

2026

OREGON STATER AWARDS

College of Engineering



Oregon State
University

2026 OREGON STATER AWARDS

7 p.m.

OPENING REMARKS

KEYNOTE REMARKS

Forrest J. Masters, Ph.D., P.E. (FL), Kearney Dean of Engineering

DINNER SERVICE

COUNCIL OF OUTSTANDING EARLY CAREER ENGINEERS

(pages 3-5)

ACADEMY OF DISTINGUISHED ENGINEERS

(pages 6-16)

ENGINEERING HALL OF FAME

(pages 17-18)

9 p.m.

CLOSING REMARKS

THANK YOU TO OUR BRONZE SPONSOR,

Jacobs

COLLEGE OF ENGINEERING IMPACT OVERVIEW FY26

SCHOLARSHIPS

TOTAL AWARDED

\$3 million

PHILANTHROPY

TOTAL GIFTS

\$24.2 million

RESEARCH FUNDING

AWARDS RECEIVED

317

SPONSORS

148

TOTAL FUNDING

\$76.4M

TOP 10

FOR THE 12TH
STRAIGHT YEAR

Oregon State has ranked in the Top 10 in the nation for online education by U.S. News & World Report every year since 2015.

10,808

TOTAL ENROLLMENT

NO. 3

NUMBER OF COMPUTER
SCIENCE DEGREES AWARDED
BY AN ENGINEERING
COLLEGE NATIONALLY

NO. 5

ENGINEERING SCHOOL
NATIONWIDE BY
UNDERGRADUATE ENROLLMENT

NO. 5

PUBLIC R1 UNIVERSITIES
IN PERCENTAGE OF
ENGINEERING FACULTY
WHO ARE WOMEN

Council of Outstanding Early Career Engineers

Presented to engineers who have distinguished themselves through their professional accomplishments, service to Oregon State University, the engineering profession, or society at large. These individuals have made early career contributions that identify them as rising leaders in their profession or field.



LEVI CLARK

B.S., BIOENGINEERING, 2018

SENIOR MANAGER,
MANUFACTURING SCIENCES AND
TECHNOLOGY, AGC BIOLOGICS

Since earning his B.S. in bioengineering in 2018, Levi Clark has built a career in pharmaceutical manufacturing focused on getting new biological therapeutics safely to patients. As Senior Manager of Manufacturing Sciences and Technology at AGC Biologics, he leads a team that transfers and scales complex manufacturing processes to support clinical trials, regulatory submissions, and commercial supply — currently overseeing more than 20 programs spanning early- and late-phase trials and commercial production.

Clark has stayed closely connected to Oregon State, returning for networking events, capstone presentations, and work with student clubs like the Biomedical Engineering Society.

“Oregon State was where I learned that the problems that are worth solving aren’t black

and white,” Clark said. “It takes a variety of experiences and skill sets to come together to bring a drug to market, and OSU began preparing me for that from the moment I stepped on campus.”

In 2022, he launched an undergraduate internship program at AGC through MECOP that has grown from three interns to 10, personally mentoring 24 students across disciplines over five years.

“I am especially proud of being able to give a large group of students an introduction into what pharmaceutical manufacturing looks like,” he said — work he considers among his most meaningful contributions to date.



JORDAN KAYSER, PE

B.S., ECOLOGICAL ENGINEERING,
2020

WATER RESOURCE ENGINEER,
JACOBS

Since graduating with a degree in ecological engineering and a minor in natural resources and environmental law and policy, Jordan Kayser has built a career at the intersection of natural systems and the built environment. As a water resource engineer at Jacobs, she develops the hydraulic and hydrologic models behind flood mitigation, fish passage, and stream restoration projects nationwide, including a flood study protecting Oregon's North Fork Ash Creek and fish passage designs for the Washington State Department of Transportation.

"Engineering is never done in a vacuum," Kayser said, "and the broad spectrum of topics I was exposed to in the BEE program has made me a stronger engineer." She's especially proud of her work on a multi-year

flood mitigation project for the Wisconsin Department of Transportation, developing hydraulic models and design alternatives to protect a flood-prone highway corridor while reconnecting natural floodplains.

Kayser has stayed closely tied to Oregon State, mentoring students through the Biological and Ecological Engineering program and speaking on alumni panels within the College of Engineering.

