

COLLEGE OF ENGINEERING

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2021  
**OREGON  
STATER  
AWARDS**

11.18.2021



**Oregon State  
University**



## FROM THE DEAN

# Transforming the world by broadening engineering opportunities

Despite the unprecedented challenges of this past year, the College of Engineering has remained resilient and ambitious, continuing to make significant advancements in education, research, and our global pursuit of a more collaborative and inclusive engineering community.

As the nation's 10th largest engineering program, we continue to see record growth in our enrollment — fast approaching 10,000 students for the first time ever — and in the number of degrees conferred. We have rolled out new degree programs over the past two years, including in Artificial Intelligence and Architectural Engineering, and we have implemented a unique, interdisciplinary curriculum for first-year students, Engineering+.

We continue to foster a more inclusive learning and working environment for our students and future engineers. This academic year, Oregon State University has more than 2,000 women enrolled as engineering students. And, with more than 50 women in tenured or tenure-track positions across the College of Engineering, Oregon State is in the top three R1 universities in the country in percentage of engineering faculty who are women.

We continue to implement new academic and scholarship opportunities to make sure an Oregon State engineering degree remains accessible and attainable for all. For instance, our bachelor's degree program in computer science ranks No. 1 nationally in degrees conferred, and the online version is Oregon State's largest online program, with over 2,600 enrolled students living outside of Oregon.

Finally, we continue to advance research and innovation. Last year, research grants and contracts exceeded \$64 million, our largest total ever. As part of that, the college is participating in two separate \$20 million federal grants related to artificial intelligence and robotics — one addressing agricultural challenges resulting from climate change, the other focused on improving support for older adults living independently in their own homes.

Altogether, by broadening the accessibility of our education and breadth of our research, we continue to profoundly impact the world and transform the lives and communities within it.



Our Hall of Fame honoree this year, Theodore G. Lewis, is a great example of the impact that Oregon State engineers have on the world. After being inspired by a family friend's work designing rocket engines, Ted went from working at his local mill in Lebanon, Oregon, to teaching and performing research in Oregon State's Computer Science Department for nearly 17 years during the supercomputer revolution. He later served as chair for the same-titled department with the Naval Postgraduate School in Monterey, California, focusing on software engineering, parallel processing, and cyber security. In 2002, in the wake of the 9/11 terrorist attacks, he would become the executive director for the newly established Center for Homeland Defense and Security, developing curriculum and teaching a new generation in emergency management and homeland security. Ted's journey and contributions to the field of engineering demonstrate just how personal ambition, an Oregon State education, and professional resilience can impact the world.

Along with Ted, our other 2021 Oregon Stater Award honorees — the six alumni to be inducted into the Academy of Distinguished Engineers and the 10 alumni to be recognized among the Council of Outstanding Early Career Engineers — represent a continuing legacy of excellence and leadership at Oregon State University. They continue to inspire the next generation of engineers.

Please join me in congratulating these individuals for their accomplishments and thanking them for their contributions and advancements to our world.

Go Beavs!

Scott A. Ashford, Ph.D., P.E. (California)  
'83 Oregon State, B.S. Civil Engineering  
Kearney Dean of Engineering  
Oregon State University  
College of Engineering

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Each year, volunteer advocates help secure critical funding for higher education in our state.

Do you know who your state legislator is? Do they support higher education? Find out at [TheBeaverCaucus.org](http://TheBeaverCaucus.org).

Join us in advocating for Oregon State University and a bright future for the state we all call home.

*The legislative advocacy partner of the OSU Foundation and Alumni Association*





# About The Awards

In 1998, THE COLLEGE OF ENGINEERING introduced the Oregon Stater Awards to honor outstanding alumni and friends of the college for their contributions to the engineering profession and to Oregon State University. Three categories recognize outstanding achievement at different stages of an Oregon Stater's career:

### ENGINEERING HALL OF FAME

Membership in the Engineering Hall of Fame is awarded to Oregon State alumni who have made sustained, meritorious contributions and demonstrated leadership throughout their careers.

### ACADEMY OF DISTINGUISHED ENGINEERS

Membership in the Academy of Distinguished Engineers is awarded to mid-career Oregon State College of Engineering graduates who have made sustained, distinguished contributions to the profession, their field, the university, or society at large. Awardees must still be practicing, with at least 20 years of professional experience beyond their bachelor's degree.

### COUNCIL OF OUTSTANDING EARLY CAREER ENGINEERS

Membership in the Council of Outstanding Early Career Engineers is awarded to Oregon State College of Engineering graduates who have made significant early-career contributions that identify them as rising leaders in their profession or field. Awardees have less than 20 years of professional experience beyond their bachelor's degree.

**CONGRATS KENT!**

NuScale is proud to see Kent Welter inducted into the OSU Academy of Distinguished Engineers. This honor is a testimony of his hard work and commitment to a smarter and cleaner energy future.

The image features the NuScale logo, which consists of three white circles connected by lines, with the word "NUSCALE" in a bold, sans-serif font below it. The background is a photograph of a city street at dusk or dawn, with tall buildings and cars in motion, creating light trails. The scene is framed by white, wavy, abstract lines.

