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OU School of Chemical, Biological and Materials Engineering <cbme@ou.edu>

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CBME e-Newsletter - Spring 2018



## Welcome From the Director

It's an exciting time for the University. We are all thrilled to welcome Jim Gallogly as the 14th president of the University of Oklahoma. Knowing Jim personally, I think I can safely say that changes will be coming. Although he is not a CBME alumnus, his very generous gift to Chemical Engineering for the Unit Operations Lab renovation makes him an honorary CBME alumnus at least! Speaking of the Unit Operations Lab, the renovation is about 85% complete with construction finalized this summer. Although students are already utilizing some of the new experiments, the official unveiling will take place next fall at the OKCHE Board meeting.

In this issue of our newsletter, you can read about Dr. Resasco's prestigious honor awarded to him by his native Argentina (he has high hopes about Lionel Messi leading Argentina to a triumph this summer!), the new scholarship

in honor of the very beloved former professor Ken Starling, a note about President Designate Jim Gallogly, our newest faculty members and some of our awesome students.

On a more personal note, in May I will become the new president of the Society of Plastics Engineers (SPE) in a ceremony to take place at the National Plastics Exposition in Orlando, Florida. SPE has over 22,000 members from 84 countries and is the largest and most well-known professional society in the world dedicated to plastics and polymers. I am very excited to be assuming this high-profile position in the world of plastics.

As always, if you have questions or comments, please feel free to contact me at [bpgrady@ou.edu](mailto:bpgrady@ou.edu) or 405-325-4369.

Dr. Daniel E. Resasco



## Resasco Elected into Scientific Academy

Dr. Daniel E. Resasco has been elected a member of the National Academy of Sciences of Argentina. Resasco, Gallogly Chair in Engineering #1 and a George Lynn Cross Professor, will be formally incorporated to the Academy in a public forum in Buenos Aires June 1, 2018, when he will present at a conference on "Catalytic Upgrading of Biomass for Renewable Fuels."

The National Academy of Sciences of Argentina was created in 1869 by President D. F. Sarmiento as a scientific corporation supported by the Federal Government. The Academy advocates for the development and outreach of exact and natural sciences, the exploration of the Argentinian territory and has served as advisor to the National Government, provincial governments and other scientific institutions. The Academy also awards prizes, publishes a journal, keeps a library and organizes conferences and other events. The building housing the Academy was inaugurated in 1897 and was declared a

National Historical Monument in 1994.

Other scientists who are or have been members of the Academy include: Charles Darwin, Benjamin Gould, Henri Milne-Edwards and, more recently, Argentine Nobel laureates Bernardo Houssay and Luis Leloir.



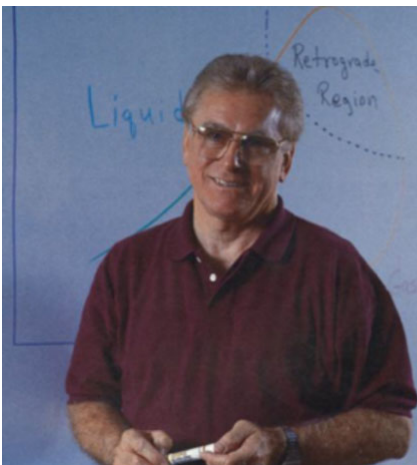
## President-Designate Gallogly

On March 26th, from the steps of Evan's Hall, the University of Oklahoma Provost announced the hiring of James L. "Jim" Gallogly, the 14th President of the University of Oklahoma. Gallogly, an OU alumnus, will succeed current president, David L. Boren, who will retire on June 30, 2018.

Former Chairman and CEO of LyondellBasell, one of the world's largest petrochemical, polymer and refining companies, Gallogly also served for 29 years in executive roles with ConocoPhillips, ChevronPhillips Chemical Company and Phillips Petroleum Company. He practiced law in Denver, CO, until 1980 when he began his career in the energy business. Gallogly received a Bachelor of Arts degree from the University of Colorado in 1974 and a J.D. degree from the OU College of Law in 1977. He completed the Advanced Executive Program in the J.L. Kellogg Graduate School of Management at Northwestern University, Evanston, IL, in 1998.

Gallogly was born in St. John's, Newfoundland, Canada, on September 1, 1952. He and his wife, Janet, have been married 43 years and have three daughters.

Boren, who is among America's longest-serving university presidents, is stepping down after leading OU over the past 23 years. His retirement will come after completing 51 years of public service in the Oklahoma Legislature, as Governor of Oklahoma, U.S. Senator and OU's president.



