

COLLEGE OF ENGINEERING

Oregon Stater Awards

February 22, 2018



OSU150

FROM THE DEAN

Paying it forward by giving back

The demand for engineers who possess leadership and problem-solving skills has never been higher, while women and minorities continue to be underrepresented in both the workforce and engineering schools across the country; only through consciously embracing diversity can cultural change occur.

In the College of Engineering, we continue to advance our rigorous goal of becoming a national model of diversity, inclusivity, and collaboration. A 20-member team of change agents was created and empowered to work with college leadership to envision and develop the resource infrastructure and communication necessary to engage all college employees in our culture change process so that we may hire and promote more minorities and women as faculty within the college.

At Oregon State University, our objective is to give all students the transformative educational experiences they need to become leaders in their chosen disciplines. Our more successful graduates also “pay it forward” to future generations by giving back in numerous ways to benefit those who come behind them.

The 150th anniversary of Oregon State University in 2018 also marks the 20th anniversary of the College of Engineering Oregon State Engineering Awards. Each year, we honor several notable alumni whose contributions exemplify Oregon State’s leadership through engineering excellence. This year, we recognize 15 honorees who are making or have made important contributions throughout the world in aerospace, education, clean energy, radiation health, medical risk intelligence, resilient infrastructure, environmental sustainability, industrial manufacturing, and software technologies.

Our Hall of Fame inductee, Jim Piro, recently retired as president and chief executive officer of Portland General Electric. Jim gave back to his industry by embedding a safety-first attitude into the company’s culture. He also chairs the governor’s STEM Investment Council, where he oversees a long-term strategy to advance STEM education for Oregon’s children.



Six mid-career alumni will receive the Academy of Distinguished Engineers award, including Doug Adkisson, who has served as a senior-level leader in the nuclear industry, and Tom Gerding of Gerding Companies, who is paying it forward by remaining astute to the unique needs of his nonprofit clients. Col. Sarady Tan has built his entire career around service to our country as a flight surgeon in the Air Force and director of the National Center for Medical Intelligence in Washington, D.C.

We are also honoring one of our former faculty members at Oregon State, Terri Fiez, who is now vice chancellor for research and innovation at the University of Colorado Boulder. Terri uses her finely tuned leadership skills to develop industry partnerships and find funding opportunities to connect faculty and students with industry. Jeremy Corwin of Corwin Health Physics enjoys helping staff grow through continuing education. Randall Worsch, a business architect, mobilizes people in his organization to keep pace with the rapid changes occurring in the aerospace industry.

Additionally, we will recognize eight Council of Outstanding Early Career Engineers. Several honorees demonstrate how they carved unconventional career paths that are creating positive change, others are paying it forward through mentoring, or through producing new products that improve people’s lives.

When accomplished graduates like these help us educate the next generation of engineers, everyone benefits. They demonstrate and support

our tradition of excellence at Oregon State. We invite you to join us in saying “thank you” to these committed individuals who are helping us create a better future.

Go Beavs!

Scott A. Ashford, Ph.D.
 ('83 Oregon State, Civil Engineering)
 Kearney Professor and Dean
 College of Engineering
 Oregon State University

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ON THE COVER

Illustration by Santiago Uceda



Welcome to the Oregon Stater Awards

Oregonian Media Group is proud to publish this special program commemorating the 2018 Oregon Stater Engineering Awards for the fifth year running. The work accomplished by OSU's distinguished alumni drives progress and innovation throughout all fields of industry and science — from major advancements

in healthcare and computer technologies, to digital and print publishing, to name just a few.

As Oregon's largest media outlet we're privileged to report on OSU's accomplishments across all academic fields of study. Engineering is a field that captures the imagination — serving society by transforming the most challenging problems of business and science into solutions, and transforming humankind's most imaginative dreams into realities.

Congratulations to all of this year's honorees.

John Maher
President, Oregonian Media Group



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ENGINEERING DEGREES ONLINE

Computer science
(postbacc)
B.S.

Engineering
management
M.Eng.

Radiation
health physics
M.S./M.H.P.

Twelve years ago, Ingrid Scheel was filing papers part time for a small fiber optic sensor technology firm. Today, she's the vice president and has a sharp focus on tomorrow.

