

Program

Monday, 1 February 2021

08:45 – 09:00	Scientific organizers	Welcome Words
Session chair: Christian Pfeifer		
09:00 – 09:45	Nick Mavromatos	Gravitational Anomalies, Primordial Gravitational Waves and Spontaneous Lorentz-symmetry Violation: from Inflation to Matter-Antimatter Asymmetry
09:45 – 10:30	Carlos Pérez de los Heros	Searches for quantum gravity effects with IceCube
10:30 – 10:45	Stefan Jorda	About the Wilhelm and Else Heraeus Foundation
10:45 – 11:15	<i>COFFEE BREAK</i>	
11:15 – 11:45	Uwe R. Fischer	Phenomenological quantum "gravity" and cosmology via the many-body dynamics of ultracold gases
11:45 – 12:15	Lucía Menéndez-Pidal	Clock dependent features in quantum cosmology
12:15 – 13:45	<i>LUNCH BREAK</i>	

Program

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13:45 – 14:15 **Poster Flash A (MeetAnyway in the Auditorium !)**
(Posters 1 – 14)

14:15 – 15:15 **Poster Session A**
(Posters 1 – 14)

15:15 – 15:45 *COFFEE BREAK*

Session chair: Roy Barzel

15:45 – 16:30 Andre Grossardt **Classically gravitating quantum systems: causality, entanglement, and experimental tests**

16:30 – 17:15 Domenico Giulini + Philip Schwartz **The interface of classical gravity and quantum mechanics**

Program

Tuesday, 2 February 2021

Session chair: Claus Laemmerzahl

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| 09:00 – 09:45 | Vladimir M. Mostepanenko | The theory of the Casimir effect |
| 09:45 – 10:30 | Galina L. Klimchitskaya | Constraints on modified gravity from Casimir force experiments |
| 10:30 – 11:00 | <i>COFFEE BREAK</i> | |
| 11:00 – 12:30 | Dennis Rätzel | Optimal estimation of time-dependent gravitational fields and constraints of modified gravity with non-linear quantum optomechanical sensors |
| 11:30 – 12:00 | Jan-Willem van Holten | The gravitational field of a light wave |
| 12:00 – 13:30 | <i>LUNCH BREAK</i> | |
| 13:30 – 14:00 | Poster Flash B (MeetAnyway in the Auditorium!)
(Posters 15 – 28) | |
| 14:00 – 15:00 | Poster Session B
(Posters 15 – 28) | |
| 15:00 – 15:30 | <i>COFFEE BREAK</i> | |

Session chair: Dennis Philipp

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| 15:30 – 16:15 | Hendrik Ulbricht | Probing new physics by levitated mechanical systems |
| 16:15 – 17:15 | Clifford Will | Zombie alert! Solar system tests of GR are still alive |

Program

Wednesday, 3 February 2021

Session chair: Sebastian Völkel

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|---------------|---|---|
| 09:00 – 09:45 | Lijing Shao | Testing gravity with pulsars |
| 09:45 – 10:30 | Eva Hackmann | Infinite energies in near-horizon particle collisions |
| 10:30 – 11:00 | <i>COFFEE BREAK</i> | |
| 11:00 – 11:30 | Yakov Shnir | Boson Constellations |
| 11:30 – 12:00 | Elisa Maggio | How does a dark compact object ringdown? |
| 12:00 – 13:30 | <i>LUNCH BREAK</i> | |
| 13:30 – 14:00 | Poster Flash C (MeetAnyway in the Auditorium !)
(Posters 29 – 40) | |
| 14:00 – 15:00 | Poster Session C
(Posters 29 – 40) | |
| 15:00 – 15:30 | <i>COFFEE BREAK</i> | |

Session chair: Michael Kopp

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|---------------|---------------|--|
| 15:30 – 16:15 | Jutta Kunz | Compact objects in alternative theories of gravity |
| 16:15 – 17:00 | Sven Herrmann | Testing gravity with matter wave interferometry |

Program

Thursday, 4 February 2021

Session chair: Jose Manuel Carmona

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| 09:00 – 09:45 | Giulia Gubitosi | Theoretical frameworks for quantum gravity phenomenology below the Planck scale |
| 09:45 – 10:30 | Michele Arzano | Decoherence and discrete symmetries in deformed relativistic kinematics |
| 10:30 – 11:00 | <i>COFFEE BREAK</i> | |
| 11:00 – 11:45 | Tomislav Terzić | Recent limits on Lorentz invariance violation using gamma rays |
| 11:45 – 12:15 | José Javier Relancio Martínez | Towards a geometrical interpretation of rainbow geometries for quantum gravity phenomenology |
| 12:15 – 13:45 | <i>LUNCH BREAK</i> | |

Session chair: Nicoleta Voicu

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|---------------|---------------------------|--|
| 13:45 – 14:30 | Jean-François Glicenstein | Tests of quantum gravity models with gravitational lensing |
| 14:30 – 15:15 | Volker Perlick | Confronting Finsler spacetime theory with observations |
| 15:15 – 15:45 | <i>COFFEE BREAK</i> | |
| 15:45 – 16:15 | Anupam Mazumdar | Witnessing Quantum gravity in a laboratory via miniaturist quantum accelerator |
| 16:15 – 17:00 | Frans R. Klinkhamer | M-theory and the birth of the Universe |

Program

Friday, 5 February 2021

Session chair: Igor Pikovski

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| 09:00 – 09:45 | Ivette Fuentes | Can quantum metrology solve some of the biggest questions in fundamental physics? |
| 09:45 – 10:30 | Časlav Brukner | Einstein's equivalence principle for quantum reference frames and spacetimes |
| 10:30 – 11:00 | <i>COFFEE BREAK</i> | |
| 11:00 – 11:45 | Lavinia Heisenberg | Born-Infeld inspired modifications of gravity (preliminary title) |
| 11:45 – 12:15 | Lotte ter Haar | Dynamics of Screening in Modified Gravity |
| 12:15 – 13:45 | <i>LUNCH BREAK</i> | |

Session chair: Aneta Wojnar

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|---------------|-----------------------|--|
| 13:45 – 14:30 | Yuri Obukhov | Poincaré gauge gravity: Recent developments |
| 14:30 – 15:15 | Manuel Hohmann | Perturbative methods in modified gravity theories |
| 15:15 – 15:45 | <i>COFFEE BREAK</i> | |
| 15:45 – 16:30 | Carlos Herdeiro | Testing the Kerr hypothesis: the examples of synchronisation and scalarisation |
| 16:30 – 16:45 | Scientific organizers | Concluding Remarks + Poster awards |

End of seminar