Univerzita Karlova
Matematicko-fyzikální fakulta

Vás zve na

Strouhalovskou přednášku

„MOLECULES ARE FAST, SO HOW CAN LIQUIDS BE SLOW?“

kterou přednese

Prof. Richard M. Stratt
(Newport Rogers Professor in Chemistry
Professor of Chemistry and Professor of Physics
Brown University)

ve středu 7. března 2018 ve 14.00 hod.

v posluchárně Čeňka Strouhala (F1)
Praha 2, Ke Karlovu 5

Richard M. Stratt is a Professor of Chemistry and Physics and a Newport Rogers Professor in Chemistry at the Brown University. He received his education from Massachusetts Institute of Technology (SB.) and University of California at Berkeley (Ph.D.). Prof. Stratt has published over hundred papers in various areas of theoretical chemistry, mostly on molecular dynamics in liquids and ultrafast spectroscopy. He is well known for the so-called instantaneous normal mode analysis of liquids which serves as a powerful entry into the elementary events in liquids. He is a Fellow of both American Physical and American Chemical Societies.

Considering that molecules can move with (literally) supersonic velocities, it is surprising how slow most chemical processes are. The usual explanation is not difficult to find: molecules have to wait through an enormous number of collisions before they accumulate the substantial energies required to make most chemical reactions happen. But what if the process simply involves molecules rotating and moving from place to place – the basic low-energy events behind fluid flow? How can one ever have slow and viscous liquids? Why would liquid molecules ever move so slowly that they actually seem to freeze in place, turning the liquid into a glass? This talk will describe our research group’s attempts to address these questions. The answers may lie in finding the most efficient patterns of molecular motion on what is called the “potential energy landscape” of liquids.

The lecture is a joint venture organized by CUNI and Brown University, Rhode Island, USA based on the mutual cooperation supported by the Memorandum of Understanding.