A MESSAGE FROM THE SCHOOL HEAD

The 2016-17 academic year has already been one of great strides for the School of Chemical, Biological and Environmental Engineering. In September, we celebrated the grand opening of CBEE’s new home, Johnson Hall. This beautiful facility is a source of great pride for all of us who have the privilege of working here.

Our school continues to grow. This year, we welcomed about 1,200 new and returning students to CBEE. I am pleased to announce several new additions to our outstanding faculty and staff as well.

Please take a look inside for more about these exciting developments and other news from CBEE. Go Beavs!

My best,

James D. Sweeney
School Head & Kuse Chair
jim.sweeney@oregonstate.edu
NEW FACES

Please join us in welcoming the following faculty and staff to the School of Chemical, Biological, and Environmental Engineering.

TREVOR CARLISLE, PROFESSIONAL PRACTICE ENGINEER

Trevor Carlisle serves as instructor for junior- and senior-level core chemical engineering courses. He was previously senior research engineer at Membrane Technology and Research, where he designed and evaluated spiral-wound membrane elements and pilot systems for gas separations in the energy and refinery sectors. Prior to that, Trevor worked as senior research engineer at ION Engineering, developing and testing new amine-based solvents for carbon dioxide capture from flue gas. He holds a chemical engineering doctorate from the University of Colorado, Boulder and a chemical engineering B.S. degree from Oregon State University.

ZHENXING FENG, ASSISTANT PROFESSOR

Zhenxing Feng is interested in discovering and elaborating design principles of various materials for energy harvesting, conversion, and storage applications. He worked for nearly three years in advanced battery research at the Joint Center for Energy Storage Research and Chemical Science and Engineering Division of Argonne National Laboratory. He completed two years of postdoctoral training at MIT’s Electrochemical Energy Laboratory. Zhenxing earned his Ph.D. in materials science and engineering from Northwestern University in 2011, after completing an M.S. in physics at McGill University in Montreal, and a B.S. in physics with honors from Peking University in Beijing.

KEITH HAUTALA, PUBLIC INFORMATION REPRESENTATIVE

Keith Hautala joined the College of Engineering in May as the public information representative for the School of Chemical, Biological, and Environmental Engineering. Before coming to Oregon State, Keith worked for seven years in public relations and marketing at the University of Kentucky, where he also earned his B.A. in journalism and M.A. in communication. Keith’s background is in print journalism. He has worked as a newspaper copy editor and online news producer for the Lexington Herald-Leader and the Statesman Journal in Salem, Oregon.

TALA NAVAB-DANESHMAND, ASSISTANT PROFESSOR

Tala Navab-Daneshmand is an environmental engineer interested in the inactivation, growth and persistence of bacterial pathogens in the environment and treatment processes. She investigates these problems with microbiology, molecular biology, process engineering and statistics. Tala grew up in Tehran, where she studied and practiced environmental engineering in hydro-energy construction. She then moved to Montreal to study bacterial inactivation and regrowth in biosolids land-application after electro-dewatering. Afterwards, she went to Zurich for postdoctoral research to examine E. coli ecology in environmental reservoirs in Bangladesh and Zimbabwe.

NATASHA MALLETTE, PROFESSIONAL PRACTICE ENGINEER

Natasha Mallette joined CBEE in the 2016 Fall Term. Formerly with the Department of Chemical Engineering at the University of Wisconsin–Madison for two years, Natasha is focusing on senior level courses in CBEE. With over 6 years of engineering experience (i.e. nuclear power, biotech, nanotech) and a Professional Engineering license, she adds a practical perspective to CBEE curriculum. Natasha is an alum of Montana State University and the University of Arkansas. In her free time, she enjoys exploring the outdoors with her spouse and two children.
SAVE THE DATE!
Want to stay involved with CBEE and the College of Engineering? Listed below are some upcoming events with opportunities to engage with CBEE faculty and students.