Ingrid Scheel
M.Eng. in Engineering Management
Columbia Gorge Research



ecampus.oregonstate.edu/engineering

Oregon State
University

OUT THERE

POINTING TO A BETTER WAY

You probably point and click with your computer mouse hundreds of times a day. Maybe even more if you've had an extra jolt of caffeine. It's so easy, you don't even have to think about it.

But Douglas Engelbart did. The 1948 Oregon State alumnus and his work colleague Bill English thought there had to be a better way to use a computer than clunky keyboard commands and punch cards. The mouse they created in their research laboratory has the same essential capabilities as the one on your desk.

Engelbart's mouse may have been small. But what a mighty impact it has made OUT THERE.



Photo: Michael Hicks

Oregon State University has transformed the state, the nation and the world over the last 150 years. Visit the Oregon Historical Society's exhibit, Oregon State University: A Legacy of Transformation, now through Sept. 9 in Portland.

OSU150.org



About The Awards

IN 1998, THE COLLEGE OF ENGINEERING introduced the annual Oregon Stater Awards to honor outstanding alumni and friends for their contributions to the engineering profession and to Oregon State University. Our three award categories are determined by length of career and accomplishments:

ENGINEERING HALL OF FAME

Membership in the Engineering Hall of Fame is reserved for Oregon Staters who have made sustained and meritorious engineering and/or managerial contributions throughout their careers.

ACADEMY OF DISTINGUISHED ENGINEERS

Membership in the Academy of Distinguished Engineers is awarded to mid-career Oregon Staters who have made sustained and distinguished contributions to the profession, the field, the university, or society at large. They have at least 20 years of professional experience beyond their bachelor's degree and are still practicing their profession.

COUNCIL OF OUTSTANDING EARLY CAREER ENGINEERS

Membership in the Council of Outstanding Early Career Engineers is reserved for Oregon Staters who have distinguished themselves through professional practice and/or service to the university, the profession, or society at large. These individuals have made early career contributions that identify them as future leaders in their profession or field. They have fewer than 20 years of professional experience beyond their bachelor's degree.



Standing out in a crowd

For decades, Jim Piro has been making a difference in Oregon. We're proud to carry on Jim's legacy and congratulate him on receiving this prestigious Oregon Stater Award.

2018 Oregon Stater Award Engineering Hall of Fame Recipient
Oregon State University class of 1974





OUT THERE

Engineering Solutions

Engineering major Phyllis Aldrich in 1954

For 150 years, we've known that to solve the world's biggest problems you need to draw from the world's best talent. In an era when few colleges admitted women, our first graduating class in 1870 was co-ed.

Today, **OSU ranks third among land grant institutions** for the number of female engineering faculty. And generous donors are creating scholarships, internships, and undergraduate research programs that cultivate diverse perspectives and fresh ideas. Together, we're addressing the big questions in precision health, clean energy, resilient infrastructure, advanced manufacturing, robotics, materials research, and clean water.

On behalf of the OSU Foundation, **congratulations to all the recipients of the 2018 Oregon Stater Engineering Awards.**



Oregon State University
Foundation

Engineering Hall of Fame

Until recently, native Oregonian Jim Piro has been running Oregon's largest utility company. Portland General Electric (PGE) serves over 872,000 customers in 51 cities and employs more than 2,900 people.

Jim credits Oregon State's engineering program with helping him develop critical thinking skills and the ability to analyze and solve complex problems. His tenure as CEO is noted for an unwavering commitment to safety, operational excellence, and business growth.

He began his 43-year career in the energy industry as a civil engineer designing transmission towers for Pacific Gas and Electric. Joining PGE in 1980, he worked his

benchmarking," Piro said. "The exploration of best practices helped us determine what the 'best in class' looks like. We then used that as a springboard to drive efficiency and effectiveness and learned to leverage technology to improve overall performance."

One of Piro's biggest contributions to PGE has been in the area of employee and public safety. "Our employees do very dangerous work," Piro said. "When I started as CEO, I realized we could do a better job in this area, and we've been on a journey to reduce injuries to zero by really stressing that no job is so important that we cannot take the time to do it safely. I think the culture around safety has really improved and is now a part of the company's fabric. People understand that personal and public safety is really important. It's vital that we get this right because it shows that we care about our people and our community."

In an environmentally conscious state like Oregon, it's been essential that PGE foster renewable energy choices for consumers. PGE and their customers have made the organization's voluntary renewable energy program number one in the nation. "PGE partners with our communities to see how we can continue to help them meet their environmental goals," Piro said. "Providing our customers renewable energy choices is an important part of PGE's business strategy, and I think we're ahead of the curve. Whereas some utilities are still wrestling with closing coal plants, PGE has already made those commitments to reduce its carbon footprint."

