Award Recipients

ASEE ChE Division's Ray W. Fahien Award: Ashlee Ford-Versypt

Congratulations to Ashlee Ford-Versypt, a CACHE Trustee, who received the ASEE ChE Division's Ray W. Fahien Award.

This award is given in honor of Ray Fahien, who was editor of Chemical Engineering Education from 1967-1995 and who was effectively the founding father of the journal, establishing it as a premier publication vehicle in the field of chemical engineering education. Professor Fahien selflessly gave his time and talents to advance pedagogical scholarship, particularly in the careers of young educators, through his dedication to the journal and the profession. The award is given annually to an educator who has shown evidence of vision and contribution to chemical engineering education.

Dr. Ashlee N. Ford Versypt is an associate professor in the School of Chemical Engineering at Oklahoma State University (OSU). She holds three degrees in chemical engineering: a B.S. from the University of Oklahoma and an M.S. and a Ph.D. from the University of Illinois at Urbana-Champaign. During graduate school, Dr. Ford Versypt was awarded the Department of Energy Computational Science Graduate Fellowship (DOE CSGF) and the National Science Foundation Graduate Research Fellowship. In 2013, Dr. Ford Versypt was recognized as the Frederick A. Howes Scholar in Computational Science, which is awarded annually to a recent alumnus of the DOE CSGF for outstanding leadership, character, and technical achievement. In 2012-2014, Dr. Ford Versypt was a postdoctoral research associate in the Department of Chemical Engineering at the Massachusetts Institute of Technology. She is the Chair for the American Society for Engineering Education Chemical Engineering Division. Dr. Ford Versypt is active in engaging the public in science through leading more than 60 outreach events for K-12, collegiate, and lay audiences. She has received a number of awards for her research, teaching, and service including the NSF CAREER Award, ASEE Midwest Section Outstanding Service Award, AIChE 35 Under 35, the OSU Outstanding Achievement for the Mentorship of Women, and the OSU College of Engineering, Architecture and Technology Excellent Teacher Award. Her research program is currently funded by the National Science Foundation, National Institutes of Health, and the Oklahoma Center for the Advancement of Science and Technology.

IFAC's Industrial Achievement Award: Francis J. Doyle III

Francis J. Doyle III has recently received the Industrial Achievement Award of the International Federation of Automatic Control (IFAC) "for leading an outstanding team effort over many years with a combination of control experts, medical researchers and industry, resulting in numerous granted patents and a large number of patients in clinical trials that has now led to the commercialization of the Artificial Pancreas for treatment of type 1 diabetes".

Francis J. Doyle III "Frank" Doyle is the John A. Paulson Dean of the Paulson School of Engineering and Applied Sciences at Harvard University, where he also is the John A. & Elizabeth S. Armstrong Professor. Prior to that he was the Mellichamp Professor at the University of California- Santa Barbara (US), where he was the Chair of the Department of Chemical Engineering, the Director of the UCSB/MIT/Caltech Institute for Collaborative Biotechnologies, and the Associate Dean for Research in the College of Engineering. He received a B.S.E. degree from Princeton, C.P.G.S. from Cambridge, and Ph.D. from Caltech, all in Chemical Engineering. He has also held faculty appointments at Purdue University and the University of Delaware, and held visiting positions at DuPont, Weyerhaeuser, and Stuttgart University. F. Doyle has been recognized as a Fellow of multiple professional organizations including: IEEE, IFAC, AIMBE, AIChE and the AAAS. He was the President for the IEEE Control Systems Society in 2016 and was the Vice President and Chair of the Technical Board for the International Federation of Automatic Control from 2014 to 2017. In 2005, he was awarded the Computing in Chemical Engineering Award from the AIChE for his innovative work in systems biology, and in 2015 received the Control Engineering Practice Award from the American Automatic Control Council for his development of the artificial pancreas. In 2016, he was inducted as a Fellow into the National Academy of Medicine for his work on biomedical control. That same work earned him induction to the National Academy of Inventors in 2020.

Control Engineering Practice Award from A2C2: Leo H. Chiang

Trustee Leo H. Chiang received the 2020 Control Engineering Practice Award from the American Automatic Control Council for "the application of advanced data-driven algorithms for fault detection, fault diagnosis, and control in the chemical process industry."