"OSU and Corvallis were truly a home to me for the four years I was there," Kayser said. "The community I built in the College of Engineering and the university at large have continued to be some of the most important people in my professional and personal life."



JASKARAN SINGH SAINI

PH.D., MATERIALS SCIENCE, 2023

SENIOR OPTICAL PACKAGING
ENGINEER, PSIQUANTUM

Jaskaran Singh Saini's path to Oregon State began nearly 7,000 miles from Corvallis, in India, where he completed his undergraduate degree in mechanical engineering before moving to the U.S. to pursue graduate studies.

"OSU taught me that great engineering isn't just about solving technical problems," Saini said. "It's about asking meaningful questions, embracing challenges, and creating solutions that improve people's lives."

During his Ph.D. in materials science at Oregon State, Saini set two world records for the largest copper- and hafnium-based bulk metallic glasses known to date and co-invented the Saini-Xu thermodynamic analysis method with his advisor, Prof. Donghua Xu. That research led to a U.S. patent filing and catalyzed a \$500,000

National Science Foundation grant.

After a postdoctoral appointment at UC San Diego leading a \$2.5 million U.S. Army-sponsored materials program, Saini joined Intel, where he helped enable the hybrid-bonding process behind the company's 18A "Clearwater Forest" server chips and supported the development of "Panther Lake" AI PC processors.

Today, as senior optical packaging engineer and technical lead at PsiQuantum, Saini leads silicon photonics hardware development for one of industry's most ambitious efforts to build a utility-scale, fault-tolerant quantum computer.

He holds two U.S. patents, has authored more than 22 publications cited over 280 times, and continues to mentor Oregon State students through the College of Engineering's LEAP mentorship program.



MAYRA SANTIAGO, PE

B.S., ELECTRICAL AND COMPUTER
ENGINEERING, 2007

SENIOR MANAGER, ASSET
COMPLIANCE, PORTLAND
GENERAL ELECTRIC

Over 15 years at Portland General Electric, Mayra Santiago has built expertise spanning substation design, construction, relay testing, and regulatory compliance. As Substation Operations Senior Manager, she led operations for more than 200 substations, a \$14 million budget, and a workforce of over 100 employees who keep power flowing safely across Oregon. As Operations Section Chief, she led storm restoration efforts that returned power to 90 percent of customers within 48 hours after the December 2025 windstorm knocked out electricity to 177,000 Oregonians just before Christmas.

Santiago points to a large-scale interchange metering project as a career highlight. “I was able to design, construct, and energize the project from end to end,” she said of

the effort that helped PGE enter the CAISO interchange market, “and it gave me the experience I needed to successfully execute large-scale initiatives.”

Santiago credits Oregon State’s mentorship and internship programs — including summers in high tech, utilities, and as a teaching assistant — with shaping her path. She now gives back as a mentor to engineering students, serving on the EECS Industry Advisory Board and its executive committee, and reminding students that failure isn’t final — it’s experience.



JESSICA WOODS

PH.D., RADIATION HEALTH
PHYSICS, 2019

M.S., RADIATION HEALTH PHYSICS,
2016

RADIATION DETECTION SCIENTIST,
LOS ALAMOS NATIONAL
LABORATORY

Jessica Woods has built a career at the intersection of science and national security, applying the technical foundation she built at Oregon State to some of the country’s most sensitive nuclear detection and emergency response missions.

Woods first arrived at Los Alamos National Laboratory as an intern in 2018, drawing on research from her OSU dissertation on special nuclear material classification using temporal gamma-ray spectroscopy and machine learning. Today she serves as a scientist with the Nuclear Engineering and Non-Proliferation, International Threat Reduction Group, and its Nuclear Smuggling Detection and Deterrence team, developing and evaluating radiation detection technology and training international partners in nuclear forensics techniques.

Woods is also a responder with the Nuclear Emergency Support Team, coordinating with the FBI, Department of Defense, and Department of Homeland Security during radiological incidents affecting communities across the country. Her work has earned her a Secretary of Energy Appreciation Award and a National Nuclear Security Administration team award. She also holds a U.S. patent for a machine-learning-based approach to optimizing radiation detection counting times.

Woods credits her graduate studies in Oregon State’s School of Nuclear Science and Engineering with equipping her to move seamlessly between the laboratory, the classroom, and the field — skills she now relies on daily to help keep the nation safe from nuclear and radiological threats.

