

Imaging from Molecules to Organisms

Lecture Theater J, The Hong Kong University of Science and Technology

December 21, 2009 - 8:30 AM - 6:00 PM

On-line registration: <http://ncmi.bcm.edu/workshop/107> (free)

Session 1: From Molecules to Man - Challenges in Biomedical Imaging

8:30 AM - 10:15 AM Chair: Paul Matsudaira

King C. Li, The Methodist Hospital, "Multi-Scale Multimodality Imaging: Going from Macro to Micro in Vivo"

Wah Chiu, Baylor College of Medicine, "Imaging Molecular Machines in Different Biochemical States"

Sen-Fang Sui, Tsinghua University, "3D Structure of Protein Complexes by Single Particle Analysis"

William Mobley, University of California, San Diego, "Abnormal Protein Folding in Neurodegenerative Disorders"

Roland Fleck, National Institute for Biological Standards and Control, "Biological Medicines: Control, Standardisation and Research. A Role for Imaging"

Session 2: Bioimaging with Ions, Protons, Photons, and X-rays

10:45 AM - 12:30 PM Chair: Kuniaki Nagayama

John Miao, University of California, Los Angeles, "Coherent Diffraction Microscopy and Its Applications in Biology and Nanoscience"

Yoshinori Nishino, Spring 8, "Coherent Imaging using Synchrotron Radiation and Free-Electron Laser"

Andrew Wang, Academia Sinica Genomics Research Center, "Current Status of Bio-synchrotron in Taiwan"

Guang Zhu, The Hong Kong University of Science & Technology, "Quantitative Proton Magnetic Resonance Spectroscopy without Water Suppression"

Colin Sheppard, National University of Singapore, "Optical Imaging for Biology"

12:30 PM Lunch

Session 3: Integration of Physics and Materials for Imaging with Electrons

2:00 PM - 3:30 PM Chair: Andrew Wang

Tony Eastham, King Abdullah University of Science & Technology, "An Overview of Bio-Imaging Facilities at KAUST"

Kuniaki Nagayama, National Institutes of Natural Sciences, "Phase Plate Electron Microscopy Opens a Novel Nano-Imaging from Protein to Tissues"

Fu-Rong Chen, National Tsing Hua University, "Development of Electrostatic Phase Plate for Advanced Biological Imaging: Theory and Practice"

Joanne Etheridge, Monash University, "Recent Developments and Applications in TEM of Inorganic Materials"

Session 4: Extracting Information from Bioimages of Molecules to Man

4:00 PM - 6:00 PM Chair: Guang Zhu

Helen Berman, Rutgers, The State University of New Jersey, "Challenges in Visualizing Maps and Models in Structural Biology"

Kaun Wang, National Institute of Arthritis and Musculoskeletal and Skin Diseases, "Adaptive Hilbert-Huang Transform in the Analysis of Images, Sequence Motifs and Nanomechanics"

Huamin Qu, The Hong Kong University of Science & Technology, "Interactive Volume Visualization of CT/MRI Data"

Paul Matsudaira, National University of Singapore, "Extracting the Mechanics from Imaging"

Mitsutoshi Setou, Hamamatsu University School of Medicine, "Mass Microscopy: High Resolution Imaging Mass Spectrometry"