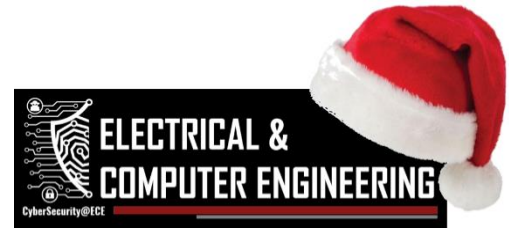


## Holiday Greetings from Electrical and Computer Engineering Department at Illinois Tech

Much has happened in ECE since we last met in April for ECE Day 2019. Such a memorable event and a tremendous opportunity for students to do research and showcase their results. Again, thank you for participating, your time is invaluable to our students and our department.



We would like to announce that **Dr. David Hentrich** (Tech Fellow from Northrop Grumman Corporation), ECE Alum and honored guest speaker at the 2019 ECE Day, is the newest member of the ECE External Advisory Board. We are pleased he has accepted to join our distinguished board.

**Rohit Prasad**, ECE Alum, an External Advisory Board Member, Vice President and Head Scientist at Amazon Alexa, won the 2019 Illinois Tech Alumni Awards for outstanding local and global contributions, and for his professional achievements.



Dr. David Hentrich (2019 ECE Day Seminar)



Rohit Prasad (M.S. EE '99)

The success of our faculty continues to strengthen our department. Tremendous accolades have been bestowed on our faculty this year, and we would like to share them with you:

**Dr. Geoffrey Williamson** won the 2019 Board of Trustees Outstanding Undergraduate Teaching Award. **Dr. Lin Cai** won the 2019 Sigma XI/IIT Award for Junior Excellence in University Research. **Dr. Mahesh Krishnamurthy** received the 2019 Spring Thomas Jacobius Award for Excellence in IPRO Instruction. **Dr. Ian Brown** has been selected to participate in the Electric Drive Technologies (EDT) Consortium funded by the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy. **Dr. Mohammad Shahidehpour** won the 2019 IEEE Power & Energy Society Ramakumar Family Renewable Energy Excellence Award. **Dr. Jovan Brankov**, along with collaborating Professor Tichauer, from Biomedical Engineering, won the Final Nayar Prize. **Dr. Miles Wernick** and **Dr. Yongyi Yang** together with their research team member Professor Lori Andrews (from the Law School) won the Nayar Prize II finalist award.



Left to Right: **Dr. Geoffrey Williamson** (2019 Board of Trustees Outstanding Undergraduate Teaching Award Winner); **Dr. Lin Cai** (2019 Sigma XI/IIT Award Winner); **Dr. Mahesh Krishnamurthy** (Winner of 2019 Spring Thomas Jacobius Award for Excellence in IPRO Instruction); **Dr. Ian Brown** (Selected to participate in Electric Drive Technologies Consortium). Second Row Left to Right: **Dr. Mohammad Shahidehpour** (Winner of the 2019 IEEE Power & Energy Society Ramakumar Family Renewable Energy Excellence Award; **Dr. Jovan Brankov** (Winner of Final Nayar Prize); and **Dr. Yongyi Yang** and **Dr. Miles Wernick** (Nayar Prize Finalist II).

**Dr. Qing-Chang Zhong** successfully hosted the NSF Workshop on Power Electronics-Enabled Operation of Power Systems at Illinois Tech Mies Campus with more than 130 registrants participating from around the country.

