



SPSTM-7 & LTSPM-1 International Conference 2018

Advances in high-precision and low-temperature Scanning Probe Microscopy

28-30 July 2018

Saturday, 28 July

- 8:30-9:25 Welcome and registration
- 9:25-9:30 Opening in Lindenbergzaal
- 9:30-10:10 **Vidya Madhavan** (University of Illinois, USA)
STM studies on Iridates and Ruthenates
- 10:10-10:50 **Tetsuo Hanaguri** (RIKEN Center for Emergent Matter Science, Japan)
Spectroscopic-Imaging STM Studies of Nematicity and Superconductivity in FeSe_{1-x}S_x
- 10:50-11:20 *coffee break*
- 11:20-12:00 **Wulf Wulfhekel** (Physikalisches Institut, KIT, Karlsruhe, Germany)
Conventional or unconventional - what drives superconductivity in FeSe monolayers?
- 12:00-12:40 **Yuanbo Zhang** (Fudan University, China)
Visualizing the electronic structure of thin layers of Bi₂Sr₂CaCu₂O₈+ δ
- 12:40-15:00 *Lunch and exhibition*
- 15:00-15:40 **Stefan Heinze** (Christian-Albrechts-Universität, Kiel, Germany)
Interplay of Dzyaloshinskii-Moriya and higher-order exchange interactions at Fe/Rh and Fe/Ir interfaces
- 15:40-16:20 **Stefan Bluegel** (Forschungszentrum Juelich and JARA Germany)
Potential of ultrathin films on (110)-oriented substrates as Skyrmion-Antiskyrmion racetrack memory
- 16:20-16:40 *coffee break*
- 16:40-17:20 **Nadine Hauptmann** (Radboud University Nijmegen, The Netherlands)
Sensing atomic-scale noncollinear magnetism combining magnetic exchange and spin-polarized imaging
- 17:20-18:00 **Christian Ast** (Max Planck Institute for Solid State Research, Stuttgart, Germany)
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- 18:00-22:00 *Postersession / exhibition / dinner*

Sunday, 29 July

- 9:00-9:40 **Yoshiaki Sugimoto** (University of Tokyo, Kashiwa, Japan)
High resolution imaging of water molecules by non-contact atomic force microscopy
- 9:40-10:20 **Shigeki Kawai** (National Institute for Materials Science, Tsukuba, Japan)
High-resolution force measurements with a functionalized tip of atomic force microscope
- 10:20-11:00 **Harry Moenig** (Westfälische Wilhelms-Universität Münster)
High-resolution NC-AFM imaging with oxidized copper tips: Accessing quantitative bond lengths and intermolecular coupling
- 11:00-11:30 *coffee break*
- 11:30-12:10 **Franz J. Giessibl** (University of Regensburg, Germany)
High precision atomic force microscopy
- 12:10-12:50 **Marlou Slot** (Utrecht University, Utrecht, Netherlands)
Crafted atom by atom: realization and characterization of artificial lattices
- 12:50-13:50 *Lunch*
- 13:50-14:30 **Katharina Franke** (Freie Universität Berlin, Germany)
Yu-Shiba-Rusinov states in single atoms, dimers and chains on superconductors
- 14:30-15:10 **Ali Yazdani** (Princeton University, New Jersey, USA)
Spotting the elusive Majorana in atomic chains under the microscope
- 15:10-15:50 **Roland Wiesendanger** (University of Hamburg, Germany)
Bottom-Up Construction and Atomic-Level Characterization of Spin Chains on Superconducting Substrates for Topological Quantum Computation
- 15:50-16:30 *coffee break*
- 16:30-18:30 *Lab tours*
- 18:30-22:00 *Excursion, award ceremony and conference dinner*

Monday, 30 July

- 9:00-9:40 **Markus Morgenstern** (RWTH Aachen University, Germany)
Giant tuning of graphene's pseudospin polarization and valley splitting by a scanning tunneling microscope
- 9:40-10:20 **Joseph Stroscio** (National Institute of Standards and Technology, Gaithersburg, USA)
Visualizing the Interplay between Spatial and Magnetic Confinement in Graphene Quantum Dots via Tunneling Spectroscopy
- 10:20-11:00 **Matthias Bode** (Universität Würzburg, Germany)
STM investigations of topological materials
- 11:00-11:30 *coffee break*
- 11:30-12:10 **Tim Wehling** (University of Bremen, Germany)
How to manipulate the electronic structure of correlated two-dimensional materials on the atomic scale?
- 12:10-12:50 **Sebastian Loth** (University of Stuttgart)
Ultrafast electron dynamics in NbSe₂ imaged with atomic resolution at femtosecond speeds
- 12:10-14:50 *Lunch*
- 14:10-14:50 **Yujeong Bae** (Center for Quantum Nanoscience, IBS, Seoul, S. Korea)
Manipulating quantum states in engineered nanostructures using ESR-STM
- 14:50-15:30 **Harald Brune** (Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland)
The Smallest Permanent Magnets and Possibly Qubits
- 15:30-16:10 **Jens Wiebe** (Hamburg University, Germany)
Emulation of Spin Systems via Artificial Arrays of Magnetic Atoms
- 16:10-17:00 *Borrel / end of conference*