INSTITUTE OF COMPLEX SYSTEMS
SOFT MATTER DIVISION (ICS-3)
RESEARCH CENTRE JUELICH, GERMANY

Opening for a postdoctoral fellow position:

Dynamics in concentrated dispersions of soft and permeable colloidal particles - theory and simulation

START: June 2012 or later
DURATION: One year, with possibility of extension to two years
SALARY: Full E13 TVÖD (postdoc salary grade for German Federal Civil Service)

The Soft Matter group at the Institute of Complex Systems (ICS-3), Research Centre Jülich, is offering a position for a highly motivated postdoctoral fellow. The research work will be integrated into the soft matter activities of ICS-3. The Research Centre in Jülich provides a highly interdisciplinary environment and excellent infrastructure, including Europe's most powerful supercomputing centre.

Description of research work
Concentrated dispersions of soft and solvent-permeable particles such as microgels, core-shell particles, and dendrimers, have structural and dynamical properties which are of importance in fundamental research and practical applications. The research project deals with theoretical modeling, and the exploration of diffusion and rheological transport properties, of charged and neutral soft-particle systems. The numerical analysis of these properties will build on state-of-the-art theoretical and computer simulation methods which have been partially developed and advanced in our group. Important aspects include the modeling of the solvent flow inside and outside the particles, and possible electro-kinetic effects by the surrounding microions in the case of charged particles. The work will be carried out in collaboration with experimental groups inside the ICS-3, the RWTH Aachen, and the Oak Ridge National Laboratory in Tennessee.

Requirement
A PhD in physics, biophysics, physical chemistry or chemical engineering is required. Applicants should be familiar with methods of statistical physics applied to soft matter systems. Good mathematical and programming skills, and a strong interest in analytic-theoretical work would be helpful. To apply, please send a full CV, copies of certificates, and a list of publications to the email address given below, and arrange for two letters of recommendation.

Contact
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