

# Lane Department of Computer Science and Electrical Engineering

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## Degrees Offered

- Master of Science, Computer Science (M.S.C.S.)
- Master of Science, Electrical Engineering (M.S.E.E.)
- Master of Science, Software Engineering (M.S.S.E.)
- Doctor of Philosophy, Computer Engineering (Ph.D.)
- Doctor of Philosophy, Electrical Engineering (Ph.D.)
- Doctor of Philosophy, Computer Science (Ph.D.)

## Areas of Research

The department is enthusiastically and vigorously involved in research, technical publication, and graduate instruction at the forefront of the field. Academic and research activity is organized into five areas:

- Electronics and photonics
- Systems and signals
- Computer systems
- Software and knowledge engineering
- Theory of computation

## FACILITIES AND CENTERS

The Lane Department of CSEE has its main office, instructional lab, and research lab space on the Evansdale campus occupying the Advanced Engineering Research Building along with resources in the Engineering Sciences Building and the Engineering Research Building.

The department is home to university research centers, such as the Center for Identification Technology Research (CITeR), which is designated an Industry/University Cooperative Research Center by the National Science Foundation. The Department and University are designated as a Center of Academic Excellence in Cyber Defense Education and Research by the National Security Agency and Department of Homeland Security.

The department and college host a modern 4,000 square foot clean room facility for device and sensor fabrication, under the management of the university's Shared Research Facilities. The university is also home to an outstanding set of faculty-led laboratory facilities, in areas that include electronic and photonic material, biometrics, communications, digital and analog signal processing, power electronics, robotics, high reliability software, computer security, computer forensics, artificial intelligence, virtual environments, theoretical computer science, and electric vehicles.

All graduate students have access to a broad variety of computing platforms for both classwork and research. The department operates and maintains a variety of dedicated computer systems, clusters, and networks supporting both the instructional and research activities of the department. These systems include numerous Windows workstations and a cluster of Linux Servers. Students have access to a rich set of software packages and tool suites available either on department systems or the Benjamin M. Statler College of Engineering and Mineral Resources systems. All computing systems have internet access enabling worldwide connectivity and access to several additional computing services via the Pittsburgh Supercomputing Center. The university is also a member of Internet2, of which faculty in the department are active participants.

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## FACULTY

### CHAIR

- Anurag Srivastava - Ph.D. (Illinois Institute of Technology)  
Power systems

### PROFESSORS

- Donald Adjero - Ph.D. (Chinese University of Hong Kong)  
Associate Department Chair and Graduate Coordinator for Computer Science. Multimedia information systems (image, video, and audio), Distributed multimedia systems, Data analytics
- Muhammad Choudhry - Ph.D. (Purdue University)  
Associate Department Chair and Graduate Coordinator for Computer Engineering and Electrical Engineering. Power system control, DC transmission, Stability, Power electronics
- Parviz Famouri - Ph.D. (University of Kentucky)

Associate Department Chair. Analysis and control of electrical machines, Motor drives, Power electronics, Electric vehicles

- Ali Feliachi - Ph.D. (Georgia Institute of Technology)  
Power systems, Large-scale systems, Control
- Katerina Goseva-Popstojanova - Ph.D. (Ss. Cyril and Methodius University)  
Software engineering, Cybersecurity, Empirical studies, Data analytics
- Powsiri Klinkhachorn - Ph.D. (West Virginia University)  
Microprocessor applications, Computer architecture, Binary and non-binary logic
- Dimitris Korakakis - Ph.D. (Boston University)  
Semiconductor growth, Nanotechnology, Photonic devices, Biosensors
- Nasser Nasrabadi - Ph.D. (Imperial College, London)  
Image and video processing, Biometrics, Video analytics
- Y.V. Ramana Reddy - Ph.D. (West Virginia University)  
Artificial intelligence, Knowledge-based simulation, Computer graphics
- Natalia Schmid - Ph.D. (Washington University)  
Detection and estimation, Statistical signal and image processing, Biometrics, Information theory, Wireless sensor networks, Signal processing for radio astronomy
- K. Subramani - Ph.D. (University of Maryland)  
Scheduling, Computational biology, Computational complexity, Polyhedral combinatorics
- Matthew Valenti - P.E., Ph.D. (Virginia Tech)  
Communication Theory, Wireless Networks, Error Control Coding
- Brian Woerner - Ph.D. (University of Michigan)  
Wireless communications, Networking, Cybersecurity

## ASSOCIATE PROFESSORS

- Xian-An Cao - Ph.D. (University of Florida)  
Nanofabrication, Opto-electronic devices
- Jeremy Dawson - Ph.D. (WVU)  
Photonics, Nanofabrication, Biometrics data sensing and Rapid DNA analysis
- Gianfranco Doretto - Ph.D. (University of California - Los Angeles)  
Computer vision, Statistical pattern recognition, Biometrics, Image processing, Computer graphics
- David Graham - Ph.D. (Georgia Institute of Technology)  
Analog signal processing
- Sarika Khushalani-Solanki - Ph.D. (Mississippi State University)  
Power/energy conversion, Power systems, Controls, Signals and systems
- Yuxin Liu - Ph.D. (Louisiana Tech University)  
Biotechnology/bioengineering, BioMEMS and microfluidics, Cellular sensor, Tissue engineering
- Daryl Reynolds - Ph.D. (Texas A&M)  
Statistical signal processing for communications, Iterative (turbo) processing, Transmitter pre-coding, Space-time coding and processing
- Frances VanScoy - Ph.D. (University of Virginia)  
Programming languages and compilers, Multisensory computing, High performance computing

