

## Bulk Microscopy from Holography and Quantum Information

### Thursday, 21 November 2013

4:00 Physics Tea, Room A-10 Jadwin Hall  
4:30 **Physics Colloquium, Room A-10 Jadwin Hall (A Level)**  
"The Black Hole Information Paradox: Alive and Kicking"  
**Joseph Polchinski, Kavli Institute for Theoretical Physics (KITP), University of California, Santa Barbara**

### Friday, 22 November 2013

8:30 Continental Breakfast at PCTS, Jadwin Hall, Fourth Floor

**Moderator: Herman Verlinde**

9:00 "Decoding the hologram: bulk physics from the boundary"  
**Daniel Kabat, Lehman College**

9:40 "Can you hear the shape of the Interior?"  
**Eva Silverstein, Stanford University**

10:20 **Break**

10:50 "Litmus Tests for Smoothies"  
**Raphael Bousso, UC Berkeley**

11:30 "The black hole interior in AdS/CFT"  
**Kyriakos Papadodimas, Groningen, CERN**

12:10-12:30 Discussion

12:30 Lunch at PCTS, Jadwin Hall, Fourth Floor

**Moderator: Daniel Harlow**

2:00 "Gravitational Dynamics from Entanglement  
"Thermodynamics"  
**Mark Van Raamsdonk, UBC**

2:40 "Fuzzballs vs Wormholes"  
**Samir Mathur, Ohio State**

3:20 **Break**

3:50 "Shock wave wormholes"  
**Douglas Stanford, Stanford University**

4:30 "Behind the horizon in AdS/CFT"  
**Erik Verlinde, University of Amsterdam**

5:10 Discussion and Conclusion

## Bulk Microscopy from Holography and Quantum Information

### Saturday, 23 November 2013

8:30 Continental Breakfast at PCTS, Jadwin Hall, Fourth Floor

**Moderator: Patrick Hayden**

9:00 "On the BMS Invariance of Gravitational Scattering"  
**Andy Strominger, Harvard University**

9:50 "Holographic Space-Time, the super BMS algebra, the S-matrix and Information Loss"  
**Tom Banks, UCSC**

10:30 **Break**

10:40 "Fundamental information destruction and an alternative firewall experiment which evades the Harlow-Hayden obstruction"  
**Jonathan Oppenheim, University College London**

11:20 "On the cryptographic hardness of decoding Hawking radiation"  
**Scott Aaronson, MIT**

12-12:30 Discussion

12:30 Lunch at PCTS, Jadwin Hall, Fourth Floor

**Moderator: Juan Maldacena**

2:00 "Unitarization of Gravitational Scattering: Guidepost For Quantum Gravity"  
**Steve Giddings, UCSB**

2:40 "Harry Potter and the deathly hollows: Insights from quantum information for black hole physics"  
**Sam Braunstein, York**

3:20 **Break**

3:50 "The final state and firewalls"  
**John Preskill, Caltech**

4:30 Discussion/**Juan Maldacena, IAS**

5:00 **Casual reception at PCTS**