



EMORY
UNIVERSITY



8th Southeast Meeting on Soft Materials
Wednesday, May 14th, 2014, Emory University
Mathematics and Science Center
Invited Talks and Sound Bites – room E208
breakfast, lunch, and refreshments – 2nd Floor Atrium

Program

8:30 am – 9:00 am

arrival and breakfast

9:00 am – 9:05 am

welcome and opening remarks (Eric Weeks, Connie Roth, Justin Burton)

9:05 am – 9:50 am

Invited Talk

Mark Ediger (University of Wisconsin, keynote speaker)

Control of stability and molecular orientation in organic glasses (Or how to make a million-year-old glass in 10 minutes)

9:50 am – 10:40 am

Sound Bites I (chair: Connie Roth)

Xia Hong, Kenneth W. Desmond, Dandan Chen, Eric R. Weeks

Avalanches of Rearrangements in 2D Emulsion Hopper Flow

Sri Charan Yarlagadda, Victor Breedveld

Dynamics of hard and soft colloids under confinement

Kevin Yehl

Enzyme-Powered Autonomous Particle Rollers with Super Diffusive Transport

Connie Roth, Laura Gray, Justin Pye

Factors that affect physical aging of glassy polymer films

Purva Kodlekere, Aida Demissie, Dr. Saugata Sarkar, Dr. Robert Dickson, Dr. Andrew Lyon

Conjugation of dyes to microgels for use in Photoacoustic Imaging

Carlos Orellana, Eric Weeks

Flowing properties of quasi-2D emulsions under shear

Maeling Tapp, Dr. Pat Dennis, Dr. Rajesh Naik, Dr. Valeria Milam

Identifying ssDNA aptamers for gold substrates

Juan José Liétor-Santos, Justin Burton

Dusty plasma glasses

Roman Baglay, Connie B. Roth

Extended, Asymmetric T_g Profile Across a Glassy-Rubbery Polymer-Polymer Interface

Perrin Schiebel, Daniel I Goldman

Legless locomotion in heterogeneous terrain

Jeffrey Aguilar, Daniel I. Goldman

PTV Tracking of Granular Media

Weiwei Zheng, Yang Liu, Ana West, Erin Schuler, Kevin Yehl, R. Brian Dyer, James T. Kindt, Khalid Salaita

Quantum Dots Encapsulated Within Phospholipid Membranes: Phase-dependent Structure, Photostability, and Site-selective Functionalization

John Hyatt, L. Andrew Lyon, Alberto Fernandez-Nieves

Understanding the Dynamics of Soft Particle Glasses

10:40 am – 11:00 am

coffee and refreshments

11:00 am – 11:45 am

Invited Talk

Meisha Shofner (Georgia Institute of Technology)

Cellulose Nanocrystal/Polymer Composites

11:45 am – 12:30 pm

Sound Bites II (chair: James Kindt)

Annika Kriisa, Connie Roth

Change of Miscibility of Polystyrene / Poly(vinyl methyl ether) Blends under Uniform Electric Fields

Caitlin Meree, Meisha Shofner

Rheological Behavior of Highly Loaded Cellulose Nanocrystal/Poly(vinylalcohol) Composite Hydrogels

Anton Souslov, Jennifer E. Curtis, Paul M. Goldbart

Binding large globular particles to long polymer chains

Xinru Huang, Connie Roth

Changes in specific volume vs temperature for ultrathin polystyrene films

Wenbin Wei, Jennifer Curtis, Paul Weigel

HA Polymer Length Regulation

Prateek Verma, Anselm Griffin, Meisha Shofner

Auxetic behavior in paper and nonwovens

Justin Pye, Connie B. Roth

Physical Aging Between and Below the Two Glass Transitions of Ultrathin High Molecular Weight Free-Standing Polystyrene Films

Lewen Yang

The study of the permeation rate anomaly of lipid bilayers during the phase transition

Abhiram Kannan, David G Bucknall

Polyolefin Deformation at High Strain Rates

David Bucknall, A Kannan

Molecular Origins of Polymer Deformation

Laura Gray, Connie Roth

Physical Aging of Polymer Glasses formed Under Stress

12:30 pm – 1:45 pm

lunch and discussion

1:45 pm – 2:30 pm

Invited Talk

Alessandro Veneziani (Emory University)

