



Accomplishments as Dave House Professor in Computer Engineering

My accomplishments as the Dave House Professor of Computer Engineering over the past five years can be placed in two categories: 1) Chair of the ECE Department, and 2) interdisciplinary efforts.

As ECE Department chair, I have worked to increase our departmental research productivity, improve the quality of our PhD program, develop a new online MSEE program, and maintain the quality and reputation of our undergraduate BSEE and BSCpE programs. From 2009 to 2018, research publications by ECE faculty have grown from an average of 1 publication to 2.5 publications per faculty member per year. Our research expenditures took a serious dip down to \$1.3M in FY13, but since then they have steadily climbed back up and we are on track to hit \$2.4M-\$2.5M in FY19. This academic year we will graduate some 12-15 PhD students, a department record, and are well on our way to meet our 3-year goal of 30 PhD graduates one year from now. One of the changes in the departmental culture of which I am most proud is the publication record of our PhD graduates: after many years of struggle with this issue, we are now meeting our goal of an average of 3 publications per PhD dissertation (for the 2017 cohort it was 4 publications per dissertation.) We have launched our new online MSEE degree program with a focus on communications and signal processing, in partnership with Keypath Education, Inc. and while that program still needs work and attention, I count the ECE Department as a pioneer in trying to get such a program off the ground. Our undergraduate enrollment has increased slightly over the past 10 years (from about 600 to 650 students) while the proportion of women students hit an all-time high of 11.9% in Fall 2018. We had a successful ABET visit in October 2017, and we work continuously to improve the undergraduate program and our instruction in the classroom and the laboratory. Our graduates are highly sought-after in industry and have an excellent reputation for working hard and getting things done.

I have spent much of the past five years working to improve interdepartmental cooperation in the area of computing, information, and automation. I spearheaded the effort to create the Alliance for Computing, Information, and Automation (ACIA) in the Spring of 2014, which brought together the ECE Department, the CS Department, and the School of Technology, with the twin goals of cooperation in curriculum and collaboration in research. When Min Song came to Michigan Tech to be CS Department Chair in Fall 2015, I urged him to become the leader of the research arm of the ACIA, which took on the name of Institute for Computing and Cybersystems (ICC). Dr. Song was the founding Director, and I served as Co-Director (a position I still hold, now under Dr. Tim Havens as Director.) The ICC has been very successful, growing to \$1.9M in annual research expenditures and including faculty from some 15 academic units across campus. In the 2017-2018 academic year, I led the Working Group on Computing and Information Sciences, which issued a report recommending the creation of a college of computing at Michigan Tech. President Koubek accepted that recommendation in December 2018 and announced that Michigan Tech would be standing up the new academic unit on July 1, 2019. In the Spring 2019 semester, as part of the Tech Forward initiatives, I led the Data Revolution and Sensing Task Force which has issued a recommendation to Provost Huntoon and President Koubek regarding the structure and function of this new college.

In March 2019, I made the decision to step down from my position as chair of the ECE Department and join the new College of Computing in whatever capacity was needed to help it be successful. I am excited to see where this journey takes us, both for me personally and for Michigan Tech.