annual meeting of the Academy of Electrical and Computer Engineering was held Thursday, October 7, 2021 and called to order at 8:00 a.m. The meeting was held in the Comfort Suites Conference Center, Rolla, Missouri.

Dr. Steve Watkins, Interim Department Chair, welcomed the Academy members. Participant introductions were made.

Dr. Kurt Kosbar reported on behalf of the Scholarship Committee. He reported that a total of \$69,000 was awarded from Miner Match Funds to 24 students in the amount of \$1,500 per semester. The operating account was not used towards scholarships. These scholarships are awarded to students who are verified to be from low-income families, demonstrated financial need, are making normal progress toward their degree, are academically strong, and are an EE or CpE major. The recipients were: Graeme More, Johnny Leech, Jonni Hill, Evan Hite, Steven Thompson, Nhan Nguyen, Jared Sinkey, Stella White, Miranda Sauer, Anthony Ferrante, Jason Slusser, Caleb Raye, Emily Murray, Emily Beckmann, Sara McDaniel, Edward Barsumyan, Joseph Simon, Donald Filbeck, Charles Nguyen, Mark Mitchell, Connor Hunt, Gabe Schoenberger, Zachary Osterwisch, and Jacob Morris.

Dr. Kosbar reported no travel awards were awarded due to no student travel during the pandemic. All Academy funding has been going into scholarships to leverage matching funds.

Emily Beckman, scholarship recipient, then made a short presentation to the group. She was born and raised in High Ridge, MO, where she graduated from Northwest High School in 2019. Emily wanted to become an electrical engineer as she enjoyed analyzing and creating circuits in high school. Emily is involved in Missouri S&T Marching Band, Tau Beta Sigma, and IEEE. She hopes to obtain a job in the power field.

Connor Hunt, scholarship recipient, also presented to the membership. Connor grew up in O'Fallon, Missouri, where he graduated from Fort Zumwalt North High School. Connor is studying Electrical Engineering anticipating an emphasis in Power & Energy, and a minor in

Mathematics. At Missouri S&T, Connor is involved with IEEE, Eta Kappa Nu, Phi Kappa Theta, and an Opening Week Mentor. Connor interned with AECI on their Transmission Planning Team in Summer 2021 and has recently accepted a co-op offer with Ameren beginning in summer of 2022. He would love to work in the field of renewable energy.

Elanor Jackson, President of HKN, Gamma Theta Chapter, and Alexander McKean, President of IEEE, provided a joint presentation on IEEE/HKN. The Institute of Electrical and Electronics Engineers (IEEE) goals are to empower students to be the best engineers, innovators, and leaders while creating programs that help students develop themselves professionally and technically. HKN is an internationally recognized Electrical and Computer Engineering Honor Society affiliated with IEEE. Gamma Theta is a frequent winner of the Outstanding Chapter Award. They coordinate and participate in local service events and professional opportunities.

Next, the Senior Design Team comprised of Elliott Gathman, Benjamin Koch, Ryan Maxwell, Caleb Bruns, and David Newman presented on their Electric Vehicle Battery Charger project. Their goal is to create an EV battery that can charge faster, minimize heat loss, repair/diagnose individual battery cells rather than the whole battery at a reduced cost.

Dr. Colin Potts, Provost and Executive Vice Chancellor for Academic Affairs, provided a university update of the \$300 million Kummer gift. Part of this gift is funding current construction of the new main entrance into campus. Dr. Potts stated that the goals of the university are to:

1. Increase Enrollment on All Levels
2. Increase Retention of Students (Goal of 85% 1st Year Retention)
3. R1 University Rating- doctoral university with highest research activity
4. Increase Our Rankings - Goal to be in Top 100, Currently Ranked 179

Focus of University to be: Business, Economics, Entrepreneurship

Jason Northern, Executive Director of Operations and Major Gifts, provided a University Development update. Jason told about the Innovation Lab, a multipurpose space to maximize students' academic experience, which will be connected to the Havener Center. It will have spaces of various sizes, and house S&T student resources such as the Writing Center and the Student Success Center.

Caleb Raye, scholarship recipient, then made a short presentation. Caleb was raised in Festus, MO, where he graduated from Festus High School in 2018. He decided to pursue electrical engineering based on a high school electronics class. Caleb is involved in Sigma Phi Epsilon and Tau Beta Pi.

Following lunch, Dr. Steve Watkins provided an update of the department. He reported how ECE operations have adjusted due to the pandemic. One example being the requirement of masks and/or face shields for all persons in a classroom or laboratory setting. He reported that overall enrollment for the department was at 331 students (248 undergraduates and 83 graduates). The final report of the 2021 ABET Accreditation for Electrical and Computer Engineering Programs reported no deficiencies or weaknesses. Currently, ECE is conducting a faculty search for a potential Kummer Professorship.

Dr. Watkins reported on student awards from the last year. They include:

- Dean's Graduate Educator- Viraj Kishorkumar Gajjar (Kosbar), Akanksha Maurya (Stanley), & Bohong Zhang (Huang)
- Dean's Graduate Scholar- Sepehr Saadatmand (Shamsi/Ferdowsi)

Faculty awards and honors included:

- Jie Huang – Promoted to Associate Professor & awarded Roy A. Wilkens Endowed Professorship
- Jagannathan Sarangapani – 2021 UM System President's Award for Excellence
- Victor Khilkevich – IEEE EMC Technical Achievement Award
- Rui Bo & Jonathan Kimball, et al. – IEEE PES Best ECE Faculty Best Paper Awards
- Bill Kim, et al. – DesignCon ECE Faculty Best Paper Awards

Dr. Watkins reported that two ECE Emeritus Faculty passed away. Max Anderson passed on 04/25/2021 and Jack Morris passed on 08/11/2021.

The business meeting was called to order by Leonard Laskowski, Academy President, at 1:10 pm. He started by welcoming the new inductees that were present.

James Paunicka reviewed the Treasurer's reports. No formal actions were taken since the financials were approved at the April meeting.

Ken Owens gave a report for the Membership Committee. He stated that we expect seven new inductees to attend the April 2022 meeting and that there are seven others we've not yet received confirmation from. He reminded everyone to send in their nominations for next year.

John Skain presented the Nominations Committee report. No formal actions were taken since elections were conducted in April.

Ken Owens presented a white paper discussion to be reviewed by members and discussed at next meeting. He asked that members come prepared with opinions and suggestions.

The Multirotor Design Team then presented to the group. The team's members include: Trey Breshears, Michael Pieper, and Peter Korenak.

Members then heard a presentation from Dr. Mina Esmaelpour, Assistant Professor. Dr. Esmaelpour received her Ph.D. from Lehigh University in 2016. She then went to work as a research consultant for Intelligent Fiber Optic Systems Co., and later as a Postdoctoral Research Fellow for Stanford School of Medicine before coming to S&T. Her research and teaching interests include: nonlinear fiber optics, fiber optics, sensors and biosensors, biomedical imaging, and experiment design.

Leonard Laskowski reported that the next meeting of the AECE would take place on Thursday, April 7th, 2022 at the Comfort Suites Conference Center.

Alan Erickson made a motion to adjourn the meeting at 3:57 p.m. Roger Volk seconded the motion. Motion carried.

Minutes submitted by James Paunicka.

November 11, 2021

The next AECE Meeting and Banquet of the Academy of Electrical and Computer Engineering will be Thursday, April 7, 2022. Mark your calendars and plan to attend.