

Spin-Polarized Scanning Tunneling Microscopy 3 Conference

**August 19 – 20
Seoul National University**

**Supported by
A3 Foresight Program, BK21 Program, Seoul National University**

Scientific Program (Final)- SPSTM 3

August 19 (Thursday), 2010

Session I (Moderator: Y. Kuk)

9:00 - 9:45 R. Wiesendanger (U. Hamburg)

Spin-polarized Scanning Tunneling Microscopy and Spectroscopy at the Atomic Scale

9:45 - 10:05 T. K. Yamada (Karlsruhe I. T.)

Electrical control of spin states in cubic iron: magneto-electric coupling via induced surface charge

10:05 - 10:25 M. Menzel (U. Hamburg)

Atomic-scale magnetic skyrmion lattice observed in real space

10:25 -10:50 Coffee Break

Session II (Moderator: T. Hashizume)

10:50 - 11:20 J. Lee (KAIST)

Interpreting the quasiparticle interference and the nematicity order parameter in BSCCO measured with STM

11:20 - 11:40 D. Lee (Ohio State U)

Atomic scale gate electrode formed by a charged defect on GaAs(110)

11:40 -12:00 S. Y. Jung (NIST)

Scanning Tunneling Spectroscopy of a Gated Graphene Device in the Quantum Hall Regime

12:00 -13:30 Lunch

Session III (Moderator: S. Hasegawa)

13:30 - 14:15 A. Heinrich (IBM ,Almaden)

Spin-Polarized Spin Excitation Spectroscopy

14:15 - 14:35 H. Kim (Korea U.)

Electronic Structures of Magnetic Ion Containing Porphyrin Molecules on Au(111)

14:35 -14:55 S. Krause (U. Hamburg)

Critical current for switching the magnetization of quasistable nano-islands using SP-STM

14:55 -15:20 Coffee Break

Session IV (Moderator: M. Yoshimura)

15:20 – 15:50 M.-T. Lin (National Taiwan U.)

Dipolar Antiferromagnetic Spin Coupling and Quantum Confinement in Co Nanoislands Resolved by Spin-Polarized Scanning Tunneling Microscopy

15:50 – 16:10 Y. J. Song (NIST)

Graphene Quartet and Fractional Hall States: High Resolution Scanning Tunneling Spectroscopy Study at 13 mK with High Magnetic Field

16:10 - 18:00 Poster Presentation

18:00 – 20:00 Banquet

August 20 (Friday), 2010

Session V (Moderator: M.-T. Lin)

9:00 - 9:45 J. Seo (Princeton U.)

Probing novel surface states in topological insulators-

9:45 - 10:15 S. Hasegawa (U. Tokyo)

Spin-Split Surface States due to Rashba Effect and Topological Insulators

10:15 -10:35 A. Schlenhoff (U. Hamburg)

Bulk Cr tips with full spatial magnetic sensitivity for spin-polarized scanning tunneling microscopy

10:35 -10:50 Coffee Break

Session VI (Moderator: J. Lee)

10:50 - 11:20 Q. K. Xue (Tsinghua U.)

Novel properties of topological insulator thin films of Bi₂Te₃, Bi₂Se₃ and Sb₂Te₃ prepared by molecular beam epitaxy

11:20 - 11:40 S. Wedekind (Max Planck I.)

Spin-dependent quantum interference within a single Co nanoisland

11:40 -12:00 G. Herzog (U. Hamburg)

Spin Torque Switching of Nanomagnets by SP-STM

12:00 -13:30 Lunch

Session VII (Moderator: A. Heinrich)

13:30 - 14:15 J. A. Stroscio (NIST)

All Graphenes Are Different! A Scanning Tunneling Spectroscopy Study

14:15 - 14:35 T. Choi (Ohio State U.)

STM Studies of single organic magnets on metal and insulating surfaces

14:35 - 14:55 W. Wulfhekel (Karlsruhe I. T.)

Magneto-resistance measurement through single phthalocyanine molecules with spin-polarized STM

14:55 - 15:20 Coffee Break

Session VIII (Moderator: R. Wiesendanger)

15:20 – 16:05 S.-B Choe (Seoul National U.)

Interdimensional Universality of Dynamic Interfaces

16:05 – 16:25 T.-H. Kim (Postech)

Real-Space Imaging of Strain-Induced Electronic Phase Separation near the Mott Metal-Insulator Transition

16:25 – 16:45 T. Hashizume (Hitachi)

Scanning probe microscopy of organic semiconductor interfaces

16:45 - 18:00 Poster Presentation

Poster Presentation

1) C. I. Lu (National Taiwan U.)

Layered Antiferromagnetic Spin Structure of Epitaxial Expanded fct-Mn(001) studied by Spin-Polarized Scanning Tunneling Microscopy

2) S. Wedekind (Max Planck I.)

Size and temperature dependence of the switching field of individual Co nanoislands – the role of spatially dependent electronic and magnetic properties

3) Y. Matsuoka (Toyota Institute of Tech.)

Effect of Buffer Layers on the Synthesis of Carbon Nanotubes by Alcohol Catalytic Chemical Vapor Deposition

4) S. Krause (U. Hamburg)

Magnetization Reversal of Nanoscale Islands: How Size and Shape Affect the Arrhenius Prefactor

5) G. Rius (Toyota Institute of Tech.)

Development of Carbon Nanotube-based Scanning Tunneling Microscopy tips

6) T. Irisawa (Karlsruhe I. T.)

Spin polarization vectors of field emitted electrons from apexes of Fe-coated W tips

7) J. K. Yoon (Korea U.)

Planar Supramolecular Structures Studied by Scanning Tunneling Microscopy

8) T. Tominaga (U. Tokyo)

Direct Evidence of Surface State Contribution to the Kondo Resonance

9) R. Yukawa (U. Tokyo)

Study of formation of a surface superstructure by the surface-state mediated interaction

10) K. H. Chung (Korea U.)

Supramolecular Structures by Halogen Interactions on noble metal surfaces.

11) S. Suzuki (Toyota Institute of Tech.)

Tuning of Carbon Nanowalls Structure through hydrogen-methane flow rate ratio

12) M. H. Chang (Korea U.)

Depopulation of Surface States on Au(111) studied using Scanning Tunneling Spectroscopy

13) Hyowon Kim (U. Tokyo)

Spatial mapping of Ferromagnetic Resonance using a Radio-Frequency Probe

14) H. Kim (Korea U.)

Anisotropic Kondo screening behaviors of metallo-molecules on Au(111)

15) Hongwoo Baek (Seoul National U.)

CVD Growth of Graphene and Confirmation with Scanning Probe Microscopy