

The Spring 2022 Seminar Series in Chemical Engineering Presents:  
**Multi-scale Computer Modeling for Advanced Pharmaceutical  
Manufacturing**

April 21, 2022, 12:45-1:45 pm

A Zoom-only Seminar

Zoom: <https://uri-edu.zoom.us/j/93044052368>



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**Abstract:** Drug development and manufacturing are one of the significant processes in the pharmaceutical industry. Various computational methods have been dramatically reducing the time and cost of drug discovery and development. Improved algorithms, overgrowing powerful computing architectures and the accelerating growth of rich data sets are driving advances in multiscale modelling methods capable of bridging chemical and biological complexity from the atom to the manufacturing scale. In this talk, the roles of physics based multiscale modeling and simulations in the areas of (i) continuous manufacturing of complex dosage forms and (ii) electrostatic behavior of pharmaceutical powders will be discussed. These research efforts yielded interesting results that provided insight into the effects of various material properties and operating conditions on the success of pharmaceutical processes.

**Bio:** **Bodhi Chaudhuri** is a Professor of the Department of Pharmaceutical Sciences, Chemical Engineering, and the Institute of Materials Science at University of Connecticut. He got his PhD in Mechanical Engineering from NJIT, after his ME and BE in Chemical Engineering from Indian Institute of Science, Bangalore, and Jadavpur University, Kolkata. He was a Postdoc in the department of Chemical and Biochemical Engineering of Rutgers University and has 3 years of industrial experience in the areas of computer graphics, AI, and telecommunication. He has published over 75 peer reviewed journal papers and conference proceedings. He serves on the program committees of international conferences, and acts as an editorial board member of more than 10 journals related to powder technology, fluid mechanics, drug design, electrostatics, pharmaceutical sciences, pharmacokinetics, and chemical engineering. He currently serves on the executive committee of the Powder Technology Forum of AIChE and is the Chair-elect of the Advanced Manufacturing Focus group of NIPTE. He has consulted to more than 15 pharmaceutical, biotechnology, and engineering companies. He actively participates in the professional societies, such as AIChE, ISPE, AAPS, AACP, NAMF, ASME, and ACS. He acted as the grant review panel for organizations including NSF, PhRMA, and ACS. He has received several prestigious awards from PhRMA Foundation, FDA, NIPTE, and Department of Education in India. Congressman Joe Courtney applauded the research efforts of Chaudhuri-Group in United States Congressional Report in 2011.

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