Throughout his career, Piro has been an advocate for energy efficiency, economic development, and education. He has served on local and national boards for a number of organizations, including the Oregon Global Warming Commission; the Science, Technology, Engineering and Math (STEM) Investment Council; the Oregon Business Council; All Hands Raised; Cradle to Career; Greater Portland Inc.; Oregon State

University Foundation; the PGE Foundation; the Edison Electric Institute; and the Transportation Electrification Coalition.

His most fulfilling community work is serving as chair for the STEM Investment Council for the state of Oregon. The

council is tasked with developing and overseeing a long-term strategy to increase proficiency in science, technology, engineering, and mathematics among Oregon students to help them pursue future STEM career pathways. The STEM Investment Council is composed of business people thinking outside the box about how to change the educational experience so students can achieve better outcomes. "There's a lot of high-wage, high-demand jobs that aren't being filled by Oregonians," Piro said. "This is a lost opportunity for our students, and improving their career readiness continues to be my passion."



Jim Piro
B.S. Civil Engineering, 1974
Retired President and Chief Executive Officer
Portland General Electric
Chair STEM Investment Council Oregon
Lake Oswego, Oregon

way through the company, first as an engineer at the Trojan Nuclear Plant, then in thermal plants. Eventually, he transferred into the rates and regulatory area. "This is where I really left my engineering work behind," Piro said. "I was guided into teaching utility economics analysis. I learned how to construct rate cases, determine customer pricing and learned negotiation skills. I really got a good sense of the utility business model and how the company operated." This led to higher-level management positions working on a number of corporate strategic initiatives.

A few were surprised when Piro was promoted to chief financial officer (CFO) in 2000, because he was not a typical CFO: He was not a CPA and did not hold an MBA. Everything he learned was on the job. "My mantra became 'You can't manage what you don't measure,'" Piro said. "It's really important to have good visibility on your operating metrics."

When Piro became CEO, one of his key platforms became driving safe, efficient, and effective practices throughout the company. "We did a fair amount of

"You can't manage what you don't measure."

AWARD

Academy of Distinguished Engineers



Doug Adkisson

B.S. Nuclear Engineering, 1976
MBA, 1978

Consultant
Richland, Washington

Growing up as a fourth-generation wheat farmer in eastern Oregon, Doug's father suggested he consider a different vocation and maybe even take a stab at engineering. That decision sent him to Oregon State and into a 40-year career as a nuclear engineer.

Adkisson has a broad range of skills in the global nuclear industry, much of which he gained while working for Siemens and AREVA. He's held senior positions in nuclear engineering, licensing, operations, R&D, reactor services, fuel research, and helped launch two startups. His largest project was a \$500 million design, construction, and operations project for DOE.

As the senior operating manager of AREVA's largest U.S. nuclear fuel facility, Adkisson managed manufacturing operations, equipment, process design, and maintenance. "Creating organizational change is rewarding but sometimes painful," said Adkisson. "In the long haul, I really enjoy helping an organization run more efficiently."

In 2008 he joined TerraPower, a technology-innovation company formed by Bill Gates and a group of visionary thinkers, to develop scalable, sustainable, emission-free, and cost-competitive nuclear energy sources. "They were looking for someone who already had startup experience," Adkisson said. "It was, intellectually, a lot of fun." TerraPower is teaming with another company to develop a traveling wave reactor, a nuclear reactor valued for its potential to produce power from a nearly inexhaustible source of fuel. The first advanced reactor will be built to this design in China.

Adkisson has recently retired, but remains a consultant for TerraPower. For the last four years, he's served on the advisory board for the School of Nuclear Science and Engineering in the College of Engineering at Oregon State.

"I really enjoy helping an organization run more efficiently."



Jeremy L. Corwin

M.S. Radiation Health Physics, 2011

Medical Health Physicist

Founder and President

Corwin Health Physics

Centralia, Washington

Jeremy Corwin's path to owning a diagnostic imaging physics company began with earning a B.S. in physics from Seattle University on an Army ROTC scholarship in 1993. Although he was keen to spend the next seven years serving his country as a helicopter pilot, his commanding officer had other ideas, insisting he become a radiation health physicist. Ultimately, that decision served him well. After being discharged from the military, he discovered there was a shortage of medical health physics services in the Northwest. He and his wife, Laurie, conducted their own

market survey and plunged forward in 2000 to start a company — Corwin Health Physics in Centralia, Washington.

