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Electrical and Computer Engineering Newsletter

Department of Electrical and Computer Engineering

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Chair’s Corner  Dr. Guru Subramanyam

Congratulations to the Class of 2017 graduates! We had an outstanding and a record graduating class of 55 undergraduates for May 2017 graduation! Our graduates continue to be placed in excellent jobs or in graduate schools. Our placement continues to exceed over 95 percent during the past eight years.

Our department faculty had an outstanding year of research productivity in 2016–17. Professors Vamsy Chodavarapu and I have formed a new company (Prixarc, LLC) as the result of an Air Force Small Business Innovative Research (SBIR) funding. The company will be incubated in our campus until the new technology hub is opened in 2018. The new company provides advanced technology solutions for sensors and electronics. Professor Keigo Hirakawa has established research collaborations with Samsung and Ford through the Intelligent Signals and Systems Lab. Professor Tarek Taha continues to break new ground in neuromorphic computing. Professor Vijayan Asari continues to develop technologies for autonomous systems. Professor Raúl Ordóñez has established a new partnership with Yashkawa Motoman Robotics Company for replacing the existing robots with new.

Our faculty approved a new concentration in Aerospace Electronic Systems at the graduate level along with a new graduate certificate in the same name. Our Center of Excellence for Thin-film Research and Surface Engineering (CETRASE) will be hosting the Second International Workshop on Thin Films for Electronics, Electro-optics, Energy and Sensors (TFE3S) in collaboration with the Society for Photo-Instrumentation Engineers (SPIE) June 25-27, at the University of Dayton River Campus. We have over 40 invited speakers presenting at the workshop from around the world. We are looking forward to welcoming our new class of 2021 cohort in the Fall 2017. Please enjoy our articles about our department’s recent activities.
The Soin Award for Innovation 2017 was presented to DESiN, LLC, which is a company that was founded by a former UD mechanical engineering student and his father. “The Soin Award for Innovation was designed to identify, honor and financially assist a company in the Dayton region, which demonstrated the historical innovative spirit of the community,” according to the Dayton Area Chamber of Commerce. DESiN created a dining companion that has revolutionized the eating process for those who cannot feed themselves. A small team of UD engineering students designed Obi. ECE Ph.D. graduate, Hariharan Ananthanarayanan was a part of the team and is now VP of Technology for Obi. Hari says, “I firmly believe that education and experience find value when fulfilling a need of the greater good. It is a most humbling and grateful experience to be part of Obi and creating independence and happiness to those using Obi. I look forward to our younger generations continuing the advancement of technology and the human condition in a purposeful manner as we are doing here at DESiN.” Congratulations to Hari and the entire DESiN team on their achievements with Obi! Please visit https://vimeo.com/213522083/f2f25732b6 for a video on DESiN and their Soin Award for Innovation 2017 achievement.

The IEEE Dayton Section is pleased to announce the 2017 award of the Krishna M. Pasala, Ph.D. Memorial Scholarship to Ashish Gogia. The scholarship is awarded annually to a graduate student attending the University of Dayton within the Department of Electrical and Computer Engineering (ECE). The award is based on academic excellence in electrical engineering and includes a prize of up to $1,000. We congratulate Ashish on his winning the award on behalf of the IEEE Dayton Section and the IEEE Foundation. He was presented his award at the IEEE Dayton Section banquet on April 29, 2017.

Dr. Eric Balster was invited to the 7th IEEE Annual Computing and Communication Workshop and Conference that was held from January 9th to the 13th in Las Vegas, Nevada. IEEE cordially invited Dr. Balster to deliver a keynote speech on his research field and paper that he initially submitted for presentation. Congratulations to Dr. Balster on this great opportunity!
Dr. Russell Hardie in the Data Science Bowl 2017

Dr. Russell Hardie participated in the Data Science Bowl 2017 entitled “Can you improve lung cancer detection?” There were 1,972 teams participating for the $1,000,000 prize. Dr. Hardie finished 62nd on the final competition leaderboard with his lung cancer detection algorithm.


Dr. Russell Hardie’s Science Olympiad Work

Dr. Russell Hardie has been a Science Olympiad coach at Tower Heights Middle School in Centerville for 4 years. This year, he coached student teams in 3 of the 23 Science Olympiad events: Optics, Wind Power and Hovercraft. His students in Optics and Wind Power finished 1st at the 2017 Ohio State Science Olympiad Tournament (https://ohso.osu.edu/). This is the first state championship win in the school’s history. The team earned the honor of representing the state of Ohio at the 2017 Science Olympiad National Tournament in May (https://www.soinc.org/2017-national-tournament). This is a total family affair for the Hardies. Dr. Hardie’s wife, Karen, is one of the head coaches for the Tower Heights team. Both of his daughters, Alison (9th grade) and Emily (8th grade), compete on the team. Justin, who is now in the 5th grade, plans to participate next year.

