

Berlin Center for Studies of Complex Chemical Systems

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

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, 23rd November, 2012, 16:00 s.t.

Address: Richard-Willstätter-Haus, Faradayweg 10, 14195 Berlin, U-Bahnhof Thielplatz (U3).

Prof. D. E. Postnov

University of Saratov

Noise-supported Pattern Formation near Dirichlet Boundaries

Fairly simple phenomenological model of spreading depression demonstrates the impressive variety of complex spatio-temporal patterns. The closer inspection of relevant mechanisms shows that many of such patterns can appear in excitable-bistable medium due to the combined action of (i) noise that provides the nucleation of Bloch fronts and (ii) the interaction with Dirichlet boundaries that provide the wave rebound. We analyze this interplay both analytically and numerically.