THE VOILAND COLLEGE OF ENGINEERING AND ARCHITECTURE has been undergoing a time of dramatic growth and transformation. During the past decade, Voiland College programs have expanded across the state of Washington, with steady increases in faculty, student enrollment, as well as donor and research support.

We remain proud of our land-grant heritage. Our researchers are working to address important national grand challenges in health, sustainable resources, national security, and smart systems. We are teaching our students problem-solving skills and providing real-world, hands-on learning that prepares them for success in the 21st century workplace.

Our graduates are in high demand, and we continue to play in critical role in the economic growth for the region.

DID YOU KNOW?

36% OF VOILAND COLLEGE STUDENTS ARE THE FIRST IN THEIR FAMILIES TO ATTEND COLLEGE.
VOILAND COLLEGE ON THE RISE

DID YOU KNOW?

RESEARCH EXPENDITURES HAVE ALMOST TRIPLED SINCE 2007.

THE CAMPAIGN FOR WASHINGTON STATE UNIVERSITY BOOSTS COLLEGE SUPPORT

GIFTS TO VOILAND COLLEGE

VOILAND COLLEGE PATENT DISCLOSURES

FEDERAL GRANTS, INDUSTRY FUEL VOILAND RESEARCH

RESEARCH EXPENDITURES

THE CAMPAIGN FOR WASHINGTON STATE UNIVERSITY BOOSTS COLLEGE SUPPORT

FEDERAL GRANTS, INDUSTRY FUEL VOILAND RESEARCH

VALUES

RESEARCH FUNDING – FY 16

DID YOU KNOW?

SINCE IT STARTED IN 2010, WSU’S MECHANICAL ENGINEERING PROGRAM AT OLYMPIC COLLEGE, BREMERTON HAS GRADUATED 100 STUDENTS, 35 OF WHOM HAVE BEEN NAMED INVENTORS ON PATENTS.

COMMERCIALIZATION REACHES NEW HEIGHTS
WOOD TAKES WING
Alaska Airlines made history flying the first commercial flight using the world’s first renewable, alternative jet fuel made from forest residuals—the limbs and branches that remain after the harvesting of managed forests. The alternative jet fuel was produced through the Washington State University-led Northwest Advanced Renewables Alliance.

NOVEL 3-D MANUFACTURING
Researchers in the School of Mechanical and Materials Engineering developed a unique, 3-D manufacturing method that for the first time rapidly creates and precisely controls a material’s architecture from the nanoscale to centimeters—with results that closely mimic the intricate architecture of natural materials like wood and bone.

ELECTRIFYING BREAKTHROUGH
A Washington State University research team has successfully used a mild electric current to take on and beat drug-resistant bacterial infections, a technology that may eventually be used to treat chronic wound infections. The team in the Gene and Linda Voiland School of Chemical Engineering and Bioengineering, used an antibiotic in combination with the electric current to kill all of the highly persistent Pseudomonas aeruginosa PAO1 bacteria in their samples.

HANDHELD WIRELESS DATA CENTER
Washington State University designed a tiny, wireless data center that someday could be as small as a hand-held device and dramatically reduce the energy needed to run such centers. WSU researchers recently received a $1.2 million National Science Foundation grant to continue the work.

SMARTPHONE APP DETECTS CANCER
Researchers in the School of Mechanical and Materials Engineering developed a low-cost, portable laboratory on a smartphone that can analyze several samples at once to catch a cancer biomarker, producing lab-quality results. The research team created an eight-channel smartphone spectrometer that can detect a biomarker for lung, prostate, liver, breast, and epithelial cancers.

DEPARTMENTAL RESEARCH EXPENDITURES FY 16
Voiland School of Chemical Engineering & Bioengineering, $3,854,013
Mechanical & Materials Engineering, $5,044,129
Electrical Engineering & Computer Science, $7,475,169
Civil & Environmental Engineering, $11,212,393
Other Departments, $518,383

2%
40%
18%
26%
14%
49%
ANJAN BOSE, National Academy of Engineering member and Regents professor in the School of Electrical Engineering and Computer Science, received the CIGRÉ (International Council on Large Electric Systems) U.S. National Committee Philip Sporn Award, which is the organization's highest award.

YUEHE LIN is among the top-cited scientific researchers in the world, named by Thomson Reuters among the top one percent of those cited in their fields for articles published 2003-13. He conducts research in nanotechnology, particularly development of small-scale devices, materials, and analytical systems for biomedical diagnosis, drug delivery, energy, and environmental applications.

KELVIN LYNN received the 2017 Washington State University Eminent Faculty Award. The award honors the career-long excellence of those who have changed the thinking in their fields through research, creative scholarship, teaching, and service. Lynn, a Regents professor and director for the Center for Materials Research, is a pioneer in using positron beams to measure material properties.

YONG WANG, Voiland Distinguished Professor in the Gene and Linda Voiland School of Chemical Engineering and Bioengineering, received the American Chemical Society’s Industrial and Engineering Chemistry Division’s fellow award.

