

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 is celebrating its tenth anniversary in 2016.

Faculty Fellows

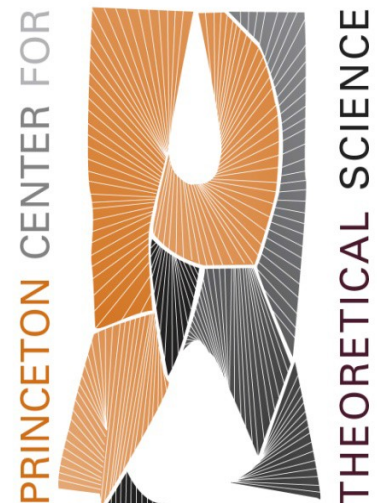
Paul Steinhardt, Director
Igor Klebanov, Associate Director
Andrei Bernevig
Curtis Callan
Pablo Debenedetti
Eve Ostriker
Howard Stone
Herman Verlinde
Ned Wingreen

Center Postdoctoral Fellows

Barry Bradlyn 2015-2018
Jennifer Cano 2015-2018
Anna Frishman 2016-2019
Anna Iijias 2014-2017
Bruno Le Floch 2015-2018
Daniel Lecoanet 2016-2019
Zhiyuan Li 2015-2108
Mark Mezei 2014-2017
David Pinner 2014-2017
Pierre Ronceray 2016-2019
Curt von Keyserlingk 2014-2017
Yaojun Zhang 2015-2018

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

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



“The Quantum Hall Effect: Past, Present & Future”

March 8-10, 2017
Jadwin Hall, Room 407

Workshop Organizers

Andrei Bernevig
Ravindra Bhatt
Barry Bradlyn
Jennifer Cano
Scott Geraedts
Duncan Haldane
Mansour Shayegan

This workshop will be held in conjunction with the “New Developments in conformal Field Theory Above Two Dimensions” workshop, held from March 6-8, 2017.

The Quantum Hall Effect: Past, Present & Future

Thursday, March 9, 2017

- 8:30-9:00** **Continental Breakfast/welcome**
- 9:00-9:50 "Deconfined critical points: symmetries and dualities"
Max Metlitski, MIT
- 9:50-10:40 "Mach-Zehnder interferometry with graphene quantum Hall edge states"
Di Wei, Harvard University
- 10:40-11:00** **Coffee Break**
- 11:00-11:50 "Self-dual quantum critical point and Bosonic Hall effect: theory, numerics, and experimental platform"
Kenke Xu, UCSB
- 11:50-1:00** **Lunch at PCTS, Jadwin Hall, Fourth Floor**
- 1:00-1:50 "Emergent particle-hole symmetry in the half-filled Landau level"
Michael Mulligan, UC Riverside
- 1:50-2:40 "Particle-hole symmetry in the HLR theory of the half-filled Landau level."
Bert Halperin, Harvard University
- 2:40-3:00** **Coffee break**
- 3:00-3:50 "Observed quantization of anyonic heat flow"
Mitali Benerjee, Weizmann Institute
- 3:50-5:00** **"Physics COLLOQUIUM"- Room A-10 Jadwin Hall**
"Building Quantum Matter from Light: from Topological Photonics to Polariton Blockade"
Jonathon Simon, University of Chicago

The Quantum Hall Effect: Past, Present & Future

Friday, March 10, 2017

- 8:30-9:00** **Continental Breakfast/welcome**
- 9:00-9:50 "Geometric aspects of hydrodynamics and transport of Quantum Hall States"
Paul Wiegmann, University of Chicago
- 9:50-10:40 "Nematic Order in Quantum Hall Systems"
Eduardo Fradkin, University of Illinois
- 10:40-11:00** **Coffee Break**
- 11:00-11:50 "Exciton metals and other exotic states at even-denominator filling"
Maissam Barkeshli, University of Maryland
- 11:50-1:00** **Lunch at PCTS, Jadwin Hall, Fourth Floor**
- 1:00-1:50 "Observation of even denominator fractional quantum hall states in dual-gated bilayer graphene"
Sasha Zibrov, UCSB
- 1:50-2:40 "Exploring quantum Hall physics with photons: From silicon photonics to driven quantum Hall states in 2D materials"
Mohammed Hafezi, University of Maryland
- 2:40-3:00** **Coffee Break**
- 3:00-3:50 "Observation of a Pressure-driven Quantum Phase Transition from the $\nu=5/2$ Fractional Quantum Hall State to Stripes"
Gabor Csathy, Purdue University
- 3:50-4:40 "Pairing in Luttinger liquids and quantum Hall states"
Ady Stern, Weizmann Institute