

# 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, 24th January, 2014, 16:00 s.t.

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

Dr. Markus A. Dahlem  
*Humboldt-Universität zu Berlin*

### Dynamical network biomarkers in migraine

Computational methods complement clinical neurosciences and lead to improvements in our understanding of various diseases. In parallel, neuromodulation in form of electric and magnetic stimulation is gaining increasing acceptance in chronic and intractable neurological diseases. We briefly present the relevant state of the art in fusion of both developments and then propose a strategy to employ the new theoretical concept of dynamical network biomarkers (DNB) in migraine. To this end, we present computational models in migraine from cellular to whole organ level as an integrative systems medicine approach.