8th International Tutorial Workshop on Piezoresponse Force Microscopy and Nanoscale Electromechanics of Polar Materials

August 25-27, 2010
Convention Center, University of Science and Technology Beijing
Beijing, China

Preliminary Program

Wednesday, August 25

08:50-09:00 Opening Remarks

09:00-09:40 Introduction to Piezoresponse Force Microscopy - Materials and Devices, Sergei Kalinin, Oak Ridge National Laboratory, USA

09:40-10:20 Piezoresponse Force Microscopy of Polarization Dynamics in Ferroelectrics, Andrei Kholkin, University of Aveiro, Portugal

10:20-10:40 Coffee Break

10:40-11:20 Domain Wall Nanoelectronics, Ramamoorthy Ramesh, University of California, Berkeley, USA

11:20-12:00 Piezoresponse Force Microscopy of Functional Nanoceramic Materials, Xiaohui Wang, Tsinghua University, China

12:00-13:00 Lunch

13:00-13:40 Scanning Probe Acoustic Microscope with Low Frequency and High Resolution and Its Applications, Qingrui Yin, Shanghai Institute of Ceramics, Chinese Academy of Science, China

13:40-14:20 Contact Mechanics and Dynamics Methods in Piezoresponse Force Microscopy, Sergei Kalinin, Oak Ridge National Laboratory, USA

14:20-15:00 Singing in Harmony - Multifrequency Techniques in Piezoresponse Force Microscopy, Roger Proksch, Asylum Research, USA

15:00-15:40 Developing Calibration References for Piezoresponse Force Microscopy, Joe Evans, Radient Technology, USA

15:40-17:00 Poster Session

16:00-18:00 Lab Demos

Asylum Research, NT-MDT

Radiant Technology, Veeco

18:00-19:30 Reception

Thursday, August 26

09:00-09:40 Piezoresponse Force Microscopy Studies of Disordered Ferroelectrics, Andrei Kholkin, University of Aveiro, Portugal

09:40-10:20 Local Probing of Piezoelectric Nonlinearities, Susan Trolier-McKinstry, Penn State University, USA

10:20-10:40 Coffee Break

10:40-11:20 Piezoresponse Force Microscopy on Complex Domain States in Nanoferroelectric Arrays and Multiferroic Composite, Xingsen Gao, South China Normal University , China

11:20-12:00 Mapping Quantitative Mechanical Properties at Molecular Scale with Peak Force Tapping Control, Chunzeng Li, Veeco, USA

12:00-13:00 Lunch

13:00-13:40 Spectroscopic Mapping in Piezoresponse Force Microscopy, Sergei Kalinin, Oak Ridge National Laboratory, USA

13:40-14:20 Some Special Ferroelectric Domain Switching Behavior under Scanning Probe Microscopy Tip, Xiaomei Lu, Nanjing University, China

14:20-15:00 PFM on Ferroelectric Single Crystals for Their Template Applications, Xiaoyan Liu, University of Washington, USA

15:00-15:40 New Frontiers in Piezoresponse Force Microscopy, Andrew Shubin, NT-MDT

15:40-17:00 Poster Session

16:00-18:00 Lab Demos

- Asylum Research
- NT-MDT
- Radiant Technology
- Veeco

18:00-19:30 Banquet

Friday, August 27

09:00-09:40 PFM Study of Local on/off Currents in BiFeO3 Thin Films Modulated by Bipolar Polarization Orientations, Anquan Jiang, Fudan University, China

09:40-10:20 Dynamics of Domain Walls in Multiferroic BiFeO3 Thin Films, Xiaoqing Pan, University of Michigan, USA

10:20-10:40 Coffee Break

10:40-11:20 Piezoresponse Force Microscopy on Nanostructures and High-K Dielectrics, Andrei Kholkin, University of Aveiro, Portugal

11:20-12:00 Piezoresponse Force Microscopy beyond Ferroelectrics: Energy Storage and Conversion Materials, Sergei Kalinin, Oak Ridge National Laboratory, USA

12:00-13:00 Lunch