A photograph of five people (three men and two women) in a meeting, overlaid with a semi-transparent red filter. They are dressed in business casual attire and appear to be engaged in a discussion.

**HIRING OSU GRADUATES FOR OVER 60 YEARS** Together we are engineering the future of mining technology.



**WEIR** ESCO



## AWARD

# Engineering Hall of Fame

**F**or a young man living in a small, rural town in Oregon, the future was mapped out. Like his father and friends, Theodore G. Lewis went to work at the local mill in Lebanon, Oregon, after graduating from high school in 1960. No one had any encouraging ambitions for him. Only Lewis believed he had more to offer.



**Theodore G. Lewis**

B.S., Applied Math,  
1966

Professor (Retired)

Naval Postgraduate  
School

*While a student, Lewis worked in the basement of Strand Agricultural Hall operating an early vacuum tube computer, the ALWAC. His job was to run students' programs on punched paper tape.*

America was in a space race and a Cold War. One of the few locals to leave town was Lewis' uncle, Rod Kleint, who became a rocket scientist in California. After two weeks of mill work, Lewis hitchhiked to Los Angeles. Kleint got his nephew a technician job at Rocketdyne, which was designing the rocket engines for the Gemini and Apollo programs.

"For a boy from the country, it was an impressive display of industrial power," Lewis said. "I'd walk into the work area and a rocket engine the size of a house would be moving from station to station."

His takeaway from the job experience was that engineering is where the action happens. He returned home and enrolled at Oregon State University.

"At OSU, I took every math class they would let me take and that education has stood me well," he said. "It's amazing now how long-ranging the effects of OSU and that math education have been."

By the mid-1960s, supercomputers were causing a revolution in industry. Lewis received his undergraduate mathematics degree in 1966. By the time he graduated with his advanced degrees in computer science in 1971, the personal computer era had begun. Intel introduced the first microprocessor that year.

In 1976, Oregon State invited Lewis back to serve as

faculty in its new Computer Science Department. At the forefront of this dynamic evolution, Lewis instructed students for 17 years while also directing research at the Oregon Advanced Computing Institute into foundational technology still used today like parallel processing, multi-processors and software engineering.

But Lewis likes a challenge. His next move was to the Naval Postgraduate School in Monterey, California. He also dipped a toe in the commercial world, working as an executive in research and development at DaimlerChrysler and as a senior vice president at Eastman Kodak. Then the world stopped on Sept. 11, 2001.

In the aftermath of the 9/11 terrorist attacks, President George W. Bush created the Department of Homeland Security in 2002. The Naval Postgraduate School opened the Center for Homeland Defense and Security (CHDS) that same year to prepare civilian graduate students to defeat terrorism and respond to public safety threats and natural disasters. Associate Provost Paul Stockton (later the Assistant Secretary of Defense for Homeland Defense and Americas' Security Affairs) asked Lewis to help. "They needed a place to educate the next generation of emergency management and homeland security professionals," Lewis said. "Nobody knew how to do it. I got to invent curriculum, build a team and teach some of the courses. We started with \$2 million in funding but 10 years later we had \$20 million. It was a good group of people to work with, and we made a difference. We had hundreds of positive responses from our students. It's very gratifying to have students speak so well of their education."

After stepping down as the executive director of CHDS in 2013, Lewis retired though he still does some teaching, consulting and writing. Over his career, he's published 30 books. He recently wrote a paper about modeling simulations around the pandemic. He lives in Salinas,

California with his wife, Molly Ann, and their two Corgis. Their son, Todd Lewis, has followed his father's footsteps into cutting-edge technology as the vice president of hardware for Agility Robotics in Albany, Oregon. Their daughter, Paige Olsen, works for OSU in Capital Planning and Development.

Lewis considers himself lucky that his interests and talents aligned with

the historic changes in technology that occurred over the course of his career. If not for the example of his uncle and an inborn tenacity, Lewis might easily have never left his rural mill job.

"Never give up; believing in yourself is everything," he said.

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*"Attending OSU changed my life, completely. I went from working in a mill in Lebanon to OSU professor and beyond, all because of my education at OSU."*

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## AWARD

# Academy of Distinguished Engineers



**Chris  
Carpenter**

B.S., Mechanical  
Engineering, 1985

Vice President of  
Innovation and  
Technology

ESCO division of Weir

**C**hris Carpenter, PE, grew up in eastern Oregon and spent much of his spare time fixing or making things, so he was destined for a career in engineering. Oregon State University was a logical choice given the reputation and wide range of engineering disciplines. The coursework created a strong knowledge foundation, and relationships with several professors provided the inspiration that launched his career.

Carpenter is now the Vice President of Innovation and Technology for the ESCO division of Weir headquartered in Portland, Oregon. Weir ESCO creates premium high-strength, wear-resistant steel products for the global mining and construction markets. During his 35 years at ESCO, he has held a variety of technical and leadership roles. His current role is focused on developing disruptive digital and automation technology to create new and expanded business opportunities.

Reflecting on his learning while working through the Mechanical Engineering program, the most memorable times were spent in the workshops making parts and in the labs running tests. Chris has taken these fundamentals and with a world class team created a 'learning laboratory' referred to as the Hank Swigert Center for Innovation at the divisional headquarters in Portland.