DIANE COOK, Huie-Rogers Chair Professor in the School of Electrical Engineering and Computer Science, was named a fellow of the National Academy of Inventors. Cook conducts research in data mining and artificial intelligence, focusing on the design of smart homes that use machine learning to provide health monitoring and intervention.
EDUCATIONAL ACCESS FOR ALL

VOILAND COLLEGE IS WORKING TO INSPIRE THE NEXT GENERATION OF ENGINEERS, COMPUTER SCIENTISTS, AND DESIGN PROFESSIONALS

• Washington State University is committing to bringing 150 high school-aged girls to Pullman’s campus each year to introduce them to computer science. The effort aims to help more students gain access to computer science educational opportunities and learn computational thinking skills.

• The Washington State Academic RedShirt (STARS) program assists motivated first-year engineering and computer science students with the transition from high school study to the rigor of a college curriculum by providing them with the tools and requisite math skills to be successful. STARS targets need-based students who have demonstrated talent and interest in the engineering and computer science disciplines.

• WSU is part of the Louis Stokes Alliance for Minority Participation (LSAMP). Supported by the National Science Foundation, LSAMP aims to increase recruitment, retention, and graduation rates of underrepresented students in engineering and the sciences.

• Funded by a two-year National Science Foundation grant, a new study co-led by researchers at Washington State University aims to understand why significantly more women study engineering in some predominantly Muslim countries than in the United States.

DID YOU KNOW?

THE FRANK INNOVATION ZONE IS A HANDS-ON STUDENT LEARNING SPACE WHERE STUDENTS CAN TRANSLATE THEIR IDEAS INTO WORKING DESIGNS, BUILD CLASS PROJECTS, OR SUPPORT THEIR CLUB ACTIVITIES.

STUDENT ENROLLMENT HAS INCREASED BY 30% SINCE 2012

THE NEW PACCAR ENVIRONMENTAL TECHNOLOGY BUILDING IS LEED GOLD CERTIFIED. THE STATE-OF-THE-ART RESEARCH AND LEARNING FACILITY IS CONSTRUCTED USING RENEWABLE MATERIALS AND TECHNOLOGIES DEVELOPED AT WSU, INCLUDING WOOD COMPOSITES, RECYCLED CONCRETE, AND PREVIOUS PAVEMENT.
SWISS MS
Washington State University and the Zurich University of Applied Sciences together offer a dual MS degree program for engineering and computer science majors.

ALASKA 2+2
Washington State University is partnering with the University of Alaska Anchorage and University of Alaska Fairbanks to offer a WSU chemical engineering degree for Alaska students. The 2+2 program will allow students to fulfill the first two years of core requirements at the Alaska universities and the final two years at WSU’s Voiland School of Chemical Engineering and Bioengineering.

CHINESE FELLOWSHIP
Washington State University entered into an agreement with Shandong Chambroad Holding Co. Ltd. to educate WSU doctoral students to meet significant societal needs in energy and environment. The Chambroad Distinguished Fellowship will provide up to $5 million to support five new students each year, up to a total of 20 students simultaneously, in chemical engineering, chemistry, or materials science and engineering.

SMOOTH TRANSFER
An agreement signed by WSU and Lake Washington Institute of Technology will allow LWTech students to transfer to Voiland College’s undergraduate architecture program without applying as formal transfer students.

EU SUPPORT
In 2016, WSU became the first university in the state to receive European Union funding to support student and faculty research exchanges. The funding is part of WSU’s initiative to grow and expand international collaborations for engineering, computer science and other WSU faculty and students with leading overseas universities, including the Technology University of Dresden, Hamburg University of Applied Sciences, and Zurich University of Applied Sciences.

INTERDISCIPLINARY ENTREPRENEURSHIP
Through the new National Science Foundation I-Corps program and the Harold Frank Engineering Entrepreneurship Institute, Voiland College is creating interdisciplinary connections across WSU that drive student and faculty interest in entrepreneurship and market-based outcomes for potential startup opportunities.

NEW SCHOOL
WSU inaugurated the new School of Engineering & Applied Sciences on the WSU Tri-Cities campus, which will offer undergraduate and graduate engineering and computer science degree programs.
MARS ROVER
Students from WSU North Puget Sound at Everett finished second and were the top American team at the international University Rover Challenge.

BUILDING ON SUCCESS
Students and faculty from WSU’s Construction Management program took several top awards at the Associated Schools of Construction Regional Student Competition.

ENGAGING ENTREPRENEURSHIP
Bioengineering students Katherine Brandenstein and Emily Willard won several competitions, including the Health Innovation Challenge, for their startup idea to introduce low-cost reusable sterilization needles in Third World countries.

SUCCESS BY DESIGN
Construction Management, Interior Design and Architecture students finished second out of 31 teams from 23 universities at the Design-Build Conference + Expo.

DID YOU KNOW?
MORE THAN 50 WSU STUDENTS FROM 22 MAJORS ARE COMPETING IN THE SOLAR DECATHLON, AN INTERNATIONAL U.S. DEPARTMENT OF ENERGY COMPETITION TO DESIGN AND BUILD A NET-ZERO, HIGH PERFORMANCE SOLAR-POWERED HOME. THEY ARE THE ONLY TEAM FROM THE PACIFIC NORTHWEST.