

Program of the 5th European Nanomanipulation Workshop

Tuesday – June 17, 2014

18:00-20:00 **Welcome reception at the CLOUS building (Building R)**

Wednesday – June 18, 2014

09:00-09:10 Workshop opening

Session I:

| | | | |
|-------------|-----|-------------------------|---|
| 09:10-09:50 | I-1 | Christoph Gerber | <i>AFM Technologies in Life Science</i> |
| 09:50-10:10 | O-1 | Shigeki Kawai | <i>Quantifying the atomic-level mechanics of single long physisorbed molecular chains</i> |
| 10:10-10:40 | I-2 | Oğuzhan Gürlü | <i>Manipulation of atomic wires on Ge(001)</i> |
| 10:40-11:10 | | coffee break | |
| 11:10-11:40 | I-3 | Marek Szymonski | <i>Dangling bond logic gates by STM tip-induced manipulation on surfaces of H-passivated semiconductors</i> |
| 11:40-12:00 | O-2 | Jakub Lis | <i>Three ways of switching the dangling bond dimer on Ge(001):H surface</i> |
| 12:00-12:30 | I-4 | Adam Sweetman | <i>Mapping the force field of a hydrogen-bonded assembly</i> |
| 12:30-13:30 | | lunch | |

Poster Session & Coffee

Session II:

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|-------------|-----|--------------------------|---|
| 15:00-15:30 | I-5 | Andrea Benassi | <i>Manipulating nano and mesoscale friction through phase transitions</i> |
| 15:30-15:50 | O-3 | Ming Ma | <i>How long the superlubricity can go?</i> |
| 15:50-16:20 | I-6 | Matthew Watkins | <i>Nano-alchemy on TiO₂ surfaces and characterization of metallic AFM tips</i> |
| 16:20-16:50 | | coffee break | |
| 16:50-17:20 | I-7 | Leo Gross | <i>Atomic manipulation for tip functionalization</i> |
| 17:20-17:40 | O-4 | Christian Steiner | <i>Tuning the self-assembly of hydrogen-bonded networks on surfaces</i> |
| 17:40-18:00 | O-5 | Lev Kantorovich | <i>Super-Cu atom manipulation on Cu(110):O surface by NC AFM</i> |

18:00 **City Tour of Mulhouse**

Thursday – June 19, 2014

Session III:

| | | | |
|-------------|------|------------------------|---|
| 09:00-09:30 | I-8 | Sabine Maier | <i>Manipulation and self-assembly of organic molecules on surfaces</i> |
| 09:30-09:50 | O-6 | Franciszek Krok | <i>Stability of para-sexiphenyl thin films on TiO₂ (110) surfaces</i> |
| 09:50-10:20 | I-9 | Susanne Baumann | <i>Towards single atom magnets</i> |
| 10:20-10:50 | | coffee break | |
| 10:50-11:20 | I-10 | Udo Schwarz | <i>Scaling Laws of Structural Lubricity</i> |
| 11:20-11:40 | O-7 | Michael Moseler | <i>Nanoindentation of graphene-covered metal surfaces</i> |
| 11:40-12:00 | O-8 | Dirk Dietzel | <i>Interfacial Friction of Nanoparticles: Contact Ageing vs. Thermal Activation</i> |
| 12:00-12:30 | I-11 | Enrico Gnecco | <i>Influence of scan pattern and substrate morphology on AFM nanomanipulation</i> |
| 12:30-13:30 | | lunch | |

Poster Session & Coffee

Session IV:

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|-------------|------|---------------------------------------|--|
| 15:00-15:30 | I-12 | Astrid de Wijn | <i>Preferential sliding directions on graphite</i> |
| 15:30-15:50 | O-9 | Juan J. Mazo | <i>Mechanical Unfolding of a Simple Model Protein Goes Beyond One-Dimensional Descriptions</i> |
| 15:50-16:10 | O-10 | Lars Pastewka | <i>A criterion for macroscopic adhesion</i> |
| 16:10-16:40 | I-13 | Oliver Noel | <i>New insights in Friction mechanisms with the AFM circular mode</i> |
| 16:40-17:00 | | coffee break | |
| 17:00-22:30 | | Museum & Conference Dinner | |

Friday – June 20, 2013

Session V:

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|-------------|------|----------------------------|--|
| 09:00-09:30 | I-14 | Roland Bennewitz | <i>Controlled Plasticity – Nucleating Single Dislocations by AFM</i> |
| 09:30-9:50 | O-11 | Rémy Pawlak | <i>Tip-induced displacements at the surface of metallic glass</i> |
| 09:50-10:10 | O-12 | Arnaud Caron | On the combination of AFM-indentation and non-contact AFM-imaging at the example of metallic glasses |
| 10:10-10:40 | | coffee break | |
| 10:40-11:00 | O-13 | Marcin Kisiel | <i>Energy dissipation over phase transitions on SrTiO₃ surface</i> |
| 11:00-11:20 | O-14 | Sebastian Schneider | <i>Self-assembly of organic molecules on Au(111) studied with FM-SFM</i> |
| 11:20-11:40 | O-15 | Bartosz Such | <i>On the stability of the chiral clusters of functionalized helicenes on Ag(111) surface</i> |
| 11:40-12:00 | | Closing remarks | |
| 12:00-14:00 | | lunch | |

List of Poster Contributions:

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|----------------------------|---|
| Sven Oras | <i>"Manipulation of Au and Ag nanoparticles inside SEM"</i> |
| Rünno Lõhmus | <i>"Lubricating properties of nanoparticles and ionic liquid mixture"</i> |
| Sergei Vlassov | <i>"In situ SEM manipulation of silver nanodumbbells"</i> |
| Mikk Antsov | <i>"Tribological studies of nanowires"</i> |
| Vincent Pichot | <i>"Local Detection of Nitrogen-Vacancy Centers in a Nanodiamond"</i> |
| Alexander Bubendorf | <i>"Contact resonance force microscopy to determine local elastic properties"</i> |
| Markus Samadashvili | <i>"Charge-density-wave-induced non-contact friction"</i> |
| Urs Gysin | <i>"Dopant imaging in Si and SiC Structures using different SPM methods"</i> |
| Matthias Wasem | <i>"Investigating the effect of the antibody IgA on the mobility of E. Coli. bacterias with AM-AFM"</i> |
| Rémy Pawlak | <i>"Frictional behaviour of a single molecule sliding on a surface"</i> |
| Tobias Meier | <i>"Aging of Thin Polymer Films Investigated by AFM"</i> |
| Sara Freund | <i>"nc-AFM study of C₆₀ islands on organic layer compound crystals"</i> |
| Łukasz Zając | <i>„Adsorption of carboxyphenyl-substituted porphyrin on titanium dioxide“</i> |
| David Bracher | <i>„Local Electric Behavior of Low Density Polyethylene Surfaces“</i> |