Corwin obtained his Master of Science in Radiation Health Physics online from Oregon State in 2011. "One of the things I really like about this program is that they teach the classes as if you're actually sitting in the classroom," Corwin said. "I benefited from

seeing what my instructors wanted rather than just reading textbooks and taking tests." In fact, he found it so valuable that he's encouraged several other people in his company to continue their graduate studies and certifications online through Oregon State Ecampus.

According to Corwin, giving employees an opportunity to grow their careers and build relationships has been a fulfilling part of the journey. "It's about selecting people with character, working as a team, and using those strengths when communicating with our clients," said Corwin.

The need for qualified medical physicists has increased significantly in the United States, while the opportunity to become licensed is difficult due to the lack of adequate accredited residency programs. "I think we've accomplished something pretty amazing," Corwin said. "There are only 20 companies in the nation accredited to provide a diagnostic imaging residency program, and we are the only one located on the West Coast."

"It's about selecting people with character, working as a team, and using those strengths when communicating with our clients."

Academy of Distinguished Engineers



Terri S. Fiez

Ph.D. Electrical and Computer Engineering, 1990

Vice Chancellor for Research and Innovation

University of Colorado Boulder
Lafayette, Colorado

Terri Fiez is a people mobilizer — her job as vice chancellor for research and innovation at the University of Colorado Boulder is to lead the research enterprise.

“Colorado has 31 federal laboratories, and 17 are based in Boulder,” Fiez said. “We also have one of the most vibrant start-up communities in the world and a strong industry base. It’s a one-of-a-kind opportunity to leverage these three groups to make this university the best it can be.”

Last year, the university saw a significant increase in overall research funding, hitting a new milestone of over half a billion dollars in research support. There was also a 60 percent increase in industry funding and significant increases in technology transfer by licensing and protecting new technologies.

“When people get aligned behind a vision, goals, and a strategy, the results can have a profound impact both nationally and globally.”

“We are putting a lot of training into place for faculty, grad students, and staff to help them be more successful innovators and entrepreneurs,” Fiez said.

Additionally, a new campus-wide initiative provides development for faculty fellows to prepare the school’s next generation of research and education leaders.

Fiez says the skills and experience she gained at Oregon State as both a doctoral student and an academic leader prepared her well for her current position. After earning a Ph.D. in electrical and computer engineering in 1990, Fiez began her academic career at Washington State University. She returned to Oregon State in 1999 and spent 15 years in various posts, including head of the Department of Electrical and Computer Engineering, the research agenda strategy consultant to the vice president for research, and head of the School of Electrical Engineering and Computer Science.

Fiez is passionate about the value of higher education in problem solving.

“When people get aligned behind a vision, goals, and a strategy, the results can have a profound impact both nationally and globally,” Fiez said.



Tom Gerding

B.S. Construction Engineering Management, 1984

Gerding Companies

Chief Executive Officer

Philomath, Oregon

Tom Gerding’s grandparents settled in the Willamette Valley in the early 1900s and opened a grocery and feed store in downtown Corvallis. It was a family business. If he wasn’t in school, he was either working in the store or tending chores on their ranch near Philomath. Gerding’s strong work ethic and desire to give back to the community was inspired by his family’s successes and struggles in business.

After graduating from Oregon State in 1984 with a degree in construction engineering management, Gerding was determined to stay in Corvallis. To get a foothold in the construction industry, he

offered to work without pay. His newly acquired education in estimating, bonding, and project management proved to be invaluable in helping his new boss move the company in a new direction and secure its first commercial project.

In 1993, he partnered with a long-established company to form Ramsay-Gerding Construction Company, which eventually grew into Gerding Companies.

One tenet driving Gerding’s company is its commitment to supporting community projects, especially nonprofits. “Helping nonprofits bring their visions into reality is kind of the heart of our business,” Gerding said.

Last year, Gerding sold the company to his employees, so it’s now 100 percent employee owned. “A huge piece of our succession plan is now in place,” he said. “I could not have done it without the great support of our key leaders and managers, all the way down to those in the field pounding the nails.”

