

Online Workshop on  
“Mathematical Perspectives of Gravitation beyond the Vacuum Regime”

February 22 – 26, 2021

organized by

Håkan Andréasson (CUT, Gothenburg), David Fajman (U Vienna), Jérémie Joudioux (MPIGP),  
Todd Oliynyk (Monash U, Melbourne)

- **Monday, February 22nd, 2021**

14:00 – 14:05 **Welcome word**

14:05 – 15:05 **Mahir Hadžić (University College London)**

*Instability of selfgravitating galaxies and stars*

15:05 – 16:05 **Robert Strain (U. of Pennsylvania)**

*On the relativistic Boltzmann equation with long range interactions*

16:05 – 16:30 **Coffee break**

16:30 – 17:30 **Jared Speck (Vanderbilt U.)**

*A New Formulation of Relativistic Euler Flow: Miraculous Geo-Analytic Structures and Applications*

17:30 – 18:30 **Juhi Jang (USC)**

*Dynamics of Newtonian stars*

- **Tuesday, February 23rd, 2021**

14:00 – 15:00 **Léo Bigorgne (U. of Cambridge)**

*Stability of Minkowski spacetime for the massless Einstein-Vlasov system*

15:00 – 16:00 **Alexandru Ionescu (Princeton U.)**

*On the global regularity for the Einstein-Klein-Gordon coupled system*

16:00 – 16:30 **Coffee Break**

16:30 – 17:30 **Olivier Sarbach (U. Michoacana de San Nicolás de Hidalgo)**

*Phase space mixing in an external gravitational potential*

17:30 – 18:30 **Jonathan Luk (Stanford U.)**

*High-frequency limit in general relativity and a conjecture of Burnett*

- **Wednesday, February 24th, 2021**

14:00 – 15:00 **Lavi Karp (Braude College)**

*The continuity of the flow map with applications to Euler-Poisson equation*

15:00 – 16:00 **Jérémie Szeftel (Paris Sorbonnes U.)**

*TBA*

16:00 – 16:30 **Coffee break**

16:30 – 17:30 **Igor Rodnianski (Princeton U.; participation to be confirmed)**

*TBA*

17:30 – 18:30 **Sijue Wu (U. Michigan)**

*On the free boundary hard phase fluid in Minkowski spacetime*

• **Thursday, February 25th, 2021**

14:00 – 15:00 **Fatima-Ezzahra Jabiri (Paris Sorbonnes U.)**

*On stationary black hole solutions of the Einstein-Vlasov system*

15:00 – 16:00 **Gerhard Rein (Bayreuth U.)**

*Can galaxies oscillate?*

16:00 – 16:30 **Coffee Break**

16:30 – 17:30 **Oliver Rinne (HTW Berlin)**

*Dynamics of gravitational collapse in the axisymmetric Einstein-Vlasov system*

17:30 – 18:30 **Ellery Ames (Humbolt U.)**

*Stability of Axisymmetric Stationary Einstein-Vlasov Bodies*

**All talks take place at Erwin Schrödinger Institute - virtual via zoom! Zoom coordinates are available on request ([secr@esi.ac.at](mailto:secr@esi.ac.at)).**