Computer Engineering Student Awarded 2017 NMIA Scholarship

UD computer engineering student, Jason Demeter, is one of 6 recipients of the 2017 scholarship awards from the National Military Intelligence Association-Ohio Chapter. The NMIA scholarship program provides assistance to students who plan to advance their education and professional skills in areas that would support the Intelligence Community. Jason was presented with the scholarship award on May 24, 2017. Congratulations to Jason on his hard work and accomplishments!
Fox 45 News Interview with Dr. Raúl Ordóñez

On Tuesday, May 2, 2017, Fox 45 News did a segment on “New Competition in the Workforce: Robots taking over Jobs in the Miami Valley.” Nathan Edwards, Fox 45 News staff, talked with Dr. Raúl Ordóñez, UD robotics professor. Raúl commented, “Certainly some jobs will go away; I’m fairly certain of that.” Dr. Ordóñez, then explained that “there has to be infrastructure to allow people to acquire new skills.” To view the whole video and article, please visit http://fox45now.com/news/local/new-competition-in-the-workforce-robots-taking-over-jobs-in-the-miami-valley.

Advanced Radar Class Paper Presented at the 2016 NAECON/OIS Conference

As part of their coursework, the UD Advanced Radar class presented a paper entitled “On the Use of Circular SAR to Improve the Performance of Knowledge-Aided STAP” at the 2016 National Aerospace and Electronics Conference and Ohio Innovation Summit. Dr. Michael Wicks taught the class.

Dr. Feng Ye Invited to the 2017 SIFYS Conference in Shanghai

Dr. Feng Ye was invited to attend the 2nd SJTU Future Information Technology International Forum for Young Scholars (SIFYS) in April of 2017. The forum was held in Shanghai, China, where Dr. Ye presented “SAW-MAN: Exploring Smart Service-Aware Wireless Mixed-Area Networks.”
Publications


M. R. Chatterjee, A. Mohamed and F. Mohamed, “A numerical examination of the diffraction properties of uniform and Gaussian profiled beams through modified Von Karman turbulence,” to be submitted to Optical Engineering.

M. R. Chatterjee, and F. Almehmadi (Invited Paper), “Information encryption, decryption and other applications using acousto-optic chaos,” to be presented at the 13th School on Acousto-Optics and Applications, Moscow, Russia, June 2017.


LIST OF GRADUATES

**Undergraduates**

Andrea E. Aboujaoude
Louai M. Albouri
Ahmed H. Aldarwish
Naif Y. Alhukail
Abdulmajeed A. Alowayn
Yousiff J. Alyaaqoub
Courtney L. Ambrozie**
Zackery L. Arnold**
Matthew S. Backhaus
Alex R. Baker
Mikayla J. Baker
Aaron E. Brandewie***
Ian M. Cannon
Kyle D. Carrera
Adam N. Cassedy*
Ningwei Chu
Michelle C. Coffey*
Patrick M. Coyne
Arlen J. D’Arcy**
Tyler M. Dewine
Michelle A. Di Mascio
Matthew A. Ennis
Sydney R. Flora*
Colton R. Foster
William J. Frank
Alan E. George
Benjamin C. Hasen
Zhisheng Huang**
Thomas W. Kendo**
Roseanna G. Lawandi**
Haojun Lu
Ryan P. McAnnich
Brandon T. McNally*
John H. Mersch
Alyssa K. Morgan
Amy E. Ng
Daryl M. Osterloh
Dane H. Potter
Ryan C. Schubert*
Robert A. Shuff*
Kelsea N. Sullivan
Yujun Sun**
Timothy E. Susteric*
Luc V. Talitinian**
Joshua E. Tamburlin
Paul M. Terenzi
Adam P. Van Camp
Yanpeng Wang*
Jack L. Watkin***
Xichen Yan
Daniel E. Yuhas
Samuel L. Zaharko**
Haotian Zhang**
Joseph L. Zielinski**

**Graduates**

Muhammad Alanazi
Maha Fahad Aldhafairi*
Abdullah S. Almalki
Prasanthi Atluri
Ryan C. Bernhold
Pavani Edumala
Jason R. Gulley
Nicholas C. Hopkins
Jun Jun Huan
Bhavya Katta
Ritu Kumar
Irere R. Kwihangana
Daniel D. Labarowski
Yihan Liu
Yaswanth Nadella
Rachel (Armstrong) Reed
Garrett C. Sargent
Devin A. Smarra
Devin W. Spatz
Bangjie Xu

**Ph.D.**

Ellen Laubie

* cum laude  **magna cum laude  ***summa cum laude