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## DK Seminar

Jun 28, 2017, 14:15 - 15:30  
Vienna University of Technology,  
Freihaus, green area, 4th floor, 101C

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### **A mean-field model with irregular coefficients for interacting neurons**

Starting from a model for a system of neurons which individually follow a stochastic integrate-and-fire type model, we study a mean-field limit of a systems of particle evolving in time, described by a system of SDEs with discontinuous coefficients and with dependence on a stochastic parameter. In the limit as the number of particles tends to infinity, we obtain a Fokker-Planck type PDE in two variables, with derivatives only with respect to one variables and discontinuous coefficients.

We study strong well-posedness of the system of SDEs and existence and uniqueness of a weak function-valued solution to the PDE, obtained as the limit of the laws of the empirical measures for the system of particles.