

Workshop on Optical Manipulation and Optofluidics
“An Emergent Field for Nanotechnology and Biological Applications”

Program

Monday 11 January 2010

Witoon Hongsuman Lecture Room, Department of Physics,
Faculty of Science

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| 9.00-9.30 | Registration |
| 9.30-10.00 | Opening Remark by the Dean of the Faculty of Science
Opening Remark by Head of Physics Department |
| 10.00-10.30 | coffee break |
| 10.30-12.00 | Plenary Lecture by Prof. Dr. Jumras Limtrakul
Director of Center of Nanotechnology, Kasetsart University
Nanotechnology Trend in Thailand |
| 12.00-13.30 | lunch break |
| 13.30-14.30 | Lecture by Dr. Roberto Di Leonardo
Light to manipulate matter: Introduction to Optical Tweezers |
| 14.30-15.00 | coffee break |
| 15.00-16.00 | Lecture by Dr. Roberto Di Leonardo
Light to manipulate matter: Holographic Optical Tweezers |

Tuesday 12 January 2010

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| 9.00-10.00 | Lecture by Dr. Apichart Pattanaporkratana (Physics, Kasetsart)
Optical-tweezers research in Liquid Crystal Field |
| 10.00-11.00 | Lecture by Dr. Roberto Di Leonardo
Exploring the mesoscopic world with holographic tweezers:
Brownian motion: trap dynamics |
| 11.00-11.30 | coffee break |
| 11.30-12.30 | Lecture by Dr. Roberto Di Leonardo
Introduction to mesoscale phenomena: Microhydrodynamics |

- 12.30-14.00 lunch break
- 14.00-15.00 Lecture by Dr. Roberto Di Leonardo
Introduction to mesoscale phenomena: Langevin equation
- 15.00-15.20 coffee break
- 15:20-16:20 Lecture by Dr. Sarun Sumriddetchkajorn
Lab Director, Photonics Technology Laboratory NECTEC
Photonics Research Trend in Thailand

Wednesday 13 January 2010

- 9.00-10.00 Lecture by Dr. Roberto Di Leonardo
Introduction to mesoscale phenomena: Colloidal interactions
- 10.00-10.30 coffee break
- 10.30-11.30 Lecture by Dr. Roberto Di Leonardo
Exploring the mesoscopic world with holographic tweezers:
Hydrodynamic interactions
- 11.30-13.00 lunch break
- 13.00-14.00 Lecture by Dr. Roberto Di Leonardo
Exploring the mesoscopic world with holographic tweezers:
Surface phenomena: capillary interactions
- 14:00-15:00 Lecture by Dr. Roberto Di Leonardo
Exploring the mesoscopic world with holographic tweezers:
Holographic microscopy
- 15.00-15.20 coffee break
- 15:20-16:20 Lecture by Dr. Adisorn Tuantranon
Lab Director, Nanoelectronic and MEMS Laboratory NECTEC
Microfluidics and Micro-Electro-Mechanical Systems (MEMS)

Thursday 14 January 2010

- 9.00-10.30 Lecture by Dr. Roberto Di Leonardo
Optofluidics: light driven devices and sensors
- 10.30-11.00 coffee break
- 11.00-12.30 Lecture by Dr. Nattaporn Chattham (Physics, Kasetsart)
Review: Optical tweezers applications in biological systems
- 12.30-13.30 lunch break
- 13.30-14.30 Lecture by Dr. Roberto Di Leonardo
Driving micro-machines with biological active matter
- 14.30-15:00 Closing remark by Head of Physics Department
- 15.00-15.30 coffee break
- 15:30-16:30 discussion, lab and department tour