Statistical Physics Talk

**TOPIC:** Critical Casimir Forces

**SPEAKER:** Anna Maciołek, Max Planck Institute for Intelligent Systems

**TIME:** 2:00-3:00 pm, 19th May, 2015

**VENUE:** Room 301, Pudong Campus, 1555 Century Avenue
(世纪大道 1555号，浦东校区, 301教室)

**ABSTRACT OF THE TALK**

Long-ranged correlations in a fluid near its critical point lead to clearly identifiable effective forces acting on confining walls. The corresponding universal scaling functions are discussed for different boundary conditions and geometries. The theoretical predictions are compared with high precision experimental data for He4 and He3/He4 wetting films near the superfluid phase transition as well as with synchrotron scattering data from classical binary liquid mixtures. Direct measurements and applications for colloidal suspensions are discussed.

**BIOGRAPHY**

Dr. habil. Anna Maciołek is a project leader at Max Planck Institute for Intelligent Systems in Stuttgart, Germany and an Associate Professor at Institute of Physical Chemistry of Polish Academy of Sciences in Warsaw, Poland. Her research interests are in the statistical mechanics in equilibrium and non-equilibrium, phase transitions, critical and interfacial phenomena in application to fluctuation-induced forces and soft matter systems.