

Workshop on
“Mathematical Relativity: Past, Present, Future”

December 4 - 7, 2023

organized by

Piotr T. Chruściel (U of Vienna), Michael Eichmair (U of Vienna), Gerhard Huisken
(U Tübingen), Jim Isenberg (U of Oregon, Eugene)

• **Monday, December 4th, 2023**

09:00 – 09:30 **Registration**

09:30 – 10:00 **Welcome and Introduction**

10:00 – 10:55 **Jan Sbierski (U Edinburgh)**

The C^0 – inextendibility of a class of FLRW spacetimes

10:55 – 11:20 **Coffee break**

11:20 – 12:15 **Gustav Holzegel (U Münster)**

Stability Problems for Black Holes

12:15 – 14:00 **Lunch**

14:00 – 14:55 **Rita Teixeira da Costa (U Cambridge)**

Homogenization of the Einstein equations under symmetry

15:00 – 15:55 **Thomas Körber (U of Vienna)**

Schoen’s conjecture for limits of isoperimetric surfaces

15:55 – 16:20 **Coffee break**

• **Tuesday, December 5th, 2023**

09:00 – 09:55 **Jean-Pierre Bourguignon (IHES, Paris)**

Modified Lagrangians for General Relativity

09:55 – 10:20 **Coffee break**

10:20 – 11:15 **Lan-Hsuan Huang (U Conn)**

Existence of Einstein metrics with prescribed boundary data

11:20 – 12:15 **Stefan Czimek (U Leipzig)**

The Null Gluing Problem in General Relativity: Past, Present, and Future

12:15 – 14:00 **Lunch**

14:00 – 14:55 **Lorenzo Mazzieri (University of Trento)**

On the classification problem for static metrics with positive cosmological constant

15:00 – 15:55 **Sven Hirsch (IAS, Princeton)**

Which manifolds are positively curved?

15:55 – 16:20 **Coffee break**

16:20 – 16:50 **Jose Martin-Garcia (Wolfram Research)**

xAct Tensor Computation: A Thousand Projects

- **Wednesday, December 6th, 2023**

09:00 – 09:55 **Melanie Graf (U Hamburg)**

Initial data sets that do not satisfy the Regge–Teitelboim conditions

09:55 – 10:20 **Coffee break**

10:20 – 11:15 **Zoe Wyatt (U Cambridge)**

Global stability of Kaluza-Klein spacetimes

11:20 – 12:15 **Hans Ringström (KTH Stockholm)**

A quiescent regime for big bang formation

- **Thursday, December 7th, 2023**

09:00 – 09:55 **Peter Hintz (ETH Zurich)**

Gluing black holes along timelike geodesics

09:55 – 10:20 **Coffee break**

10:20 – 11:15 **Jérémie Szeftel (Sorbonne U, Paris)**

The nonlinear stability of Kerr for small angular momentum

11:20 – 12:15 **Sergiu Klainerman (Princeton U)**

Mathematical GR seventy two years after Yvonne's foundational Acta paper

12:15 – 14:00 **Lunch**

14:00 – 14:55 **Anna Sakovich (Uppsala U)**

A definition of the mass aspect function for weakly regular asymptotically hyperbolic manifolds

14:55 – 15:25 **Coffee break**

15:30 – 16:25 **Richard Schoen (Stanford U)**

How minimal hypersurface and MOTS singularities affect relativity theorems

All talks take place at ESI Boltzmann Lecture Hall!