OREGON STATE UNIVERSITY
WINTER 2017 CAREER EXPO
Feb. 13–17: Campuswide events featuring recruiting fairs and interview days. More information is available online at http://career.oregonstate.edu/students/events/career-expo.

CBEE WINTER CAREER RECEPTION
Feb. 15: Industry-Student networking and recruiting event, scheduled for the evening between Winter Career Convention Day 1 and Day 2. (See story on page 6.)

ENGINEERING GRADUATE RESEARCH SHOWCASE
Feb 17: A full-day of professional development activities, including poster presentations open to the public. (See story at left.)

PNW REGIONAL AIChE STUDENT CONFERENCE
April 14–16: Chemical engineering students from around the Pacific Northwest region will meet April 14–16 at Oregon State University.

NEWS FROM THE COLLEGE OF ENGINEERING

GRADUATE RESEARCH SHOWCASE COMING FEB. 17
The College of Engineering’s 2017 Graduate Research Showcase will be held on Friday, Feb. 17, at the CH2M Hill Alumni Center.

This year’s event is a daylong opportunity for engineering graduate students to gain valuable professional development experience, network with industry partners, present research, and learn about the research of others.

Graduate students will display and discuss their research projects from 1–4 p.m. at a poster presentation that will be open to the public. Awards will be given to the top presenters from each school.

College alumni, friends, and industry partners are invited to attend to learn more about the groundbreaking research being conducted here at OSU.

‘ENGINEERING OUT LOUD’ PODCAST LAUNCHED
The College of Engineering is delighted to provide alumni, industry connections, and friends with a new way to learn about the latest engineering research and innovation happening here at Oregon State University. “Engineering Out Loud” is dedicated to sharing the stories of how the work of our faculty and students is creating a better future.

Season One: Data Science and Engineering is now available for you to stream or download from http://engineeringoutloud.oregonstate.edu, iTunes or your favorite podcatcher.

Our first season kicks off with “Pros and Cons,” featuring Tom Dietterich, distinguished professor of computer science. In this episode, Dietterich identifies some key concepts related to data science, such as Big Data — and shares his thoughts on some of the positive and negative aspects of the data revolution.

The remaining five episodes each tackle one or two particular applications of data science in engineering.

Subscribe to the podcast on iTunes or your favorite podcatcher and “like” Engineering Out Loud on Facebook to be notified when Season Two is released.

Please help us promote Engineering Out Loud by posting a review on iTunes and sharing the podcast with your colleagues, friends, and family.

Tune in to the College of Engineering’s new podcast

ENGINEERING OUT LOUD
engineeringoutloud.oregonstate.edu
Oregon State University’s newest building is dedicated to the success of engineering students, and it bears the name of one of the College of Engineering’s most prominent alumni.

Johnson Hall, named in honor of longtime college supporters Peter and Rosalie Johnson, will serve primarily as home to the School of Chemical, Biological, and Environmental Engineering. The $40 million, 58,000-square-foot facility, located on Oregon State’s central campus in Corvallis, will also house college-level programs geared toward student recruitment, retention, and success.

Peter Johnson, a 1955 graduate in chemical engineering, enjoyed a tremendously productive career as an engineer. His signal accomplishment — a patented invention for making battery separator envelopes — revolutionized battery manufacturing equipment worldwide.

The Johnsons committed $7 million to begin construction of the new facility, leveraging an earlier gift of $10 million from an anonymous donor and $3 million in additional private funds, which was matched by $20 million in state funds.

After two years of construction, Johnson Hall was formally dedicated at a grand opening in September 2016. Oregon State University President Ed Ray was joined at the ceremony by College of Engineering and OSU Foundation leaders, along with an enthusiastic crowd that included college faculty, staff, and students, prominent donors, and industry partners.

College of Engineering Kearney Professor and Dean Scott Ashford described Johnson Hall’s opening as a transformative event.