Academy of Distinguished Engineers

Presented to mid-career engineers who have made sustained, distinguished contributions to their profession, their field, Oregon State University, or society at large.





JOHN BAUMANN

B.S., BIOENGINEERING, 2002

HEAD OF ADVANCED ENGINEERING
TECHNOLOGIES, ADVANCED
SYNTHESIS R&D, LONZA

John Baumann has spent more than two decades at the forefront of pharmaceutical drug delivery, translating engineering fundamentals into medicines that reach patients.

Baumann's career began at Bend Research, where he spent nearly 16 years working across R&D, process development, and clinical and commercial manufacturing. He joined as the company evolved from a Pfizer-funded research group into a full contract development and manufacturing organization, helping shape that transformation by developing novel spray drying processes, equipment designs, and scale-up strategies for internal innovation and customer programs.

One project stands out for him. "I was a key member of a team that developed a novel spray drying process to significantly increase solubility of drugs by 10-fold in organic solvents," Baumann said. "From being a part of the early design, development and testing of the process to seeing it leveraged for manufacturing a customer's commercial oncology compound really made it come full circle from vision to reality."

Following Bend Research's acquisition by Capsugel in 2013 and later by Lonza in 2017, Baumann continued expanding commercial-scale manufacturing capabilities and strengthening spray drying expertise across Lonza's platforms. Today, as head

of Advanced Engineering Technologies for Advanced Synthesis R&D, he leads a cross-functional team focused on pharmaceutical formulation, process development, and novel equipment design, connecting science and engineering to solve complex challenges for customers.

"Working in the pharmaceutical drug delivery area provides a way for me to lead innovations critical for delivering new medicines to patients," he said. "It is a rewarding experience to use traditional engineering and problem-solving approaches to increase the quality of life for people."

Baumann traces much of that approach to his time at Oregon State, where he earned his B.S. in Bioengineering in 2002. The College of Engineering, he says, gave him a versatile toolkit for defining problem statements and developing solutions grounded in mechanistic understanding, plus the chance to explore new interests like pottery and whitewater kayaking.

Baumann is an author and inventor in pharmaceutical engineering, and in 2014 received the Oregon Stater Council of Outstanding Early Career Engineers award. He remains connected to Oregon State as a member of the Industry Advisory Board for the School of Chemical, Biological, and Environmental Engineering, supporting the next generation of engineers.



NASON MCCULLOUGH

PH.D., CIVIL ENGINEERING, 2003

M.S., CIVIL ENGINEERING, 1998

B.S., CIVIL ENGINEERING, 1995

SENIOR GEOTECHNICAL ENGINEER,
VICE PRESIDENT, JACOBS

Nason McCullough joined CH2M HILL in Corvallis in 2002, while he was finishing his Ph.D. in geotechnical engineering, with a minor in ocean engineering, from Oregon State. He has stayed in Corvallis ever since, continuing his career with Jacobs after the firm's 2017 acquisition of CH2M HILL.

McCullough's expertise in advanced seismic evaluation of geotechnical structures took root during graduate work with Professor Stephen Dickenson, carrying him to waterfront projects around the world, including cruise ship and commercial marine terminals across the United States, Mexico, Ecuador, Costa Rica, and half a dozen Caribbean islands. He has since built an equally deep specialty in dams, working on over 25 dam projects, including serving as chief dam safety engineer for a Columbia River dam, project manager for a \$1 billion new dam program in Colorado, and serving on technical review panels in the United States, Brazil, and Australia.

Closer to home, he supported Oregon State's PacWave offshore energy test facility as project manager for the design of the underground infrastructure. He participated in development of the State of Oregon Resilience Plan and has helped many

western Oregon communities evaluate the seismic risk of their structures.

McCullough has been active in ASCE throughout his career, spending a decade with the Technical Council on Lifeline Earthquake Engineering, helping develop seismic design guidelines for piers and wharves through the ASCE 61 committee, and teaching an online class in geotechnical design of port facilities. He has authored or co-authored more than 35 papers and publications and has served as courtesy faculty at Oregon State, teaching the graduate course in geotechnical earthquake engineering.