Chris has been awarded nearly 40 patents so far. His contributions have pushed the boundaries of prod-

uct innovation, developing technologies and systems that have expanded the company's position as a market leader. He is proud of helping to create a thriving engineering culture focused on learning and collaboration, and has enjoyed being part of a global team working together to solve some very challenging problems.

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*“Creating an environment where learning drives the engineer and knowledge drives their design will result in a successful product.”*

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Carpenter has admired the efforts that OSU's College of Engineering has made to create a more diverse environment, through their recruiting practices and internal programs. He was inspired by this work and saw an opportunity within ESCO to assist in the creation of an affinity group for LGBTQ+ employees that he is now supporting as an executive sponsor.

Chris also serves on the Dean's Leadership Council for Oregon State University College of Engineering, the Dean's Executive Council for Portland State University College of Engineering, and the Board of Trustees for Oregon Museum of Science and Industry (OMSI). Carpenter and his wife live in Hillsboro and have 3 children - two of whom are Oregon State engineering graduates.



**Jeanette  
Ourada**

B.S., Computer  
Science, 1987

Vice President &  
Corporate Controller  
(Retired)

Chevron

**J**eanette Ourada considers Oregon State University's College of Engineering to be the foundation of a career that integrated multiple aspects of complex problem solving. She notes that, as a female in a male-dominated profession, professors helped build her confidence to compete in any discipline. The varied and flexible program allowed her to explore different classes and focus her area of interest on solving business problems through computer science.

After graduating from Oregon State, Jeanette worked for Weyerhaeuser, writing code and installing computer systems for payroll, incentive compensation, and inventory control for the company's diaper plants. She went on to complete her MBA in Finance from the Wharton School of Business to expand her problem-solving capabilities.

Her first job after business school was in the oil and gas industry where she was attracted to making disciplined capital investment decisions for energy projects that spanned the globe. These projects had complicated local legal and regulatory requirements that kept Jeanette traveling to over 70 countries while working for Atlantic Richfield, Unocal, and Chevron. During this time, she also lived and worked abroad in Thailand with responsibility for Chevron's China and Southeast Asia financial organizations.

Ourada held two key roles with Chevron that benefited from her mix of technical, commercial, and financial skills. The first was to lead Investor Relations and explain Chevron's business proposition during a heavy capital investment cycle which included deep water platforms in the Gulf of Mexico, crude processing in Kazakhstan, and LNG plants in Australia. The second was moving into the role of Vice President and Corporate Controller during a period of volatile commodity prices. She provided reliable external financial reports and implemented sophisticated analytical and forecasting processes to give management enhanced insights into key business drivers.

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*“Solving today's complex energy problems requires not only strong technical skills, but also a solid understanding of the commercial equation and the ability to communicate the impacts to a non-technical audience.”*

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Jeanette is proud of her time at Chevron, especially when she helped build the financial fluency of the company's worldwide workforce. Jeanette was also inspired by teachers and professors throughout her education and is now a strong advocate for girls and women in STEM.



AWARD

# Academy of Distinguished Engineers



## Rachele Turnbull

B.S., Construction Engineering Management, 1996

Minor, Business Administration, 1996

CEO

Clark Construction, Inc.

**R**achele Turnbull graduated in 1996 from Oregon State University with a Bachelor's in Construction Engineering Management and a minor in Business Administration. She chose OSU for many reasons, focusing on the reputation for having a great engineering program, in addition to her family history at the university, and the proximity to her home and immediate family. The experiences she gained from OSU, not only academic, but in team athletics, helped cultivate her ability to take on anything she put her mind to.

After earning her degree, Rachele spent eight years at Baugh Construction Oregon in Beaverton, Oregon, which is a nationally recognized commercial contractor, now a part of Skanska USA. Her commercial project background includes work on high tech fabrication, animal care, healthcare, and educational facilities. She left Skanska in 2003 to follow a desire to work for a community- and family-focused company – or even start her own. She was drawn to be a part of something that was not just driven by profit, but was created as an opportunity for its employees to achieve an ownership stake in the company, and prioritized giving back to the community.

In 2006, Rachele started Clark Construction on Bainbridge Island, Washington, with a very small group of people, including her father, who had prior experience running a small residential business. To this day, Turnbull is among the few female CEOs at a construction com-

pany, and she is proud of that accomplishment. Pushing the boundaries of traditional roles in the construction industry is one of the cornerstones of Clark Construction.

*“My hope is that the growth and success of our employee-owned business model will empower our team to make day-to-day decisions that drive our business forward in its goals of community activism and sustainability in construction, while maintaining work/life balance.”*

Recently, the leadership team made the daring move of creating a framework for wider employee ownership in the company. More than a third of the Clark Construction employees have an ownership stake in the company – this includes field labor and all employees, not just management. They have created a culture of stewardship through employee education, volunteer action in the community, and participation in programs that drive sustainability, affordability, and support of community programs. This helps to create a budget model that encourages customers to pursue certification like LEED and LBC, donating labor as well as resources and excess construction materials for workforce housing.



