Greetings! In this latest issue of Diffusion, we recognize outstanding achievements by our students, faculty and alumni, who have earned awards over the past year. A special insert highlights our CBEE student athletes, who stay on top of their studies while also excelling in their sport.

We recently honored three of our accomplished alumni with Oregon Stater Awards – one distinguished engineer and two outstanding early career engineers. The awards dinner was held on March 1st at the Portland Art Museum, where earlier that day, Oregon State graduate students presented their research at the College of Engineering Graduate Research EXPO.

As always, we highly value the hard work and accomplishments of the Oregon State Engineer. Go Beavs!

My best,

James D. Sweeney
School Head & Kuse Chair
jim.sweeney@oregonstate.edu
2015 COLLEGE OF ENGINEERING AWARD RECIPIENTS:

PRESENTED AT THE ANNUAL COE BREAKFAST, SEPTEMBER 15, 2015

LANE PORTH, CHE ’15 Burgess/Tektronik Award

KRISTIN MARSHALL Graduate Teaching Assistant Award

PHIL HARDING Loyd Carter Award

CHI-HUNG CHANG Research Award

GREG HERNAN Research Collaboration Award

OREGON STATE UNIV. 2014–15 AWARD RECIPIENTS:

AWARDED AT THE ANNUAL UNIVERSITY DAY EVENT ON SEPTEMBER 21, 2015

MOHAMMAD AZIZIAN Outstanding Faculty Research Assistant Award (Oregon State)

CHI-HUNG CHANG Outstanding Faculty Innovator Award (Oregon State)

2016 ENGINEERING GRADUATE RESEARCH EXPO AWARD RECIPIENTS:

FOR CBE POSTERS PRESENTED AT THE PORTLAND ART MUSEUM ON MARCH 1

GUSTAVO ALBUQUERQUE, 1st Place - CBE
(5400) Chemical Modulation and Microwave-assisted Synthesis of MOF-74(N)

CO-AUTHORS: Majid Ahmadl and Gregory S. Herman

LYNZA HALBERSTADT, 2nd Place - CBE
(5100) Hindered Translator and Hindered Rotor Models for Calculating the Entropy of Adsorbed Species Using Density Functional Theory

CO-AUTHORS: Charles T. Campbell and Linsey Amadottir

Read more about this year’s EXPO here: http://engineering.oregonstate.edu/science-fair-students

2016 OREGON STATERS – OUTSTANDING ALUMNI AWARDS

In 1998, the college introduced the annual Oregon Stater awards to honor outstanding alumni and friends for their contributions to the engineering profession and to Oregon State University. There are three award categories determined by length of career and professional achievements. This year, CBE awarded three alumni in the following categories:

Academy of Distinguished Engineers – The OSU Academy of Distinguished Engineers is awarded to mid-career Oregon State alumni who have sustained distinguished contributions to the profession, field, OSU, 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 – The OSU Council of Outstanding Early Career Engineers is reserved for Oregon State alumni who have distinguished themselves through professional practice and/or service to OSU, 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 less than 20 years of professional experience beyond receipt of their bachelor’s degree.

Beto Dantas
Council of Outstanding Early Career Engineers
B.S. Chemical Engineering, 1997
Ph.D. Chemical Engineering, 2001
Concurrent positions at Georgia Tech and ComMet, Atlanta, Georgia

After working as a senior engineer at Commet, he moved to Bend Research in 2002, eventually becoming a senior vice president. In 2014, he moved to Paradigm as chief scientist. Most recently, Graham founded Alkemy Innovation, a company that will enable rapid data analytics and model development for scientists in numerous industries.

She serves as chair of Oregon Tech University’s governing board, a director on the Oregon governor’s STEM Investment Council, and member of the College of Engineering’s School of Chemical, Biological, and Environmental Engineering’s advisory board.

Lisa Graham
Council of Distinguished Engineers
B.S. Chemical Engineering, 1995
Ph.D. Chemical Engineering, 1999
Founder and CEO, Alkemy Innovation Inc., Bend, Oregon

Carmen Adela Velasco
Council of Outstanding Early Career Engineers
M.S. Chemical Engineering, 2008
Ph.D. Candidate, Graduate Assistant, Environmental Engineering, University of New Mexico, Albuquerque, New Mexico

Carmen Velasco completed her undergraduate work in her home country, Ecuador. After graduation, she worked in the US for two years as a process engineer before moving back home to lead a small team at Bustamante, an intellectual property law firm, and teach as a visiting professor at her alma mater.

Velasco earned a second master’s degree in environmental management, returning again to Ecuador to join the National Department of Environmental Health where she was soon promoted to director. As director, she led the development of national public policy in environmental health, coordinated activities of the department relating to environmental impacts on human health, and oversaw regulation enforcement.

