# Oberseminar Mathematische Strömungsmechanik

**Institut für Mathematik der Julius-Maximilians-Universität Würzburg**

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University of Augsburg

# Stochastic particle systems and hyperbolic conservation laws

*Abstract:*

We consider stochastic many-particle systems whose large-scale dynamics is described by a hyperbolic conservation law for the particle density. While the typical behaviour of the particle system is given by entropy solutions of the conservation law, large fluctuations are realized by non-entropic solutions such as travelling wave profiles. Their probabilities are related to the corresponding entropy production, which has been made rigorous for the totally asymmetric simple exclusion process by Jensen and Varadhan, and more recently by Quastel and Tsai. We discuss this approach and some heuristic generalizations in the context of fluctuations of the empirical current.

This is joint work with Paul Chleboun (Warwick, UK) and Andrea Pizzoferrato (Bath, UK).

room 40.03.003 (Emil Fischer Str. 40)

Thursday, Apr. 20 at 12:30 pm

Zu diesem Vortrag sind Sie herzlich eingeladen.

*gez. Christian Klingenberg*