McCullough credits his time at Oregon State with shaping his career well beyond technical work. "OSU not only provided me with the opportunity to learn technical skills, but also critical thinking, engineering judgment, and fundamentals of problem solving," he said. "These skills are also applicable to management roles and allowed me to transition from a technically focused background to roles in personnel management, design management, and project management."

McCullough met his wife at Oregon State, and they have two children, all three of whom are OSU graduates living in Corvallis.



WILLIAM “WILL” EVERETT NICHOLS

M.S., CIVIL ENGINEERING, 1989

**B.S., AGRICULTURAL ENGINEERING,
1987**

**SENIOR VICE PRESIDENT, INTERA
INCORPORATED**

Will Nichols has spent nearly four decades helping the nation confront some of its most technically demanding environmental challenges, from radioactive waste disposal to groundwater protection at scale.

Nichols earned his B.S. in agricultural engineering and M.S. in civil engineering at Oregon State, where early research on hydrologic balance modeling, remote sensing of soil moisture, and land surface energy balance gave him a first taste of translating data and computation into tools that support real-world decisions. That foundation carried him into a career centered on hydrology, environmental site characterization, fate and transport modeling, risk assessment, and radioactive waste management, much of it in service of the Hanford Site, Yucca Mountain, and the Waste Isolation Pilot Plant.

The project he's most proud of came from that Hanford work. "I am most proud of my work leading the update of the Hanford Site Composite Analysis," Nichols said. "The Hanford Site is one of the largest and most complex environmental cleanup challenges in the country, and the Composite Analysis required an integrated evaluation of long-term impacts from

low-level waste disposal and other continuing sources across the Central Plateau."

Nichols built much of his expertise during nearly two decades at Pacific Northwest National Laboratory before moving into INTERA Incorporated, where he now serves as Senior Vice President leading the firm's Northwest Region. Along the way, he has helped develop performance assessments and modeling frameworks now used across the industry to support defensible cleanup and waste-disposal decisions.

Nichols traces that career, and the way he leads, back to his time in Corvallis. "OSU and the College of Engineering gave me more than degrees; they gave me a professional identity," he said. "They equipped me with the tools to contribute to nationally important environmental work, the discipline to lead multidisciplinary teams, and the perspective to approach engineering as a responsibility to people, places, and the future."

Outside of work, Nichols has volunteered in leadership roles with the Boy Scouts of America and Rotary International, extending that same sense of responsibility into his community.



NADIA PAYET

PH.D., COMPUTER SCIENCE, 2011

ENGINEERING DIRECTOR, GOOGLE
SEARCH EVALUATION PLATFORM

Nadia Payet grew up on Réunion, a small French island in the Indian Ocean more than 10,000 miles from Oregon and arrived at Oregon State in 2004 as a graduate student researching computer vision. She earned her Ph.D. in 2011, with a dissertation on shape- and context-based object recognition, and her research from that period has since drawn nearly 500 citations.

Payet built her career at the center of how people find their way through the world. After a stint at Amazon automating book review tools for Kindle Direct Publishing, where she was named an inventor on three U.S. patents covering tools for classifying and formatting digital publications, she spent 10 years at Google Maps, rising from software engineer to staff engineer to senior staff engineering manager. She was technical lead for Google Maps' driving UX and later led the team that alerted drivers in five major European cities when their routes crossed a Low Emission Zone, helping reduce urban air pollution across the continent. In 2022, she joined Microsoft AI, where she led engineering for Local Search and Maps Experiences across Bing and Copilot up

until July 2026. Today, she serves as the Director of Engineering for Google's Search Evaluation Platform, ensuring the quality and integrity of global search results.

Payet has stayed closely connected to Oregon State. She serves on the EECS Industry Advisory Board Executive Committee, has hosted OSU's Leadership, Empowerment and Purpose (LEAP) students at Microsoft's Redmond campus, and delivered the EECS graduation keynote to roughly 3,500 attendees in Gill Coliseum. She has also established a scholarship at Oregon State supporting students in computer science.

"Oregon State University provided a world-class foundation that defined my career and deeply connected me to the Pacific Northwest," Payet said. "OSU didn't just give me a degree; it completely redefined my trajectory. It's where my passion for computer science took root, launching a career I never could have imagined back in Réunion."

Outside of work, Payet is an outdoor enthusiast and longtime knitter.



