

## Princeton Center for Theoretical Science

The Princeton Center for Theoretical Science is dedicated to exploring the frontiers of theory in the natural sciences. Its purpose is to promote interaction among theorists and seed new directions in research, especially in areas cutting across traditional disciplinary boundaries.

The Center is home to a corps of Center Postdoctoral Fellows, chosen from nominations made by senior theoretical scientists around the world. A group of senior Faculty Fellows, chosen from science and engineering departments across the campus, are responsible for guiding the Center. Center activities include focused topical programs chosen from proposals by Princeton faculty across the natural sciences. The Center is located on the fourth floor of Jadwin Hall, in the heart of the campus “science neighborhood”. The Center hopes to become the focus for innovation and cross-fertilization in theoretical natural science at Princeton and celebrated its tenth anniversary in 2016.

### Faculty Fellows

Paul Steinhardt, Director  
Igor Klebanov, Associate Director  
Andrei Bernevig  
Curtis Callan  
Pablo Debenedetti  
Eve Ostriker  
Howard Stone  
Herman Verlinde  
Ned Wingreen

### Center Postdoctoral Fellows

Barry Bradlyn 2015-2018  
Jennifer Cano 2015-2018  
Anna Frishman 2016-2019  
Bruno Le Floch 2015-2018  
Daniel Lecoanet 2016-2019  
Zhiyuan Li 2015-2018  
Biao Lian 2017-2020  
Pierre Ronceray 2016-2019  
Yizhi You 2017-2020  
Yaojun Zhang 2015-2018

To find out more about Center Postdoctoral Fellowships and Programs see:

<http://pcts.princeton.edu/pcts>



## “Geometrically Frustrated Self-Assembly”

**27-29 November 2017**

Jadwin Hall, Room 407

### Workshop Organizers

Gregory Grason (UMass Amherst)  
Pierre Ronceray (Princeton University)

# “Geometrically Frustrated Self-Assembly”

## Monday, November 27, 2017

**8:30** Coffee & Light Breakfast

**9:00-10:00** Gregory Grason, "Anomalous assembly of ill-fitting elements: competing morphologies of geometrically frustrated assemblies".

**10:00- 10:30** Coffee break

**10:30-11:30** Vinothan Manoharan, "Colloidal self-assembly on curved surfaces – and the connection to icosahedral viruses".

**11:30-12:30** Gilles Tarjus, "Geometrical Frustration in the Bulk".

**12:30-2:30** Lunch at PCTS

**2:30-3:30** Efi Efrati, "Cumulative and non-cumulative frustration in liquid and solid assemblies".

**3:30-4:30** Zvonimir Dogic, "Conformational switching in chiral self assembly".

**4:30-5:00** Coffee break

**5:00-6:00** Elisabetta Matsumoto, "Why be straight? or the undeniable pervasiveness of twisting".

## Tuesday, November 28, 2017

**8:30** Coffee & Light Breakfast

**9:00-10:00** Haim Diamant, "Self-organization of forced colloids into hyperuniform dynamic structures".

**10:00-10:30** Coffee break

**10:30-11:30** Ned Wingreen, "Magic numbers in protein phase separation".

**11:30-12:30** Arvind Murugan, "Associative retrieval of memories in frustrated disordered self- assembly".

**12:30-2:30** Lunch at PCTS

## Tuesday, November 28, 2017 (cont.)

**2:30-3:30** Patrick Charbonneau, "Packing and assembling spheres in cylindrical confinement".

**3:30-4:30** Miranda Holmes-Cerfon, "Are sticky spheres frustrated?".

**4:30-5:00** Coffee break

**5:00-6:00** Randall Kamien, "Focal Conic Domains – how they pack on finite surfaces".

## Wednesday, November 29, 2017

**8:30** Coffee & Light Breakfast

**9:00-10:00** Tom Witten, "Funneling into a frustrated fiber: towards a continuum understanding of kinetically selected one-dimensional self assembly"

**10:00- 10:30** Coffee break

**10:30-11:30** Pierre Ronceray, "What determines the dimensionality of self-assembled aggregates?"

**11:30-12:30** Ryan Hayward, "Fabrication and (frustrated) assembly of shape-programmed polymer particles".

**12:30-2:00** Lunch at PCTS

**2:00-3:30** OPEN DISCUSSION: “Is geometrical frustration a unifying concept for self-assembly?”