The (emergent) role of computational mathematics in medicine: numerical modeling of arterial walls and fluid-structure interaction

2:30 pm – 3:30 pm

Sound Bites III (chair: Justin Burton)

Peter Yeh, Alexander Alexeev

Efficient swimming of an oscillating elastic plate

Josefa Guerrero Millan, A. J. Hijano, A. Fernandez-Nieves

Emission modes in electrocoflow

Karthik Nayani, Eric Dancu, Jayalakshmi Vallomkundu, Jung Ok Park, Mohan Srinivasarao and Alberto Fernandez Nieves

Nematics confined inside a tori with normal boundary conditions

Richard Sullivan, Maeling Tapp, Valeria Milam

Effect of DNA Additions on Growth of Gold Nanorods

Alison Douglas, Alberto Fernandez-Nieves, L. Andrew Lyon, and Thomas H. Barker

Engineering biomaterials with colloidal assemblies for enhanced tissue integration

Skanda Vivek, Eric R. Weeks

Soap Film as a 2D system

Abigail de la Pena

Dynamic Culture Systems for Biomimetic Stimulation of Cells and Tissues

Mike Tennenbaum, Z. Liu, A. Fernandez-Nieves, D. L. Hu

Rheological Properties of Fire Ant Aggregations

Perry Ellis, Alberto Fernandez-Nieves

Simulated Textures of Toroidal Nematic Liquid Crystal Droplets

Alexandros Fragkopoulos, Ekapop Pairam, Alberto Fernandez-Nieves

The Evolution of Electrified Toroidal Droplets

Feifei Qian, Kevin Daffon, Tingnan Zhang and Daniel I. Goldman

An automated system for systematic testing of locomotion on heterogeneous granular media

Mark Kingsbury, Daniel Goldman, Stephen Gatesy

Bipedal Walking on Granular Media

Abiola Shitta, Sven Behrens

Encapsulation of Agrochemicals via Particle Stabilized Double Emulsions

Svetoslav Nikolov, Peter Yeh, Alexander Alexeev

How to swim using a responsive hydrogel

James Kindt, Ana West

A Simple Extension of Transient Network Theory

3:30 pm – 3:50 pm

coffee and refreshments

3:50 pm – 4:35 pm

Invited Talk

Victor Breedveld (Georgia Institute of Technology)

Controlling wetting and adhesion on cellulosic substrates

4:35 pm – 5:30 pm

Sound Bites IV (chair: Eric Weeks)

Joanna Tsao, Sven Behrens

Role of nanoscale roughness on wetting behavior in fluid/fluid systems

Lara Bolling-Patel

Coupling of Mechanical Stresses and Vesicle Phase Transition Dynamics

Karthik Uppulury, James T. Kindt

Bending free energy dependence of gel phase lipid bilayer systems

Sven Behrens

Ion specific effects on prion nucleation and strain formation

Ryan Nixon, Adrian Orozco, Priya C Baenen, Zechariah Jenkins, Marina Kay Wiatt, Jayson

Zuluaga, Thomas E. Angelini

Stretchy Hydrogels

Michelle Dawson, Deepraj Ghosh, Daniel McGrail, Kathleen McAndrews

Mechanics and Malignancy: Biophysical Approaches for Investigating the Tumor Microenvironment

Miguel Pelaez-Fernandez, A. Souslov, P. M. Goldbart, L. A. Lyon, A. Fernandez-Nieves

Phase behavior of microgel suspensions

Xin Du, Eric R. Weeks

Free energy landscape and structural rearrangement of minimal glassy model

Joohyung Lee, Sven H. Behrens

Surfactant-Mediated Electric Charging Mechanisms in Nonpolar Media

Ya-Wen Chang, Alberto Fernandez-Nieves

Toroidal substrate as a tool to decipher guided cell behavior

Daniel Kovari, Wenbin Wei, Ruth E. Fogg, Jennifer E. Curtis

Frustrated phagocytosis follows universal cell spreading behavior during early stages, ends in distinct contraction phase

