Department of Chemical Engineering Seminar Series

Engineering via Targeted Assembly

Tom Truskett
Professor and Chair
University of Texas, Austin

Monday, May 18, 2015
Lecture: 4:00-5:00 p.m.
Physics Astronomy Building (PAA) A118
Reception at 3:30 p.m. PAA A118

Abstract

Nanometer-scale particles suspended in a fluid can be driven to assemble into different structures depending on the control parameters of the system and the nature of the effective interparticle interactions. In many cases, the relevant interactions are tunable via external fields, physical or chemical modification of the particle surfaces, or changes in the composition of the suspending solvent. In this talk, we explore the engineering design of such interactions and examples for how they can suggest novel solutions to technological challenges in drug delivery and other biomedical applications.

Speaker Biography

Thomas M. Truskett is the Les and Sherri Stuewer Endowed Professor and Department Chair in Chemical Engineering at the University of Texas at Austin. He earned a bachelor of science in chemical engineering from the University of Texas at Austin and a doctoral degree in chemical engineering from Princeton University before pursuing post-doctoral studies at the University of California, San Francisco. In 2002, he joined the joined the faculty of the University of Texas at Austin. His group studies how interfaces and confinement impact the behavior of soft matter including molecular fluids, colloidal suspensions, protein solutions, and glassy solids. He is an Alfred P. Sloan Research Fellow, a David and Lucile Packard Foundation Fellow, a recipient of the National Science Foundation's CAREER Award, the 2007 recipient of the Allan P. Colburn Award from the American Institute of Chemical Engineers (AIChE), and Fellow of the American Institute for Medical and Biological Engineers (AIMBE). In 2014, Tom received the O'Donnell Award for Engineering from the Texas Academy of Medicine, Engineering, Science, and Technology.