

Croucher Advanced Study Institute

Advanced Microscopies: Opportunities and Challenges in Nanomaterial and Surface Research

December 8 – 13, 2008, Hong Kong

Program

Venue: Lecture Theatre L3, Science Centre, The Chinese University of Hong Kong

Time	Dec 8 (Mon)	Dec 9 (Tue)	Dec 10 (Wed)	Dec 11 (Thu)	Dec 12 (Fri)	Dec 13 (Sat)
8:20 am	Light breakfast	Light breakfast	Light breakfast	Light breakfast	Light breakfast	Light breakfast
8:45 am	Opening speech	A. Heinrich	W. Ho	A. Howie	S. Iijima	C. Colliex
9:15 am						
10:15 am	A. Howie	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
10:45 am	Coffee break	H. J. Gao	W. W. Pai	M. W. Chu	F. R. Chen	M. Salmeron
11:15 am						
11:30 am	L. M. Peng	K. Wandelt	K. D. Wang	J. Wang	D. Tang	
12:00 pm						
12:15 pm	Lunch	Lunch	Lunch	Lunch	Lunch	
2:00 pm	W. Ho	C. Colliex	S. Iijima	M. Salmeron	A. Heinrich	Group discussion
3:30 pm	Coffee break	Coffee break	Poster presentation	Coffee break	Coffee break	
4:00 pm	B. Wang	Q. Chen		M. Van Hove	M. H. Xie	
4:45 pm	Q. K. Xue	M. L. Sui		K. K. Fung		
5:30 pm	Group discussion	Group discussion		Group discussion	Group dinner	

December 8 (Monday)

8:00 am – 8:45 am		Sign in & reception (Room G25A, G/F., Science Centre North Block)
8:20 am – 8:45 am		<i>Light breakfast</i>
8:45 am – 9:15 am		Opening speech
Session 1A (Chair: K. K. Fung)	9:15 am – 10:45 am	“Imaging Defects in the Transmission Electron Microscope” Prof. Archie Howie
10:45 am – 11:15 am		<i>Coffee break</i>
Session 1B (Chair: K. K. Fung)	11:15 am – 12:00 pm	“Quantitative Convergent Beam Diffraction and Inversion” Prof. Lian-Mao Peng
12:00 pm – 2:00 pm		<i>Lunch</i>
Session 1C (Chair: M. H. Xie)	2:00 pm – 3:30 pm	“Visualization of Quantum Phenomena” Prof. Wilson Ho
3:30 pm – 4:00 pm		<i>Coffee break</i>
Session 1D (Chair: M. H. Xie)	4:00 pm – 4:45 pm	“Electronic Structures and Transport Properties of Single Molecules” Prof. Bing Wang
	4:45 pm – 5:30 pm	“Manipulation and Detection of Single Molecular Spins” Prof. Qi-Kun Xue
Session 1E	5:30 pm –	Group discussion

December 9 (Tuesday)

8:20 am – 8:45 am		<i>Light breakfast</i>
Session 2A (Chair: M. Van Hove)	8:45 am – 10:15 am	“Magnetism on the Atomic Scale” Dr. Andreas Heinrich
10:15 am – 11:45 am		<i>Coffee break</i>
Session 2B (Chair: M. Van Hove)	10:45 am – 11:30 am	“Understanding and Controlling of Molecular Structures Using Scanning Tunneling Microscopy and First-principle Calculations” Prof. Hong-Jun Gao
	11:30 am – 12:15 pm	“Atomic Structure of Metal/Electrolyte Interfaces: In-situ Scanning Tunneling Microscopy” Prof. Klaus Wandelt
12:15 pm – 2:00 pm		<i>Lunch</i>
Session 2C (Chair: M. W. Chu)	2:00 pm – 3:30 pm	“In situ Measurements in a Transmission Electron Microscope: from Controlled Shaping with the Electron Beam to Physical Measurements under Illumination by a Laser Beam or Deformation by a Metallic Tip” Prof. Christian Colliex
3:30 pm – 4:00 pm		<i>Coffee break</i>
Session 2D (Chair: M. W. Chu)	4:00 pm – 4:45 pm	“In-situ Measuring and Modifying Carbon Nanotubes and Nanowires Using Nanomanipulators inside SEM and TEM” Prof. Qing Chen
	4:45 pm – 5:30 pm	“Novel Deformation Mechanisms Discovered by Using <i>in situ</i> TEM/HREM” Prof. Man-Ling Sui
Session 2E	5:30 pm –	Group discussion