## Pieter van Zee

M.S., Computer Science, 1995

Distinguished Technologist

PageWide Industrial division, HP Inc.

**P**ieter van Zee has worked at the intersection of business strategy, system architecture, and software development for most of his career. He is a Distinguished Technologist at HP Inc., with a focus on software strategy and products for the PageWide Industrial printing press division.

“OSU’s Master’s degree program in Computer Science offered a desirable mix of innovative research in user-centered software design along with solid technical fundamentals,” van Zee said. He added that he has used those skills extensively in his 28-year career at HP. During that time, he has been co-founder or a principal contributor to six in-house startup product lines, received 12 patents, and worked directly on many customer deals. “Solving hard problems creatively for customers is part of the fun of being an engineer,” he added.

HP’s digital presses print at more than 8 feet per second in rich color and are transforming traditional industrial printing while reducing paper waste and the use of toxic ingredients. “It’s exciting to make it possible for book sellers to print and ship a book within hours of when it was ordered and to eliminate the concept of “out of print” or the need to warehouse books,” van Zee said.

Throughout his working years, van Zee said he is most proud of his work on the HP Photo Center. “Photo Cen-

ter made it amazingly easy for people to create beautiful photo products like collages, photobooks, posters and cards.” HP’s award-winning system brought next-generation photo products to thousands of retail stores worldwide. As Chief Technologist for the division, he was

*“Software is fundamental to almost every discipline today. OSU’s School of EECS has done an excellent job making it possible for both traditional and non-traditional students to gain those skills and is doing it for thousands of students each year.”*

deeply involved in the design and development of the innovative kiosk software that could create complete photobook designs with attractive layouts in seconds with a single button press and then let the user customize them easily.

Pieter enjoys participating on the School of Electrical Engineering and Computer Science Industrial Advisory Board, as well as student recruiting and mentoring of senior Capstone projects.



## AWARD

# Academy of Distinguished Engineers



## Kent Welter

Ph.D., Nuclear Engineering, 2002

Chief Engineer of Testing and Analysis

NuScale Power, LLC

**K**ent Welter, Ph.D., feels that the Oregon State University's College of Engineering is one of the best in the country. When asked how attending OSU impacted his life, he said, "First and foremost I met my best friend and wife at OSU!" He added that, as a graduate student, he was fortunate to join a research project that provided him with both practical experience and strong connections to potential job opportunities.

Welter has experience as an engineering manager, leading industry standards on risk-informed performance-based design and systems engineering best practices. He has spent much of his career working to deploy advanced reactor technologies in the U.S., Canada, U.K., Ukraine, and Japan. He is considered an expert in nuclear reactor safety analysis, risk assessment and safety system testing. He has worked to foster relationships and collaborate with domestic and international energy research institutes to further the advancement of nuclear safety analysis and testing around the world.

Kent is an entrepreneur with a passion for helping others. He is currently the Chief Engineer of Testing and Analysis at NuScale Power, a pioneering company commercializing small modular nuclear reactors. In his spare time, Dr. Welter volunteers as a business mentor at the Oregon State University Advantage Accelerator, which supports regional innovation and entrepreneurship.

He loves engaging with startup leaders to bring their ideas to realization. In those collaborations, he strives for planning and execution discipline, technical excellence, and data-driven decision making.

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*"I'm drawn to creative individuals with a vision. I love their enthusiasm and passion. Working together, we can make a real difference by developing and deploying near-term solutions to combat climate change."*

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Dr. Welter considers that his company's small modular reactor design is arguably the leading technology in the field. He is proud that, as the second employee at NuScale, he is helping to grow a company over the last 13 years and commercialize one of the safest and most cost-effective nuclear reactors ever designed.

Welter feels that the future of engineering looks bright in his field, and that the nuclear power industry continues to be an important part of the clean energy solution. He believes that next-generation nuclear reactors like the NuScale design are leading the charge.



## Kenneth Williamson

B.S., Civil Engineering, 1968

M.S., Environmental Engineering, 1970

Director, Research and Innovation

Clean Water Services

**K**enneth Williamson said that his engineering education at Oregon State University helped him grow from a naïve farm kid to a professional engineer fully engaged in environmental engineering research at the national level. He feels strongly that the OSU College of Engineering provides opportunities for a high-quality education. He even said that after completing his Ph.D. at Stanford, he came to realize that the quality of the B.S. and M.S. education at OSU far exceeded what students at Stanford were receiving at that time.

Williamson served as Director of the Regulatory Affairs Department for six years, then became Director of Research and Innovation at Clean Water Services (CWS) in 2018. He leads efforts to promote advancement in wastewater treatment, regulatory innovation, business operations and environmental restoration. Before coming to CWS, he was a professor at Oregon State University where James and Shirley Kuse Chair in Chemical Engineering and served as head of the Department of Civil, Construction, and Environmental Engineering and then head of the School of Chemical, Biological, and Environmental Engineering.