## TEACHING ASSOCIATE PROFESSORS

- Mohamed Hefaida - Ph.D. (University of Illinois-Chicago)  
Digital design, Computer architecture, Advanced communication systems, Cross-layer design and optimization

## TEACHING ASSISTANT PROFESSORS

- Tom Devine - Ph.D. (West Virginia University)  
Software engineering, Operating systems, Data science, Machine learning
- Jignesh Solanki - Ph.D. (Mississippi State University)  
Power engineering, Smart grids, Decentralized control of power systems, Control and automation of distribution and transmission systems
- Brian Powell - Ph.D. (West Virginia University)  
Software engineering, Programming, Image processing

## ASSISTANT PROFESSORS

- Kevin Bandura - Ph.D. (Carnegie Mellon University)  
Radio astronomy, Digital signal processing, Antennas

## TEACHING INSTRUCTORS

- Camille Hayhurst - M.S. (West Virginia University)
- Ron Reaser - M.S. (West Virginia University)

## RESEARCH ASSOCIATES

- Dale Dzielski - M.B.A., C.M.A., P.M.P. (Regent University)  
Director of Software Engineering Programs and Graduate Coordinator for Software Engineering. Software project management, Business process management/supply chain, Enterprise architecture, Architecture technical debt
- David Krovich - M.S. (West Virginia University)  
Cybersecurity, Networking, Operating systems, Open-source software
- Don McLaughlin - M.A. (West Virginia University)  
Artificial intelligence, High performance computing, Data science, Computer graphics

## LECTURERS

- Kenneth Costello - M.S. (West Virginia University)
- Martin Dombrowski - M.S. (West Virginia University)
- Jeffrey Edgell - M.S. (Stephens Institute of Technology)
- Lawrence Jacowitz - Ph.D. (Ohio State University)
- Gregory Mundy - M.Sc. (West Virginia University)
- Cynthia Tanner - M.S. (West Virginia University)
- Scott Warden - M.S. (West Virginia University)

## ADJUNCT PROFESSORS

- William Cawthorne - Ph.D. (West Virginia University)  
Electrified vehicles, Control systems, Software architecture, Engineering leadership
- Lawrence Hornak - Ph.D. (Rutgers University)  
Optics, Integrated Optics, Micro/Nano Structures and Devices, Biosensors, Biometrics
- Michael Yura - Ph.D. (Ohio State University)  
New and innovative biometric technology

## ADJUNCT ASSOCIATE PROFESSORS

- Thirimachos Bourlai - Ph.D. (University of Surrey)  
Biomedical image processing, Pattern recognition
- Yu Gu - Ph.D. (West Virginia University)  
Robotics, Design, Automatic controls, Mechatronics
- Guodong Guo - Ph.D. (University of Madison-Wisconsin)  
Computer vision, Biometrics, Human computer interaction
- V. Jagannathan - Ph.D. (Vanderbilt University)  
Distributed intelligent systems, Internet and security technologies, Natural language processing
- V. Kulathumani - Ph.D. (Ohio State University)  
Wireless sensor actuator networks, Scalable and fault tolerant distributed systems
- Guilherme Pereira - Ph.D. (Federal University of Minas Gerais, Brazil)  
Sensor fusion, Multi-robot systems
- Sumitra Reddy - Ph.D. (West Virginia University)  
Healthcare Informatics, Componentware, Intelligent Systems, Information Technology Evolution
- Xueyan Sherry Xu - Ph.D. (West Virginia University)  
Biomedical signal processing, Pattern recognition, Human vibration evaluation and risk assessment
- Yanfang Ye - Ph.D. (Xiamen University)  
Computer security, Malware detection, Machine learning

## ADJUNCT ASSISTANT PROFESSORS

- Omid Dehzangi - Ph.D. (Nanyang Technological University)  
Data structures, Expert and decision support systems, Big data, Data mining, Artificial intelligence
- Victor Fragoso - Ph.D. (University of California - Santa Barbara)  
Computer vision, Machine learning

- Bin Liu - Ph.D. (Rutgers University)  
Data mining, Machine learning

## **PROFESSORS EMERITI**

- Hany Ammar - Ph.D. (University of Notre Dame)
- John Atkins - Ph.D. (University of Pittsburgh)
- Wils Cooley - Ph.D., P.E. (Carnegie Mellon University)
- Mark Jerabek - Ph.D., P.E. (Purdue University)
- Robert McConnell - Ph.D. (University of Kentucky)
- James Mooney - Ph.D. (Ohio State University)
- George Trapp - Ph.D. (Carnegie Mellon University)