MATTHEW E. HELGESON – ABBREVIATED CV
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Professional preparation & achievements

Education

2004 B.S. Chemical Engineering, Carnegie Mellon University, Pittsburgh, PA
2009 Ph.D. Chemical Engineering, University of Delaware, Newark, DE

Appointments

2012- Assistant Professor of Chemical Engineering, UC Santa Barbara
2009-2012 Postdoctoral Associate, Novartis-MIT Center for Continuous Manufacturing

Selected Awards

2014 Early Career Award, National Science Foundation
2012 Distinguished Young Rheologist Award, TA Instruments (Inaugural recipient)
2011 Victor K. LaMer Award, ACS Division of Colloid & Surface Science
2009 National Research Council RAP Postdoctoral Fellowship (awarded, declined)
2009 Roy L. McCullough Scholars Award, Delaware Center for Composite Materials
2008 Neutron Scattering Society of America Prize for Outstanding Research
2008 First Prize, SoftMatt Research Conference
2008 Progress Award, Delaware Center for Composite Materials
2007 University Graduate Fellows Award, University of Delaware
2007 Excellence in Graduate Polymer Research Award, ACS POLY Division
2004 Robert L. Pigford Fellowship, University of Delaware
2004 McCabe Society, Carnegie Mellon University

Service to the neutron scattering community

2015 Invited lecturer, LANSCE Neutron Scattering School
2014 Member, Beam Time Allocation Committee, NIST Center for Neutron Research
2014 Program participant, NCNR Future Directions Workshop
2014 Program participant, ORNL Grand Challenges in Soft Matter Workshop
2013-present Member, Materials Program Advisory Committee, Lujan Neutron Scattering Center, LANL
2010-2014 Invited presenter, NSF Program Reviews, NIST Center for Neutron Research
2010 Instructor and invited lecturer, NIST Center for Neutron Research Summer School
2009-present Referee, Beam Time Allocation Committee, NIST Center for Neutron Research
2008 Session chair, “Colloids”, 2008 American Conference on Neutron Scattering, Santa Fe NM

Research statement

Our research is devoted to the design and processing of complex fluids and soft materials, especially those involving colloidal species (nanoparticles, emulsions, proteins, etc.) in self-assembling & structured liquids (particularly surfactants, polymers and ionic liquids). Specific expertise involves combining experimental and theoretical tools (scattering, microscopy, rheology, statistical & colloidal thermodynamics) for multi-scale characterization and description of fluid microstructure and dynamics, ultimately to inform the molecular-level design of these materials. Current topics of interest include the engineering of functional and stimuli-responsive gels and particulates for applications in biotechnology, advanced separations and energy production.