MELINDA REED

B.S., INDUSTRIAL ENGINEERING, 1986

PRINCIPAL DIRECTOR TO THE DEPUTY
ASSISTANT SECRETARY OF WAR FOR
ENABLING TECHNOLOGY

Melinda Reed has spent more than two decades helping the U.S. military secure the technology it depends on. She traces this work directly back to the systems-thinking she picked up as an industrial engineering student at Oregon State.

Reed began her career in the Navy's acquisition ranks, serving as an acquisition program manager for unmanned surface vehicles and as chief engineer and technical warrant holder for submarine warfare tactical and weapon control systems at Naval Sea Systems Command. She later became Director for Systems Engineering in the Office of the Assistant Secretary of the Navy for Research, Development and Acquisition before moving into the Office of the Under Secretary of War for Research and Engineering, where she has held a succession of leadership roles overseeing program protection, cybersecurity policy, and system security engineering across the defense enterprise.

Appointed to the Senior Executive Service in 2019, Reed now serves as Principal Director to the Deputy Assistant Secretary of War for Enabling Technology, overseeing development and fielding of advanced computing and software, microelectronics, the Nuclear Command, Control and Communications Tech Accelerator,

and space technology. Earlier in her career, she pioneered the discipline of system security engineering within the department, work she still counts as her proudest achievement.

"My work resulted in establishment of considerations for how systems security engineering principles, concepts, and activities can be effectively applied to systems engineering activities," Reed said.

Reed's contributions have earned her the Office of the Secretary of Defense Acquisition and Sustainment Group Achievement Award in 2020, the Under Secretary of Defense for Acquisition, Technology & Logistics Award for Excellence in 2014, the ASN(RDA) Excellence Award in 2009, and the Defense Acquisition Executive Certificate of Achievement Award in 2001.

Reed credits her Oregon State education with shaping how she has led throughout her career. "Oregon State didn't just give me a degree; it gave me the discipline to shape a rapidly changing world," she said. "The unmistakable pride of being an OSU Beaver" has stayed with her since, informing a lifelong commitment to curiosity, disciplined problem-solving, and leaving the world better than she found it.



ROBERT W. ROSE

M.S., ELECTRICAL AND COMPUTER
ENGINEERING, 2006

B.S., COMPUTER SCIENCE, 2002

B.S., COMPUTER ENGINEERING, 2002

CEO & CO-FOUNDER, RELIABLE
ROBOTICS & RELIABLE AIRLINES

Robert Rose built his engineering career at the edge of what machines are trusted to do on their own, from rockets to cars to, now, airplanes.

Rose earned a B.S. in computer science, a B.S. in computer engineering, and an M.S. in electrical and computer engineering at Oregon State before spending two decades across aerospace, self-driving vehicles, and robotics. As Director of Flight Software at SpaceX, he was responsible for flight, ground, simulation, and data management software, helping launch and operate the company's first 10 Falcon 9 rockets, five Dragon spacecraft, and the Grasshopper VTVL tests. He also led development of the onboard flight software for the first commercial mission to the International Space Station, earning special recognition from NASA. At Tesla, he led the team that brought the first consumer car with fully unassisted self-driving capability to market, developing the computer vision, human-machine interface, and controls technology behind Autopilot 1.0. At Google X, he led a secret project combining AI with robotics to bring advanced perception and manipulation to large vehicles.

Rose co-founded Reliable Robotics, now the only company with an

FAA-approved certification plan for full aircraft automation. Under his leadership as CEO, Reliable flew a Cessna 208B Caravan with no one on board, supervised by a pilot 50 miles away, the first FAA-approved uncrewed flight of a large cargo aircraft. The Department of Defense has cleared Reliable's uncrewed platform for military use, and the company is under contract to support U.S. Air Force logistics missions.

"We've passed a number of technical and regulatory milestones that people told us were 'impossible' when we started about nine years ago," Rose said.

Rose traces that persistence to his years in Corvallis. "Attending OSU presented many opportunities for me to explore and develop the core fundamentals of engineering," he said. "I got a lot out of the 'hands on' computer engineering and computer science classes that focused on building and testing actual things, both robotics and software, which laid the groundwork for everything I've built since."

Rose is also CEO of Reliable Airlines and a Fellow of the Royal Aeronautical Society.



