

## Session A: July 15 - 16

Plenary Lectures (both sessions, at theater)	Invited Lectures 40 Minutes	Breaks
<b>15 July (Tuesday)</b>		
<b>Reception</b>		<b>5 to 7 pm</b>
Early registration		Ballroom / Baker Center
<b>16 July (Wednesday)</b>		
7:00	<b>Registration</b>	Theater / Baker Center
8:00	Opening remarks by chairs: Saw-Wai Hla, Arthur R. Smith	
8:10 <b>P.S. Weiss</b>	Designing, measuring and controlling molecular- and supramolecular-scale properties for molecular devices	(Chair: S.-W. Hla)
8:55 <b>BREAK</b>		
<b>Session A1</b>	<b>Synchrotron Applications to Nanostructures</b>	(Chair: A. Hoffmann)
9:00 <b>T. Tomie</b>	Top surface analysis of nanomaterials by EUV photoelectron spectroscopy, EUPS	
9:40 <b>T. Matsushita</b>	Single-energy electron holography for analysis of atomic arrangements	
10:20 <b>COFFEE</b> <i>Sponsored by Omicron Nanotechnology</i>		
<b>Session A2</b>	<b>Carbon Based Nanostructures I</b>	(Chair: N. Sandler)
10:50 <b>P. Sutter</b>	Metal catalyzed sp <sup>2</sup> bonded carbon assemblies- from nanoscale pipettes to macroscopic graphene sheets	
11:30 <b>H. Hibino</b>	Number of layers dependence of electronic properties of epitaxial graphene investigated by SPELEEM	
12:10 <b>LUNCH</b>		
<b>Session A3</b>	<b>Semiconductor Nanostructures</b>	(Chair: S. Heun)
2:00 <b>R.M. Feenstra</b>	Transport of carriers in semiconductors probed by scanning tunneling spectroscopy	
2:40 <b>K. Kanisawa</b>	Imaging surface states bound to native donors at the epitaxial InAs surface	
3:20 <b>COFFEE</b>		
<b>Session A4</b>	<b>Scanning Probe Spectroscopies</b>	(Chair: I. Pascual)
3:50 <b>M. Passoni</b>	Progress in understanding scanning tunneling spectroscopy	
4:10 <b>Y.H. Liu</b>	Nanoscale electronic inhomogeneity and periodic charge order in a high-temperature superconductor Bi2212	
4:30 <b>O. Kurnosikov</b>	Scanning tunneling spectroscopy of near-surface nanoobjects in metals	
4:50 <b>L.A. Bumm</b>	Broadband near-field interference spectroscopy of flat gold nanoparticles	
<b>Poster Viewing</b>		Rooms: 230, 233, 235
5:10		
<b>Welcome Dinner</b>		Ballroom / Baker Center
Music: Classical Piano by Richard Syracuse Complementary drinks and a cash bar, <i>sponsored by SPECS Scientific Instruments</i>		
<b>Provost Kathy Krendl Welcome Message</b>		
Poster Viewing		Rooms: 230, 233, 235
7:30		
8:30		

\*\*\*\*\* [Exploring Athens Uptown](#)

## Session B: July 15 - 16

Plenary Lectures (both sessions, at theater)	Invited Lectures 40 Minutes	Breaks
<b>15 July (Tuesday)</b>		
<b>Reception</b>		<b>5 to 7 pm</b>
Early registration		Ballroom / Baker Center
<b>16 July (Wednesday)</b>		
7:00	<b>Registration</b>	Theater / Baker Center
8:00	Opening remarks by chairs: Saw-Wai Hla, Arthur R. Smith	
8:10 <b>P.S. Weiss</b>	Designing, measuring and controlling molecular- and supramolecular-scale properties for molecular devices (Chair: S.-W. Hla)	
8:55 <b>BREAK</b>		
<b>Session B1</b>	<b>Magnetic Excitations</b>	(Chair: M. Bode) 240/242 Room
9:00 <b>S. Krause</b>	Current-Induced magnetization switching with a spin-polarized scanning tunneling microscope	
9:40 <b>T. Balashov</b>	Magnetic excitations in thin films and atomic clusters probed by inelastic scanning tunneling spectroscopy	
10:00		
10:20 <b>COFFEE</b> <i>Sponsored by Omicron Nanotechnology</i>		
<b>Session B2</b>	<b>SP-STM Techniques</b>	(Chair: D. Sander)
10:50 <b>A. L. Bassi</b>	Bulk Cr tips for spin-polarized scanning tunneling microscopy	
11:10 <b>M. Gyamfi</b>	A new scanning tunneling microscope for spin-sensitive measurements in a fully rotatable magnetic field	
11:30 <b>I. V. Chvets</b>	Tunneling through STM tip with transition metal termination	
12:10 <b>LUNCH</b>		
<b>Session B3</b>	<b>SP-STM Theory</b>	(Chair: T.S. Rahman)
2:00 <b>S. Heinze</b>	New playground to observe complex magnetism at surfaces by SP-STM	
2:20 <b>M. Wasniowska</b>	Evolution of the electronic state of Fe on Pd(111): experiment and theory	
2:40 <b>S. Blügel</b>	Homochiral magnetic structures at surfaces	
3:20 <b>COFFEE</b>		
<b>Session B4</b>	<b>Atom/Molecule Manipulation-I</b>	(Chair: R. Wiesendanger)
3:50 <b>G. Meyer</b>	Scanning probe microscopy of adsorbates on insulating films: first steps towards a modular molecular logic	
4:30 <b>G. Goryl</b>	Atomic scale interconnects between PTCDA molecules and metallic nanowires assembled on KBr covered InSb(001)	
4:50 <b>M. Parschau</b>	Electron-induced manipulation, vibrational excitation and chemistry of single molecules at surfaces	
<b>Poster Viewing</b>		Rooms: 230, 233, 235
5:10		
6:00 <b>Welcome Dinner</b>	Music: Classical Piano by Richard Syracuse Complementary drinks and a cash bar, <i>sponsored by SPECS Scientific Instruments</i>	Ballroom / Baker Center
7:00 <b>Provost Kathy Krendl Welcome Message</b>		
<b>Poster Viewing</b>		Rooms: 230, 233, 235
7:30		
8:30		