Gerding serves on the advisory boards for the School of Civil and Construction Engineering in the College of Engineering; the Construction Education Foundation for Oregon State; the Mid-Willamette Family YMCA; and the Associated General Contractors Oregon-Columbia Chapter, where he co-chairs the Legislative Forum and the Political Action Committee.

“Helping nonprofits bring their visions into reality is kind of the heart of our business.”

AWARD

Academy of Distinguished Engineers



Sarady Tan

B.S. Chemical Engineering &
Pre-Medicine, 1988
M.S. Chemical Engineering, 1990
M.D. 1993, OHSU

Director, National Center
for Medical Intelligence

Defense Intelligence Agency

Fredrick, Maryland

Colonel Sarady Tan is director of the National Center for Medical Intelligence within the Defense Intelligence Agency, headquartered in Washington, D.C. He leads a diverse team of military, civilian, and international partners who monitor the medical risk intelligence of foreign adversaries to help the president and national policymakers make informed security decisions.

His impressive 22-year career as a physician and commander in the U.S. Air Force includes eight deployments: to Saudi Arabia, Kuwait, United Arab Emirates, Iraq, Afghanistan, and Qatar. “As an operational flight surgeon, my responsibility has always been to prepare — physically and mentally — the folks who are going to fight on the front lines and make sure they’re fit to go,” Tan said.

Tan came to the United States from Cambodia as a refugee with his family in 1975 during the U.S. withdrawal from the Vietnam War. He was just 9 years old. In high school, he watched documentaries about the challenges faced by refugees and wanted to do something to serve the underprivileged.

*“I am living the
American dream.”*

Before Tan started graduate school at Oregon State, his parents gave him a plane ticket to Thailand so he could visit a refugee camp. “I saw a lot of doctors working there,” Tan said. “When I experienced Doctors Without Borders, I knew I wanted to be a physician.”

Tan also knew he wanted to serve in the U.S. military. His father was formerly in the Cambodian Royal Air Force. “I wanted to at least serve my adopted country as a way to repay for the second chance in life and opportunities I’d been given living here,” Tan said.

Tan is passionate about educating others about the necessity of giving back to our country. “It’s about doing something you enjoy,” Tan said. “For me, medicine and serving our country are intricately related. You can say that I am living the American dream.”



Randall A. Worsch

B.S. Mechanical Engineering, 1983

Business Architect

Kirkland, Washington

Randy Worsch is a business architect for an aerospace company. His primary role is to connect strategy with the design of the business’s operations, such as its technologies, processes, information systems, and data.

His career path started in high school in the late ’70s. He could see the growing importance of technology as it made inroads into the cars we drove, classrooms where we learned, products we used to entertain ourselves, and the means by which we solved complex challenges. He saw this growing trend as a path to a viable career and enrolled in a junior college, later transferring to Oregon State as a mechanical engineering student.

*“Driving changes in an organiza-
tion is like changing the course of
a really large ocean liner. It’s not
easy, but it can be done.”*

“While at OSU, I realized my colleagues were very adept at digging deep into a particular subject,” Worsch said. “I liked understanding a wide breadth of subjects and the value of each to a business.” Consequently, he realized his niche would be bridging the gap between the two perspectives. He augmented his

Oregon State engineering degree with an MBA from Seattle University shortly after graduation.

Although his career started in engineering, he quickly transitioned to successive positions in information technology before occupying the niche he originally envisioned while at Oregon State. “Driving changes in an organization is like changing the course of a really large ocean liner. It’s not easy, but it can be done,” Worsch said. “It takes having the right purpose, technology, vision, perseverance, skills, and knowledge, and most importantly the ability to align the hearts and minds of individuals.”

He credits much of his success to Oregon State, where he learned to collaborate effectively with individuals who hold diverse perspectives, to understand that new challenges lead to personal growth, and that one must be diligent in growing one’s knowledge because the pace of change is always increasing.

Council of Early Career Engineers



Joel Andersen

B.S. Construction Engineering Management, 2004
Andersen Construction
President
Portland, Oregon

Joel Andersen always knew he wanted to work in construction.

“As a kid, Legos were my entry into the possible, when working with them, my imagination knew no bounds,” he said.

Today, he is president of Andersen Construction, a business his grandfather started in 1950. The company is headquartered in Portland and specializes in large-scale commercial and industrial construction.

With more than 700 employees and offices in four cities, Andersen says the keys to the company’s success are an unwavering commitment to being both the Pacific Northwest’s top builder of choice and the top employer of choice.