Ken's original Ph.D. research on bacterial films and years of subsequent research at both OSU and CWS led to a large number of new treatment technologies and improvements in process and application. He says that wastewater treatment in the future may be dominated by biofilm membrane reactors that were first demon-

strated in OSU laboratories. His recent research is directed toward the use of genetic and molecular methods to monitor pathogens like SARS-CoV-2 in wastewater, to achieve greater pollutant removals from biological treatment processes, and to lower wastewater treatment costs. Williamson feels that this is an area with nearly unlimited potential for significant impacts.

Williamson has spent over 40 years conducting research on wastewater and hazardous waste treatment and sustainable environmental management. He has published numerous technical articles and book chapters. He served as member and vice-chair on the Oregon Environmental Quality Commission, and as a member of the Oregon Watershed Enhancement Board.

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*"Enhancing and protecting the environmental quality of our future depends on developing innovative engineers with strong leadership skills."*

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He feels that managing the impacts of waste discharges and stormwater flows and controlling climate change will be an ever-increasing challenge for all environmental engineers in the future.



## AWARD

# Council of Early Career Engineers



## Jacob Benz

**B.S., Nuclear Engineering, 2005**

**M.S., Nuclear Engineering, 2008**

**Nuclear Engineer**

**Pacific Northwest National Laboratory**

Jacob Benz received his Bachelor's and Master's degrees in nuclear engineering from Oregon State University in 2005 and 2008. He says that the university gave him the opportunity, skills and confidence to push himself beyond what he knew and was comfortable with. He feels that the college is a community of like-minded individuals working as a team for a better future. "My time at OSU literally changed the arc of my career," he added. The professional relationships that he forged as part of the NSE community opened up doors to nuclear arms control and nonproliferation — something he didn't know existed before joining that program. His career path has not been a straight line, but Benz says that he could not imagine doing anything else.

After finishing at Oregon State, Benz began working as a nuclear engineer within the Global Security Technology and Policy group at Pacific Northwest National Laboratory (PNNL). His work has focused on the research and development of technologies and approaches to support and enable current and future monitoring and verification initiatives in arms control and global safety practices. His projects involve collaboration and technical engagement with domestic and international partners on bilateral and multilateral verification concepts.

A key aspect of his work, Benz develops tools and methods to generate and maintain confidence in treaty-accountable material, equipment, and facilities to support potential future verification objectives. He works to confirm authenticity and integrity of technologies, and associated information, that may be negotiated for use in a future treaty, and addresses how cyber security impacts the critical national security missions within nonproliferation, international safeguards, and arms control.

Jacob is proud that his work is helping to create the possibility of a safer future by creating tools and techniques to limit and account for nuclear weapons amongst future treaty partners. He hopes that he will be able to return the favor and share his knowledge with the next generation of arms control experts at universities and national laboratories.

*"Where I am today is a direct result of the guidance and support from my Nuclear Science and Engineering mentors and advisors, and I hope to be able to pass that on and have a similar impact on the future generation."*



## Joshua Hille

**B.S., Mechanical Engineering, 2014**

**M.S., Industrial Engineering, 2016**

**Technology Development Engineering Manager**

**Intel**

Joshua Hille's interest in engineering started at an early age when he looked up to both his grandfather and uncle (both engineers) who always seemed to be able to fix anything or answer any question. Josh participated in the Multiple Engineering Co-Op Program (MECOP) during his undergraduate studies, which led to an Intel Fellowship that funded his Master's degree at Oregon State University.

Hille acknowledges that Oregon State was a great place to learn - it provided a lot of hands-on experiences that really helped grow his engineering skills. He adds that, even though it is a larger state school, he always felt like the professors and peers were there for support.

After graduating from Oregon State, he joined Intel as an Operations Manager, and led two teams of manufacturing technicians to support one of the company's product development fabrication facilities. In that position he learned a lot from his peers and his team in this first management role - in particular, how to drive for results while developing a positive team culture that is so fulfilling.

In 2018, Josh married and moved to Seattle to work for Genie Industries as a Manufacturing Engineering Team Lead. Hille and his wife Danell returned to the Portland area in 2020 to start a family. Josh rejoined Intel in the Corporate Services (CS) Exhaust Group as a Shift Group leader.

Now he is a Technology Development Engineering Manager in the CS Exhaust Group at Intel. Josh is passionate about achieving best-in-class results through challenging the status-quo, improving operations, and ensuring his team members are succeeding while also enjoying their work.

Hille recognizes that recently the semiconductor industry has had a huge amount of visibility from global governments and press due to increased demand. He feels blessed and is proud to lead such an amazing team, knowing that their work is directly tied to the success of Intel by ensuring that the manufacturing sites can function safely for both employees and those living in the surrounding areas.

*"Continuously learning, challenging myself, and stepping into new roles has been critical to my career path."*



## Christopher Burke

**B.S., Construction Engineering Management, 2000**

**Minor, Business Administration, 2000**

**Vice President/Regional Manager**

**Granite Construction Company**

Christopher (Chris) Burke hadn't considered a career in construction management. He grew up in St. Paul, Oregon, working on a farm where hard work is what mattered most. He says he didn't have a clear direction when he started college. One of his good friends suggested mechanical engineering. He figured, since he liked math, why not?

Burke says if there is one thing that potential students should know about the College of Engineering at Oregon State University is that it's diverse. The College offers something for everyone. Although he started out in mechanical engineering, by his second term realized it wasn't an ideal fit. Following the advice of some great friends and academic mentors, Burke switched gears to the CEM program and never looked back.