TIM SISSEL

B.S., CONSTRUCTION ENGINEERING
MANAGEMENT, 1997

COO, FORTIS CONSTRUCTION

Tim Sissel earned his B.S. in Construction Engineering Management from Oregon State in 1997, a program he credits with shaping the entire trajectory of his career.

After graduation, Sissel spent six years at DPR Construction (based in Redwood City, California) in Phoenix, Arizona, and Portland, Oregon, before helping a small group of former DPR colleagues start Fortis Construction in 2003, joining as a senior project manager. He rose through the ranks over the next two decades, serving as president from 2022 to 2024 before becoming the company's chief operating officer, where he now sets strategy and leads operations across the global business. Along the way, he has led more than 75 projects, including Oregon State's Learning Innovation Center, Furman Hall, the Valley Football Center, the Goss Stadium Hitting Facility and the more recent transformation of Reser Stadium's north end zone.

Sissel credits Fortis' success to its culture. "We believe our culture is unique in our industry," he said. "It's a culture founded on freedom, responsibility, and hiring razor-smart people. We are a flat organization and intently try to stay away from titles and individual status. We look for self-starters, who are motivated, passionate, curious, humble, and hungry."

That same instinct for building people, not just buildings, has shaped his volunteer life. Sissel sits on the OSU Construction Education Foundation board and serves as an OSU Foundation board trustee, helped create the CCE Construction Industry Empowerment Scholars program, and has personally funded gear and sponsorships for OSU's student project management team for years. Most recently, Tim and his wife, Allison, established the Sissel Leadership in Practice Endowment, which will allow for the introduction of leadership development curriculum and experiences within the College of Engineering. In 2022, he traveled to Muhanga, Rwanda, with 10 Fortis coworkers to help build a suspension bridge over a river that had claimed lives of locals trying to reach healthcare and school, an experience he still calls "life-changing."

Sissel traces all of it back to Corvallis. "I know that the CEM program at Oregon State was a key ingredient to my success," he said.

"The CEM program is world class in connecting you to industry and allowing you to build relationships with professionals that help build the foundation for your career beyond the classroom."



ERIC SMITH

B.S., NUCLEAR ENGINEERING, 1994

SENIOR RESEARCH FELLOW AND
DIRECTOR, NUCLEAR STOCKPILE
PARTNERSHIPS, PACIFIC NORTHWEST
NATIONAL LABORATORY

Eric Smith has spent his career working at the intersection of nuclear science and national security, tracing much of that path back to a decision he made as an undergraduate at Oregon State.

Smith earned his B.S. in nuclear engineering from Oregon State in 1994, then went on to earn M.S. and Ph.D. degrees in nuclear engineering and radiological sciences from the University of Michigan. As a staff engineer at Argonne National Laboratory from 1998 to 2001, he developed nondestructive assay techniques and instruments for material accountancy tied to electrometallurgical reprocessing of fast reactor fuel.

Smith joined Pacific Northwest National Laboratory in 2001, where he was promoted to Laboratory Fellow in 2016 in recognition of his research contributions to nondestructive assay methods, radiation transport modeling, and safeguards instrumentation. He has held numerous leadership roles during his time at PNNL including as senior technical advisor to the International Atomic Energy Agency's Department of Safeguards (in Vienna, Austria) and as program manager for PNNL's work for the National Nuclear Security Administration's Office of Nonproliferation and Arms Control. Since 2018 he has been the Director

of the Nuclear Stockpile Partnerships Sector within PNNL's National Security Directorate, overseeing a portfolio of work supporting the nation's nuclear security enterprise, from tritium production to plutonium and uranium processing to the operationalization of artificial intelligence for national security.

Of the many program areas he has led, one stands out. "Beginning immediately after 11 September 2001 and for nearly a decade, I was heavily focused on the development and demonstration of radiation-detection systems to help detect and deter nuclear terrorism," Smith said.

Smith has authored more than 30 peer-reviewed journal articles and over 160 conference proceedings and technical reports, delivered more than 25 invited talks, and holds two patents. He credits his time at Oregon State with setting the direction for all of it. "My time at OSU was professionally foundational by steering me into nuclear engineering and personally formative in terms of lifelong friends and broadened perspectives," he said.

Outside of work, Smith and his wife, Jenn, spend much of their free time outdoors and traveling to visit their two adult children.



