

Programme on
“Quantum Physics and Gravity”
May 29 – July 6, 2017

organized by

Markus Aspelmeyer (U Vienna), Caslav Brukner (U Vienna), Domenico Giulini (ZARM Bremen, U Hannover), Daniel Grumiller (TU Vienna), Soo-Jong Rey (Seoul National U)

Week 4: June 19 – June 23, 2017

• Monday, June 19, 2017

10:00 – 11:00 **Registration**

11:00 – 11:30 *coffee / tea break*

11:30 – 12:30 **Joan Simon**

EPR=ER in LLM

12:30 – 14:30 *lunch break*

14:30 – 15:30 **Oscar Fuentealba**

Asymptotic structure of $N=2$ supergravity in 3D: extended super- $BM_{2,1}$ and nonlinear energy bounds

• Tuesday, June 20, 2017

10:00 – 11:00 **Paul Romatschke**

Lattice Simulations of 10d Yang-Mills in Toroidal Compactification

11:00 – 11:30 *coffee / tea break*

12:15 – 13:30 **optional Lunch Talk at University: Hamed Barzegar**

13:30 – 14:30 *lunch break*

14:30 – 15:30 **Ivette Fuentes Guridi**

Gravity in the quantum lab

15:30 – 16:00 *break*

16:00 – 17:00 **Roger Penrose**

Dark Matter Decay? Possible Observational Tests - According to Conformal Cyclic Cosmology

- **Wednesday, June 21, 2017**

10:00 – 11:00 **Iva Lovrekovic**

Asymptotic Symmetry Algebra of Conformal Gravity in four dimensions

11:00 – 11:30 *coffee / tea break*

11:30 – 12:30 **Rafael Sorkin** *The quantum measure - and how to measure it*

12:30 – 14:30 *lunch break*

14:30 – 15:30 **Jakob Salzer**

Aspects of Holography in Two-Dimensional Dilaton Gravity

15:30 – 16:00 *break*

16:00 – 17:00 **Nikola Paunkovic**

Symmetry protected entanglement between gravity and matter

- **Thursday, June 22, 2017**

10:00 – 11:00 **Marko Vojinovic**

Cosmological Constant in Regge Quantum Gravity

11:00 – 11:30 *coffee / tea break*

11:30 – 12:30 **Holger Müller**

Quantum measurements of gravitational and sub-gravitational interactions

12:30 – 14:30 *lunch break*

14:30 – 15:30 **Jörg Schmiedmayer**

Probing quantum fields and their fluctuations with a quantum simulator

15:30 – 16:00 *break*

16:00 – 17:00 **Hermann Verlinde**

SYK, 2D CFT and Gravitational Scattering

- **Friday, June 23, 2017**

10:00 – 11:00 **Ayan Mukhopadhyay**

Feynman diagrams and gravity join forces to crack the QGP

11:00 – 11:30 *coffee / tea break*

11:30 – 12:30 **Dima Vassilevich**

Parity anomaly in four dimensions

12:30 – 14:30 *lunch break*

All talks take place at the ESI, Boltzmann Lecture Hall, except Lunch Talk on Tuesday!