“It’s been extremely fun and rewarding to make a concerted effort towards improving the lives of the people who work for us,” Andersen said, “and in return, we get a stronger workforce.”

Andersen is a graduate of the program his grandfather helped start. Andy Andersen and two other contractors from Portland met with Oregon State officials in the late 1960s, encouraging them to create the program that evolved into Construction Engineering Management in the School of Civil and Construction Engineering. Andy was also a founding member of the Construction Education Foundation.

“My student experience at Oregon State was outstanding,” Andersen said. “The program is so practical; you graduate prepared and ready to enter the field with a conceptual understanding of how it all fits together.”

After opening the company’s Seattle office in 2009, Andersen served as vice president of business development before being promoted to president in 2015. As president, he was inspired to create the Andersen Construction Foundation, which mobilizes employees and their families to contribute time for nonprofit projects and events. The Foundation also has an employee match program that in 2017 donated over \$511,000 to the communities they serve.

“As a kid, Legos were my entry into the possible, when working with them, my imagination knew no bounds.”



Stephanie Y. Harsche

B.S. Nuclear Engineering, 2000
M.S. Nuclear Engineering, 2002
Westinghouse Electric Company
Configuration Control and Design Release Manager
Cranberry Township, Pennsylvania

Every few years, Stephanie Harsche gets an urge to try something new.

“I’ve always been that way,” she said.

She was born in France, and when she turned 17 she got an urge to travel. It landed her in Chehalis, Washington, on a foreign-exchange program.

“I was invited by my new American family to stay — permanently. “So I moved to the United States and never looked back,” Harsche said.

Harsche says that internships and her coursework in thermal hydraulics at Oregon State prepared her well for an assignment to upgrade an operations plant in her first job with AREVA.

Following the 2011 mega-quake and tsunami in Japan, Harsche led a post-Fukushima effort for Westinghouse to develop and apply the lessons learned from the disaster to future rebuilding efforts and power plant construction. Her team produced a series of products for industry, including the spent fuel pool instrumentation system — a mechanism for tracking how much water is inside the pool when you can’t see it.

Since 2015, Harsche’s job has involved building new plants, and her team is working on Westinghouse’s new plant design. Two units are currently being built in Georgia, and four more are going up in China.

“It’s exciting to be involved in the design and implementation of a new plant,” Harsche said.

Today, when Harsche gets an urge to try something new, she asks herself, “Where can I provide the most value to my company, and how will that challenge me?” She hopes her next position provides more opportunities to manage teams.

“I enjoy empowering young engineers, encouraging them to find their voice, and making sure they understand that their ideas matter,” she said.

Harsche serves on the advisory board for the School of Nuclear Science and Engineering in the College of Engineering at Oregon State.

“Where can I provide the most value to my company, and how will that challenge me?”



Colette M. Gaona

B.S. Chemical Engineering, 2008
Landau Associates Inc.
Senior Scientist
Hillsboro, Oregon

Knowing the actual chemistry behind environmental contamination issues is what sets Colette Gaona apart from her colleagues. She is one of just three chemical engineering professionals on Landau Associates’ staff of 92 employees.

“I often get calls when a more technical explanation is needed concerning chemical contaminants,” she said.

In her 9 1/2-year career with Landau Associates, Gaona has conducted a number of field studies that include finding and tracing the pathways of pollutants, evaluating analytical data, preparing technical reports, and developing cleanup recommendations for aerospace, industrial, and public sector facilities.

“I enjoy playing the role of detective in helping our clients solve problems,” she said.

Gaona is now taking it to the next level. Landau Associates is an employee-owned company, and she ran for a seat on the firm’s board of directors in 2016. Now in her second year on the board, she serves as corporate secretary.

“It’s been a great opportunity to learn about the company and the business of my profession from a different perspective,” she said.

Gaona also has stepped into a leadership role in the firm’s Portland office, overseeing larger projects and staff. And she’s accomplished all this while embarking on parenthood — her second child is due in April.

“It’s worked out well,” she said, “I’m learning how to balance and excel in new areas while becoming a mom.”

For students entering the profession, especially women, she offers this advice: “You don’t have to take the traditional route, but women must have passion if they want to advance in this industry. Excellent mentors and internships provided by the School of Chemical, Biological, and Environmental Engineering prepared me for real-life work. If you don’t take internships, it’s tough to get your foot in the door. Wisdom, education, tenacity, and a little experience help you get noticed.”

