

ELECTRICAL ENGINEERING

#6

in the nation for
most bachelor's
degrees awarded

40%

of undergraduate
students pursue
internships

95%

of admitted Ph.D.
students receive
funding

#1

most engineering
startups on
campus since 2010

OUR MISSION

We educate and develop tomorrow's leaders to solve the world's biggest problems.

Our People

Our students receive an exceptional education through a strong technical foundation, refined communication skills, group project work and hands-on research opportunities. The demand for well-rounded electrical engineers continues to grow each year. UW EE is responding to this growth with the hiring of five new faculty in the 2015-2016 academic year. We are committed to merit-driven diversity to broaden participation in STEM, and exceed the national average of women in electrical engineering — with over 23 percent of our undergraduate degrees awarded to women compared to a national average of 12.5 percent.

Our Impact

One of our core strengths that differentiates us from our peers is our dedication to fostering an innovative ecosystem. By promoting an entrepreneurial mindset, we continue to cement our reputation as an innovation hub through partnerships with industry, government and regional sponsors. Our world class research takes an interdisciplinary approach to solving complex problems in energy, health, technology and the environment to help improve people's lives.

STUDENTS

DEGREE PROGRAMS



3.6

AVERAGE GPA FOR INCOMING UNDERGRADUATE STUDENTS

LAUNCHING CAREERS

Our nationally-acclaimed curriculum provides solid grounding of the fundamentals of technical problem solving in the first year. This allows students maximum flexibility to choose their own concentrations in the second year based on their areas of interest.

AREAS OF IMPACT

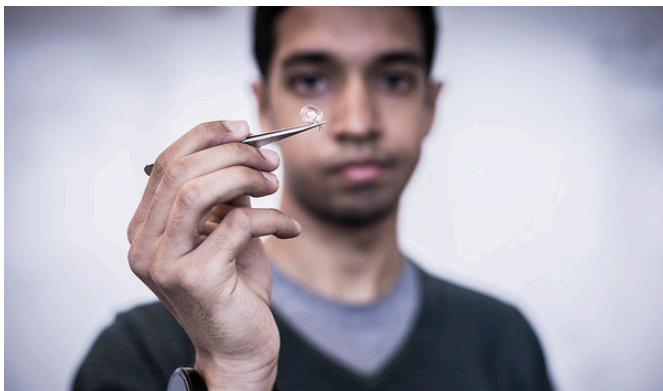
ENERGY
ENVIRONMENT
HEALTHCARE

COMMUNICATION
GLOBAL HEALTH
SECURITY

COMPANIES HIRING EE GRADS

BOEING
MICROSOFT
GOOGLE
AMAZON
VERIZON
NATIONAL INSTRUMENTS
PUGET SOUND ENERGY

PERKINS COIE
UW MEDICINE
LOCKHEED MARTIN
APPLE
INTEL
PHILIPS MEDICAL
PNW NATIONAL LABORATORIES



Graduate student Vikram Iyer poses with the Interscatter device, which enables smart contact lenses, medical implants and credit cards to "talk" to smartphones and smartwatches using Wi-Fi.

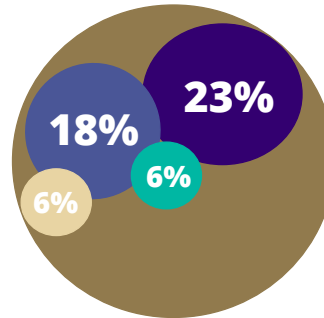
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BEST GRADUATE SCHOOL IN 2017

(U.S. News & World Report)

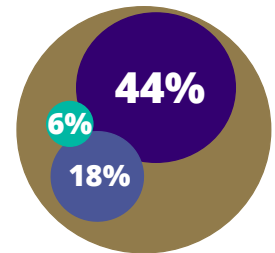
UNDERGRADUATE

558
2015-2016
Enrollment



GRADUATE

348
2015-2016
Enrollment



WOMEN



INTERNATIONAL STUDENTS



UNDERREPRESENTED MINORITIES



TRANSFER STUDENTS



DIVERSITY

UW EE exceeds the national average of women in the field for undergraduate and graduate degrees awarded and in the number of women in tenured and tenure-track faculty positions.

