DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING
www.ece.seas.gwu.edu

Fact Sheet

LEADERSHIP
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MISSION
The Electrical and Computer Engineering Department (ECE) at the George Washington University seeks to educate the next generation of engineers and leaders with the intellectual capacity and engineering design fundamentals necessary for pursuing dynamic careers of technological innovations and discoveries that can significantly improve quality of life. Central to its mission are the educational and research programs of distinction characterized by their high quality, innovation, societal impacts, and focus on cutting-edge multidisciplinary research and global entrepreneurial partnerships. ECE at GW is proud of its heritage of innovation and entrepreneurship that has produced leaders in industry and academia worldwide.

ACADEMICS

Enrollment Figures
Enrollment (Full-Time)
Academic Year 2018-2019

Bachelor of Science  92
Master of Science   255
Ph.D.              60
Total              407

Degrees Granted
Academic Year 2017-2018

Bachelor of Science  19
Master of Science   103
Ph.D.              8
Total              130

Faculty
Academic Year 2018-2019

Professors         12
Associate Professors 4
Assistant Professors 3
Teaching Professors 1
Assistant Professor of Practice 1
Research Professors 2
Total              23

RESEARCH INSTITUTES

Institute for Massively Parallel Applications and Computing Technologies (IMPACT)
Dr. Tarek El-Ghazawi
IMPACT's objective is to establish an interdisciplinary GWU academic excellence program in High-Performance Computing (HPC) that spans research, education, and outreach.

Institute for Magnetics Research
Dr. Edward Della Torre
IMR focuses its work on modeling, experimental measurements, and the use of magnetic materials. The materials most commonly studied are magnetic recording media, magneto-optical media, magnetocaloric materials, and magnetostrictive materials.

Institute for MEMS and VLSI Technology
Dr. Mona Zaghloul
The MEMS research at GWU is focused on using different technologies combined with pre- and/or post-processing steps. Several devices have been realized using CMOS technology, including RF MEMS devices, Power Sensors, SAW Gas Sensors, and many others. The research group uses CMOS to add active circuitry to the sensor, hence creating a complete system.

GW Institute for Nanotechnology
Dr. Michael Keidar (Mechanical & Aerospace Engineering)
The ECE department's faculty members are an integral part of The George Washington University Institute for Nanotechnology (GWIN). GWIN was founded in 2009 with the primary objective to improve laboratory equipment for nanotechnology research, support undergraduate research, and begin seeding new nanotechnology research projects and forming core teams.

ACADEMIC PROGRAMS

Degrees
Bachelor of Science
(ABET-accredited)
Computer Engineering
Electrical Engineering

Master of Science
Computer Engineering
Electrical Engineering
Telecommunications Engineering

Combined Five-Year Programs
BS / MS Computer Engineering
BS / MS Electrical Engineering
BS Computer Engineering / MS Electrical Engineering
BS Electrical Engineering / MS Computer Engineering

Doctor of Philosophy
Computer Engineering
Electrical Engineering

Minors & Certificates
Minor in Computer Engineering
Minor in Electrical Engineering
Graduate Certificate in High-Performance Computing

FINANCIALS

ECE Research Expenditures

IEEE Fellows: 7
Recent NSF CAREER Awards: 2
Humboldt Awards: 1
AFOSR-YIP Awards: 1
## RESEARCH AREAS

**Applied Electromagnetics**  
Dr. Amir Aslani  
Dr. Lawrence H. Bennett (Research Professor)  
Dr. Edward Della Torre  
Dr. Can E. Korman  
Dr. Roger H. Lang

**Communications and Networks**  
Dr. Milos Doroslovacki  
Dr. Hermann J. Helgert  
Dr. Tian Lan  
Dr. Omur Ozel  
Dr. Suresh Subramaniam

**Computer Architecture and High-Performance Computing**  
Dr. Tarek A. El-Ghazawi  
Dr. Howie Huang  
Dr. Ahmed Louri  
Dr. Guru Venkataramani