Chris feels that the College of Engineering at OSU provided a tremendous educational foundation. It also facilitated many important relationships - personal and professional - which he still holds dear. After graduation, he decided to begin a career with Granite Construction Company. Granite is 'America's Infrastructure Company' and a leader in heavy civil construction which provides infrastructure solutions for public and private clients. He is currently the Vice President of Granite's Nevada Region, which employs over 300 people annually. Burke feels that their success today is measured by an engaged workforce that safely delivers exceptional client satisfaction and emphasizes sustainability. Nearly 22 years later, he is still with the company and knows that OSU facilitated his career with Granite.

Burke's education and work experiences have afforded him many great opportunities and believes success in life and business is owed to an amazing team, mentorship from friends and leaders, and of course, his family. He serves on the Industry Advisory Board at OSU, is a current Board Member of the Nevada Mining Association and is the President of the Nevada Chapter of the AGC in 2022.

He advises: The future of engineering will be focused on technology and sustainability, but always be mindful of the people.

*"As you can see relationships matter in life and in business. No success can be owned by any one person, most certainly my own. I attribute any of my success to hard work and the bond of strong relationships, many of which were formed at OSU!"*



## Charles Keller

**B.S., Nuclear Engineering, 2007**

**Principal**

**Keller Energy Consulting, LLC**

Charles Keller was fascinated by power production at a young age. His first elementary school project explored the Grand Coulee Dam and its impact on the community. This interest grew, and as a senior in high school he was given the opportunity to shadow Dr. José Reyes, former head of the Department of Nuclear Engineering and Radiation Health Physics at Oregon State University. Keller was grateful for the opportunity to explore his lifelong passion, applied to the program, and was accepted.

He describes the Oregon State College of Engineering as a great inclusive environment that provides its students opportunity to be involved in industry-leading research and innovation, with some of the best minds in the business.

He obtained his first internship and first job by being involved in the Student Advisory Board while studying in the program, and he participated in student leadership by helping to reform the board. After graduating from Oregon State University, he began working for a major utility company in the southern U.S. as a reactor and systems engineer. Spending many hours in the control room during power operations, he desired to experience more of what the industry had to offer. Keller decided to leave the utility to begin work as an independent consultant, which opened a new world of exciting challenges.

His first two projects as a consultant focused on nuclear safety, a new-build assessment for a developing nuclear nation, and flooding safety compliance of a California nuclear power plant following the Fukushima Daiichi accident in 2011. During his career, Keller has worked on a wide array of projects including utility operations, nuclear new build, waste management, and decommissioning. Every one of these opportunities has always been rooted in safety and advancement of the collective industry.

Charles adds that, with an aging workforce in nuclear engineering, there is ample opportunity for new engineers to implement modern technology and innovation to an industry that has had a mentality of "why change what works" - now is the time to bring the nuclear field to the modern age.

*"Every challenge is an opportunity to learn and grow."*



## AWARD

# Council of Early Career Engineers



**Amy J. Ko**

Honors B.S.,  
Computer Science, 2002

Honors B.S.,  
Psychology, 2002

Professor

The Information  
School, University  
of Washington

Native Oregonian, Amy J. Ko was born in Ontario and grew up just outside of Portland. As a child, she spent a lot of time playing video games with friends, drawing, writing poetry...and eventually writing code for visualizations and games.

At Oregon State University she majored in Computer Science and Psychology and enrolled in the Honors College. She quickly became involved in the student chapter of the Association for Computing Machinery, and after her first year helped run the club and its activities around campus. While at Oregon State, she was so inspired by her engagement with Professor Margaret Burnett's research group that she decided to pursue a Ph.D. to study Human-Computer Interaction at Carnegie Mellon University.

Ko also wanted to investigate what made software debugging so difficult, and to invent technologies to improve the user experience. After graduating, she returned to the Pacific Northwest and secured a tenure-track position at the University of Washington's Information School. She took leave to begin a software startup with a faculty colleague and a Ph.D. student, earned tenure at UW in 2015, then left the growing software company to refocus her research on computer science education in 2016.

Ko says that attending Oregon State was transformative, both personally and professionally. While an undergraduate, she fell in love, got married, and became a mother. She found the school's academic communities to be incredibly supportive, which gave her confidence and helped discover a capacity for leadership.

Two years ago, Amy came out as transgender, and began advocating for critically conscious computing, to awaken industry and academia to the ways that technical decisions in software can harm and oppress marginalized and minoritized groups. She is excited to believe that future engineers are ones that will see injustice in their decisions and professions and not only resist it, but dismantle it.

*"I've been captivated by code since middle school, but not so much by what I could make with it, but how it could empower people."*



**Tadesse Meskele**

Ph.D., Civil  
Engineering  
(Geotechnical  
Specialty), 2013

Senior Engineer

GRI

Tadesse Meskele, Ph.D., PE, recognizes that the civil engineering program at Oregon State University had a profound impact on his career, and he feels that the high quality of technical courses that were offered and the research he conducted during his graduate program provided a solid foundation for success.