RUSSELL “RUSTY” WILLIFORD

PH.D., NUCLEAR ENGINEERING, 2013

CHIEF ENGINEER, SENTINEL ICBM
PROGRAM, JOHNS HOPKINS
UNIVERSITY APPLIED PHYSICS
LABORATORY

Russell “Rusty” Williford has spent his career at the intersection of nuclear engineering, national security, and organizational leadership — a path he traces back to the technical foundation he built as a doctoral student at Oregon State.

“OSU provided me the space to learn, fail, grow, and improve far beyond the classroom,” Williford said. “Working alongside the incredible faculty at the School of Nuclear Science and Engineering and the staff at the Radiation Center — all within the exceptionally supportive and welcoming community of Corvallis — provided the ultimate foundation for my journey.”

Today, Williford serves as Chief Engineer for the Sentinel ICBM Program at the Johns Hopkins University Applied Physics Laboratory, leading the technical work and independent evaluation of more than 400 subject matter experts supporting the program’s rocket motors, guidance and control, missile accuracy, and nuclear command and control systems. The work is modernizing a strategic deterrence capability that has protected the country since 1962, with a mission designed to serve the nation through 2075 and beyond.

Before joining APL, Williford spent nearly 25 years in the U.S. Air Force as an ICBM operator and nuclear

physicist, retiring as a colonel. He served as vice commander of the 341st Missile Wing, the nation’s largest ICBM unit, and commanded the 320th Missile Squadron. He also held senior roles on the Air Staff and Joint Chiefs of Staff and was a National Defense Fellow at the Center for Strategic and International Studies.

Williford is especially proud of the work he led immediately after leaving Oregon State: developing the Air Force Global Strike Command’s Force Improvement Program, a sweeping culture change effort launched after incidents exposed systemic problems in the nuclear enterprise.

“Inspired by the vision that true cultural change comes from the ground up, we built our strategy around direct input from the Airmen executing the mission,” he said. “By applying the complex program management skills I learned at OSU, we successfully implemented these initiatives to fundamentally reconstruct the enterprise’s organizational culture.” The program produced more than 500 recommendations and reshaped the culture of a 32,000-member enterprise — a change that, 12 years later, still holds.



SEUNGHO YU

PH.D., CIVIL AND ENVIRONMENTAL
ENGINEERING, 2004

ELECTRON BEAM PROCESSING
OFFICER, INTERNATIONAL ATOMIC
ENERGY AGENCY

Seungho Yu has spent his career finding new ways to put radiation technology to work protecting the environment — a path that traces back to his doctoral research at Oregon State.

“At OSU, I learned that science begins with asking ‘why’ and finds its purpose in serving society — improving lives and protecting our environment,” Yu said.

Yu earned his Ph.D. in civil, construction, and environmental engineering at Oregon State in 2004 under Professor Lewis Semprini, studying the kinetics and modeling of anaerobic reductive dechlorination of chlorinated solvents. He stayed on as a faculty research associate before joining the Korea Atomic Energy Research Institute (KAERI) in 2005, where he spent nearly two decades rising to principal researcher and, later, director of the Research Division of Industry and Environment. There, he built an international reputation studying the use of radiation and advanced treatment processes to strip persistent pollutants, pharmaceuticals, antibiotics, and other toxic contaminants from water and waste streams — work reflected in dozens of highly cited publications, several patents, and a citation from Korea’s Ministry of Environment.

In 2025, Yu joined the International Atomic Energy Agency in Vienna as an Electron Beam Processing Officer in the Radiochemistry and Radiation Technology Section, where he organizes and coordinates international technical activities, training events, and collaborative research projects that help member states safely adopt electron beam technology for water and wastewater treatment, soil and groundwater remediation, air pollution control, and sludge treatment.

He’s currently focused on the IAEA’s Transportable Electron Beam System, which delivers hands-on training and technology demonstrations to member states. “This work brings together many parts of my career — environmental engineering, radiation technology, research, training, and international cooperation — and translates them into a platform that can benefit countries around the world,” Yu said.

Yu credits Oregon State with more than his technical grounding. “OSU gave me the confidence to work across cultures and disciplines,” he said, “and those experiences eventually helped me move from academic research in the United States and Korea to international work at the IAEA.”

