Fritz-Haber-Institut der Max-Planck-Gesellschaft, Humboldt-Universität zu Berlin, Max-Delbrück-Centrum für Molekulare Medizin, Otto-von-Guericke-Universität Magdeburg, Physikalisch-Technische Bundesanstalt, Technische Universität Berlin, Universität Potsdam

Berlin Center for Studies of Complex Chemical Systems

Seminar

Complex Nonlinear Processes in Chemistry and Biology

Honorary Chairman: G. Ertl
Organizers: M. Bär, C. Beta, H. Engel, M. Falcke, M. J. B. Hauser, J. Kurths, A. S. Mikhailov, P. Plath, L. Schimansky-Geier, and H. Stark

Friday, May 22, 2015, at 16:00
Address: Richard-Willstätter-Haus, Faradayweg 10, 14195 Berlin, U-Bahnhof Thielplatz (U3)

Dr. Oliver Kamps
Westfälische Wilhelms-Universität Münster

Complexity meets Energy -- Self-organization, Networks and Fluctuations

The resilient and sustainable energy supply is one of the main future challenges for science and technology. Especially the integration of renewable energy sources accompanied by grid decentralization and fluctuating power feed-in from wind and solar power generation raises novel challenges for power system stability and design. In this context the energy system can be regarded as complex system consisting of a large number of nonlinear interacting parts showing typical features of a complex system like self-organization, instabilities and fluctuations. In this talk, I will discuss where approaches from the physics of complex systems can help to model, analyze and understand modern power grids.

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