“I enjoy playing the role of detective in helping our clients solve problems.”



Brad Heller

B.S. Computer Science, 2009
Reflect
Co-Founder and Chief Technical Officer
Portland, Oregon

As a child, Brad Heller enjoyed working with his hands and building things. His father’s work in the cable industry exposed him to technology and the early internet. At age 10, he was reading basic computer programming books from the school library. “I discovered that I could be infinitely creative when writing code, and there were no resources attached — just my own time,” Heller said.

When it came to choosing a school, Heller says that Oregon State offered a lot of coursework in computer science that other schools didn’t deliver. But not until many years later did he realize the applied value of all the theoretical knowledge gleaned from school. When he began stretching the boundaries of his intellect, it started to pay off.

Heller is co-founder and chief technical officer at Portland-based Reflect, a data visualization and analytics company. Reflect’s embedded business intelligence platform lets companies provide analytics to their users without having to build and maintain an in-house product for it.

Reflect is finding traction in industries that are becoming increasingly data-driven, like finance, healthcare, retail, and agriculture. “We’re building tools that make it possible for basically anyone in the world to consume data,” Heller said. “We also strongly believe in providing rich and interactive data experiences — experiences that have the right context and tell a story.” The company recently raised \$2.5 million

in seed capital from Silicon Valley venture firm DFJ, Stanford University, Liquid 2 Ventures (Joe Montana’s investment vehicle), and Seattle’s Founders’ Co-op.

Heller hopes that current students are inspired by his example. “There’s never been a better time in history for technologists,” Heller said. “It’s never been easier and more rewarding to make your own way in the world. You have the power to effect positive change.”

“It’s never been easier and more rewarding to make your own way in the world. You have the power to effect positive change.”

AWARD

Council of Early Career Engineers



Jill Lewis

B.S. Mechanical Engineering, 2011
SpaceX
Structures Certification Engineer
El Segundo, California

Jill Lewis is passionate about advancing space flight and bringing manned space flight back to the United States. Through her work at SpaceX — a private aerospace company that designs, manufactures, and launches rockets and spacecraft — she and her colleagues are working hard to do just that.

As a structures certification engineer, Lewis is a technical liaison between SpaceX and its biggest customers: NASA's Commercial Crew space flight groups and the U.S. Air Force. Lewis and her team verify that SpaceX's Falcon launch vehicle and Dragon spacecraft meet all internal design, testing, and analysis requirements. Through detailed presentations, she also ensures that clients understand that in-depth structural knowledge.

Lewis appreciates the theoretical and practical foundation she received from her coursework at Oregon State, and the student clubs enabled her to aggregate her skill set. "The hands-on approach really helped me once I got into industry," Lewis said, "and I can't stress how vital the Global Formula Racing team was to my career trajectory. It led to the Formula Student competitions where I was introduced to composites and composite manufacturing. That experience helped me land my first job at SpaceX as a production engineer."

Lewis says SpaceX has provided her many opportunities to prove and challenge her abilities as an engineer, and she believes she's been a good steward. "Getting to work with

NASA has been incredible," Lewis said. "I think it was Sir Isaac Newton who said, 'If I have seen further, it is by standing upon the shoulders of giants' — and that's how I feel every time I talk to the NASA team. Their knowledge, their successes and failures, directly influence the work we do. Having them by our side and on our team is an incredible experience."

"If I have seen further, it is by standing upon the shoulders of giants."



Con O'Connor

B.S. Construction Engineering Management, 1999
Hamilton Construction
Partner and Operations Manager
Eugene, Oregon

During the summer of his junior year at Oregon State, Con O'Connor worked on a bridge construction project on the Crooked River. He was inspired. He contacted the Oregon Department of Transportation to find out who builds bridges in Oregon. They pointed him toward Hamilton Construction, and the rest is history.

O'Connor is a partner and operations manager for Hamilton Construction, a large-scale civil construction company, with offices in Oregon, Washington, Alaska, and Colorado. They build freeways, bridges, dams, and highway interchanges and have a railroad division specializing in trestles and repairs. Its forte is building in areas where access is limited or difficult.

O'Connor's dad and uncle owned a sheep ranch along the Oregon-California border when he was growing up. He says there are many similarities between running a construction business and operating a sheep ranch.