“Not only has it transformed the Oregon State University landscape, but it will transform the lives of the students who walk these halls,” Ashford said. “And those students will graduate and go out and transform the world.”

The building itself serves as a monument to the ongoing transformation of the School of Chemical, Biological, and Environmental Engineering from its beginnings as a small, standalone Department of Chemical Engineering, said school head James Sweeney.

“It’s incredible to think about the expansion and change that have taken place over the six decades since Pete Johnson and 12 of his friends formed the graduating class of 1955,” Sweeney said. “Our school now combines the science-based engineering disciplines of chemical engineering, bioengineering, and environmental engineering in one common and unique home, with more than 1,000 students.”
provides a strong focal point for the open, two-story lobby. At the north end of the first floor, a massive wooden desk — one of several accent pieces made from black walnut salvaged from a pair of older trees that were removed from the construction site — welcomes students to the Office of Student Services.

Bringing together a host of functions that were previously distributed throughout several buildings in the college, the office coordinates advising programs, academic success initiatives, and retention efforts. The office also trains College of Engineering Ambassadors, who lead tours and perform recruiting activities on campus and throughout Oregon.

To the east are the school’s administrative offices. To the west is a state-of-the-art, 119-seat auditorium, equipped with dual digital projection screens and a chemistry demonstration space with a laminar flow hood. The seats rotate and pivot to allow for 360 degrees of collaboration and active learning. “Engineering-friendly” desks, which span the width of the seating area, provide expansive note-taking space.

The focus on student engagement continues on the second floor, with the Academic Success Classroom — a multifunctional space to enhance collaboration, critical thinking, and innovation.

‘WONDERLAND FOR STUDENTS’

Across from the classroom, the Unit Operations Lab is a cutting-edge, modern laboratory space designed to serve large numbers of skilled and motivated engineering students. This year, it will serve 215 seniors in all three of the school’s core disciplines throughout their capstone course experience.

The “Unit Ops Lab,” as it has already become affectionately known, incorporates project spaces, an instrument shop, a chemical preparation space, an analytical room, and a machine shop. Students will also be able to make presentations in the lab with multimedia support.

“This place is going to be a wonderland for engineering students,” said Philip Harding, Linus Pauling Chair in Chemical Engineering and the school’s associate head for undergraduate programs. “The kind of hands-on educational experience we will be providing here is unmatched anywhere.”

The remainder of the second floor is dedicated to chemical engineering research laboratory space. Bioengineering and environmental engineering labs occupy the third floor. Each of these areas consists of large, open, well-lit research bays where faculty and students can interact and share ideas. Small, custom-designed ancillary rooms provide specific research focuses for applications such as microscopy, cell culture, and gas chromatography. Proximate, well-lit office space for graduate students provides an environment for collegial interaction and innovation.

“Innovations from these laboratories will generate new solar technologies, improved microelectronics, low-cost medical devices and pharmaceuticals, and new technologies for environmental, water, and soil remediation,” said Sweeney. “This new space represents an exciting transition to more shared, collaborative research, which should dramatically increase research production and efficiency.”

Johnson Hall’s interior design features plenty of natural light, reclaimed wood fixtures, and a custom sculptural installation titled ‘Synthesis.’
CBEE INDUSTRY RELATIONS

Career Expo week brings many companies to campus to recruit students for internships and entry-level positions, but smaller events held around campus at this time allow students and industry representatives to connect on a more personal basis.

One such event is the CBEE Career Reception, held twice each year in Fall and Winter terms. On Oct. 26, the CBEE Club (AIChE Student Chapter) and CBEE Corporate Relations hosted the CBEE 2016 Fall Career Reception, with four companies presenting information sessions in a conference-style format to more than 80 students in attendance, mostly juniors and seniors.

The fall event began at 4 p.m. with an Industry-Faculty Mixer, which also included student volunteers and CBEE Club leadership. From 5–6 p.m., students could attend two of four company information sessions.

