

## 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  
Ravindra Bhatt  
William Bialek  
Curtis Callan  
Roberto Car  
David Spergel  
Salvatore Torquato

### Center Postdoctoral Fellows:

Dmitry Abanin 2008-2011  
Bogdan Andrei Bernevig 2006-2009  
Thomas Klose 2007-2010  
Jean-Luc Lehners 2007-2010  
M. Lisa Manning 2008-2011  
Meera Parish 2006-2009  
Matthew Reece 2008-2011  
Antonello Scardicchio 2006-2009  
Branson Stephens 2007-2010  
Aleksandra Walczak 2007-2010

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

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



## The Big Bang and Beyond Program

### Microsymposium on the Cosmic Singularity

**December 4-8, 2008**

### Organizers:

Nima Arkani-Hamed (IAS), Igor Klebanov, Jean-Luc Lehners,  
David Spergel, Paul Steinhardt,  
Matt Strassler (Rutgers), and Herman Verlinde

**Co-sponsored by The D. E. Shaw Group**

# Cosmic Singularity Microsymposium

**Thursday, December 4, 2008**  
**PCTS**

**4:00 pm**      **Physics Tea in Room 218, Faculty Lounge,  
Jadwin Hall**

4:30 pm      Special Joint **Physics/PCTS** Colloquium  
Room A-10, Jadwin Hall

"The Quantum Origin of Our Classical Universe"  
**James Hartle**, UC Santa Barbara

**Friday, December 5, 2008**  
**PCTS**

9:30 am      Coffee

10:00 am      Welcome

10:10 am      "Holographic Description of Spacetime Singularities"  
**Gary Horowitz**, UC Santa Barbara

11:30 am      "Singularity Resolution in Loop Quantum Cosmology"  
**Abhay Ashetekar**, Pennsylvania State University

**12:50 – 2:15 pm**      **Lunch**

2:15 pm      "Singularity Resolution in Quantum Cosmology"  
**Thomas Hertog**, AstroParticule et Cosmologie,  
Universite Paris

3:35 pm      "Black Holes as Effective Geometries"  
**Vijay Balasubramanian**, University of Pennsylvania

**5:00 pm**      **Light Supper**

# Cosmic Singularity Microsymposium

**Monday, December 8, 2008**  
**2:00 pm**  
**PCTS**

2:00      Panel Discussion: Cosmic Singularity Problem  
Moderator: **Igor Klebanov**, PCTS

Panel will include:

**James Hartle**, UC Santa Barbara

**Thomas Hertog**, APC – Paris

**Gary Horowitz**, UC Santa Barbara

**Juan Maldacena**, IAS

**Alexander Polyakov**, Princeton

Check <http://pcts.princeton.edu/pcts/calendar.html>  
for program updates and other Center activities