

# PROGRAM

## APRIL 18 (WEDNESDAY): ***STUDENT CENTER, THEATER***

8:00 – 8:45 Registration/Coffee

8:45 – 9:00 Welcome

### APS SPONSORED MORNING SESSION

*Chairs: Gabi Steinbach & Peter Yunker (Georgia Tech)*

9:00 – 9:40 Randy Kamien: “The Topological Character of Smectics”

9:40 – 10:20 Mark Bowick: “Topology in Polar Flocking and Active Nematics”

10:20 – 10:50 **COFFEE BREAK**

10:50 – 11:30 Arjun Yodh: “Unusual Director Configurations and Diffusion Driven by Liquid Crystal Elastic Anisotropy”

11:30 – 12:10 Ileana Streinu: “Geometric underpinnings of auxetic behavior”

12:10 – 2:50 **LUNCH AND POSTERS – STUDENT CENTER, ROOMS 319, 320, 321**

### AFTERNOON SESSION

*Chairs: Skanda Vivek & Sabetta Matsumoto (Georgia Tech)*

2:50 – 3:50 Contributed talks:

- Pavel Aprelev: "Accurately tracking the motion of nanorods in Magnetic Rotational Spectroscopy"
- Michael Dimitriyev: "Geometry and mechanics of knitted fabric"
- Jessica Faubel: "Biomimetic Hyaluronan Polymer Brush Grown from Enzymes"
- William Savoie: "Smarticle ensembles: collective capabilities of shape changing robots"
- Lorenzo Rovigatti: "Computer-generated realistic microgels"

3:50 – 4:10 **COFFEE BREAK**

4:10 – 4:50 Paul Goldbart: “Some universal features of soft random solids”

**APRIL 19 (THURSDAY): MARCUS BUILDING, ROOMS 1116–1118**

**MORNING SESSION**

*Chairs: Michael Tennenbaum & Alberto Fernandez-Nieves (Georgia Tech)*

8:30 – 9:10 Xiaoming Mao: “Fracturing of marginally stable structures: fiber networks and topological metamaterials”

9:10 – 9:50 Dave Weitz: “New Results for Old Physics: Critical Phenomena for Colloids in Microgravity”

9:50 – 10:20 **COFFEE BREAK**

10:20 – 11:10 Contributed talks:

- Guram Gogia: "Emergent Bistable Switching in a Nonequilibrium Crystal"
- Yoav Green: "Inference of mechanical stresses within the actively migrating cell sheet"
- Shane Jacobsen: "Cellular packing, mechanical stress and the evolution of multicellularity"
- Shankar Lalitha Sridhar: "Mechanics of Active Networks – Lessons from Fire Ant Aggregations"

11:10 – 11:50 Tim White: “Performance Derived from the Directed Self Assembly of Liquid Crystal Elastomers”

11:50 – 12:30 Omar Saleh: “Self-assembled DNA liquids: Properties and protein activation”

12:30 – 2:00 **LUNCH**

**AFTERNOON SESSION**

*Chairs: Kazem Edmond (Exxon) & Alex Alexeev (Georgia Tech)*

2:00 – 2:50 Contributed talks:

- James McInerney: "How hidden geometric symmetries in origami generate new folding mechanisms"
- Jonathan Michel: "Why is Structural Hierarchy So Prevalent in Biological Materials?"
- David Rivas: "Probing Active Nematic Films with Magnetically Manipulated Colloids"
- Pierre Ronceray: "Cell contraction induces long-ranged stress stiffening in the extracellular matrix"

2:50 – 3:30 Younan Xia: “Symmetry Breaking during the Synthesis of Nanoparticles”

3:30 – 4:10 Ludovic Berthier: “Ordered and disordered motion in dense active materials”

4:15 – 6:00: **RECEPTION – MARCUS BUILDING, ATRIUM**

**APRIL 20 (FRIDAY): STUDENT CENTER, BALLROOM**

**MORNING SESSION**

*Chairs: Volodymyr Korolovych & Blair Brettmann (Georgia Tech)*

8:30 – 9:10 Sid Nagel: “Exploiting disorder”

9:10 – 9:50 Martin van Hecke: “Sequential Mechanical Metamaterials”

9:50 – 10:30 **COFFEE BREAK**

10:30 – 11:10 Olivier Dauchout: “Granular glasses: a real space insight into relaxation processes in glasses”

11:10 – 12:00 Contributed talks:

- Cornelia Rosu: "Soft, responsive and semiconducting gels"
- Hema Selvakumar: "Spatiotemporal dynamics of biofilm-phage interactions"
- Aghil Abed Zadeh: "Local and global avalanches in sheared granular materials"
- Minxiang Zeng: "Highly efficient oil-water separation using surface-programmable membranes"

12:00 – 1:00 **LUNCH**

**AFTERNOON SESSION**

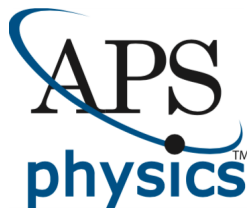
*Chairs: Juan Jose Lieter-Santos (APS) & Zeb Rocklin (Georgia Tech)*