The students were able to connect personally with all seven company representatives during the subsequent catered networking session, held in the Memorial Union Multipurpose Room.

Two of the three CBEE alumni who attended as industry representatives were very recent graduates — a very special experience for both the alums and the students alike!

CBEE has been growing steadily in recent years. This academic year we can boast of our largest pro-school participation, with more than 400 juniors and seniors enrolled in our three academic programs. In 2017, we are expecting to award about 200 bachelor's degrees in chemical engineering, bioengineering, or environmental engineering.

CBEE’s industry connections are a two-way street: They not only enhance CBEE academic programs, but can also help meet industry needs in staffing, technology, and marketing. We welcome industry involvement with our program.

Upcoming opportunities to connect with CBEE students include the 2017 Winter Career Reception on Feb. 15, scheduled for the evening between Winter Career Convention Day 1 and Day 2, and the Regional AIChE Student Conference, to be held April 14–16, here on the Oregon State campus.

The Graduate Research Showcase on Feb. 17 will provide yet another recruiting opportunity for your organization.

For more information about these and other ways to connect, please contact Lynn Ekstedt, CBEE Corporate Relations, at lynn.ekstedt@oregonstate.edu.

CBEE WINTER CAREER RECEPTION

The CBEE Winter Career Reception will take place from 4–7:30 p.m. on Wednesday, Feb. 15, in the OSU Memorial Union Ballroom and Multipurpose Room.

Company registration is open through Feb. 1. For more information, please visit the event page online at http://cbee.oregonstate.edu/reception-company-info.

The evening’s schedule of events includes:

4–4:45 p.m.: Get Acquainted Mixer
Catered get-together for industry, faculty, CBEE Club leaders and student volunteers.

5–6 p.m.: Career Insights Program
Company presentations to the student audience.

6–7:30 p.m.: Networking Reception
A catered time for conversation.

Industry representatives network with students at a CBEE Career Reception. The school hosts these events twice a year. The next Career Reception will be Feb. 15.
The CBEE Club packed 52 students and two professors into five passenger vans and headed off to the 2016 AIChE Student Conference in San Francisco in October. The club served as a co-host chapter at the meeting and was also distinguished as the largest student contingent in attendance.

Each student volunteered for six to eight hours — helping out with ChemE-Car competition, with student and professional registration, and with the career/school fair — to help cover the costs of attending. Volunteer coordinator Sarah Ewing said she was told numerous times that CBEE had some of the friendliest volunteers.

Students had the opportunity to network with professors and students all over the country, and to attend professional and leadership development talks.

“Overall, the conference was a huge success, and we couldn’t be happier with the dedication and enthusiasm of OSU students who attended the event,” said the club’s Environmental President Devan Fitzpatrick.

Dalton Myas was honored with the 2016 Donald F. and Mildred Topp Othmer National Scholarship Award. The $1,000 scholarship is given to chemical engineering students for their outstanding academic achievement and involvement in student chapter activities. Myas was also chosen to receive the 2016-2017 AIChE Minority Affairs Scholarship, sponsored by the AIChE Minority Affairs Committee.

Lauren Tetzloff received the Donald F. Othmer Sophomore Academic Excellence Award, presented to the member in each AIChE student chapter who has attained the highest scholastic grade-point average during their first and second years, on recommendation of the student chapter advisor.

Collin Muniz took First Place in Materials Engineering and Sciences VII for his presentation, “Synthesis, Structural Characterization, and Luminescence Studies on an Unreported Series of Oxalate Linked Heterometallic Coordination Polymers.”

Monica Hoke received the Freshman Recognition Award for Academic Excellence.

The school also sponsored the first-ever San Francisco CBEE Alumni Mixer at the meeting. The party was well attended by current students, CBEE alumni, and other friends of the school.

