SAN FRANCISCO, CA 2006 MRS SPRING MEETING
APRIL17 - APRIL 21

www.mrs.org/meetings/spring2006/

CALL FOR PAPERS

ABSTRACT DEADLINE: NOVEMBER 1, 2005

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

MRS Symposium Q: Magnetic Thin Films, Heterostructures, and Device Materials

Magnetic ultrathin films and spin electronic devices continue to be an innovative area in research and technology. Existing information storage devices have been improved tremendously through novel materials and control over atomic structure. The high-speed (Ghz) response of magnetic devices can now be brought under materials-based control.
Additionally, new spin-based functionalities are emerging in devices, particularly through the interplay of spin-polarized transport and magnetization dynamics. Novel characterization techniques, including soft x-ray synchrotron-based spectroscopies and magnetic STM characterization and theory, including *ab-initio* approaches, are of increasing utility in understanding the properties of these systems.

This symposium will highlight progress in all areas of materials, devices, characterization, and theory of magnetic thin-film systems.

Areas of interest include, but are not limited to:

- Magnetic tunnel junctions (epitaxial, textured, and polycrystalline)
- Ultrathin-film ferromagnetic alloys (epitaxial, textured, and polycrystalline)
- Ultrathin-film half-metallic phases/high-spin polarization materials
- Magnetization dynamics and its materials-based control
- Self-assembled nanostructures
- Spin-momentum transfer (SMT) devices and materials
- Current-driven domain wall motion
- Ferromagnetic/organic interfaces
- X-ray magnetic circular dichroism (XMCD)
- X-ray photoelectron emission microscopy (PEEM)
- Antiferromagnetic exchange bias
- Novel spin-based device concepts
- Ab-initio models of magnetotransport and spin dynamics
- Alternate device and material concepts in thin-film magnetics (magnetostrictive actuation and microwave devices)
- Multiscale models of magnetic thin-film growth

Invited speakers include (partial list): **A Brataas** (UST, Norway), **R. Buhrman** (Cornell Univ.), **P. Crowell** (Univ. of Minnesota), **K. Inomata** (Tohoku Univ., Japan), **T.W. Kim** (SAIT, Korea), **M.H. Kuok** (NUS, Singapore), **K. Liu** (Univ. of California-Davis), **C. Palmstrom** (Univ. of Minnesota), **S. Parkin** (IBM Almaden Research Ctr.), **C. Ross** (Massachusetts Inst. of Technology), **A. Scholl** (Lawrence Berkeley National Lab-ALS), **J. Slaughter** (Freescale Semiconductor, Inc.), **I. Takeuchi** (Univ. of Maryland), **Y. Tserkovniac** (Harvard Univ.), **E. Tsymbal** (Univ. of Nebraska), and **R.B. van Dover** (Cornell Univ.).

Symposium Organizers

Thomas Ambrose
Seagate Research, 1251 Waterfront Pl., Pittsburgh PA 15222
Tel 412-918-7165, Fax 412-918-7010, thomas.f.ambrose@seagate.com

William Bailey
Columbia University, Materials Science Program, Dept. of Applied Physics
200 SW Mudd Bldg., 500 W. 120th St., New York, NY 10027
Tel 212-854-3090, Fax 212-854-8257, web54@columbia.edu

David Keavney
Argonne National Laboratory, Advanced Photon Source, 431E-002
9700 S. Cass Ave., Argonne, IL 60439
Tel 630-252-7893, Fax 630-252-7392, keavney@aps.anl.gov

Y. Daniel Park
Seoul National University, CSCSMR & School of Physics, NS 50
Seoul 151-747, Korea
Tel 82-2-880-1361, Fax 82-2-885-2361, parkyd@snu.ac.kr