



UNIVERSITY of DELAWARE
Center for Biomanufacturing
Science & Technology

CBST SEMINAR

Monday, March 25, 2019

366 Colburn Lab

11:00 a.m.



Joshua Katz

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DuPont Pharma Excipients

"Novel Excipients for Liquid Stabilization of Protein Pharmaceuticals"

As the pharmaceutical industry shifts towards from small molecule drug to biologic drug development new, unique formulation needs emerge. Issues relating to shelf-stability of biologic formulations remain a key challenge to new drug development for both the developed and developing world. DuPont has recently developed a new series of surfactant excipients for liquid stabilization of biologic drugs. In initial studies, a three-fold drop in IgG aggregation rate was observed for IgG formulated with these novel surfactants compared to control surfactant formulations. Additionally, a commercial drug was reformulated with the novel excipient and significantly more protein monomer retention was observed during accelerated aging studies compared to the commercial formulation. More recently, underlying mechanisms of stabilization have been probed through various interfacial studies. This talk will discuss the development of the excipients and the assessment of their performance in several protein models using a variety of analytical tools.

Dr. Katz received his bachelor of science in chemistry at Massachusetts Institute of Technology and his Ph.D. in bioengineering from University of Pennsylvania. Katz worked on research projects in Formulation Science and Pharma Solutions at The Dow Chemical Company from 2011-2018. Recently, he became a research scientist leading exploration, research, and development for DuPont Pharma Excipients (formerly, Dow Pharma Solutions) in the area of biologic formulations to bring new solutions to customers. Katz research includes interests and expertise in development of high-performance heterogeneous multi-component formulations. Specific focus areas include encapsulation and triggered release, chemical and polymer synthesis, molecular self-assembly, and drug delivery.



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