## Professor Starling Legacy Scholarship Fund

Friends, former students and family are honoring award-winning faculty member Ken Starling with the establishment of the Ken Starling Endowed Scholarship Fund. Thanks to the generosity of Bob and Cyndy Purgason and in

deep appreciation of Ken and Barbara, \$100,000 in matching funds are available in hopes of encouraging all CBME alumni and friends to make a gift.

Ken Starling, emeritus George Lynn Cross and Cedomir Sliepcevich Professor in the School of Chemical, Biological and Materials Engineering, began his nearly 30-year career at OU as an assistant professor in 1966. He was promoted to associate professor in 1969 and served as school director from 1974 to 1975. He served as OU's vice provost for research administration from 1978 to 1979.

He was named Fellow of the American Institute of Chemical Engineers in 1996 and was awarded the Don Katz Award by the Gas Processors Association in 2003 for outstanding accomplishments in gas processing research and technology, and for excellence in engineering education. He was inducted into the Oklahoma Higher Education Hall of Fame in 2012. Starling retired in 1995, following nearly three decades of service at the University of Oklahoma.

Starling's contributions to the chemical engineering profession include two well-known equations of state that bear his name: the Carnahan-Starling equation of state, a closed form solution of the hard sphere fluid compressibility that is the basis for several extended van der Waals equations; and the Benedict-Webb-Rubin-Starling equation of state, resulting from his work to develop more accurate equations of state for systems of interest to chemical engineering.

The School of Chemical, Biological and Materials Engineering invites you to contribute to this fund honoring Professor Starling. Ken and Barbara will be notified about all gifts and are most appreciative.

[Give to Starling Fund](#)



## CBME Welcomes New Faculty Members

**Michele Galizia** joined the CBME faculty in 2017 as an assistant professor focusing on membrane separation following his work as a research associate at the University of Texas with Professors Benny Freeman and Don Paul. Galizia completed his postdoctoral research in materials engineering in 2013 at the University "Federico II" in Naples, Italy, under Professor Giuseppe Mensitieri after receiving his Ph.D. in chemical engineering in 2010 from the University of Bologna, Italy, under Professor Giulio C. Sarti, with research in mass transport in membranes for gas separation.

Galizia has served as a session chair for ACS and AIChE as well as for the Dr. Donald R. Paul: 50 Years of Leadership program. An NSF reviewer since December 2017, he is also a recognized reviewer for the Journal of Membrane Science, Macromolecules,

Polymer, International Journal of Hydrogen Energy, Industrial and Engineering Chemistry Research, Frontiers in Polymer Chemistry, Polymer Engineering and Science, Separation and Purification Technologies, Reactive and Functional Polymers. Galizia holds memberships in the American Institute of Chemical Engineers (AIChE), American Chemical Society (ACS) and North American Membrane Society (NAMS).



In his free time, Michele enjoys reading, cooking, hiking, and listening to music with additional interest in modern European history and philosophy.



**Sepideh Razavi** received her Ph.D. in chemical engineering from the City College of New York in 2015 where she worked with Professor Ilona Kretzschmar on the assembly and flow behavior of colloidal particles at fluid interfaces. In 2015, she joined University of Michigan as a Postdoctoral Research Fellow in Professor Michael Solomon's lab conducting research on the application of external fields to assemble anisotropic colloidal particles. Dr. Razavi joined the University of Oklahoma as an assistant professor in 2018 with a research focus on assembling soft functional materials.

Her research interests include interfacial engineering, colloidal assembly, complex fluids and nanotechnology. She is a member of the American Institute of Chemical Engineers (AIChE), American Chemical Society (ACS) and the Society of Women Engineers (SWE). Razavi has been an invited

participant at the ACS Strategic Planning Retreat (2016), Division of Colloid and Surface Chemistry; undergraduate student poster competition judge and session chair at the AIChE Annual meeting; and reviewer for J. Colloid Interface Sci., Colloids Surf. A, Langmuir, Soft Matter, J. Chem. Phys. and Scientific Reports.

While at the University of Michigan, Sepideh designed science activities for WISE GISE Camp for girls who have completed the 7th or 8th grade, enabling them to meet with women scientists and engineers and obtain information about careers of the future. She also led the confocal microscopy section of the GISE camp in 2016 and 2017.

Razavi's personal interests include running, martial arts (Brazilian Jiu Jitsu), watching movies and documentaries, reading and traveling.



