

國家理論科學研究中心數學組 (臺北辦公室)

IAMS / NCTS-TPE Applied Math Seminar

Speaker: Prof. Hsiang-Chih Chiu (Department of Physics, National Taiwan Normal University)

Title: Probing the Properties of Nano-confined Fluid Using Atomic Force Microscopy: Interfacial Viscosity, Fluid Slip and Electric Double Layer Effect

Abstract:

Fluid flow at the nanoscale exhibits significantly different physical properties compared to those of the bulk. Understanding these properties at the nanoscale is crucial to the development of future nanofluidics, which is intrinsically relevant to applications such as gene sequencing, protein segregation, cell sorting etc. In this seminar, I will first give a general introduction to the basics of atomic force microscopy (AFM), and explain how, by using AFM based techniques, we are able to establish correlations between the interfacial viscosity and fluid slip in nano-confined water as well as the wettability of confining surfaces. I will also discuss the possibility to investigate the electric double layer (EDL) effect in nano-confined electrolytes using AFM and its potential applications.

Time: Nov. 21 (Fri.) 14:20 – 15:20

Venue: R202, Astro-Math Building (NTU Campus)

Organizer: Jenn-Nan Wang (NTU)

For more information, please refer to <http://www.cts.ntu.edu.tw/>,
or contact "cts_tpe@math.cts.ntu.edu.tw"