"Sheep, like construction projects, are born looking for a way to die," he said. "Predators and natural disasters stand ready to destroy your investment. Growing a business requires constant attention and development to make bigger gains. I always felt the math and mechanics were the easy parts."

The Construction Engineering Management program at Oregon State provided him with the fundamentals needed for success.

"They teach you everything you need to know to get your foot in the door, and they do an excellent job in helping you understand the expectations once you're on the job," he said.

O'Connor says his professional accomplishments are primarily about celebrating the achievements of others.

"I've made a career of trying to remain in the shadows," he said, "and I enjoy helping others to take on more responsibility or learn new skills that improve their lives."

O'Connor works with the Lane County school district promoting the construction trade among high schoolers. He also serves on the board for the Lane-Douglas County Carpenter Apprenticeship Program.

"Growing a business requires constant attention and development to make bigger gains."



Eric MacKender

Honors B.S. Chemical Engineering, 2000
Chevron Oronite Company
Technical Manager,
Lube Oil Additive Plant
Belle Chasse,
Louisiana

Thanks to prompting from his high school chemistry teacher, Eric MacKender became interested in chemical engineering and selected Oregon State after being awarded a scholarship and admission to the Honors College. When it came time to write the thank you letter for the scholarship, he was surprised to learn that there wasn't anyone to thank. The scholarship was a generous endowment created from the estate of a woman who valued education.

"I always remembered that," MacKender said, "and I started giving back to Oregon State after graduation. It wasn't much at first, but slowly it increased over time."

MacKender, an Honors College graduate, says the program influenced him a great deal.

"The honors program opened my eyes to more than just engineering," he said, "and I really benefited from the colloquial courses, seeing the passion of my professors, and from the opportunities to learn about many different topics."

Chevron recruited MacKender directly out of school for its specialty chemical business, and he has worked there for 18 years. In that time, he's had an opportunity to work in many different parts of the business and see how they are all connected.

"It's been fun commercializing new chemistry and bringing new products to market," he said.

The Chevron Oronite plant produces quality additives that improve the performance of fuels and lubricants. As technical manager, MacKender oversees all the engineering functions and the quality control laboratory.

MacKender enjoys helping others to thrive.

"I've had a chance to lead a lot of great people, mentor them, watch them grow, and help them get promoted to bigger and broader roles. My wife and I both value the importance of education, and we donate our time and money to help others in this way," he said.

MacKender serves on the Board of Regents, the development advisory group for the Honors College at Oregon State.

"The honors program opened my eyes to more than just engineering."



Heidi E. Wolfe

B.S. Mechanical Engineering, 2006
Boeing
Washington Design Center
Commercial Airplanes
Chief of Staff
Seattle, Washington

Heidi Wolfe says there are two kinds of people at Boeing: airplane fanatics and those who end up there by accident. "Aerospace was not on my radar," she said.

After completing a bachelor's degree in mechanical engineering from Oregon State in 2006, Wolfe was set to begin a graduate program in biomechanics at UC Davis, when she abruptly changed course and moved to South Carolina.

Hired through an employment agency, her first job after graduation was providing administrative support to Global Aeronautics, a newly formed joint venture supporting the Boeing 787 global supply chain. Within a month, she was working as a manufacturing engineer and also tasked with writing operating procedures for other employees in her organization.

Wolfe moved to Boeing shortly thereafter and completed a two-year international assignment in Italy and a Master of Science in Program Management from Embry-Riddle Aeronautical University. Five years into her career, she accepted her first management role at the company.

Wolfe credits her experiences at Global Aeronautics for enabling her to develop the leadership skills necessary to progress into a management role so early in her Boeing career. She has held numerous management positions, in both engineering and non-engineering functions, and is currently chief of staff to the vice president of the Washington Design Center for Boeing Commercial Airplanes. This is a rotational assignment that exposes early-career managers to the engineering executive team and enables them to gain insight from seeing how and why decisions are made.

Wolfe re-engaged with Oregon State through Boeing's University Relations team and for several years has been active in recruiting trips and organizing opportunities for students to tour the Boeing factory.

"Sharing my own career path and experiences at Boeing with OSU students is one of the best parts of my job," she said.

Wolfe is actively involved with the Junior League of Seattle and serves as an assistant to the president. She plans to return to academia soon to complete an MBA.

"Sharing my own career path and experiences at Boeing with OSU students is one of the best parts of my job."

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