**Electrical Power and Energy**  
Dr. Payman Dehghanian  
Dr. Robert Harrington

**MEMS, Electronics, and Photonics**  
Dr. Gina Adam  
Dr. Shahrokh Ahmadi  
Dr. Can E. Korman  
Dr. Mona Zaghloul

**Signal and Image Processing, Systems and Controls**  
Dr. Robert L. Carroll  
Dr. Milos Doroslovacki  
Dr. Kie-Bum Eom

## RESEARCH FACILITIES

**Applied Electromagnetics Laboratory**  
Dr. Roger H. Lang

**Electronics, Circuits, and Sensors Research Laboratory**  
Dr. Gina Adam  
Dr. Shahrokh Ahmadi  
Dr. Can E. Korman  
Dr. Mona Zaghloul

**GW-Intel Parallel Computing Center**  
Dr. Tarek El-Ghazawi

**GW SmartGrid Laboratory**  
Dr. Payman Dehghanian

**High Performance Computing Architectures and Technologies Laboratory**  
Dr. Ahmed Louri

**Lab for Intelligent Networking and Computing**  
Dr. Suresh Subramaniam  
Dr. Milos Doroslovacki  
Dr. Tian Lan  
Dr. Omur Ozel  
Dr. Guru Venkataramani

**LENR Energy and Spectroscopy Laboratory**  
Dr. David Nagel

**Magnetic Material Testing Laboratory**  
Dr. Edward Della Torre

**Magnetic Refrigeration Research Laboratory**  
Dr. Edward Della Torre

**Magneto-Optics Laboratory**  
Dr. Edward Della Torre

**Orthogonal Physics Enabled Nanophotonics**  
Dr. Volker Sorger

## ACTIVITIES & ORGANIZATIONS

**AOE (Alpha Omega Epsilon)**  
Alpha Omega Epsilon is a professional and social sorority composed of female engineering students and alumnae.

**EWB (Engineers Without Borders)**  
Engineers Without Borders is an international, non-profit organization that partners student engineers with professional engineering mentors to create sustainable, technological solutions for communities in the developing world.

**IEEE (Institute of Electrical and Electronics Engineers)**  
The IEEE is a non-profit, technical professional association of more than 377,000 individual members in 150 countries.

**GW Optical Society**  
GW Optical Society is a student-run organization at The George Washington University interested in the promotion of optical science and technology.

**GW Tech Collective**  
GW Tech Collective is a group of students at the George Washington University interested in technology and innovation.

**NSBE (National Society of Black Engineers)**  
NSBE's mission is “to increase the number of culturally responsible Black Engineers who excel academically, succeed professionally, and positively impact the community.”

**SWE (Society of Women Engineers)**  
SWE is the driving force that establishes engineering as a highly desirable career aspiration for women. SWE empowers women to succeed and advance in those aspirations and be recognized for their life-changing contributions and achievements as engineers and leaders.

**Tau Beta Pi (The Engineering Honor Society)**  
Tai Beta Pi Formed to foster a spirit of liberal culture in engineering colleges and to mark in a fitting way those who have conferred honor upon their Alma Mater, based on either distinguished scholarship and exemplary character as students of engineering, or based on their attainments as alumni in the engineering field.

**Theta Tau (Professional Engineering Fraternity)**  
Founded at the University of Minnesota in 1904, Theta Tau is the largest (as well as the oldest) professional fraternity in the field of engineering.

## SCHOLARSHIPS & FELLOWSHIPS

**Undergraduate Scholarships**  
Patrick J. Martin Foundation Scholarships  
Freshman and Transfer Scholarships  
District Scholars Program  
Stephen Joel Trachtenberg Scholarship

**Graduate Scholarships & Fellowships**  
Graduate Teaching Assistantships  
Graduate Research Assistantships  
Phillip/Temofel Sprawczew Endowment Scholarship  
The Hetherington Family Scholarship  
For more scholarship/fellowship information please visit:  
https://financialaid.gwu.edu  
https://graduate.seas.gwu.edu/funding

**GW Robotics**  
The purpose of the GWU Robotics Group is to provide an outlet for those of the George Washington community interested in robotics.