

Solvay-Perimeter- APC Workshop on *Cosmological Frontiers in Fundamental Physics* Program (6 - 9 July 2015)

Monday 6 July

08:40 09:15 REGISTRATION

09:15 09:25 Welcome by Marc Henneaux, Director of the Solvay Institutes

Session Chair: Ben Craps

09:25 10:05 Piotr Bizoń *Resonant dynamics and the instability of anti-de Sitter spacetime*

10:05 10:45 Luis Lehner *The rich and suprising dynamics of AdS in the non-linear regime*

10:45 11:15 COFFEE BREAK

11:15 12:05 Oleg Evnin *Nonlinear perturbations of AdS spacetime: an analytic approach*

12:05 13:40 LUNCH

Session Chair: Thomas Hertog

13:40 14:20 Jim Hartle *One Bubble to Rule them All*

14:20 Jaume Garriga *TBA*

15:15 15:45 COFFEE BREAK

15:45 16:00 Stephen Hawking *A Smooth Exit from Eternal Inflation*

16:00 17:30 Frederik Denef *Discussion*

Tuesday 7 July

Session Chair: Pierre Binétruy

09:15 09:55 Thibault Damour *Quantum Dynamics of a Supersymmetric Mixmaster Universe, and a Possible Quantum Avoidance of Cosmological Singularities*

09:55 10:35 Axel Kleinschmidt *Hidden symmetries in gravity and the standard model*

10:35 11:05 COFFEE BREAK

11:05 11:55 Mark Van Raamsdonk *The quantum information / quantum gravity correspondence*

11:55 13:40 LUNCH

Session Chair: Marc Henneaux

13:40 14:30 Aron Wall *Focussing of Entropy*

14:30 15:10 Matt Kleban *Unwinding Inflation*

15:10 16:00 COFFEE BREAK

16:00 17:00 Neil Turok *Shocks in the Early Universe, and their possible consequences*
(Solvay Colloquium)

Wednesday 8 July

Session Chair: Slava Mukhanov

9:45 10:25 Licia Verde *The evolved universe: from observations to fundamental Physics*

10:25 11:05 COFFEE BREAK

11:05 11:45 Hiranya Peiris *The very early universe: from observations to fundamental Physics*

11:45 12:00 Group Photo

12:00 14:00 LUNCH

Session Chair: Thibault Damour

14:00 14:40 Pierre Binétruy *Prospects for gravitational wave detection*

14:40 15:30 Neil Turok *A perfect bounce*

15:30 16:00 COFFEE BREAK

16:00 17:30 Ana Achúcarro *Discussion*

19:30 BANQUET

Thursday 9 July

Session Chair: Neil Turok

9:45	10:35	Slava Mukhanov	<i>Mimetic Cosmology</i>
10:35	11:15	Edgar Shaghoulian	<i>Recent developments in dS/CFT</i>
11:15	11:45	COFFEE BREAK	
11:45		Jan de Boer	<i>TBA</i>