

CBE Leadership Announcement



Dear Friends,

Having had the privilege to serve as Department Head of Chemical and Biological Engineering at Drexel University for 12 years, I am stepping down to become Interim Dean of the College of Engineering on January 17, 2017. It is my pleasure to announce that Professor Cameron Abrams will become the seventh Head of the department.

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Cameron F. Abrams earned a BS in Chemical Engineering from NC State University in 1995 and a PhD in Chemical Engineering from UC-Berkeley in 2000. After two years of postdoctoral work at the Max-Planck-Institute for Polymer Research in Mainz, Germany, he joined the Department of Chemical and Biological Engineering at Drexel as an Assistant Professor in 2002. Abrams was tenured in 2008 and promoted to Full Professor in 2012. Abrams' research interests involve development of novel molecular simulation methods and their applications in design of high-performance materials, protein-related kinetics and thermodynamics, and HIV-1 entry inhibitor development. Abrams is the recipient of an NSF CAREER award and an ONR Young Investigator Award, is a Fellow of the American Institute of Medical and Biological Engineering, and is the 2015 Impact Awardee in Computational Molecular Sciences and Engineering from the American Institute of Chemical Engineers. Abrams has authored or co-authored ~90 original articles and has graduated eight PhD students to date. Most recently, Abrams served the University as the founding Chair of the Board of Governance of the University Research Computing Facility.



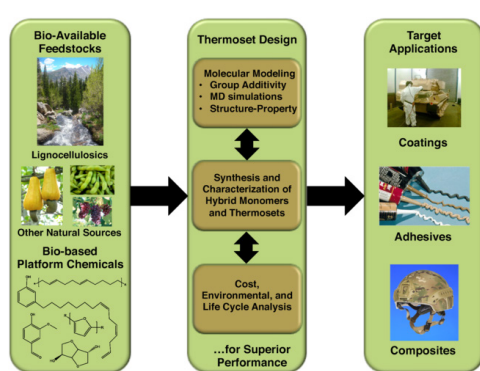
Introducing CBE Faculty Video: Dr. Maureen Tang

Dr. Tang was originally interested in environmental engineering when starting college at Carnegie Mellon University. Since many of her friends were studying chemical engineering, she decided to enroll in an introductory class. Her first class in chemical engineering was intellectually challenging and diverse, discussing the processes behind artificial kidneys, imitation meats, and recycling paper without bleach.

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Drexel CBE Researchers Palmese and Abrams awarded \$2.4 million cooperative agreement with ARL on Bio-based Polymers

Professors **Giuseppe Palmese (PI)** and **Cameron Abrams** of Drexel's Department of Chemical and Biological Engineering were awarded a \$2.4 million cooperative agreement from ARL entitled "Bio-based Thermosets with Superior Performance Characteristics." The project is in collaboration with researchers from ARL, PPG and Prof. Joseph Stanzione III (Drexel '08) of Rowan University. The overarching theme of the proposed work is to gain a fundamental understanding of the processing-structure-property relationships of novel bio-based systems, enabling the design of thermosets with superior performance characteristics specific to their intended application. In this way, nature's chemistries will be used to improve the economy of systems in the areas of coatings, adhesives, and composites critical to military and civilian applications. Benefits of this program will be: (1) expanding the processing-structure-property window of thermosets; (2) producing novel polymers with improved properties; (3) reducing toxicity of monomers and resins; and (4) enhancing sustainable development by taking advantage of what nature provides. This work builds on nearly two decades of work by Palmese and co-workers related to the development of materials from renewable sources including methacrylated fatty acid (MFA) monomers for styrene replacement and grafted triglycerides used as bio-rubber tougheners - two technologies which have been licensed and are being commercialized by Dixie Chemical.



Caitlin Dillard Wins 1st Place in ECS OA Competition and ECS Student Travel Award

Caitlin Dillard, a 5th year PhD candidate advised by Prof. Vibha Kalra, won 1st place in the Electrochemical Society (ECS) Open Access (OA) Week Competition. The competition was created to help promote open access to journal articles and demonstrate the value of collaboration within the scientific community.



Caitlin was also a recipient of the ECS Student Travel Award (Battery Division) to attend the ECS conference hosted in Honolulu, HI, in October 2016. There, she presented her research talk titled "Rapid Sulfur-Melt Integration into Electrospun Carbon Nanofibers as Free-Standing, Binder-Free Cathodes in Lithium Sulfur Batteries". Her research interests include materials-structure-property correlations in electrospun nanofibers for energy applications.

Drexel AIChE Student Chapter Hosts Second Annual Career Forum



The Drexel AIChE Student Chapter coordinated a successful "Drexel AIChE 2nd Annual Career Forum" on November 1, 2016. Approximately 100 undergraduate students and 30 professionals attended the career forum event sponsored by the Department of Chemical and Biological Engineering. Merck, Johnson and Johnson, Inolex, and FMC were some of the companies represented at the career forum.

Last year, former President Lyndsay Fitzer of the Drexel AIChE student group initiated a Career Forum for Undergraduate Students to connect to chemical engineering professionals. Fitzer (BS'17) states, "I had met many professional chemical engineering during co-op and I had joined the board of the professional AIChE-DVS section. I wanted to share my new networking connections with my fellow ChemE's at Drexel. I learned of a career forum that Virginia Tech's AIChE student group organized annually and decided to bring it to Drexel."

Department of Chemical Engineering Hosts Another Successful Alumni Annual Event

For the fourth year in a row, the Department of Chemical Engineering hosted its Chemical Engineering Annual Event on Saturday, October 8, 2016. Approximately 90 alumni, faculty and students attended the CBE Annual Event sponsored by CDI Engineering Solutions and the Department of Chemical Engineering.

Alumnus Stanley W. Silverman, BS '69, MBA '74, Vice Chair of Drexel's Board of Trustees, delivered the keynote lecture "From Chemical Engineering Undergraduate to CEO, to syndicated Columnist on Effective Leadership." The former CEO of PQ Corporation, Mr. Silverman also writes for the Philadelphia Business Journal and 42 affiliated business publications across the United States. His weekly column discusses leadership, entrepreneurship, and corporate governance.

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Prof. Ken Lau (CBE) Hosts HWCVD9 International Conference

Prof. Ken Lau, Associate Professor of Chemical and Biological Engineering, chaired the 9th International Conference on Hot Wire (Cat) and Initiated Chemical Vapor Deposition (HWCVD9) from September 6-9, 2016 at the Chemical Heritage Foundation, Philadelphia. The conference attracted 65 scientists and engineers from countries that included the U.S., Canada, Mexico, Netherlands, Germany, Austria, Spain, Japan, South Korea, India, and South Africa. The participants came from academic institutions, corporations, and government agencies that included Drexel University, MIT, University of Southern California, Lawrence Livermore National Laboratory, Naval Research Laboratory, TU Eindhoven, TU Graz, Japan Advanced Institute of Science and Technology (JAIST), Seoul National University, Indian Institute of Technology Bombay, Applied Materials, Tokyo Electron Limited, and GVD Corporation.

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