\*\*\*\*\* [Exploring Athens Uptown](#)

## Session A July 17

17 July (Thursday)

Theater / Baker Center

8:10 **R. Wiesendanger** Oscillatory magnetic exchange coupling at the atomic level: a direct real-space study by a subkelvin spin-polarized STM (Chair: A.R. Smith)

8:55 **BREAK**

**Session A5** *Low Dimensional Quantum Structures* (Chair: R.M. Feenstra)

9:00 **K. Ensslin** Electrons in quantum dots - one by one

9:40 **S. Heun** Surface compositional profiles of InAs/GaAs quantum rings

10:00 **E. Stinaff** Optical spectroscopy of excitons in coupled quantum dots

10:20 **COFFEE**

**Session A6** *Carbon Based Nanostructures II* (Chair: P. Sutter)

10:50 **C.H. Chen** Local electronic structure of laser modified carbon nanotubes

11:30 **A. Hassanien** STM on functionalized carbon nanotubes and nanobuds

11:50 **L. Chen** Scanning probe studies on dielectric responses of individual single-walled carbon nanotubes

12:10

**LUNCH**

**Session A7** *Carbon Based Nanostructures III* (Chair: H. Hibino)

1:30 **M. Zarea** Physics of graphene nano-ribbons

1:50 **H. Golastaniyan** Prediction of optimum diameter of single-wall carbon nanotube tori by finite element simulation

**3:00 Buses Depart from Baker Center**

**SOCIAL (Conference Picnic) and TECUMSEH! Show**

## Session B July 17

17 July (Thursday)

Theater / Baker Center

8:10 **R. Wiesendanger** Oscillatory magnetic exchange coupling at the atomic level: a direct real-space study by a subkelvin spin-polarized STM (Chair: A.R. Smith)

8:55 **BREAK**

**Session B5** *Magnetic Film on Non-magnetic Materials* (Chair: S. Blügel) Room 240/242

9:00 **M. Bode** Structure and magnetism of ultra-thin chromium layers on W(110)

9:20 **S. Meckler** Bloch- or Neel-like walls in Fe double-layer nanowires ?

9:40 **J. Prokop** Magnetic coupling in Au - Fe/Mo(110) nanostructures

10:20 **COFFEE**

**Session B6** *Spins* (Chair: T. Balashov)

10:50 **A. Schwarz** MExFM – a force based spin-sensitive method

11:10 **D. Lee** STM studies of spin-spin interactions between Mn acceptors in p-type GaAs

11:30 **C.L. Gao** Investigation of antiferromagnetic thin films with scanning tunneling microscopy: from statics to dynamics

12:10

**LUNCH**

**Session B7** *Kondo Physics* (Chair: S.E. Ulloa)

1:30 **A. Otte** The anisotropic splitting of a Kondo peak

2:10 **L.D. da Silva** Conductance Fano lineshapes for Kondo impurities on surfaces: A numerical renormalization-group description

**3:00 Buses Depart from Baker Center**

**SOCIAL (Conference Picnic) and TECUMSEH! Show**

## Session A: July 18 -19

18 July (Friday)

Theater / Baker Center

9:10 **M. Kawai** Inelastic electron tunneling spectroscopy of single molecules using STM (Chair: K.-H. Rieder)

