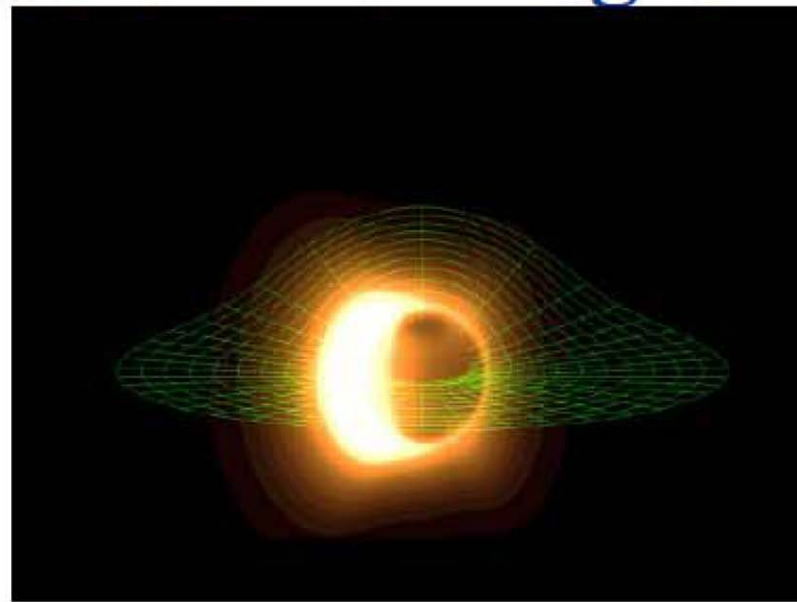


# The Black Hole Initiative



## Scientific Program



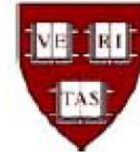
## “Black Holes @ 100”

Sponsored by:



John  
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**MOORE**  
FOUNDATION



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, 2<sup>nd</sup> floor  
<https://www.cfa.harvard.edu/events/2016/BHC>

**50+ in attendance**







## Tuesday, 9:00AM-5:30PM

All talks are 20 minutes (15+5)

Workshop sessions held in the Conference Room G10, Ground Floor

### 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
- 10:40-11:00 *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
- 12:40 - 2:00 *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
- 3:20 - 3:50 *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