

# Lane Department of Computer Science & Electrical Engineering

---

E-mail: Statler-LCSEE@mail.wvu.edu

## Degrees Offered

- Bachelor of Science in Biometric Systems Engineering (B.S.B.S.E.)
- Bachelor of Science in Computer Engineering (B.S.Cp.E.)
- Bachelor of Science in Computer Science (B.S.C.S.)
- Bachelor of Science in Cybersecurity (B.S.)
- Bachelor of Science in Electrical Engineering (B.S.E.E.)

## Nature of the Programs

The Department offers undergraduate degrees in computer science, electrical engineering, computer engineering, cybersecurity, and biometric systems engineering. Each of these disciplines deals with the creation and processing of information. Our degree programs provide a strong theoretical background as well as practical experience gained through hands-on projects and research. Our undergraduate programs provide students with the skills required for a broad range of jobs in industry, government, academia, business, and research. We begin with a strong common foundation in mathematics and add a variety of degree-specific courses on the fundamentals of electronics, computer systems, computer science, and biometric systems. Each of the degree programs provides a broad spectrum of knowledge in its field but also provides the opportunity for specialization through emphasis areas, electives, independent research projects, and directed studies. All five undergraduate degrees include an interdisciplinary capstone design experience culminating the final year of study. The program also provides a broad general education foundation necessary to put technical knowledge into perspective.

---

## FACULTY

### CHAIR

- Anurag Srivastava - Ph.D. (Illinois Institute of Technology)  
Power system operation and control, Cyber-Power systems, Enhanced grid resiliency and sustainability, Physics-Aware machine learning

### 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 Tech)  
Power systems, Large-scale systems, Control
- Katerina Goseva-Popstojanova - Ph.D. (Ss. Cyril and Methodius University)  
Software engineering, Cybersecurity, Empirical studies, Data analytics
- Dimitris Korakakis - Ph.D. (Boston University)  
Semiconductor growth, Nanotechnology, Photonic devices, Biosensors
- Xin Li - Ph.D. (Princeton University)  
Image Processing, Computer vision, Pattern recognition
- Yuxin Liu - Ph.D. (Louisiana Tech University)  
Biotechnology/bioengineering, BioMEMS and microfluidics, Cellular sensors, Tissue engineering
- Nasser Nasrabadi - Ph.D. (Imperial College of Science & Technology)  
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, St. Louis)

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

- Kevin Bandura - Ph.D. (Carnegie Mellon University)  
Radio astronomy, Digital signal processing, Antennas
- Xian-An Cao - Ph.D. (University of Florida)  
Nanofabrication, Opto-electronic devices
- Jeremy Dawson - Ph.D. (West Virginia University)  
Photonics, Nanofabrication, Biometrics data sensing, 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
- Daryl Reynolds - Ph.D. (Texas A&M University)  
Statistical signal processing for communications, Iterative (turbo) processing, Transmitter precoding, Space-time coding and processing
- Frances Van Scoy - Ph.D. (University of Virginia)  
Programming languages and compilers, Multisensory computing, High performance computing

## TEACHING ASSOCIATE PROFESSOR

- Mohamed Hefaida - Ph.D. (University of Illinois-Chicago)  
Digital design, Computer Architecture, Advanced communication systems, Cross-layer design and optimizations
- Jignesh Solanki - Ph.D. (Mississippi State University)  
Power engineering, Smart grids, Decentralized control of power systems, Control and automation of distribution and transmission systems

## ASSISTANT PROFESSORS

- Amr El-Wakeel - Ph.D. (Queen's University)  
Intelligent and connected vehicles and systems, The internet of things, Healthcare informatics and applications
- Nima Karimian - Ph.D. (University of Connecticut)  
Biometrics security, Applied machine learning in cybersecurity
- Sara Tehranipoor - Ph.D. (University of Connecticut)  
Hardware security, Applied machine learning
- Piotr Wojciechowski - Ph.D. (West Virginia University)  
Theoretical computer science in artificial intelligence and data science

## TEACHING ASSISTANT PROFESSOR

- Tom Devine - Ph.D. (West Virginia University)  
Software engineering, Operating systems, Data science, Machine learning
- Brian Powell - Ph.D. (West Virginia University)  
Software engineering, Programming, Image processing

## 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

## 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)
- Don McLaughlin - M.A. (West Virginia University)
- Gregory Mundy - M.Sc. (West Virginia University)
- Cynthia Tanner - M.S. (West Virginia University)
- Rebecca Dawn Tarabrella
- 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
- Afzel Noore - Ph.D. (West Virginia University)
- Michael Yura - Ph.D. (Ohio State University)  
New and innovative biometric technology

## ADJUNCT ASSOCIATE PROFESSOR

- 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 Wisconsin-Madison)  
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)  
Field robotics, Autonomous vehicles, Sensor fusion, Multi-robot systems
- Sumitra Reddy - Ph.D. (West Virginia University)  
Healthcare informatics, Componentware, Intelligent systems, Information technology evolution
- Arun Ross - Ph.D. (Michigan State University)  
Biometrics
- Layth Sliman - Ph.D. (National Institute of Applied Science of Lyon)  
Security and trust by design, Cryptographical and access control paradigms adapted to artificial intelligence
- Luyi Wang - Ph.D. (West Virginia University)
- 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
- Piyush Mehta - Ph.D. (University of Kansas)

- Saiph Savage - Ph.D. (University of California - Santa Barbara)  
Machine learning, Human computer interaction, Data analytics for social networks
- Shuo Wang - Ph.D. (California Institute of Technology)
- Scott Zemerick - Ph.D. (West Virginia University)

## 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)
- Elaine Eschen - Ph.D. (Vanderbilt University)
- Mark Jerabek - Ph.D., P.E. (Purdue University)
- Powsiri Klinkhachorn - Ph.D. (West Virginia University)
- Robert McConnell - Ph.D. (University of Kentucky)
- James Mooney - Ph.D. (Ohio State University)
- Roy Nutter Jr. - Ph.D., P.E. (West Virginia University)
- George Trapp - Ph.D. (Carnegie Mellon University)

Students can simultaneously pursue two bachelor's degrees in the Lane Department. To successfully complete both degrees, students must meet all requirements of both programs and complete a minimum of 150 credit hours. As part of those 150 credit hours, 30 credit hours must be unique from the primary degree course requirements. Exact credit hours and classes will vary per student based on their choice of technical electives and emphasis courses.

The most common Lane Department major combinations are:

- Biometric Systems Engineering and Computer Engineering
- Biometric Systems Engineering and Electrical Engineering
- Computer Engineering and Electrical Engineering
- Computer Engineering and Computer Science

Please refer to the catalog descriptions of each individual program for course and academic requirements which can include minimum grades and GPA, and elective choices.