

“Week 4”

September 13 - 17, 2021

of the Thematic Programme

“Geometry for Higher Spin Gravity: Conformal Structures, PDEs, and Q-manifolds”

August 23, 2021 - September 17, 2021

organized by

Xavier Bekaert (U Tours), Andreas Cap (U Vienna), Stefan Fredenhagen (U Vienna), Maxim Grigoriev (Lebedev Inst. & Lomonosov Moscow SU), Alexei Kotov (U Hradec Králové)

• **Monday, September 13th, 2021**

09:00 – 09:30 **Registration**

09:30 – 10:30 **Lecture by Rod Gover (University of Auckland)**

Boundary calculus in conformal geometry. Lecture 1

10:30 – 11:00 **Coffee break**

11:00 – 12:00 **Lecture by Glenn Barnich (ULB, Brussels)**

Lecture 1: From finite temperature Casimir effect to massless scalar field partition functions

12:00 – 14:00 **Lunch**

14:00 – 15:00 **Niels Kowalzig (U Napoli)**

Calculi, cohomology, and Hopf algebroids

• **Tuesday, September 14th, 2021**

09:30 – 10:30 **Lecture by Rod Gover (University of Auckland)**

Boundary calculus in conformal geometry. Lecture 2

10:30 – 11:00 **Coffee break**

11:00 – 12:00 **Lecture by Glenn Barnich (ULB, Brussels)**

Lecture 2: Massless scalar field partition functions & real analytic Eisenstein series

12:00 – 14:00 **Lunch**

14:00 – 15:00 **Euihun Joung (Kyung Hee U, Seoul)**

Unfolding Conformal Geometry

15:00 – 15:30 **Coffee break**

15:30 – 16:30 **Omid Makhmali (Polish Academy of Science, Warsaw)**

Einstein-Weyl-like conditions and causal structures in dimension three

• **Wednesday, September 15th, 2021**

09:30 – 10:30 **Rod Gover (University of Auckland)**

Higher conformal fundamental forms and the asymptotically Poincare-Einstein Condition

10:30 – 11:00 **Coffee break**

11:00 – 12:00 **Lecture by Boris Kruglikov (UiT)**
Lie equations, Cartan bundles, Tanaka theory and differential invariants 1

12:00 – 14:00 **Lunch**

14:00 – 15:00 **Nicolas Boulanger (U Mons)**
Algebraic classification of conformal invariants and conformal anomalies in arbitrary dimension

15:00 – 15:30 **Coffee break**

15:30 – 16:30 **Jan Vysoky (CTU Prague)**
Graded Courant Algebroids

• **Thursday, September 16th, 2021**

09:30 – 10:30 **Lecture by Boris Kruglikov (UiT)**
Lie equations, Cartan bundles, Tanaka theory and differential invariants 2

10:30 – 11:00 **Coffee break**

11:00 – 12:00 **Lecture by Glenn Barnich (ULB, Brussels)**
Lecture 3: Gravitons in a Casimir box

12:00 – 14:00 **Lunch**

14:00 – 15:00 **Yannick Herfray (ULB, Brussels)**
Tractor geometry of null-Infinity and gravitational radiations

• **Friday, September 17th, 2021**

09:30 – 10:30 **Boris Kruglikov (UiT)**
Super-symmetry of geometric structures

10:30 – 11:00 **Coffee break**

11:00 – 12:00 **Luca Vitagliano (UNISA)**
Multiplicative Connections on Lie Groupoids

12:00 – 14:00 **Lunch**

14:00 – 15:00 **Paolo Saracco (ULB, Brussels)**
A mathematical overview of universal enveloping algebras and their universal properties

All talks take place at the Erwin Schrödinger Institute, Boltzmann lecture hall and virtual via zoom! Zoom coordinates are available on request (secr@esi.ac.at).