

Second Hermann Minkowski Meeting on the Foundations of Spacetime Physics

Conference program

Talks - 25 min + 5 min questions
Only laptops and projectors for the presentations will be available

Monday, May 13, 2019

8:30 - Registration

9:20 - 9:30 Welcome Remarks

Chair: Tsvetan Vetsov (Department of Physics, Sofia University)

9:30-10:30 - Jerzy Kijowski (Center for Theoretical Physics, Polish Academy of Sciences), The essence of gravity theory and the Einstein's "greatest mistake"

10:30-11:00 - Marko Sossich and Sasa Ilijic (Department of Applied Physics, University of Zagreb), The covariance principle of torsion based theories of gravity

11:00-11:30 - Coffee break and free discussions

11:30-12:00 - Reinoud Jan Slagter (Astronomisch Fysisch Onderzoek Nederland and University of Amsterdam), Conformal invariance: the missing symmetry in general relativity theory?

12:00-12:30 - Yakov Itin (Hebrew U. Jerusalem & Jerus. Coll. Technology), Different faces of teleparallelism

12:30-14:00 - Lunch

14:00-16:00 - Free discussions

Chair: Yakov Itin (Hebrew U. Jerusalem & Jerus. Coll. Technology)

16:00-16:30 - Matthias Lienert (Fachbereich Mathematik, Eberhard-Karls-Universitaat), Relativistic QM as a Theory of Wave Functions on Configuration Spacetime

16:30-17:00 - Alexander R. H. Smith (Department of Physics and Astronomy, Dartmouth College), Quantum clocks in Minkowski space

17:00-17:30 - Coffee break and free discussions

17:30-18:00 - Dwight Vincent (Physics Department, University of Winnipeg), Minkowski and the Multiverse

18:00-18:30 - Riccardo Manzotti (IULM University, Milan), The Mind-Object Identity and Special Relativity

$$d\tau = \sqrt{dt^2 - dx^2 - dy^2 - dz^2}$$

Tuesday, May 14, 2019

Chair: Reinoud Jan Slagter (Astronomisch Fysisch Onderzoek Nederland and University of Amsterdam)

9:30-10:00 - Tim R. Morris (STAG Research Centre & Department of Physics and Astronomy, University of Southampton), Perturbatively renormalizable quantum gravity

10:00-10:30 - Tom McClain (Department of Physics and Engineering, Washington and Lee University), Obstacles to the quantization of general relativity using symplectic structures

10:30-11:00 - Alexander Y. Yosifov (Department of Physics and Astronomy, Shumen University), Quantum corrections to the general relativistic description of the near-horizon region of a Schwarzschild black hole

11:00-11:30 - [Coffee break and free discussions](#)

11:30-12:00 - Zoltan Keresztes (Department of Theoretical Physics, University of Szeged) and Balazs Mikoczi (Research Institute for Particle and Nuclear Physics, Wigner RCP H-1525 Budapest), The evolutions of spinning bodies moving in rotating black hole spacetimes

12:00-12:30 - Tsvetan Vetsov (Department of Physics, Sofia University), Thermodynamic manifolds and stability of black holes in various dimensions

12:30-14:00 - [Lunch](#)

14:00-16:00 - [Free discussions](#)

Chair: Armin Nikkhah Shirazi (Department of Physics, University of Michigan, Ann Arbor)

16:00-16:30 - Ruben Arjona (Instituto de Fisica Teorica (IFT) UAM-CSIC, Madrid, Spain), Unravelling the effective fluid approach for Modified Gravity and Dark Energy models

16:30-17:00 - Alexander Franklin Mayer, Minkowski's foundations of spacetime physics and SDSS data motivate reassessment of Λ CDM cosmology

17:00-17:30 - [Coffee break and free discussions](#)

17:30-18:00 - Konstantin G. Zloshchastiev (Institute of Systems Science, Durban University of Technology), Resolving cosmological singularity problem in a logarithmic superfluid theory of physical vacuum

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Wednesday, May 15, 2019

Special Session on Becoming

Chair: Jerzy Kijowski (Center for Theoretical Physics, Polish Academy of Sciences)

9:30-10:00 - Joe Cosgrove (Providence College), Simultaneity without Cosmology

10:00-10:30 - Vesselin Petkov (Minkowski Institute, Montreal), Can there be Becoming in Spacetime?

10:30-11:00 - Peter Ludlow, Minkowski Spacetime Diagrams and Interperspectival Content

11:00-11:30 - *Coffee break and free discussions*

11:30-12:00 - Barry Dainton (University of Liverpool), Panpsychism and Universal Becoming

12:00-12:30 - Ognyan Oreshkov, Université libre de Bruxelles, On the time-reversal (a)symmetry of quantum theory

12:30-14:00 - *Lunch*

14:00-16:00 - *Free discussions*

Special Session on Becoming

16:00--17:00 - Panel Discussion

17:00:17:30 - *Coffee break and free discussions*

17:30-18:30 - Panel Discussion

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Thursday, May 16, 2019

Chair: Dwight Vincent (Physics Department, University of Winnipeg)

9:30-10:00 - R. Saar and S. Groote (University of Tartu), Lorentz-Minkowski zero mass

10:00-10:30 - G. N. Ord (Department of Mathematics, Ryerson University), The Equivalence Of Inertial Frames And Wave-Particle Duality In Quantum Mechanics

10:30-11:00 - Mohammed Sanduk (Faculty of Engineering and Physical Science, University of Surrey), Is the spacetime an emergent phenomenon?

11:00-11:30 - [Coffee break and free discussions](#)

11:30-12:00 - Bruce M. Boman (Department of Mathematical Sciences, University of Delaware), Transition State Spacetime

12:00-12:30 - Jan Pilotti, How Minkowski could have discovered six dimensional spacetime

12:30-13:00 - Armin Nikkhah Shirazi (Department of Physics, University of Michigan, Ann Arbor), Lorentz Transformations and Existence in Minkowski Spacetime

13:00-14:00 - [Lunch](#)

14:00-16:00 - [Free discussions](#)

$$d\tau = \sqrt{dt^2 - dx^2 - dy^2 - dz^2}$$