

2010
MRS



FALL
MEETING

Boston, MA • November 29–December 3

CALL FOR PAPERS

Abstract Deadline: June 22, 2010

REMINDER:

In fairness to all potential authors,
late abstracts will not be accepted.

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MRS Symposium V V: Novel Development and Applications of Scanning Probe Microscopy

Scanning Probe Microscopy (SPM) has become a ubiquitous tool for academic, industrial, and national laboratories worldwide, with applications in nanotechnology, semiconductors, storage media, polymers, biological sciences, aerospace, etc. While the field has matured substantially over the past several decades in terms of capabilities, resolution, stability, availability, ease of use, and especially SPM variations, there are also significant ongoing efforts to develop and apply further improvements, including speed, additional operational modes, functional probes, combinations with other analytical tools, etc. Therefore, the sessions will be aimed at researchers involved with SPM technique development, and/or those who are uniquely applying SPM to solve materials challenges in design, selection, and processing. Materials studied will include semiconductors, metals, polymers, biological systems, and molecular assemblies. To promote collaboration and creativity, one session will include a panel discussion about next-generation SPM needs featuring academic and industrial leaders in the field.

This symposium will emphasize new SPM variations, developments, and applications grouped around the following themes:

- High-speed measurements
- Mechanical mapping
- Electronic/magnetic/piezoelectric properties
- Thermal microscopy
- SPM coupled with optics, XRD/synchrotron, electron microscopy, etc.
- Atomic/molecular resolution
- Metrology
- SPM lithography
- Functional probes

Invited speakers include:

Fleming Besenbacher (Aarhus Univ. iNANO Ctr., Denmark): *Atomically Resolved Molecular Dynamics*; **Dawn Bonnell** (Univ. of Pennsylvania): *High-Resolution Electronic Probes*; **Martin Castell** (Oxford Univ., United Kingdom): *High-Temperature STM*; **Robert Carpick** (Univ. of Pennsylvania): *Nanoscale Friction*; **Yasuo Cho** (Tohoku Univ., Japan): *Scanning Nonlinear Dielectric Microscopy*; **Donna Hurley** (National Inst. of Standards and Technology): *Contact Resonance Force Microscopy*; **Sergei Kalinin** (Oak Ridge National Lab): *Current Imaging*; **Hyoungsoo Ko** (Samsung, S. Korea): *Functional Probes*; **Xiaodong Li** (Univ. of South Carolina): *Nanomechanics of Nanomaterials*; **Sergei Maganov** (Agilent Technologies): *SPM Imaging of Polymers*; **Mervyn Miles** (Univ. of Bristol, United Kingdom): *High-Speed Imaging*; **Stephen Minne** (Veeco Instruments, Inc.): *Molecular Level Force Imaging*; **Fabian Mohn** (IBM-Zurich, Switzerland): *High-Resolution Molecular Imaging*; **Arvind Narayanaswamy** (Columbia Univ.): *Thermal Probes*; **Christine Ortiz** (Massachusetts Inst. of Technology): *AFM and Biology*; **Sang-il Park** (Park Systems Corp.): *SPM Imaging*; **John Pethica** (National Physical Lab, United Kingdom): *Atomic Resolution Imaging*; and **Kumar Wickramasinghe** (Univ. of California, Irvine): *Chemical Analysis within Living Cells*.

Panel Members (Next-Generation SPM): **Robert Cook** (National Inst. of Standards and Technology), **Kevin Kjoller** (Anasys Instruments Corp.), **John Pethica** (National Physical Lab, United Kingdom), **Roger Proksch** (Asylum Research), **Chanmin Su** (Veeco Instruments), and **Jane Zhu** (DOE-BES).

Symposium Organizers

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