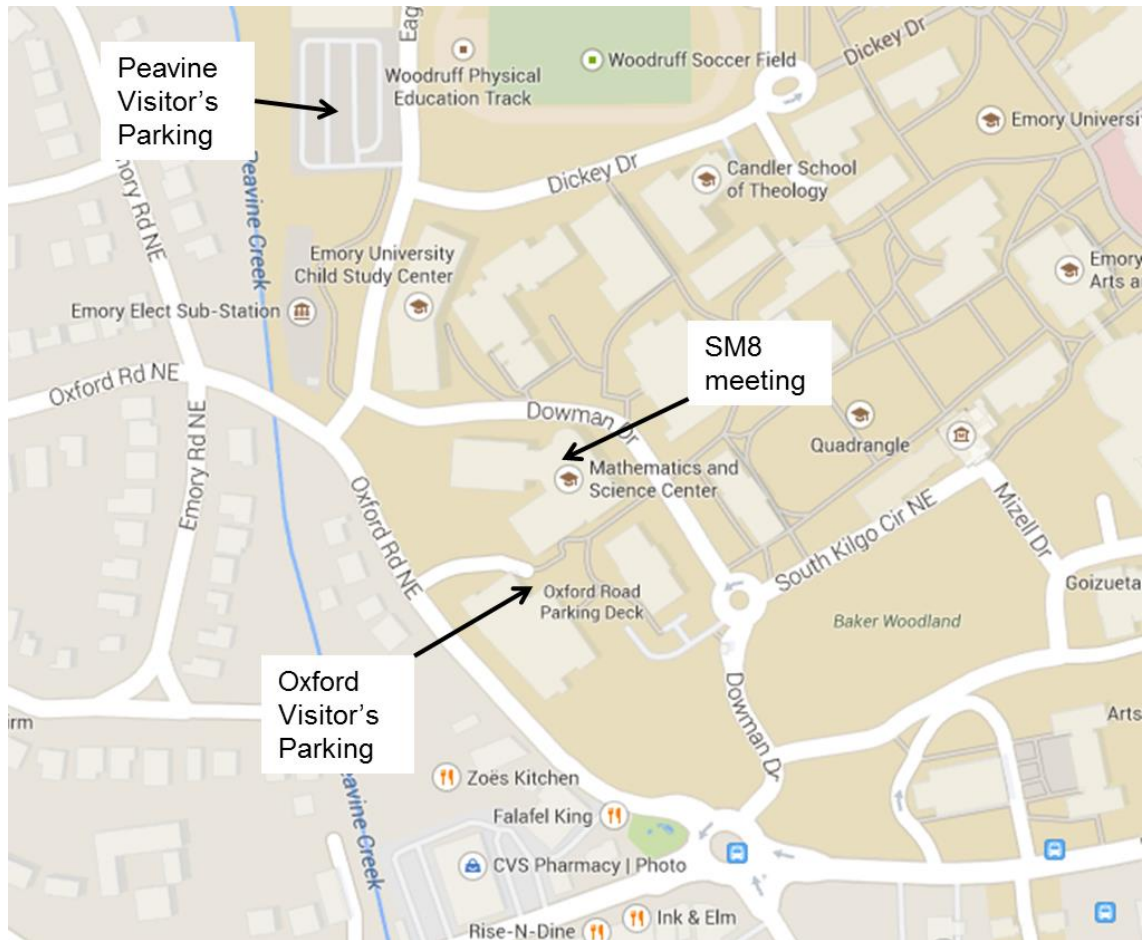
Zheng Liu, Yang Liu, Yuan Chang, Khalid Salaita

Opto-mechanical actuators to control cell adhesion

5:30 pm

adjourn and refreshments

Map and Directions



The Mathematics and Science Center is located at 400 Dowman Drive, Atlanta, GA 30322. The most convenient parking lot is the Oxford Road Parking Deck, which is accessible from Oxford road, on the northwest side of the Barnes and Nobles bookstore. The Peavine Visitor's lot (outdoor lot, not the garage) is also very close, and is also accessible from Oxford Rd. All parking is \$12 for a full day.