

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.

Faculty Fellows

Paul Steinhardt, Director
Igor Klebanov, Associate Director
Adam Burrows
Curtis Callan
Garnet Chan
Pablo Debenedetti
David Huse
Jeroen Tromp

Center Postdoctoral Fellows

Ian Abel 2013-2016
Daniel Harlow 2012-2015
Yoav Kallus 2011-2014
Samuel Lee 2012-2015
Yi Li 2013-2016
David Limmer 2013-2016
Joseph Maciejko 2011-2014
Elisabetta Matsumoto 2011-2014
Rahul Nandkishore 2012-2015
Titus Neupert 2013-2016

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

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



Dark Matter Paradigm: Current Status and Challenges

16-18 October 2013
Jadwin Hall, Room 407

This Workshop is co-sponsored by IAS

Organizing Committee

Kfir Blum, IAS
Daniel Grin, University of Chicago
Samuel Lee, PCTS, Princeton University
Mariangela Lisanti, Princeton University
Tracy Slatyer, MIT

On Tuesday, October 15 there will be an event on the US program at LNGS, featuring LNGS Director, Stefano Ragazzi. The event is jointly sponsored by the Italian Consulate in Newark and LNGS. Details can be found at <http://pcts.princeton.edu/pcts>

Dark Matter Paradigm

Wednesday, 16 October 2013

- 8:30 Coffee/Light Refreshments at PCTS, Jadwin Hall, Fourth Floor
9:00 "DarkSide"
Cristiano Galbiati, Princeton University
- 10:00 "Update on the Xenon Experiment"
Elena Aprile, Columbia University
- 11:00 "SABRE (Sodium iodide with Active Background Rejection):
A new experiment to test the DAMA/LIBRA Result"
Jingke Xu, Princeton University
- 11:20 Break
- 11:30 "Overview of Gamma-ray radiation from dark matter
Annihilation."
Doug Finkbeiner, Harvard University
- 12:30 Lunch at PCTS, Jadwin Hall, Fourth Floor
1:15 "Dark-matter, solar and laboratory searches for the axion"
Karl van Bibber, Berkeley
- 2:15 "AMS Results"
Andrei Kounine, CERN
- 3:15 Break
- 3:30 "Dwarf galaxies and dark matter"
Rosemary Wyse, Johns Hopkins University
- 4:30 "Dark matter in the Milky Way"
Jo Bovy, IAS
- 5:30 – 6:30 **Poster Session**

Thursday, 17 October 2013

- 8:30 Coffee/Light Refreshments at PCTS, Jadwin Hall, Fourth Floor
9:00 "Overview of Dark Matter Direct Detection"
Neal Weiner, NYU
- 10:00 "Monojets versus the rest of the world"
Kathryn Zurek, University of Michigan
- 11:00 Break
- 11:15 "Dark Matter Searches with Fermi LAT"
Simona Murgia, UCI

Thursday, 17 October 2013 (continued)

- 12:15 Lunch at PCTS, Jadwin Hall, Fourth Floor
- 1:15 "Dark matter annihilation in the Galactic Center and Inner
Galaxy"
Dan Hooper, FermiLab and University of Chicago
- 2:15 "Theoretical and experimental aspects of light dark matter."
Rouven Essig, SUNY, Stony Brook
- 3:15 Break
- 4:30 Physics Colloquium, Room A-10 Jadwin Hall (A Level)
"Dark Matter Insights from Cosmological Structure
Formation"
Risa Wechsler, Stanford University

Friday, 18 October 2013

- 8:30 Coffee/Light Refreshments, PCTS, Jadwin Hall, Fourth Floor
- 9:00 "Update and Future of CDMS."
Enectali Figueroa-Feliciano, MIT
- 10:00 "New ideas for axion detection."
Peter Graham, Stanford University
- 11:00 Break
- 11:15 "Self-interacting dark matter."
Manoj Kaplinghat, UCI
- 12:15 Lunch at PCTS, Jadwin Hall, Fourth Floor
- 1:15 "The small-scale structure of dark matter."
Andrew Zentner, University of Pittsburgh
- 2:15 "Dark matter substructure and gravitational lensing."
Chuck Keeton, Rutgers University
- 3:15 Break
- 3:30 "The impact of SIDM on structure formation and direct
detection."
Mark Vogelsberger, Harvard University
- 4:30 "Probing dark matter substructure with ALMA"
Neal Dalal, University of Illinois