The Black Hole Initiative

Scientific Program

"Black Holes @ 100"

Sponsored by:

The John Templeton Foundation, the Moore Foundation and the Loeb Lecture Series

Workshop: Tuesday, April 19, 2016
9:00 – 5:30pm, 20 Garden Street, Cambridge, MA

Hosted by The Black Hole Initiative, Harvard University
20 Garden Street, 2nd floor
https://www.cfa.harvard.edu/events/2016/BHC

50+ in attendance
**Session I: From 1916 to 2016/LIGO**
*Session Chair: Shep Doeleman*

- **9:00 - 9:20** Peter Galison: Historical and Philosophical Perspective
- **9:20 - 9:40** Rai Weiss: Detection of a binary black hole collision: the instrument and the data
- **9:40 - 10:00** Alessandra Buonanno: GW150914’s observation: unveiling properties and testing general relativity
- **10:00 - 10:20** Vicky Kalogera: Astrophysics of Binary Black Holes
- **10:20 - 10:40** Saul Teukolsky: Simulations of Black Holes and Gravitational Waves

**Coffee Break**

**11:00 - 11:30** Avi Loeb and Stephen Hawking: Ribbon Cutting

**Session II: GR Aspects of Black Holes**
*Session Chair: S.-T. Yau*

- **11:40 - 12:00** Robert Wald: Dynamic and Thermodynamic Stability of Black Holes
- **12:00 - 12:20** Malcolm Perry: TBD
- **12:20 - 12:40** Jim Hartle: Classical Spacetime and Quantum Black Holes

**Lunch Break**

**Session III: Quantum Mechanics and Mathematics of Black Holes**
*Session Chair: Andy Strominger*

- **2:00 - 2:20** Juan Maldacena: The quantum mechanics of black holes
- **2:20 - 2:40** Neil Turok: Shocks, g-waves, black holes and LIGO
- **2:40 - 3:00** Thomas Hertog: Predictions of the no-boundary Prior in False Vacuum Eternal Inflation
- **3:00 - 3:20** Ned Hall: TBD

**Coffee Break**

**Session IV: Black Hole Astrophysics**
*Session Chair: Ramesh Narayan*

- **3:50 - 4:10** Roger Blandford: Magnetoluminescence
- **4:10 - 4:30** Andrea Ghez: Our Galactic Center: A Laboratory for Exploring the Physics & Astrophysics of Black Holes
- **4:30 - 4:50** Priya Natarajan: Tracing black hole growth over cosmic time
- **4:50 - 5:20** Panel Discussion: Doeleman, Galison, Loeb, Narayan, Strominger, Yau
- **5:20 - 5:30** Avi Loeb: Future Programs at the Black Hole Initiative