November 22nd-23rd 2013, Berlin

Day 1

8:00 am – Transfer from NH Hotel Friedrichstraße to Campus Adlershof
IRIS Adlershof, Raum 007
Zum Großen Windkanal 6
12489 Berlin

9:00 am – Welcome by Peter Frensch, Vice President for Research of Humboldt-Universität

9:15-11:10 am – Session 1 – “Cellular Networks”
Nir Ben-Tal  Selected topics in computational structural biology: membrane proteins
Edda Klipp  Modeling of cellular regulation during stress response
Yuval Ebenstein  Unmasking genomic variation by single molecule analysis

Coffee

11:20 am-1:15 pm – Session 2 – “Light and Cell”
Peter Hegemann  Optogenetic perspectives
Andreas Möglich  Controlling enzyme activity and organismal physiology by light
Beate Röder  Development of drug carrier systems and their characterization in vitro using optical methods

Lunch

2:00-6:45 pm – Session 3 – “Movement and Transport”
David Andelman  Ionic specific effects beyond the Poisson-Boltzmann theory: electrolytes, surfaces and membranes
Igor Sokolov  Physics and mathematics of anomalous diffusion
Benjamin Lindner  The coherence of intracellular transport - mechanisms for giant diffusion or transport with low randomness
Lutz Schimansky-Geier  Stochastic dynamics of self-propelled particles

Coffee
Uri Nevo  Diffusion and transport in neural tissue: theory and NMR experiments

Yael Roichman  From single particle dynamics to collective excitations in hydrodynamically coupled driven colloidal particles

Haim Diamant  Response of complex fluids at intermediate distances

7:00 pm – Transfer to the City and Dinner
Restaurant Honigmond, Borsigstr. 28, 10115 Berlin

Day 2

8:40 am – Transfer (by foot) from NH Hotel Friedrichstraße to Campus Nord
Luisenstraße 56
Room 220, 3rd floor
10115 Berlin

9:00-11:45 am – Session 4 – “Shaping Biological Structures”
Martin Falcke  Modelling cell morphodynamics
Misha Kozlov  Modeling membrane shaping by proteins
Coffee
Yair Shokef  Confinement effects on the jamming transition in kinetically constrained models
Salvo Chiantia  Role of influenza matrix protein M1 self-organization in shaping viral assembly

11:45 am-4:30 pm – Session 5 – “Molecular Interactions”
Joachim Dzubiella  Theoretical modeling of protein adsorption on polymeric interfaces
Lunch
Michal Or-Guil  Understanding and exploiting antibody recognition: Semiquantitative modeling and high-throughput data analysis of antibody-protein interactions
Christian Sieben  Influenza virus interaction with cellular membranes
Coffee
Michael Urbakh  Modeling forced unfolding and refolding of biological molecules
Jürgen Rabe  A workbench for single bio-macromolecules

4:30-5:00 pm – Wrap Up & Next Steps – End of Workshop