OREGON STATE TO HOST PACIFIC NORTHWEST REGIONAL AIChE STUDENT CONFERENCE

Chemical engineering students from around the Pacific Northwest region will meet April 14-16 at Oregon State University. For information about industry and alumni involvement opportunities, please contact Kylee Mockler-Martens, at mocklerk@oregonstate.edu.

The CBEE Club co-hosts AIChE San Francisco Meeting

The CBEE Club co-hosts AIChE San Francisco Meeting

CELEBRATING EXCELLENCE

The College of Engineering recognized several CBEE faculty members at its annual ”Celebrate Excellence” Awards, held in the fall.

Elisha Brackett, the school’s director of operations, received the 2016 Professional Faculty Award. This award recognizes outstanding performance by a faculty member whose contribution and service are not defined within the traditional categories of teaching, research, or extension.

Adam Higgins, associate professor of bioengineering, was selected to receive the 2016 Austin-Paul Engineering Faculty Award. This award recognizes faculty who they lead, encourage, and stimulate students in the pursuit of creative and innovative engineering ideas.

Skip Rochefort, associate professor of chemical engineering, was honored with the 2016 Alumni Professor Award. This award recognizes excellence in teaching and service to students.
The School of Chemical, Biological, and Environmental Engineering in the College of Engineering at Oregon State University is home to bachelor of science undergraduate programs in chemical engineering, bioengineering, and environmental engineering, and graduate programs in chemical engineering and environmental engineering leading to M.Eng., M.S. and Ph.D. degrees. The school has 29 full-time faculty and currently enrolls more than 1,000 undergraduate and nearly 150 graduate students. The school emphasizes the integration of chemical, biological and environmental engineering principles and practice in a student-centered learning environment to provide work-ready graduates and technical solutions for a sustainable future.

Research expenditures exceed 6.5 million dollars per year, and current emphasis areas include thin films and nanostructured materials for renewable energy and electronic device applications, bioprocess engineering and biofuels, biomaterials and therapeutics, transport and remediation of contaminants in the subsurface, interaction of nanomaterials with the environment, microtechnology for chemical and energy processing applications, and engineering education research.

Amy Roluffs, one of CBEE’s many high-achieving undergraduate students, provides a great example of how experiential education can help undergraduates develop their own career paths while they are still in college. A fourth-year chemical engineering student, Amy is interested in engineering applications within the pharmaceutical industry. In the summer after her first year, she worked at Oregon Health and Science University as a biomedical research intern placed through the Pete and Rosalie Johnson Internship program.

Amy says that first internship helped to prepare her for her job this past summer at Genentech in Hillsboro, as an intern in the MECOP program.

“We did gene-specific cancer research at OHSU, which is how I got into the medical side,” she said. “So being placed at Genentech was a great way to continue that, but also to get introduced to the manufacturing side of engineering.”

This year, Amy was selected to receive the prestigious Navarette Engineering Scholarship. The renewable, $16,000 award helps to support highly qualified women in engineering programs. CBEE is committed to serving students of diverse backgrounds and ensuring that all of our students achieve success, aligning with the Student Success Initiative announced earlier this year by OSU President Ed Ray. Many of the best and brightest students at OSU, are already drawn to CBEE majors.

A key component of this initiative is to ensure that all of our students have at least one experiential learning opportunity such as an internship or participation in original research. Such experiences greatly enhance the chances that students will not only have success with us and graduate in a timely manner, but will also find success in their careers beyond OSU.

This year the school hopes to raise enough funds to support at least twice as many students with experiential projects in CBEE, with a total fundraising goal of $100,000. You can support the school at any time via the secure website at osufoundation.org/cbee.

ABOUT CBEE

The Diffusion is published by the School of Chemical, Biological and Environmental Engineering for distribution to Oregon State alumni who hold degrees in chemical engineering, bioengineering and environmental engineering, and also to industry partners and friends of the school.

Amy Roluffs

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