



(CONFERENCE)

New Directions in the Foundations of Physics

Whittemore House, 1526 New Hampshire Ave. NW, Washington, DC

April 29 - May 1, 2011

Sponsored by the University of Maryland, College Park (College of Arts and Humanities, Committee for Philosophy and the Sciences, Institute for Physical Science and Technology), Georgetown University (Graduate School, Georgetown College, Philosophy Department), and Johns Hopkins University Philosophy Department, with the support of the Max Planck Institute for the History of Science, Berlin, and the Foundational Questions Institute (FQXi), and coordinated through the Foundations of Physics Group (University of Maryland at College Park, Johns Hopkins University, Georgetown University).

Friday, April 29

Session 1 (Morning): Entropy and Information

Chair :

AMIT HAGAR

Hist & Phil Sci, Indiana

9:30 - 10:50 ["Waiting for Landauer"](#)

JOHN NORTON

History and Philosophy of
Science
University of Pittsburgh

10:50 - 11:10 Coffee Break

11:10 - 12:30 ["A Quantum Approach to Equilibrium"](#)

ANTHONY SHORT

Department of Applied
Mathematics
and Theoretical Physics
Cambridge University

12:30 - 2:30 Lunch

Session 2 (Afternoon): Schrodinger and Entanglement

Chair :

CHRIS TIMPSON

Philosophy, Oxford

2:30 - ["Schrödinger's Methodology of Physics: Application"](#)

CHRISTIAN JOAS

3:50 [and Interpretation"](#)

Max Planck Institute
for the History of Science
Berlin

3:50 - Coffee Break
4:10

4:10 - ["The Prehistory of Entanglement, 1926-35"](#)
5:30

CHRISTOPH LEHNER

Max Planck Institute
for the History of Science
Berlin

7:00 - Buffet Party
midnight

Saturday, April 30

Session 3 (Morning): Closed Timelike Curves and Quantum Information

Chair :

WAYNE MYRVOLD

Philosophy, Western Ontario

9:30 - ["As I Told You Tomorrow, Time Machines can Solve Hard Problems"](#)
10:50

TODD BRUN

Communication Sciences
Institute
Department of Electrical
Engineering Systems
University of Southern
California

10:50 - Coffee Break
11:10

11:10 - ["Quantifying Time Travel"](#)
12:30

DAVID BACON

Department of Computer
Science and Engineering
University of Washington

12:30 - Lunch
2:00

Session 4 (Afternoon): Contextuality in Quantum Mechanics

Chair :

ALEX WILCE

Mathematics, Susquehanna U

2:00 - ["\(Non-\)Contextuality of Physical Theories as an Axiom"](#)
3:20

ADAN CABELLO

Department of Applied
Physics
University of Seville

3:20 - Coffee Break
3:40

3:40 - ["Beyond Quantum Contextuality"](#)
5:00

ROB SPEKKENS

Perimeter Institute for
Theoretical Physics
Waterloo, Canada

7:00 - Buffet Party
midnight

Sunday, May 1

Session 5 (Morning): Quantum Gravity

Chair :

TED JACOBSON

Physics, UMD

9:30 - ["Time after Time: An Historical Perspective on the](#)
10:50 [Problem of Time in Quantum Gravity"](#)

DON SALISBURY

Department of Physics
Austin College

10:50 - Coffee Break
11:10

11:10 - ["Are Space and Time Emergent?"](#)
12:30

VIJAY

BALASUBRAMANIAN

Department of Physics
University of Pennsylvania

[return to top](#)

Discussants include: Guido Bacciagaluppi (Philosophy, Aberdeen), Howard Barnum (Physics, University of New Mexico), Katherine Brading (Philosophy, Notre Dame), Howard Brandt (US Army Lab), Dieter Brill (Physics, UMD), Jeffrey Bub (Philosophy and IPST, UMD), Rob DiSalle (Philosophy, Western Ontario), Lucas Dunlap (Philosophy, UMD), Michael Fisher (Physics and IPST, UMD), Gordon Fleming (Physics, Penn State), Mathias Frisch (Philosophy, UMD), Shelly Goldstein (Mathematics, Rutgers), Philip Goyal (Physics, SUNY-Albany), Genco Guralp (Philosophy, JHU), Amit Hagar (Hist & Phil Science, Indiana), Richard Healey (Philosophy, U Arizona), Melissa Jacquart (NSF), Ted Jacobson (Physics, UMD), Michael Jarrett (Physics, UMD), Ruth Kastner (Philosophy, UMD), Michael Kiessling (Mathematics, Rutgers), Eleanor Knox (Institute of Philosophy, University of London), Fred Kronz (NSF), Matthew Leifer (Perimeter Institute), Tracy Lupher (Philosophy, James Madison University), James Mattingly (Philosophy, Georgetown U), Tim Maudlin (Philosophy, Rutgers), Vishnya Maudlin (Philosophy, Rutgers), Charles Misner (Physics, UMD), Florin Moldoveanu (CPaS, UMD), Wayne Myrvold (Philosophy, Western Ontario), Alan O'Donnell (Physics, UMD), Dan Parker (Philosophy, Virginia Tech), Huw Price (Center for Time, U Sydney), Tatiana Romanovskaya (Philosophy, GW), Rob Rynasiewicz (Philosophy, JHU), Maximilian Schlosshauer (Niels Bohr Institute, University of Copenhagen), Michiel Seevinck (Foundations of Math & Natural Science, Utrecht), Mark Shumelda (Philosophy, U Toronto), Rafael D Sorkin (Physics, Syracuse, and Perimeter Institute), Allen Stairs (Philosophy, UMD), Mark Stuckey (Physics, Elizabethtown College), Mike Tamir (Philosophy, University of Pittsburgh), Christopher Timpson (Philosophy, Oxford), David Wallace (Philosophy, Oxford), Alex Wilce (Mathematics, Susquehanna U), Christoph Wildfeuer (Physics, Louisiana State University), Eric Winsberg (Philosophy, University of South Florida).

The conference will take place at Whittemore House, 1526 New Hampshire Avenue NW, Washington, DC

20036, half a block from Dupont Circle. For general information about Washington, DC, see [WashingtonInfo](#).

The number of participants is limited by available seating, so we regret that participation is by invitation only.

For further information, contact Jeffrey Bub at jbub@umd.edu

Archive

[**New Directions 2010**](#)

[**New Directions 2009**](#)

[**New Directions 2008**](#)

[**New Directions 2007**](#)

[**New Directions 2006**](#)

[**New Directions 2005**](#)

[**New Directions 2004**](#)

[**New Directions 2003**](#)

[**New Directions 2002**](#)