He is currently a Senior Engineer for GRI, with 11 years of experience in geotechnical- and seismic-based engineering. Following the completion of his Ph.D. studies in geotechnical engineering at Oregon State University, his consulting experience has focused on seismic design and performance evaluations of lifeline components and systems, including municipal water systems, surface and maritime transportation systems, electric power networks, and LNG facilities.

Tadesse has been involved in many high-level seismic projects that incorporated new research findings and pushed the boundary of the current practice of earthquake engineering. His work with GRI and his research with industry organizations such as USGS, ASCE, and EERI has focused on seismic hazard studies and analyses, including developing site-specific seismic ground motions and other geologic hazard evaluations. The research and case studies he is leading in these areas will impact the design criteria, operational safety, and future on a wide variety of infrastructure design practice.

He is also part of the 2020 EERI Housner Fellowship Program, where he collaborates with other industry leaders to participate in a wide variety of dynamic educational events, conferences, and develop and support policies for seismic resiliency to improve regional community awareness.

Tadesse believes that the future of engineering is very exciting, because public agencies are currently focusing on building or retrofitting structures to achieve seismic resiliency – which will make geotechnical engineering and earthquake-resistance vital elements in design and building infrastructure.

Meskele is most proud of his involvement performing advanced geotechnical and seismic evaluation for projects such as the Oregon State Capitol Seismic Upgrade, home to the legislators of the State of Oregon; Port-of-Portland-International Airport Improvements; and the OSU Marine Studies Initiative Building in Newport, Oregon – the first structure to be designed to withstand the combined earthquake and tsunami hazard produced by a Magnitude 9.0 earthquake.

*"There is nothing more rewarding than working on high profile civil engineering projects that are interesting and challenging at the same time."*



**Katie Merrill**

B.S., Industrial  
Engineering, 2015

B.S., Finance, 2015

Senior Strategy  
Consultant

Boeing

Katie Merrill grew up in Hillsboro, Oregon, and as a Beaver fan from an early age, she was very excited to attend Oregon State University. She spent her freshman year studying business and rowing, then learned about the College of Engineering over the summer between her first and second year at the university. Industrial engineering piqued her interest, and she decided to double major in finance and industrial engineering. Merrill considers her time studying engineering to be "one of the best decisions that I have ever made." She learned how to think critically and collaborate to solve complex problems. Earning that major opened the door to her future career at The Boeing Company.

Shortly after beginning her studies in engineering, Katie attended an on-campus career fair and met a Boeing manager, which brought her to an internship on the company's 787 program. Her enthusiasm for aerospace and engineering blossomed as she supported the mechanics in the Everett factory. This work experience led to two additional internships at Boeing and, after graduating from Oregon State, she was admitted into the two-year Business Career Foundation Program with rotations across finance, operations and strategy in Seattle and Washington, D.C.

Over the last four years, Merrill has worked as a strategist in both the Commercial Airplane and Corporate Divisions of Boeing. She feels fortunate to have had the opportunity to learn from and support a wide variety of teams, while working on projects that will help shape the future of Boeing.

Katie recently completed her MBA at Northwestern University's Kellogg School of Management, married and relocated to Washington, D.C. from Chicago. She enjoys volunteering at a therapeutic horseback riding facility and looks forward to growing a garden at her new home.

*"The OSU College of Engineering opens doors that I didn't even know existed. I didn't know industrial engineering was an option before exploring different paths on campus and hopefully my story can inspire someone who wasn't originally thinking about studying engineering to consider it."*



**Staci (Van Norman) Moulton**

B.S., Chemical  
Engineering, 2009

Director of Field  
Application  
Engineering

Forge Nano

Staci (Van Norman) Moulton says her time at Oregon State University jump-started a path of technology development and educating others. As a K-12 outreach coordinator with mentor Skip Rochefort, she developed a passion for both research and helping students find their passion. The Johnson Scholars program gave her the opportunity to learn the process of research and development as well as commercialization while working on the eXpert with Timberline Tool, a natural gas pipeline patching system. The professors in the College of Engineering taught her what it meant to care about a student's development, and as an Engineering Ambassador she was able to show prospective Oregon State University engineering students the best of what the college could offer.

Staci now serves as the Director of Field Application Engineering at Forge Nano in Thornton, Colorado. Forge Nano developed commercial manufacturing methods for atomic layer deposition (ALD) on powders and objects, a thin film coating technique. This process is used in a variety of markets including lithium-ion batteries, catalysis, additive manufacturing, pharmaceuticals, and recently for high reliability electronics. Moulton is a key liaison with customers and project partners for delivery of technical content, limitations of ALD, and market readiness including cost analysis.

In 2015, she was the principal investigator for an Advanced Research Projects Agency – Energy (ARPAe) project for ALD catalysis and its commercial opportunities. In 2020, Staci and a colleague established the Advanced Surface Engineering Summit, a free virtual conference on the science and applications of ALD from researchers around the world.

She received her Ph.D. in Chemical Engineering from the University of Colorado – Boulder studying ALD of cobalt for active catalyst materials, and received an MBA from the University of Colorado – Denver. She has also authored ALD and polymer patents and was a technology lead for a research firm proposing projects to U.S. Government agencies for commercialization.