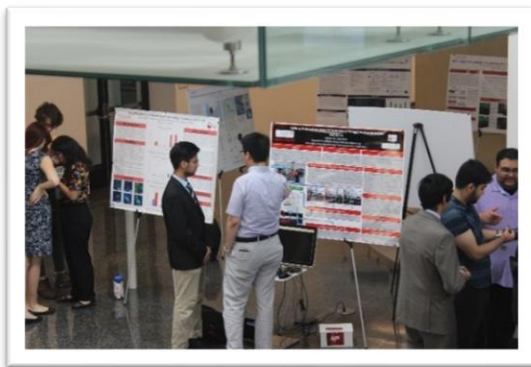


2019 NSF Workshop on Power Electronics-Enabled Operation of Power Systems

Our summer research immersion was very successful. Incoming students, domestic students from other Universities and two international cohorts of students participated in research projects in our labs. Here are the projects from ECE that won 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place at the **Summer Immersion Poster Competition**, “Real-time Video Transmission and Processing using Xilinx ZYNQ SoC”, “IoT Rehabilitation Assistance System based on Inertial 3D Motion Capture System”, “Real-time Target Tracking Car based on OpenCV and ROS”.



2019 Summer Immersion Research Group Meeting

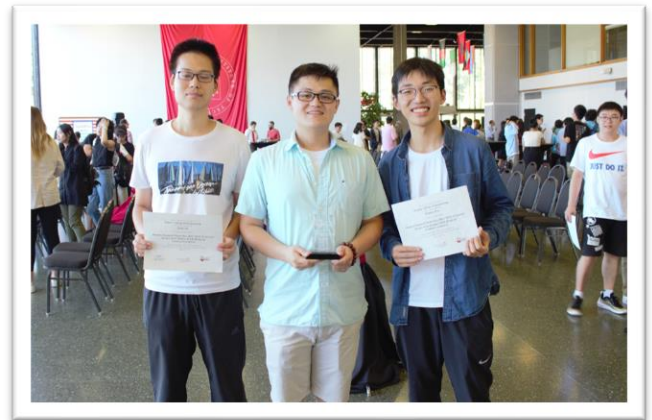
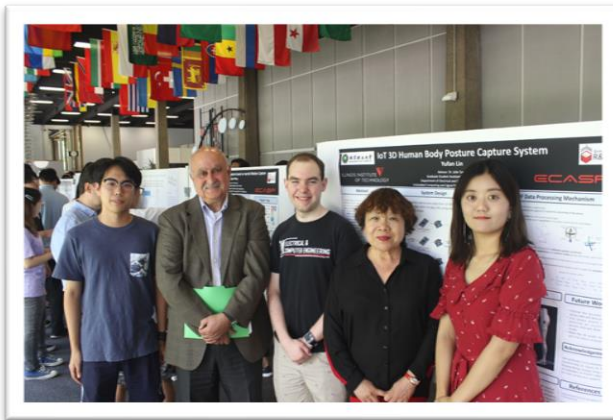
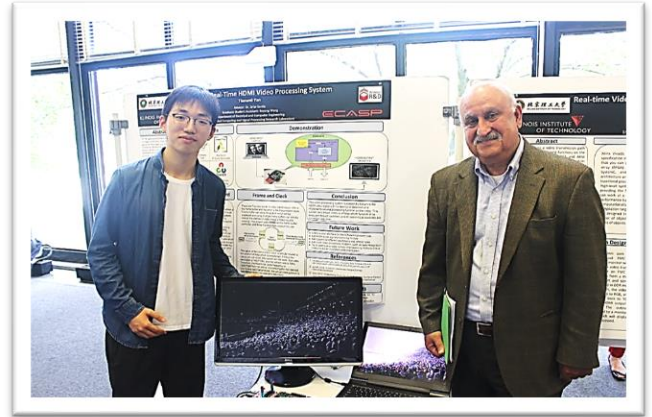
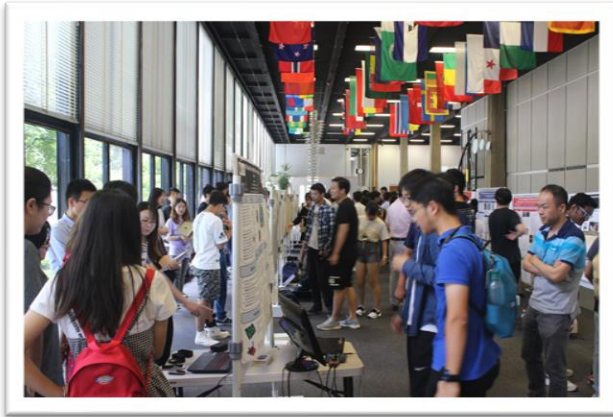


