

THE HEBREW UNIVERSITY OF JERUSALEM  
THE ISRAEL INSTITUTE FOR ADVANCED STUDIES

Joint Research Conference of the Institute for Advanced Studies  
and the Israel Science Foundation on:

FORTY YEARS OF BLACK HOLE THERMODYNAMICS

September 3-7, 2012

All lectures will take place at the Feldman Building,  
on the Edmond J. Safra, Givat Ram Campus

Organizing Committee: Barak Kol (Chair), Re'em Sari and Ofer Biham  
(The Hebrew University of Jerusalem)

PROGRAM

Monday, September 3

9:15-12:30 MORNING SESSION

**Opening remarks and greetings:**

**Eliezer Rabinovici** (The Hebrew University of Jerusalem)

**Billy Shapira** (Vice President and Director General, The  
Hebrew University of Jerusalem)

**Barak Kol** (The Hebrew University of Jerusalem)

9:45 **Georgi Dvali** (LMU Munich and CERN)  
*Black Hole's Quantum Portrait*

- 10:30 Coffee break
- 11:00 **William Unruh** (University of British Columbia)  
*Measurement of the Temperature of a Horizon*
- 11:45 **Scott Tremaine** (IAS Princeton)  
*The Astrophysical Evidence for Black Holes*
- 12:30 Lunch at Beit Belgia
- 14:30-17:15 AFTERNOON SESSION**
- 14:30 **Eliezer Rabinovici** (The Hebrew University of Jerusalem)  
*(In) Stabilities and Complementarity in AdS/CFT*
- 15:15 **Roberto Emparan** (University of Barcelona)  
*Viscous Fluid, Elastic Solid: The Effective Dynamics of Black Branes*
- 16:00 Coffee break
- 16:30 **Barak Kol** (The Hebrew University of Jerusalem)  
*Solving the Two-Body Problem in Einstein's Gravity with Classical Effective Field Theory*
- 18:00 Reception at Beit Belgia

## Tuesday, September 4

- 9:30-13:00 MORNING SESSION**
- 9:30 **Gerard 't Hooft** (Utrecht University)  
*Superstrings and Hidden Variables*
- 10:15 **Ted Jacobson** (University of Maryland)  
*Horizon Entropy, Higher Curvature, and Spacetime Equations of State*
- 11:00 Coffee break
- 11:30 **Luc Blanchet** (Institut d'Astrophysique de Paris)  
*First Law of Binary Black Hole Dynamics in GR and PN Theory*

- 12:15                    **Jacob Bekenstein** (The Hebrew University of Jerusalem)  
*Is a Tabletop Search for Planck Scale Signals Feasible?*
- 13:00                    Lunch at Beit Belgia
- 15:00                    Tour of the Old City of Jerusalem
- 19:00                    Conference dinner at the Eucalyptus Restaurant (speakers  
only)

### Wednesday, September 5

#### **9:30-12:15                    MORNING SESSION**

- 9:30                    **Viatcheslav Mukhanov** (LMU Munich)  
*On the Temperature and Entropy of the de Sitter Space*
- 10:15                    **Nissan Itzhaki** (Tel Aviv University)  
*Another Brick in the Wall*
- 11:00                    Coffee break
- 11:30                    **Raphael Bousso** (UC Berkeley)  
*Black Holes: Complementarity vs. Firewalls*
- 12:15                    Lunch at Beit Belgia
- 14:30-17:15                    AFTERNOON SESSION**
- 14:30                    **Steven Carlip** (UC Davis)  
*Boundary Conformal Symmetry and Black Hole Entropy*
- 15:15                    **Ram Brustein** (Ben-Gurion University)  
*Lessons from Semi-Classical Black Holes about the Information  
Paradox*
- 16:00                    Coffee break
- 16:30                    **Robert Wald** (University of Chicago)  
*Thermodynamic and Dynamic Stability of Black Holes and Black  
Branes*

## Thursday, September 6

**9:30-12:00**

### **MORNING SESSION**

9:30

**Yaron Oz** (Tel Aviv University)  
*From Entropy to Local Entropy Current*

10:15

**Amos Yarom** (Technion)  
*What Can Black Holes Teach Us about Hydrodynamics?*

11:00

Coffee break

11:30

**Micha Berkooz** (Weizmann Institute)  
*Fast Rotating Black Holes from Fermi Surfaces*

12:15

Lunch at Beit Belgia

**14:30-16:00**

### **AFTERNOON SESSION**

14:30

**Robert Myers** (Perimeter Institute)  
*Holographic Entanglement Entropy*

15:15

**Juan Maldacena** (IAS Princeton)  
*The Black Hole Information Problem*