In April 2015, Velasco joined the Chemical Engineering Department at Universidad Central del Ecuador as a full-time professor, but recently returned to the United States to work toward a Ph.D.
CBEE BY THE NUMBERS

STUDENT SNAPSHOT
(As of Fall 2015)
Graduate Total: 141
  Chemical Engineering: 97
  Environmental Engineering: 44
Undergraduate Total: 1024
  Bioengineering: 281
  Chemical Engineering: 629
  Environmental Engineering: 114

FACULTY SNAPSHOT
Tenured/Tenure-Track Faculty: 27
Research Personnel: 66
Endowed Positions and Professorships (>250K): 2

FUNDING (As of June 2015)
Operational Budget: $6.6M
Research Grants: $6.0M
Annual Private Giving: $118K
Scholarship Support: $202K

UNDERGRADUATE CLASS OF 2015 PLANS – Results from the June 2015 Exit Survey

The School of Chemical, Biological, and Environmental Engineering (CBEE) in the College of Engineering at Oregon State University is home to BS undergraduate programs in chemical engineering, bioengineering, and environmental engineering, and graduate programs in chemical engineering and environmental engineering leading to MEng, MS and Ph.D. degrees. The school has 27 full-time faculty, and currently enrolls more than 1000 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 & 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.

ABOUT CBEE

The Diffusion is published quarterly 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.

The Spring 2016 Diffusion was written and produced by Lynn Ekstedt and Elisha Brackett, CBEE, Oregon State University.
When Oregon State gymnast Silvia Colussi-Pelaez says “balance is the key to her being successful” in the classroom, athletically and in the community, she’s speaking figuratively and literally.

Figuratively, outside the gym she must balance the demands of an intense major (chemical engineering), and her minor (Spanish), with her athletic and community service obligations.

Inside the gym, she literally must keep her balance while competing on the beam and the bars, demanding and precise events in which she is one of the Pac-12’s top competitors. She recently tied her career-high of 9.90 on the beam at the Pac-12 championships, helping the Beavers tie for second place.

“Being a gymnast all my life has taught me you have to work hard to achieve something, not just in gymnastics but everything in life,” she said. “Being an athlete has taught me dedication, time management, how to work with other people and other things necessary to succeed in real life.”

Her litany of academic and athletic accomplishments illustrate how successfully she’s balanced the demands of a very hectic life.

She has a cumulative 3.96 grade-point average, was recently named to the Pacific-12 Conference’s gymnastics All-Academic team as a first-team selection, and has twice earned National Association of Gymnastics Coaches academic All-American honors.

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She’s made the Honor Roll every term since transferring to OSU from the University of Florida, and she received the 2015 Drucilla Shepard Smith Scholastic Award for academic achievement and community service involvement.

She also is the community relations officer for the Student-Athlete Advisory Board (SAAC), locating and staffing community service opportunities for OSU athletes.

Colussi-Pelaez originally planned to study pre-med or engineering in college. But her love of chemistry and math steered her toward chemical engineering when she decided that pre-med wasn’t a good fit.

“Chemical engineering became a natural – I like to problem-solve,” she said. “I want to work and live abroad, probably Europe, and that is where chemical engineering is such a great degree for me.”

Gymnastics has enabled Colussi-Pelaez to explore cultures others dream about. She has competed for Spain (she holds dual Canadian/Spanish citizenship) on some of the biggest stages of gymnastics, including the World Championships.

SILVIA COLUSSI-PELAEZ: ENERGY BALANCES AND MASS TRANSPORT

Photo courtesy of David Nishitani
She successfully performed the first sideways aerial (watch it here) at the 2013 World Championships in Belgium. The move is now known as the “Colussi-Pelaez,” but it is no longer part of her routine.

“It’s too risky, so I have eliminated it,” she says. “If I wanted to continue performing at that level it would be a commitment of being in full-time training of about 30 hours per week.” Instead, she’s comfortable being one of the top student-athletes at OSU and in the Pac-12 Conference, and concentrating on her academic pursuits.

Gymnastics takes her away from campus several weeks per year. So, having professors and academic advisors who realize student-athletes sometimes miss class time is extremely important.

Colussi-Pelaez said chemical, biological and environmental engineering professor Willie “Skip” Rochefort, and her advisor, Kristen Rorrer, have been “very supportive and understanding” of her unique academic circumstances.

Rochefort describes Colussi-Pelaez an exemplary student-athlete, an outstanding student in general, and very nice person.

“She is the model for an NCAA student-athlete, as are all of our student-athletes in our college,” he said. “Student-athletes are extremely dedicated to their sports, but also their education.”

Colussi-Pelaez credits almost everyone except herself for her success.

“My parents have done everything for me,” she said. “They’ve supported me, they’ve loved me, drove me to the gym twice a day, traveled to watch me. Supportive coaches, academic people, my friends, my teammates have been so vitally important.”

Story by Brooks Hatch, OSU Athletics, excerpted here for Diffusion. Read the entire article here: http://cbee.oregonstate.edu/node/303.

Many thanks also to Steve Fenk and Jason Amberg, OSU Athletics, for their assistance.

Link to view the Colussi-Pelaez aerial: https://www.youtube.com/watch?v=x5bmuZNjrIQ