23.3% UW EE AVG.
12.5% NATIONAL AVG.

15.9% UW EE AVG.
12.4% NATIONAL AVG.

Percentage of undergraduate degrees awarded to women

Percentage of women tenured/tenure-track faculty

FACULTY

52 CORE FACULTY **82** AFFILIATE FACULTY **36** ADJUNCT FACULTY

Our reputation is based on the quality of our faculty and their contributions to the education, research and leadership of the department. UW EE faculty are frequently honored nationally and internationally for excellence in building a culture of collaboration, innovation and mentorship. The department continues to keep pace with the demand for top faculty with five new hires in the 2015-2106 academic year. As a result, attracting, retaining and rewarding faculty remains one of the highest priorities for our department.

ENTREPRENEURSHIP HUB

SUCCESSFUL STARTUPS FOUNDED AT UW EE:

Aquarium - Combines robotics, automation and programming to streamline molecular/microbiology experiments

SNUI - Small, low power sensors for home monitoring systems

BluHaptics - Relays force, vibration and motion to control underwater robots

PotaVida - Utilizes sunlight and an electronic indicator to purify water

FOSTERING AN INNOVATION ECOSYSTEM:

EARLY EXPOSURE TO BUSINESS CONCEPTS

The EE Entrepreneurial Capstone allows undergraduate students to engage with industry partners to achieve real-world impact in a three course sequence during their senior year.

STATE-OF-THE-ART FACILITIES

In addition to access to MakerSpace to work with their hands and build prototypes, students also have the Washington Nanofabrication Facility, one of the largest public access fabrication centers in the Pacific NW right here on campus, led by EE Professor Karl Böhringer.

MENTORSHIP

As one of the leading startup hubs at UW, EE faculty guide students on how to turn their ideas into companies. In addition, UW's collaborative innovation hub, CoMotion, allows Presidential Innovation Fellows to serve as mentors to budding entrepreneurs across campus.



Ben Waters (PhD '15) is President and CEO of WiBotic, a company that builds wireless charging hubs for multiple devices.

IN 2016

3

NEW STARTUPS

22

PATENTS ISSUED

83

PATENT APPLICATIONS

45

REPORTED INNOVATIONS

RESEARCH AREAS



Computing & Networking

Computer engineering and architecture
VLSI
Embedded systems
Wireless communication
Cybersecurity



Power & Energy Systems

Smart grid
Integration of renewable energy sources
Grid security
Power system economics
Energy harvesting



Robotics & Controls

Surgical and biorobotics
Smart Cities
Haptics
Network control systems



Photonics & Nano Devices

Nanoscale materials and structure
MEMS



Data Sciences

Machine learning
Statistical signal processing
Speech and natural language processing



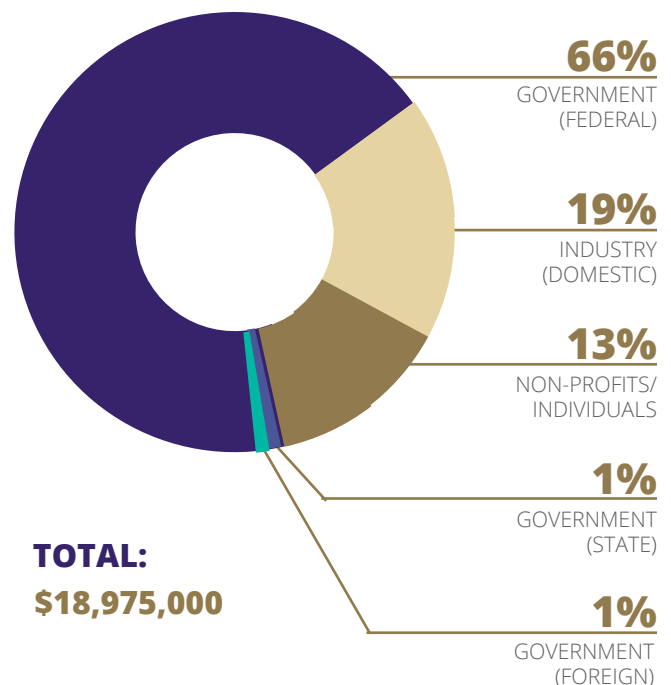
Biosystems

Synthetic biology
Neural engineering
Medical devices
Mobile health

#1 MOST INNOVATIVE PUBLIC UNIVERSITY (Reuters)