December 10 (Wednesday)

8:20 am – 8:45 am		<i>Light breakfast</i>
Session 3A (Chair: N. Lin)	8:45 am – 10:15 am	“Inelastic Electron Tunneling Spectroscopy and Imaging” Prof. Wilson Ho
10:15 am – 10:45 am		<i>Coffee break</i>
Session 3B (Chair: N. Lin)	10:45 am – 11:30 am	“Sodium Trimer Ordering on Na _x CoO ₂ Surfaces: an STM Study” Prof. Woei-Wu Pai
	11:30 am – 12:15 pm	“Electron Phonon Interaction Induced Pseudo-gap on Pb Islands” Dr. Ke-Dong Wang
12:15 pm – 2:00 pm		<i>Lunch</i>
Session 3C (Chair: F. R. Chen)	2:00 pm – 3:30 pm	“High Resolution Electron Microscopy and Materials Science” Prof. Sumio Iijima
Session 3D	3:30 pm –	Poster presentation
		Scientific excursion

December 11 (Thursday)

8:20 am – 8:45 am		<i>Light breakfast</i>
Session 4A (Chair: S. K. Hark)	8:45 am – 10:15 am	“Electron Energy Loss Spectroscopy in the Electron Microscope” Prof. Archie Howie
10:15 am – 10:45 am		<i>Coffee break</i>
Session 4B (Chair: S. K. Hark)	10:45 am – 11:30 am	“Probing Surface Plasmon Polaritons and Surface Exciton Polaritons in Individual Au Nanoparticles from Near-IR to Far-UV Spectral Regimes” Prof. Ming-Wen Chu
	11:30 am – 12:15 pm	“Electronic Structure and Dielectric Property Study of Individual Nanostructures by VEELS” Dr. Juan Wang
12:15 pm – 2:00 pm		<i>Lunch</i>
Session 4C (Chair: X. D. Cui)	2:00 pm – 3:30 pm	“Scanning Tunneling Microscopy Studies of Surface Reactions and Single Molecule Manipulation” Prof. Miquel Salmeron
3:30 pm – 4:00 pm		<i>Coffee break</i>
Session 4D (Chair: X. D. Cui)	4:00 pm – 4:45 pm	“Detailed Nanostructure from STM and LEED Experiment” Prof. Michel A. Van Hove
	4:45 pm – 5:30 pm	“Light Reflection and Absorption in Butterfly Scales” Prof. Kwok Kwong Fung
Session 4E	5:30 pm –	Group discussion

December 12 (Friday)

8:20 am – 8:45 am		<i>Light breakfast</i>
Session 5A (Chair: J. F. Wang)	8:45 am – 10:15 am	“Carbon Nanotubes and High Resolution Electron Microscopy” Prof. Sumio Iijima
10:15 am – 10:45 am		<i>Coffee break</i>
Session 5B (Chair: J. F. Wang)	10:45 am – 11:30 am	“Phase Problem in Transmission Electron Microscopy” Prof. Fu-Rong Chen
	11:30 am – 12: 15 pm	“The Trends of Electron Microscopy: Aberration Correction and Electron Tomography” Dr. Dong Tang
12:15 pm – 2:00 pm		<i>Lunch</i>
Session 5C (Chair: K. D. Wang)	2:00 pm – 3:30 pm	“The Force to Move an Atom on a Surface” Dr. Andreas Heinrich
3:30 pm – 4:00 pm		<i>Coffee break</i>
Session 5D (Chair: K. D. Wang)	4:00 pm – 4:45 pm	“Misfit Dislocations at InN/GaN Interface Studied by Scanning Tunneling Microscopy” Prof. Mao-Hai Xie
		<i>Banquet</i>

December 13 (Saturday)

8:20 am – 8:45 am		<i>Light breakfast</i>
Session 6A (Chair: X. D. Xiao)	8:45 am – 10:15 am	“Mapping the Structural, Chemical and Electronic Properties with a Combination of STEM Microscopy and EELS Spectroscopy from the Atomic Architecture to the Optical Response at the Nanometer Level” Prof. Christian Colliex
10:15 am – 10:45 am		<i>Coffee break</i>
Session 6B (Chair: X. D. Xiao)	10:45 am – 12:15 pm	“Atomic Level Studies of Friction and Energy Dissipation” Prof. Miquel Salmeron
12:15 pm – 2:00 pm		<i>Lunch</i>
Session 6C	2:00 pm –	Group discussion