## Gallogly Hall Progress

Construction began last summer on Gallogly Hall, the 70,000 square foot future home to the Stephenson School of Biomedical Engineering and the college-wide Diversity and Inclusion Program. With more than 10 classrooms and teaching labs, research labs, a lecture hall, collaborative learning spaces throughout and student project makerspace, Gallogly Hall will serve all students in the Gallogly College of Engineering and attract students from across campus to explore the engineering quad and the world of engineering. Gallogly Hall will be the

final building on the engineering quadrangle in the OU main campus. The building will complete the cohesive ensemble of engineering buildings and will help define a lively, usable outdoor space for engineering activities at the heart of the quad. Completion is scheduled for Fall, 2019.

- At the heart of the first floor will be the “living room” – a comfortable space for student and faculty interaction and collaboration, as well as special events. The Maker Space and Studio lab will be an important, visible expression of the college's commitment to innovation and entrepreneurship. The Diversity and Inclusion suite will provide a warm and welcoming space to house our nationally recognized program and enhance the recruitment, retention and graduation of a diverse workforce. The high-tech and highly reconfigurable lecture hall will be a multipurpose space, including classroom instruction and special events.
- The second floor will consist of large teaching labs, recitation classroom and informal gathering spaces. These labs will be significant resources for undergraduate science and engineering education. Two labs will be dedicated to Biomedical Engineering and five labs will support Chemistry and Biology courses serving all students of the Gallogly College of Engineering, Mewbourne College of Earth and Energy, Pre-med, and the physical and life sciences.
- The third and fourth floors will focus on biomedical engineering research. Each floor will accommodate 4600 square feet of reconfigurable lab space, up to six principal investigators and as many as 32 student research assistants. The labs are rigorously designed for maximum efficiency and flexibility and for promoting interaction and collaboration.

Learn more about Gallogly Hall and the exciting ways it will impact our students, school and state, and visit our digital walk through at [ou.edu/coe/galloglyhall](http://ou.edu/coe/galloglyhall).

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## Chemical Engineering Student Achievements

On February 23rd, **Patrick McKernan**, Ph.D. student in Biomedical Engineering working under Roger Harrison, placed 2nd out of thirty contestants in the finals of the Three Minute Thesis competition and was awarded \$1500. His presentation, “Using Genetic Engineering to Create Tools to Fight Infectious Disease”, was delivered in Meacham Auditorium in the Oklahoma Memorial Union at the OU Graduate College-sponsored competition. In addition, Patrick placed 3rd among OU Health Sciences Center and Norman campus graduate students at the Stephenson Cancer Center Research Symposium poster competition on February 2nd with a poster titled “Targeted Photothermal Ablation of Cancer.”

**Sabrina Garner**, Biomedical Engineering graduate student working with Ed O'Rear, won 2nd place in the Engineering/Science category of the 2018 Student Research and Creativity Day sponsored by the OU Graduate College. Over 45 graduate entries showcased a broad range of graduate research in Education, Fine Arts, Humanities, Social Science and Engineering.

**Felipe Anaya Saltarin's** report, “Enhancement of the Activity and Selectivity of the Fischer-Tropsch Synthesis with Water/Oil Emulsions” was identified as a “Best Presentation” at the Fall 2017 AIChE meeting held in Minneapolis. Anaya is a PhD student working with Daniel Resasco.

CBME senior **Lauryn Carver** was recognized as the outstanding Chevron Phillips Mentor at OU's 6th Annual Mentor Day held January 19th.

CBME 2016 graduate and former OU track and field athlete, **Jenny Carmichael**, was chosen as one of 9 finalists for the 2017 NCAA Woman of the Year and was honored at an awards dinner October 22nd in Indianapolis. The finalists were chosen from 30 honorees, 10 from each NCAA division, representing a range of sports. A three-time All-Big 12 Academic Team selection, she

was also the first female junior to receive the Freda Meyer Guild Award for the Outstanding Female Student in Chemical Engineering.

**Louise Kuehster**, CBME senior and OU rowing team member, was among ninety-two student-athletes awarded the 2018 Dr. Gerald Lage Academic Achievement Award, the Big 12 Conference's highest academic honor. Recipients must have lettered at least once in their career, should have 100 hours of earned credit with a cumulative GPA of 3.80 at the time of the nomination. The award, in its eighth year, has recognized a total of 580 conference student-athletes and is in memory of Lage who served as the Oklahoma State faculty athletics representative with the NCAA and Big Eight/Big 12 Conference from 1983 until his death in 2007.

The **OU chapter of the American Indian Science and Engineering Society (AISES)** has been awarded Chapter of the Year. Sponsored by CBME faculty member **Steven Crossley**, the chapter also won Best Fundraising and Marketing efforts and will be recognized at the 2018 AISES Leadership Summit held later this year.



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