RESEARCH FUNDING

2016



PIONEERS



Akira Ishimaru PhD '58, Professor

Landing a plane in fog is possible thanks to the work of Akira Ishimaru, one of the world's top experts in wave propagation and scattering in random and turbulent media. His work on this topic has influenced advancements in ultrasound imaging, microwave remote sensing, satellite and cellular communications, optical communications, laser surgery, radar tracking and astronomy.



Irene Peden Professor Emerita

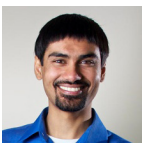
A National Academy of Engineering member and first woman engineering professor at UW, Irene Peden is known for her pioneering work in antennas, radio wave propagation, and contributions to radio science in the polar regions. Peden is also the first woman engineer/scientist to conduct field work in the interior of the Antarctic continent as a principal investigator.



Dean W. Lytle Professor Emeritus

Dean Lytle began his career as an assistant professor in 1958 at UW EE. Lytle's teaching and research was in communications, networks, probability and signal processing. His consulting work included long-term and high-impact appointments at Boeing, Honeywell and Bell Telephone. UW EE's annual Dean W. Lytle Lecture Series was created in his honor.

LEADERS IN THE FIELD



Shwetak Patel Associate Professor

Shwetak Patel's research focuses on developing novel sensing solutions and ubiquitous computing. Most recently, Patel has developed several innovations in public and global health — three mobile phone apps that measure key health functions (e.g. hemoglobin levels). He is a MacArthur Fellow, Sloan Fellow and a WRF Entrepreneurship Endowed Professor.



Matt Reynolds Associate Professor

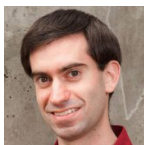
Matt Reynolds is interested in millimeter-wave sensing and imaging, RFID, energy efficiency at the physical layer of wireless communication and the physics of sensing and actuation. Reynolds recently collaborated with Intellectual Ventures to develop new approaches to millimeter wave sensing, making us rethink the potential for airport x-rays.



Josh Smith Associate Professor

Josh Smith was named an Allen Distinguished Investigator by the Paul G. Allen Family Foundation. His research focuses on inventing new sensor systems. This research has applications for implanted medical devices, robotics and ubiquitous computing. Smith received a grant from GSK to develop a device to aid those with spinal cord injuries.

RISING STARS



Gabe Cohn PhD '14

Gabe Cohn is currently a researcher at Microsoft Research in the Medical Devices Group. His work focuses on building highly integrated hardware/software sensing systems. While at UW EE, he was the co-founder of SNUPI, a startup that developed ultra-low-power wireless sensor networks. The company was later acquired by Sears.



Rahil Jain PhD '17

Rahil Jain has developed several products, all of which have societal impact. His most recent product, SmartDx, improves the accuracy and efficiency of health diagnostic tests. Another device, Hook, creates an environmentally-conscious smart home hub. Jain has received several awards, including, most recently, the GIX Innovation Challenge.



Vamsi Talla PhD '16

Vamsi Talla is currently a postdoctoral researcher at the university. He investigates power harvesting, low power sensing, wireless power transfer and low power communication. Talla's research has contributed to several significant discoveries in wireless power charging (i.e. Passive Wi-Fi) and wireless implanted device communication (i.e. Interscatter).

"Innovation at UW EE is exemplified by our outstanding faculty and by the exceptional group of students they advise and mentor. We continue to build an ever-growing, collaborative innovation ecosystem and provide opportunities for students to gain valuable real-world experiences."

RADHA POOVENDRAN, PROFESSOR AND CHAIR