Moulton says she is excited about where the use of ALD and applications goes from here, and feels that the ASE Summit demonstrates just a subset of what is possible and what is being commercialized right now. At Forge Nano, the team is building the manufacturing equipment to launch ALD in new applications, which will lead to more efficient and effective materials in chemical manufacturing and lithium-ion batteries, among other uses.

*"Perseverance in the face of challenge is a choice."*



**AWARD**

# Council of Early Career Engineers



**Gregory Newbloom**

**B.S., Chemical Engineering, 2009**

**CEO & Founder**

**Membrion**

**G**regory Newbloom often reflects on his favorite quote by Louis Pasteur when thinking back on his time at Oregon State University: "Luck favors the prepared." Oregon State happened to be the in-state option for a Milwaukie kid that liked chemistry and math. He recognizes that one can learn the same subject anywhere, but Oregon State offers so much beyond the curriculum. Greg feels fortunate to have had access to faculty mentorship, internships and professional organizations that built a differentiated foundation.

Dr. Newbloom notes that the Pete and Rosalie Johnson Internship Program gave him the opportunity to pursue an engineering summer internship after his freshman year at Oregon State. That professional jumpstart has been compounding interest for 15 years. He says that most people interact weekly with something that was developed, at least in part, by an Oregon State engineer, and adds: The College of Engineering has a huge impact on every part of our global society.

Dr. Newbloom is currently the Founder and CEO of Membrion, a clean tech start-up focused on recycling wastewater from harsh industrial processes. The business makes ceramic desalination membranes out of the same material as the silica gel desiccant packets found in the bottom of a beef jerky package. His company currently has 16 full-time employees, \$3M+ in revenue, and \$10M+ in venture funding. He says that prioritizing sustainability in addition to function and cost will require a new level of engineering creativity.

Dr. Newbloom's leadership and entrepreneurial efforts have been recognized by a half-dozen regional and national awards including a '35 under 35' from the American Institute of Chemical Engineering. He holds 36 patents, has co-authored a textbook, and has nine publications with hundreds of citations. His work is regularly featured in both local and national media.

The part of his career that he's most proud of is assembling the diverse team that powers a collaborative culture. Dr. Newbloom says that Membrion is just getting started and he's excited to see where the journey takes him.

*"Innovation-driven idea meritocracies thrive in a diverse & safe environment."*



**Robert Rose**

**B.S., Computer Science, 2002**

**B.S., Computer Engineering, 2002**

**M.S., Electrical and Computer Engineering, 2006**

**CEO**

**Reliable Robotics**

**R**obert Rose says that Oregon State University's engineering program is challenging, and admitted he had to study and work very hard to stay in the program. Due to some incredible faculty members and mentors supporting him through the difficult periods, he succeeded. Rose feels that Oregon State is unique in how modest it is; he considers it a research powerhouse for students that want to explore. His eyes were opened to what could be accomplished beyond the university.

He worked as a student "network assistant" in the ECE department at Oregon State, which involved everything from laying cables to configuring servers to end-user support. The experience allowed him to apply some of what he was learning in school, and to improve his communication and social skills. When asked how attending Oregon State impacted his personal life, Rose added, "I met my wife at Oregon State! Maria has a B.F.A. in Graphic Design from OSU."

Prior to co-founding Reliable Robotics, in his role as Director of Flight Software at SpaceX, Robert was responsible for flight, ground, simulation and data management software, successfully launching and operating the first 10 Falcon-9 rockets, five Dragon spacecraft, and Grasshopper VTVL tests. He led the development of the on-board flight software for the first commercial mission to the International Space Station, for which he received special recognition from NASA. While working at Tesla, he brought to market the first consumer automobile with fully unassisted self-driving capability. At Google [X], Rose led a team working on a secret project combining AI techniques with practical robotic systems to bring advanced machine perception and manipulation technologies to large vehicles.

Rose holds multiple patents, a B.S. in Computer Science, a B.S. in Computer Engineering, and an M.S. in Electrical and Computer Engineering from Oregon State. He believes that we are in the middle of a renaissance in aerospace engineering, and is excited to see the continued advances in autonomous home robots, ground vehicles, industrial vehicles, and unmanned aircraft. He feels that the benefits of automation are yet to be fully realized.

*"Go Beavers!"*

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**Amanda Kniepkamp, '19**  
M.Eng. in Engineering Management  
Pasadena, California  
NASA Jet Propulsion Laboratory

[ecampus.oregonstate.edu/em](http://ecampus.oregonstate.edu/em)





# CATALYST

## SCHOLARS PROGRAM

Nearly one in four College of Engineering students has high financial need.

Nearly half of these high-need students are members of underrepresented groups, and most are also first-generation college students.

The College of Engineering, in partnership with the OSU Foundation and key donors, launched the Catalyst Scholars Program in 2020 to help propel high-achieving, high-need students across the finish line.

With an inaugural cohort of 10 students, the program will eventually serve up to 50 students per year.

Want to make a difference in the education of a future engineer? The Catalyst Scholars Program offers a range of opportunities for donors to contribute.



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