Leo H. Chiang is Technology Director at Dow Inc., leading Chemometrics and AI implementations for Manufacturing. Leo has developed and implemented several data analytics techniques to solve complex manufacturing problems, resulting in 11 Dow Manufacturing Technology Center Awards. In 2016 he received the Dow R&D Excellence in Science Award in recognition of his scientific achievement in industrial research.

Leo has a B.S. degree from University of Wisconsin at Madison and M.S. and Ph.D. degrees from the University of Illinois at Urbana-Champaign, all in Chemical Engineering. Leo has contributed to over 40 externally refereed journal/proceedings papers and has given over 100 conference presentations and university lectures. Leo has co-authored two books published by Springer Verlag. His textbook Fault Detection and Diagnosis in Industrial Systems is available in English and Chinese and has received over 2,100 citations according to Google Scholar.

Leo has a long history of supporting American Institute of Chemical Engineers (AIChE), having served as 2014-2016 Computing and Systems Technology (CAST) director, 2016 CAST 10E programming chair, 2017-2018 spring meeting program chair (MPC), and recently elected to serve the 2019-2022 Executive Board of the Program Committee (EBPC). Leo was instrumental in setting up the Big Data Analytics Topical Conference (2015 to 2017) and Industry 4.0 Topical Conference (2018-2020) at the AIChE spring meeting. He was recognized by the AIChE with the 2016 Herbert Epstein Award for his leadership on Big Data Analytics technical programming and 2016 Computing Practice Award for his world-class leadership in the development and application of methodologies in analytics for batch and continuous processes known as Big Data.

Leo is also active in the broader engineering and control community, currently serves as 2019-2021 Computer Aids for Chemical Engineering (CACHE) trustee, 2021 International Symposium on Advanced Control of Chemical Processes (ADCHEM) industry co-chair, and 2022 American Control Conference (ACC) vice chair for industrial applications.

The recipient of the 2020 ASEE Thomas and Donna Edgar CACHE Award for Excellence in Chemical Engineering Education was Matthew Liberatore for his active and self-directed learning tools including videos and interactive textbooks. The award recognizes "significant contributions in the development of computer aids for chemical engineering education." The award citation read: Two innovative, computer-based techniques for educating 21st century chemical engineering students makes Professor Matthew Liberatore a worthy recipient of the Thomas and Donna Edgar CACHE Award. First, a technique where students reverse engineer YouTube videos to create new and engaging course content engages students and has led to improved exam scores. Second, a fully interactive web-based textbook has shown reading rates over 90% for large classes of material and energy balance students. Matthew developed these new methods, studied their efficacy, and disseminated findings in peer-reviewed publications and presentations.

Matthew W. Liberatore is a Professor in the Department of Chemical Engineering at the University of Toledo. He earned a B.S. degree from the University of Illinois at Chicago and M.S. and Ph.D. degrees from the University of Illinois at Urbana-Champaign, all in chemical engineering. From 2005 to 2015, he served on the faculty at the Colorado School of Mines. In 2018, he served as an Erskine Fellow at the University of Canterbury in New Zealand. His current research involves the rheology of complex fluids, especially traditional and renewable energy fluids and materials, polymers, and colloids. His teaching interests include developing problems from YouTube videos, active learning, and interactive textbooks. His interactive textbooks for Material and Energy Balances and Spreadsheets are available from zyBooks.

David Himmelblau Award for Innovations in Computer-Based Chemical Engineering Education: Daniel E. Rivera

The recipient of the 2020 David Himmelblau Award for Innovations in Computer-Based Chemical Engineering Education was Daniel E. Rivera for contributions in computer-aided tools for control engineering education. This award recognizes "an individual or group making new and novel contributions to computer aids for chemical engineering education."

Dr. Daniel E. Rivera is professor of chemical engineering in the School for Engineering of Matter, Transport, and Energy (SEMTE) at Arizona State University in Tempe, Arizona. Prior to joining ASU in 1990, he was an Associate Research Engineer in the Control Systems Section of Shell Development Company. He received his Ph.D. in chemical engineering from the California Institute of Technology in 1987, and holds B.S. and M.S. degrees from the University of Rochester and the University of Wisconsin-Madison, respectively. His research interests include system identification, robust process control, and the application of control engineering principles to supply chain management and behavioral medicine. In 2007, Dr. Rivera was awarded a K25 Career Development Award from the National Institutes of Health to study control systems approaches for fighting drug abuse. He received the 2019 Distinguished Member Award from the IEEE Control Systems Society for his leadership of the IEEE-CSS outreach program.