

## Princeton Center for Theoretical Physics

The Princeton Center for Theoretical Physics is a new, University-funded enterprise 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. The full complement of nine Fellows will be in residence by Fall 2008. 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 involving participants from inside and outside the university. To house these activities, the University is constructing a dedicated facility in Jadwin Hall, home of the Physics Department, 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:

Curtis Callan, Director  
Paul Steinhardt, Associate Director  
Ravindra Bhatt  
William Bialek  
Igor Klebanov  
Shivaji Sondhi  
David Spergel  
Salvatore Torquato

### Center Postdoctoral Fellows:

Bogdan Andrei Bernevig 2006-2009  
Thomas Klose 2007-2010  
Jean-Luc Lehners 2007-2010  
Meera Parish 2006-2009  
Antonello Scardicchio 2006-2009  
Branson Stephens 2007-2010  
Aleksandra Walczak 2007-2010

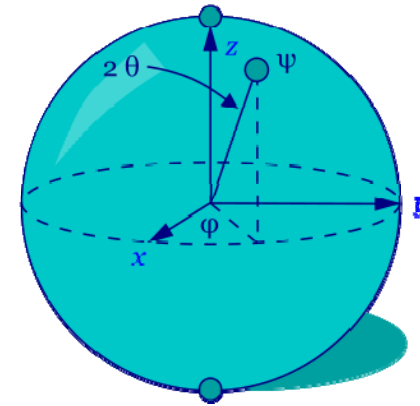


# Symposium on Problems in Fault Tolerance

Frontiers in Quantum Computing Program

**February 20, 2008**

**9:30 am – 3:30 pm**



### Organizers

William Brinkman, Robert Calderbank, Gerald Gilbert  
Shivaji Sondhi

**Sponsored by  
Princeton Center for Theoretical Physics  
&  
The MITRE Corporation**

## Symposium on Problems in Fault Tolerance

February 20, 2008

Room A-10, Jadwin Hall

9:30 am – 3:30 pm

- 9:30 – 9:45 am**    **Welcome, Curtis Callan, Princeton University  
Gerald Gilbert, The MITRE Corporation**
- 9:45**                **Session Chair, William Brinkman, Princeton  
University**
- 9:45 – 10:45 am    *"Towards fault tolerant quantum dynamical  
decoupling"*  
**Daniel Lidar, University Southern California**
- 10:45 – 11:00 am**    **Coffee Break**
- 11:00 – Noon        *"A comparative code study for quantum fault-  
tolerance"*  
**Barbara Terhal, IBM Watson Research Center**
- 12:00 – 1:00 pm**    **Lunch**
- 1:00**                **Session Chair, Shivaji Sondhi, Princeton U.**
- 1:00 – 1:45 pm      *"Operator quantum fault tolerance"*  
**Gerald Gilbert, The MITRE Corporation**
- 1:45 – 2:30 pm      *"What is the overhead required for fault  
tolerance?"*  
**Daniel Gottesman, Perimeter Institute for  
Theoretical Physics**
- 2:30 – 2:45 pm**      **Coffee Break**
- 2:45 – 3:30 pm      *"Experimental Investigations of Coherent Control  
and Quantum Error Correction"*  
**David Cory, Massachusetts Institute of  
Technology**