



## Mathematics and CS Seminar

# Long time behaviour and phase transitions for the McKean-Vlasov equation

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Host: Jan Maas

We study the long time behaviour and the number and structure of stationary solutions for the McKean-Vlasov equation, a nonlinear nonlocal Fokker-Planck type equation that describes the mean field limit of a system of weakly interacting diffusions. We consider two cases: the McKean-Vlasov equation in a multiscale confining potential with quadratic, Curie-Weiss, interaction (the so-called Dasai-Zwanzig model), and the McKean-Vlasov dynamics on the torus with periodic boundary conditions and with a localized interaction. Our main objectives are the study of convergence to a stationary state and the construction of the bifurcation diagram for the stationary problem. The application of our work to the study of models for opinion formation is also discussed.

**Tuesday, March 13, 2018 02:00pm - 03:00pm**

Mondi Seminar Room 2, Central Building



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station.

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<https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.