Engineering Hall of Fame

Presented to a distinguished leader in recognition of their sustained, meritorious professional accomplishments and leadership contributions in the field of engineering. This award celebrates both the professional and the personal achievements of the honoree.



PATRICIA MCDONALD

B.S., CHEMICAL ENGINEERING, 1986

STRATEGIC ADVISOR AND FORMER INTEL EXECUTIVE

Patricia McDonald's engineering career began the summer before her senior year at Oregon State, with an internship at Intel's Fab 4. What started as a summer job in 1986 grew into more than three decades at the company, planting the seed for a career defined as much by leadership and service as by technical mastery.

Three decades at Intel

After graduating from Oregon State's College of Engineering in 1986 with a degree in chemical engineering, McDonald went on to hold a wide range of engineering, manufacturing, and management roles inside Intel's fabs, working in New Mexico, Arizona, and Oregon. She managed the startup of Fab 22 in Ocotillo, Arizona, and later served as plant manager of Intel's Hillsboro, Oregon, Fab 20,

one of the company's leading-edge microprocessor and chipset facilities. She represented Intel at the International SEMATECH Manufacturing Initiative, touring wafer fabrication plants around the world, and published papers on thin-film equipment improvement at SEMICON Korea and SEMICON West.

"Oregon State shaped not only how I think as an engineer, but how I lead — with humility, clarity, and a commitment to service," McDonald said.

That leadership philosophy carried her into some of Intel's most complex challenges. She went on to serve as vice president of strategic planning for the company's IDM2.0 Acceleration Office, directing the full semiconductor manufacturing lifecycle, from strategic planning and financing to fab construction, operations, and

decommissioning. Along the way, she pioneered a lean, high-velocity business process improvement methodology that was widely adopted across Intel, delivering measurable gains in productivity, cost savings, and quality across manufacturing, engineering, and business units.

A voice for women in engineering

McDonald's impact at Intel extended well beyond operations. As the company's vice president of human resources and director of the Intel Talent Organization, she helped pioneer Intel's Healthcare Marketplace Collaborative, bringing together Portland-area healthcare providers, a health plan, and the Virginia Mason Institute to improve access to and reduce the cost of healthcare for Intel employees and their families. She served as Intel's executive sponsor for the Women in Intel Network and Oregon Site Senior Manager Sponsor for Women at Intel, and was a longtime member of the Society of Women Engineers.

Her commitment to public service reached beyond the company as well. From 2016 to 2022, McDonald served as a Governor-appointed Commissioner for the Port of Portland.

Throughout her career, McDonald has remained deeply connected to Oregon State. She has served on the College of Engineering's Dean's Leadership Council since 2016, helping strengthen the bridge between academia and industry and bringing an industry perspective to conversations about talent, research, and innovation. She played a key role in advancing efforts to increase the participation of women in engineering, including championing the recruitment of more women faculty as a way to attract and retain more women students. She has been a guest speaker for the college's Industry Connect program, a panelist for the Celebration of Women in Engineering Career Diversity event, and an industry judge at Engineering Expo. In 2005, she was inducted into the college's Council of Outstanding Early Career Engineers.

“OSU gave me the foundation to build a career defined by curiosity, problem-solving, and leadership,” McDonald said. “The College of Engineering taught me how to navigate complexity, work across disciplines, and stay grounded in both rigor and collaboration.”

Building what's next

After more than 30 years at Intel, McDonald shifted intentionally toward advisory and community-focused work. Today she serves as Advisor & Builder in Residence at the Wachholz Innovation & Entrepreneurship Center at Flathead Valley Community College, where she helps founders and organizations build systems, strategy, and operational clarity. She also works as a strategic advisor to executives and boards on leadership development, organizational design, and long-range planning.

McDonald's belief in interdisciplinary, mission-driven work is also personal: her father was a smokejumper and career forester whose innovations in aerial firefighting resonate with her own advocacy for cross-college collaboration, including OSU's partnerships between engineering and forestry on wildfire mitigation.

Whether advising founders, mentoring emerging leaders, or supporting Oregon State's engineering pipeline, McDonald brings the same combination of engineering discipline and human-centered leadership to every role she holds — a career built on the values she first learned at Oregon State: humility, ambition, service, and the belief that engineering can change lives, industries, and communities.



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