

Programme on
“Geometry and Relativity”
July 17 – September 8, 2017

organized by

Robert Beig (U Vienna), Piotr T. Chruściel (U Vienna), Michael Eichmair (U Vienna), Gregory Galloway (U Miami), Richard Schoen (UC, Irvine), local organization: Tim-Torben Paetz (U Vienna)

Workshop: Advances in General Relativity, August 28 – September 1, 2017

• **Monday, August 28, 2017**

08:30 – 09:30 **Registration**

09:30 – 10:30 **András Vasy (Stanford U)**

The stability of Kerr-de Sitter black holes

10:30 – 11:00 *Coffee / Tea Break*

11:00 – 12:00 **Otis Chodosh (Cambridge U)**

Global uniqueness for CMC foliations of asymptotically flat 3-manifolds

12:00 – 14:00 *Lunch Break*

14:00 – 15:00 **Cécile Huneau (U Grenoble)**

High frequency back reaction for the Einstein equations

15:00 – 15:30 *Coffee / Tea Break*

15:30 – 16:30 **Roger Penrose (Oxford U)**

The equations of conformal cyclic cosmology: implications as to the nature of dark matter, its decay, and possible observational tests

• **Tuesday, August 29, 2017**

09:00 – 10:00 **Piotr Bizón (Jagiellonian U, Cracow)**

From AdS to BEC

10:00 – 10:30 *Coffee / Tea Break*

10:30 – 11:30 **Anna Sakovich (Uppsala U)**

On geometric foliations and center of mass for isolated systems in general relativity

11:40 – 12:40 **Beverly Berger (Oakland U)**

When black holes collide: a new window on the universe

12:40 – 14:15 *Lunch Break*

14:15 – 15:15 **Harvey Reall (Cambridge U)**

On the local well-posedness of Lovelock and Horndeski theories

15:15 – 15:45 *Coffee / Tea Break*

15:45 – 16:45 **Georgios Moschidis (Princeton U)**

A proof of the instability of AdS spacetime for the Einstein-null dust system

- **Wednesday, August 30, 2017**

09:00 – 10:00 **Yakov Shlapentokh-Rothman (Princeton U)**

The asymptotically self-similar regime for the Einstein vacuum equations

10:00 – 10:30 *Coffee / Tea Break*

10:30 – 11:30 **Lorenzo Mazzieri (U Trento)**

On the mass of static vacuum Einstein metrics with positive cosmological constant

11:40 – 12:40 **Christos Mantoulidis (Stanford U)**

Nonnegative scalar curvature fill-ins and quasi-local mass

Free Afternoon

- **Thursday, August 31, 2017**

09:00 – 10:00 **Carla Cederbaum (U Tübingen)**

Rigidity properties of the Schwarzschild manifold in all dimensions

10:00 – 10:30 *Coffee / Tea Break*

10:30 – 11:30 **Sebastiano Bernuzzi (U of Parma & INFN)**

Modeling neutron star binaries and gravitational waves with numerical relativity

11:40 – 12:40 **László Szabados (Budapest)**

Gravity, as a classical regulator for the Higgs field, and the origin of rest masses and electric charge

12:40 – 14:15 *Lunch Break*

14:15 – 15:15 **Lydia Bieri (U of Michigan)**

Gravitational Radiation in Cosmological Spacetimes

15:15 – 15:45 *Coffee / Tea Break*

15:45 – 16:45 **Ettore Minguzzi (U Firenze)**

Causality theory for cone structures

- **Friday, September 1, 2017**

09:00 – 10:00 **Mihalis Dafermos (U Cambridge & Princeton)**

Boundedness and polynomial decay for the Teukolsky equation on Kerr spacetimes

10:00 – 10:30 *Coffee / Tea Break*

10:30 – 11:30 **Jan Sbierski (Cambridge U)**

The wave equation in the interior of black holes

11:40 – 12:40 **Thomas Bäckdahl (Golm)**

Symmetries and conservation laws for linearized gravity

12:40 – 14:15 *Lunch Break*

14:15 – 15:15 **Jérémie Szeftel (U Paris)**

On the stability of black holes

15:15 – 15:45 *Coffee / Tea Break*

All talks take place at ESI, Boltzmann Lecture Hall, except the talks on Monday afternoon which will be held at the Lise Meitner Lecture Hall, 1st floor, Faculty of Physics, Strudlhofgasse 4, 1090 Vienna!