9:55 **BREAK**

**Session A8** *Magnetic Nanostructures* (Chair: T. Tomie)

10:00 **D. Keavney** Imaging magnetization dynamics using synchrotron-based magnetic microscopy

10:40 **A. Hoffmann** Pure spin currents in lateral spin-valves

11:20 **COFFEE**

**Session A9** *Molecular Nanoscience* (Chair: M. Kawai)

11:50 **I. Pascual** Electron induced heating and cooling of a C60 molecular junction

12:30 **N. Levy** Self-patterned molecular photoswitching in nanoscale surface assemblies

12:50 **G. Perera** A molecular switch made of charge transfer complexes on Au(111)

1:10

**LUNCH**

**Session A10** *Nanoreaction and Growth* (Chair: L. Chen)

3:00 **C. Africh** Dynamics of surface reactions studied by STM

3:40 **C.S. Casari** Pd cluster nucleation mechanisms on Au(111)

4:00 **I. Braslavsky** The control of growth and melt of ice crystals by ice binding proteins

4:20 **COFFEE**

**Session A11** *Nanoscale and Quantum Phenomena* (Chair: I. Braslavsky)

4:50 **S. Kaya** Nanocircuits for Sensors and On-Chip Analog Signal Processing

5:10 **W.J. Jadwisieniczak** Spectroscopy of III-Nitride low dimensional quantum structures implanted with lanthanides for optoelectronic applications

5:30 **S. Jungpil** Anisotropic dipolar interactions in ordered Fe nanodot arrays

**Poster Viewing** Rooms: 230, 233, 235

6:00

7:00

7:30 **Conference BANQUET** Rotunda, Walter Hall  
Music: Harp by Wenda Williamson

8:30 **K.-H. Rieder** Seeing and doing: The STM as an imaging and operative tool  
(After Dinner Lecture)

19 July (Saturday)

8:00 **BREAKFAST**

**Session A+B 12** *Nanotechnology Applications (Combined Session)*

9:00 **J.S. Park** Wireless sensor network data mining by using particle swarm optimization for nanorobot (Chair: N. Yamamoto)

9:40 **G. U. Kulkarni** Fabrication of Raman Biochip

10:20 Discussions and comments

10:40 Welcome message by the next conference chairs (NSS-6 and SP-STM-3)

11:00 Ending remarks by the NSS-5 and SP-STM2 chairs.

## Session B: July 18 -19

18 July (Friday)

Theater / Baker Center

9:10 **M. Kawai** Inelastic electron tunneling spectroscopy of single molecules using STM (Chair: K.-H. Rieder)

9:55 **BREAK**

**Session B8** *Atom/Molecule Manipulation-II* (Chair: G. Meyer) Room 240/242

10:00 **T.S. Rahman** Microscopic processes responsible for the diffusion of Cu/Ag adatom islands on Ag(111)/Cu(111): insights from theory

10:40 **E. Zupanič** LT-STM manipulation and spectroscopy of single copper and cobalt atoms

11:00 **S. Godlewski** LT-STM imaging and controlled manipulation of single Violet Lander (VL) molecules assembled on clean and KBr covered InSb surface

11:20 **COFFEE**

**Session B9** *Atom/Molecule Manipulation-III* (Chair: S. Kaya)

11:50 **C. Sykes** A Quantitative Single-Molecule Analysis of Thioether Rotors

12:10 **R. Yamachika** Bottom-up creation of hybrid organic-inorganic magnetic molecules with a STM

12:30 **T. Choi** STM studies of transport through single azobenzene molecules

12:50 **T. Skeini** Single Molecule Investigation of  $\beta$ -Carotene on Au(111) with STM

1:10

**LUNCH**

**Session B10** *Nanomagnetism* (Chair: E. Stinaff)

3:00 **D. Sander** Electron confinement and magnetic properties of

Co nanoislands studied by in-field low temperature spin-STM

3:40 **R. Mishima** Scanning tunneling microscopy and spectroscopy of Mn alloys on Au(111)

4:00 **V. Brar** Studying exchange coupling behavior of individual magnetic adatoms with spin-polarized STM

4:20 **COFFEE**

**Session B11** *Nano Instrumentation* (Chair: I. V. Shvets)

4:50 **A.-P Li** Study of electronic property of epitaxial silicide nanowires with a cryogenic quadrupole scanning tunneling microscope

5:10 **M. Maier** Qplus AFM on single crystal insulators with small oscillation amplitudes at 5K

5:30 **S. Suzuki** Energy tunable X-ray induced force change between a NC-AFM tip and a surface

**Poster Viewing** Rooms: 230, 233, 235

6:00

7:00

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Music: Harp by Wenda Williamson

Rotunda, Walter Hall

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