1:00 – 1:40 Françoise Brochard-Wyart: “Hybrid active matter: when particles and living cells play together”

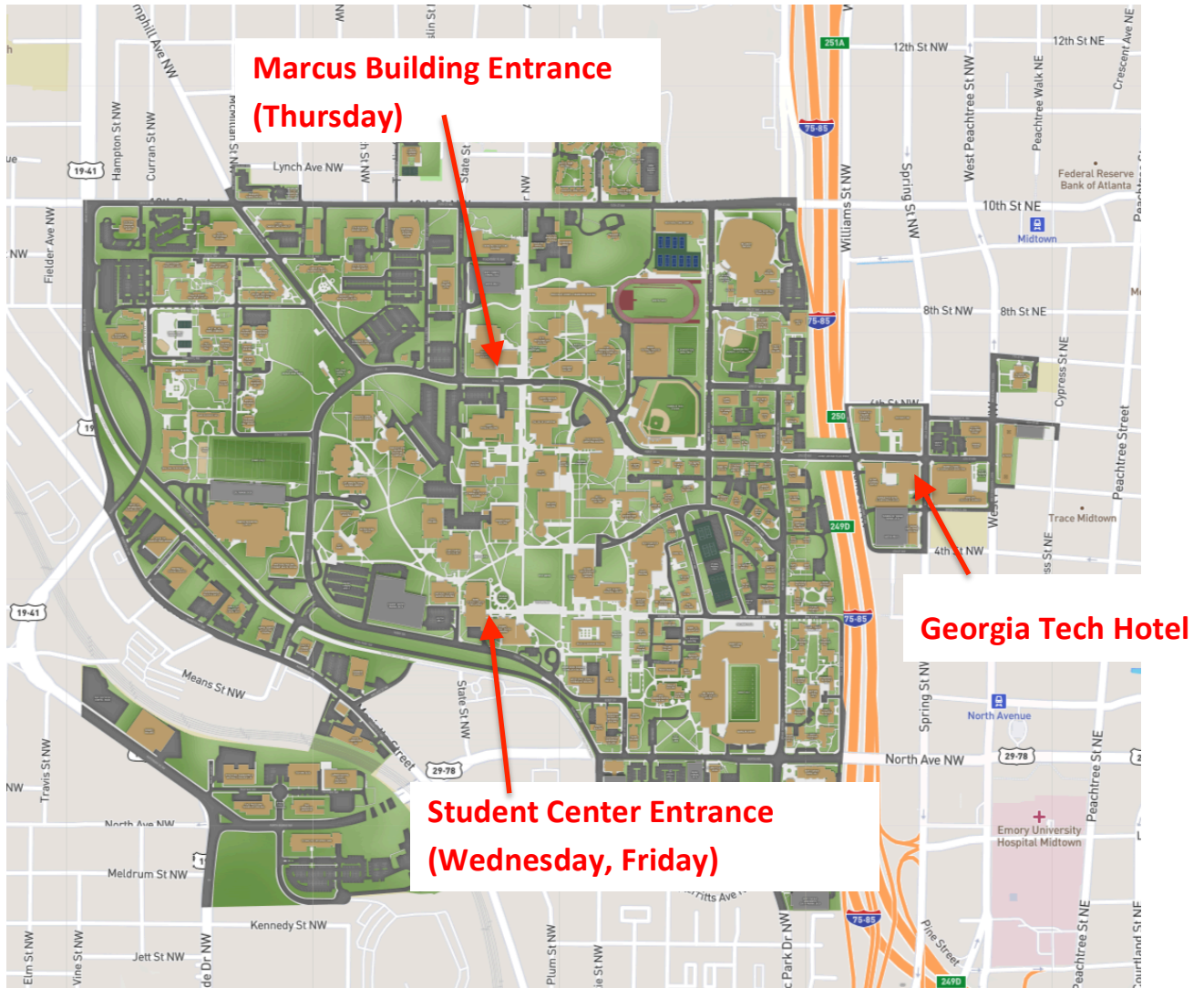
1:40 – 2:20 Paul Chaikin: “Quantifying hidden order out of equilibrium”

2:20 **ADJOURN**

Our Sponsors



Soft Matter



Some important links:

<http://map.gatech.edu>


[http://smi.gatech.edu/files/Local\\_Area\\_Restaurants.pdf](http://smi.gatech.edu/files/Local_Area_Restaurants.pdf)

[http://smi.gatech.edu/files/Local\\_Area\\_Hotels.pdf](http://smi.gatech.edu/files/Local_Area_Hotels.pdf)

You can also download the Georgia Tech app for iPhone from the App Store

App Store Preview

This app is only available on the App Store for iOS devices.



**Georgia Tech**  
Georgia Tech  
★★★★★ 13 Ratings  
Free