

Research School on Kinetic Theory

CIRM, Marseille — November 14th - 18th, 2022

Lecturers:

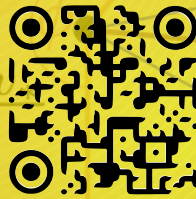
Jacob Bedrossian, Marianne Bessemoulin-Chatard,
Pierre Gabriel, Mikaela Iacobelli, Stéphane Mischler

Speakers:

Rafael Bailo Sanchez, Frédérique Charles, Antonio Esposito, Josephine Evans,
Marina Ferreira, Megan Griffin-Pickering, Hélène Hivert, Richard Höfer, Valeria Iorio,
Angeliki Menegaki, Anne Nouri, Sergio Simonella, Nicolas Torres, Ariane Trescases,
Raphael Winter, Claudia Wytrzens

Abstract:

One of the great mathematical achievements of the late 19th century is the description of the evolution of thermodynamical systems such as gases or fluids by L. Boltzmann. Since then kinetic theory has become a branch of applied and pure mathematics in its own right. While all kinetic equations have in common that they describe the evolution of a phase-space density, nowadays, their applications range from fluid dynamics, plasma physics, biology, to even socio-economical modelling. Many fruitful interactions between these different fields and mathematics as well as mathematical advances not only led to a better understanding of the known models but also gave rise to new questions and challenges.



We want to provide participants, in particular the early career researchers, with the chance to learn how the field of kinetic theory has emerged and how it has evolved over time. In addition we envisage that all participants get up to speed with the current theory and are presented with cutting edge techniques and the current challenges in the field.

Scientific Committee:

Vincent Calvez (CNRS, Université Lyon 1)
José A. Cañizo (University of Granada)
Sara Merino-Aceituno (University of Vienna)
Benoît Perthame (Sorbonne Université)
Marie-Therese Wolfram (University of Warwick)

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Rishabh Gvalani (MPI Leipzig)
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Havva Yoldaş (Delft University of Technology)