

東京理科大学 総合研究機構

Tokyo University of Science, Research Institute for Science & Technology

マイクロ・ナノ界面熱流体力学国際研究部門

International Research Division of Interfacial Thermofluid Dynamics

第1回 I^2plus セミナー

First I^2plus Seminar

- 日 時: 平成 24 年 7 月 31 日(火)17:00 ~ 18:00
- 場 所: ME 会議室(東京理科大学 野田キャンパス 2号館 2階)
- 題 面: Current research work related microscale flow and heat transfer
- 講 師: 山田 格
Dr. Toru YAMADA @ Univ. Rhode Island (US) / Lund Univ.(Sweden)

Experimental investigation and numerical simulation of fluid flow and heat transfer in microchannels

This presentation shows an experimental investigation and numerical simulations of fluid flow and heat transfer in microchannels to study the surface-dominated, non-continuum, multi-scale and multi-physics effects. The experimental study focused on the effects of rib-patterned surfaces and surface wettability on liquid flow in microchannels. The effect of rib-patterned surface and its wettability are correlated with friction factor and slip length. In the numerical part, dissipative particle dynamics (DPD) was utilized to study the following three research topics: 1) The dynamics and deformation of red blood cells (RBCs) in micro-capillaries. 2) Forced convection heat transfer in parallel-plate microchannels. 3) The thermal conductivity of nanofluids.



I^2plus 's web site:
<http://www.rs.tus.ac.jp/~i2plus/>

