

The 2nd International Symposium on Advanced Microscopy and Theoretical Calculations (AMTC2) Program

Thursday, June 24, 2010

9:00 – 9:10	Opening	
Session 1		
9:10 – 9:50	S. Iijima (<i>Meijo University</i>) Dynamic Processes of Nano-Materials Revealed by Atom-Resolution Electron Microscopy	
9:50 – 10:30	J. W. Cahn (<i>NIST/University of Washington</i>) Premelting and Superheating of Grain Boundaries	
10:30 – 11:00	<i>Coffee</i>	
Session 2		
11:00 – 11:40	J. N. Chapman (<i>University of Glasgow</i>) Domain and Domain Wall Structures in Magnetic Nanowires and Nanoelements	
11:40 – 12:20	H. Lichte (<i>Technische Universität Dresden</i>) Electron Holography for Nano-Measurements	
12:20 – 13:40	<i>Lunch</i>	
Session 3		
13:40 – 14:20	K. Kitazawa (<i>Japan Science and Technology Agency</i>) Cosmic Ray Invasion and Global Warming: How Can We Cope with The Two Dangers?	
14:20 – 15:00	H. Hosono (<i>Tokyo Institute of Technology</i>) Cage Network Structure and Superconductivity in Electron-Doped $12\text{CaO}\cdot 7\text{Al}_2\text{O}_3$ and High-Pressure Superconducting Phase of Alkali/Alkaline Earth Metal	
15:00 – 16:30	Poster Session (Odd Number) & Coffee	
Session 4		
16:30 – 17:10	J. Hafner (<i>University of Vienna</i>) Quasicrystals Investigated Using Density-Functional Methods: Bulk, Surface and Thin Films	
17:10 – 17:50	M. Rühle (<i>Max-Planck-Institut für Metallforschung</i>) Quantitative Determination of Interface Structure by Transmission Electron Microscopy Techniques	
17:50 – 18:30	S. J. Pennycook (<i>Oak Ridge National Laboratory/Vanderbilt University</i>) Seeing into Materials with Aberration-Corrected STEM and First-Principles Theory	

Friday, June 25, 2010

Room 1

Session 1		
9:00 – 9:30	T. Norby (<i>University of Oslo</i>) Experimental and Computational Studies of Bulk and Interfaces of a Ceramic Proton Conductor at Atomic and Nano Scale	
9:30 – 10:00	S. J. L. Kang (<i>Korea Advanced Institute of Science and Technology</i>) Coarsening Behavior of Faceted Grains in a Liquid Matrix: Model Calculation and Experimental Observations	
10:00 – 10:30	X. Q. Pan (<i>University of Michigan</i>) Effects of Electrical Boundary Conditions on the Structure and Stability of Domains in Multiferroic BiFeO ₃ Thin Films	
10:30 – 11:00	<i>Coffee</i>	
Session 2		
11:00 – 11:30	W. Y. Ching (<i>University of Missouri-Kansas City</i>) Spectral Imaging for Characterization of Complex Defect Structures Using <i>Ab Initio</i> ELNES	
11:30 – 12:00	M. W. Finnis (<i>Imperial College London</i>) The Structure of Grain Boundaries in Strontium Titanate: Theory, Simulation and Electron Microscopy	
12:00 – 13:20	<i>Lunch and Coffee</i>	
Session 3		
13:20 – 13:50	D. Vanderbilt (<i>Rutgers University</i>) First-Principles Theory of Local Dielectric and Piezoelectric Properties of Insulators	
13:50 – 14:20	S. H. Wei (<i>National Renewable Energy Laboratory</i>) Engineering of Bulk and Nano Materials for Energy Applications	
14:20 – 14:50	<i>Coffee</i>	
Session 4		
14:50 – 15:20	A. Shluger (<i>University College London/Tohoku University</i>) Imaging Surface Defects using Atomic Force Microscopy: An Ultimate Frontier for Chemical Resolution	
15:20 – 15:50	K. Matsunaga (<i>Kyoto University/Japan Fine Ceramics Center</i>) Theoretical Investigation on Defect Energetics in Calcium Phosphates under an Aqueous Solution Environment	
15:50 – 17:20	Poster Session (Even number) & Coffee	
17:30 –	Banquet	

Friday, June 25, 2010

Room 2

Session 1		
9:00 – 9:30	P. L. Gai (<i>University of York</i>) In-situ ETEM and In-situ Aberration Corrected EM of Supported Nanoparticles and Magnesium Oxide Nanocatalysts for Bioenergy	
9:30 – 10:00	N. Tanaka (<i>Nagoya University</i>) In-situ TEM/STEM Observation of Photocatalytic Reactions of Titanium Oxide Materials	
10:00 – 10:30	R. E. Dunin-Borkowski (<i>Technical University of Denmark</i>) Aberration Corrected Monochromated Environmental Transmission Electron Microscopy – Progress, Prospects and Challenges	
10:30 – 11:00	<i>Coffee</i>	
Session 2		
11:00 – 11:30	A. Tonomura (<i>Hitachi Ltd.</i>) Observation of Magnetic Lines of Force by Electron Phase Microscopy	
11:30 – 12:00	D. Shindo (<i>Tohoku University</i>) Electron Holography on Electric Field Variations with Electric Current	
12:00 – 13:20	<i>Lunch and Coffee</i>	
Session 3		
13:20 – 13:50	Y. Zhu (<i>Brookhaven National Laboratory/Stony Brook University</i>) Revealing Magnetization Reversal and Switching Behavior of Patterned Multilayer Structures Using Electron Holography and Lorentz Microscopy	
13:50 – 14:20	F. Ernst (<i>Case Western Reserve University</i>) Strain State of Pt Catalyst Nanoparticles	
14:20 – 14:50	<i>Coffee</i>	
Session 4		
14:50 – 15:20	N. D. Browning (<i>Lawrence Livermore National Laboratory/University of California Davis</i>) In-situ Observation of Irreversible Processes by Dynamic Transmission Electron Microscopy (DTEM)	
15:20 – 15:50	C. B. Carter (<i>University of Connecticut</i>) Ceria & Related Oxides: The Need for Modeling	
15:50 – 17:20	Poster Session (Even number) & Coffee	
17:30 –	Banquet	

Saturday, June 26 2010

9:00 – 10:00	Poster Session (Free discussions for all posters) & Coffee	
Session 1		
10:00 – 10:30	T. Hirayama (<i>Japan Fine Ceramics Center</i>) Electron Holographic Li-ion Profiling in an All-solid-state Li-ion Battery	
10:30 – 11:00	Y. Ikuhara (<i>The University of Tokyo/Japan Fine Ceramics Center</i>) New Approach to Characterize Ceramics by Cs-Corrected STEM – Three Dimensional Observation and Light Elements Visualization –	
11:00 – 11:30	I. Tanaka (<i>Kyoto University/Japan Fine Ceramics Center</i>) Statistical Thermodynamics of Oxides by Combination of Cluster Expansion Method and First Principles Calculations	
11:30 – 12:00	Closing remarks	