Berlin Center for Studies of Complex Chemical Systems e. V.

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, A. S. Mikhailov, P. Plath, L. Schimansky-Geier, H. Stark**

Friday, 6th Mai 2011, 16:00 s.t.

Dr. Mark Mineev-Weinstein

Los Alamos, USA

Laplacian Growth as a Paradigm for Integrable Interface Dynamics

Abstract

An arbitrary interface in two-dimensional Laplacian growth can be represented as resulting from the evolution of an initial circle under a specific distribution of sources in the exterior domain. We are solving the inverse potential problem (which stems from Isaak Newton) to recover the singularities of the moving interface from an arbitrary distribution of sources. Finally, the obtained classes of exact solutions are applied to several experimental problems in viscous fingering processes, taking place in the Hele-Shaw cell.

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

Information: Markus Radszuweit, Tel. (030) 314-27681, email: markus.radszuweit@ptb.de or radszuweit@itp.physik.tu-berlin.de