2019 Summer Immersion Research Expo



2019 Summer Immersion Undergraduate Research Students





### 2019 Summer Elevate Undergraduate Poster Competition

The first ever ECE Visiting Scholar Luncheon was held with Dr. Sanjie and 22 ECE visiting scholars. What an insightful event, they talked about their research and opportunities for collaboration. We had a few Scholars present their research at our ECE Research Seminars, and we plan to make this an annual event.



ECE Visiting Scholar Luncheon Meeting (Sept. 2019)

The Department has been putting great effort into recruiting this term. In October, Dr. Saniie visited **seven of our IIT European partnership schools** to promote our three new Master's programs and recruit students. Our partnered schools are some of the best in Europe with high caliber students.



IIT Europe Partner School Visits (Oct. 2019)



2019 Summer Interns (Guillaume Dos Santos, Hussnain Aziz, Brevael Mesureur)

During this promotion, at ENSEA (Paris, France), Dr. Saniie met with 2019 Summer Interns (May-Aug) at Illinois Tech who completed their research projects on [Autonomous Indoor Mapping Robot using ROS](#) and [Home Automation Security System using Facial Recognition](#) (Click to watch their video)



Illinois Tech has signed two new partnership agreements with two local community colleges to provide pathways and advance admission particularly for their engineering students. One is with the **College of DuPage** where **Dr. Oruklu** presented and recruited along with the head of our Cyberhawks Security Student Organization, David Arnold, at their *Evening of Engineering*. The other is with **Wilbur Wright College** a Chicago Community College that has an engineering track.



Evening of Engineering at College of DuPage (Oct. 2019)

We are happy to report that our new undergraduate and graduate programs in **Computer and Cybersecurity Engineering** have raised the ECE enrollment significantly and the student organization created for that program, The **CyberHawks Security Student Organization** established in Fall 2018, and currently this organization has **over 112 student members**. They have participated in competitions, attended a conference and have performed penetration testing for companies. Interests in the program and the organization affirm our commitment to providing curriculum that meets industry needs for students with education and experience in emerging technologies.



CyberForce Competition at Argonne National Laboratory (Nov. 2019)

The three new programs developed in the Spring 2019: **Master of Engineering in Artificial Intelligence, Computer Vision, and Control**; **Master of Computer Engineering in Internet of Things**; and **Master of Engineering in Wireless Communications and Computer Networks** are set for admission for the Fall 2020. In upcoming Spring 2020, our graduate recruiters will get the word out on the road and our marketing team will update our website, so we are hopeful for a sizable fall intake in these programs.

ECE Department has been working with faculty to update courses and create new ones. Three of our most recent are **ECE 566 “Machine and Deep Learning”**, which is an updated course for the Master of Engineering in Artificial Intelligence, Computer Vision and Control, **ECE 586 “Hardware Security and Advanced Computer Architecture”**, which is a newly introduced course for the graduate students focusing on designing computers and embedded computing devices from security and threat-mitigation perspectives, and **ECE 503 “5G Wireless Network: Architecture, New Radio, and Security”** which was created for the Master of Engineering in Wireless Communications and Computer Networks.

Holiday cheer was held by the ECE faculty, staff and students at the Department Holiday Luncheon on Thursday, December 5<sup>th</sup>, 2019. Such a wonderful way to end the year.



We, the Faculty and Staff of ECE, are making strides to raise awareness of our great programs, research and student activities. As we look back at the year, we are happy with the progress we've made and are determined and excited to continue this advancement into the new year.

Save the date for our annual **External Advisory Board Meeting and ECE Day** to be held on **Friday, April 10, 2020**.

**Health and Happiness to you and yours this holiday season, and throughout the New Year!**

*Jafar Saniie, ECE Department Chair and Filmer Endowed Professor*