nc-AFM 2011
scientific program

PROGRAM

	Sunday September 18	Monday September 19	Tuesday September 20	Wednesday September 21	Thursday September 22
08:30		Registration	Registration	Registration	Registration
09:00		O. Sahin (invited)	M. Baykara	F. Mohn	A. Kühnle
09:20			G. Langewisch	M. Corso	R. Pawlak
09:40		H. Onishi	T. Arai	T. Leoni	M. Kittelmann
10:00		H. Asakawa	S. Kawai	C. Chiutu	C. Loppacher
10:20		A. Berquand	A. Baratoff	C. Lotze	P. Rahe
10:40		Coffee Break	Coffee Break	Coffee Break	Coffee Break
11:20		Th. Gutsmann (invited)	L. Nony	L. Kantorovich	F.J. Giessibl
11:40			Y. Miyahara	T. Trevethan	A.J. Weymouth
12:00		D. Vobornik	M. Tsukada	F. Federici Canova	L. Gross
12:20		B. Reischl	P. Milde	S. Jarvis	T. Hofmann
12:40		J. Preiner (invited)	M. Ito	Lunch *70 min.*	I. Swart
13:00		Lunch *90 min.*	Lunch *90 min.*	A. Schwarz	Best Poster Award IOP Award Closing Remarks
	Registration			E. Vedmedenko	
14:30	F. Stellacci (invited)	Opening Remarks	M. Setvin	M. Huefner	Guided City Tour
14:50		Ch. Gerber (invited)	Z. Majzik		
15:10	J.P. Cleveland		Y. Naitoh		
15:30	S. Ido	K. Suzuki	A. Sweetman	Excursion (15:30-18:30)	
15:50	Coffee Break	Coffee Break	Coffee Break		
16:30	R. Garcia (invited)	C. Barth	Y. Sugawara		
16:50		J. Bamidele	N. Hauptmann		
17:10	K. Kaisei	L. Lichtenstein	Y. Hosokawa		
17:30	A. Cerreta	J. V. Lauritsen	C. A. Wright		
17:50		H. Pieper	M. Kisiel		
18:30-20:30		Poster Session I	Poster Session II		
	18:00-21:00 Welcome Barbecue			18:30-22:00 Conference Dinner	

- Symposium
- Liquids
- Oxides & Insulators
- Spectroscopy
- KPFM
- Semiconductors
- Techniques
- Molecules I
- Theory
- Magnetics
- Molecules II
- High-k Oscillators

ORAL PRESENTATIONS

Sunday 18. September

Symposiums talk

SESSION I

chair: G. Fantner

14:30 Probing of complex Solid-liquid Interfaces with AM-AFM
Francesco Stellacci and Kislon Voitchovsky

15:10 Atomic point-defect resolution in liquids with amplitude modulation AFM
Jason P. Cleveland, Mario B. Viani, Deron A. Walters, and Roger Proksch

15:30 Molecular-scale Investigations of Monoclonal Antibodies in Liquids by FM-AFM
Shinichiro Ido, Hirokazu Kimiya, Kei Kobayashi, Kazumi Matsushige, and Hirofumi Yamada

15:50 Coffee Break

chair: F. Stellacci

SESSION II

16:30 Advances in bimodal AFM imaging of molecules in liquid
E.T. Herruzo, C. Dietz, J.R. Lozano, D. Martinez-Martin, J. Gomez-Herrero, H. Asakawa, T. Fukuma, and R. García

17:10 Applications of three-dimensional force mapping method to imaging of biological samples with large structures in liquids
Kiyohiro Kaisei, Kei Kobayashi, Noriaki Oyabu, Masahiro Ohta, Ryohei Kokawa, Yoshiki Hirata, and Hirofumi Yamada

17:30 Force spectroscopy on DNA and amyloid fibrils by means of FM-AFM
Andrea Cerreta, Dusan Vobornik, Giovanni Di Santo, Susana Tobenas, Jozef Adamcik, and Giovanni Dietler

Welcome BBQ (18:00 -21:00)

Symposiums talk

SESSION III

chair: J. Preiner

09:00 Microsecond-Timescale Biomolecular Interactions Probed by Dynamic AFM
Ozgur Sahin

09:40 Hydration to Hydrophilic Monolayers Visualized by FM-AFM
Takumi Hiasa, Kenjiro Kimura, and Hiroshi Onishi

10:00 Visualizing Molecular Arrangements at the Surface of Cylindrical Protein Structures by FM-AFM in Liquid
Hitoshi Asakawa, Yukitoshi Katagiri, Koji Ikegami, Mitsutoshi Setou, and Takeshi Fukuma

10:20 Investigation of Mechanical Properties of Living Cells by Combined Optical Microscopy and Atomic Force Microscopy
Alexandre Berquand, Andreas Holloschi, Hella-Monika Kuhn, Mathias Hafner, and Petra Kioshis

10:40 Coffee Break

chair: O. Sahin

SESSION IV

11:20 How can atomic force microscopy help to understand bacterial infections?
Thomas Gutsmann

12:00 Challenges of non-contact AFM biological samples studies
Dusan Vobornik, Andrea Cerreta, and Giovanni Dietler

12:20 Simulating non-contact AFM imaging of calcite in water
Bernhard Reischl and Adam S. Foster

12:40 Imaging of Molecular Recognition at the Nano-Scale
Johannes Preiner and Peter Hinterdorfer

13:00 Lunch

Monday 19. September

Opening Remarks (14:30 -14:50)

Liquids

chair: F. Giessibl

14:50 SPM Technologies past, present ,future
Christoph Gerber

15:30 Molecular-scale charge distribution at an interface between liquid and surfactant assembly investigated by three-dimensional force mapping
Kazuhiro Suzuki, Noriaki Oyabu, Kei Kobayashi, Kazumi Matsushige, and Hirofumi Yamada

15:50 Coffee Break

Oxides & Insulators

chair: M. Reichling

16:30 Two-dimensional growth of nanoclusters and molecules on Suzuki surfaces
B. Hoff, M. Gingras, A. Gulans, T. Hynninen, R. Peresutti, C. R. Henry, A. S. Foster, and C. Barth

16:50 NC-AFM Tip & Surface Species Identification on Oxidized Cu(110)
J. Bamidele, Y. Kinoshita, R. Turanský, T. Satoh, S. H. Lee, Y. Naitoh, Y. J. Li, M. Kageshima, Y. Sugawara, I. Štich, and L. Kantorovich

17:10 Resolving the Atomic Structure of Amorphous Silica
Leonid Lichtenstein, Steffanie Stuckenholz, Christin Büchner, Markus Heyde, and Hans-Joachim Freund

17:30 NC-AFM experiments and atomistic simulations of the surface structure and defects on the $MgAl_2O_4$ (100) surface
Morten K. Rasmussen, Filippo F. Canova, Kristoffer Meinander, Flemming Besenbacher, Adam S. Foster, and Jeppe V. Lauritsen

17:50 Step structures on CeO_2(111) identified by NC-AFM and KPFM
Hans Hermann Pieper, Clemens Barth, and Michael Reichling

Poster Session I (18:30 - 20:30)

chair: S. Solares

20. September Tuesday

Spectroscopy

chair: P. Grütter

09:00 Atom-Specific Interaction Quantification and Identification by 3D-SPM
Mehmet Baykara, Harry Mönig, Milica Todorović, Todd C. Schwendemann, Ruben Perez, Eric I. Altman, and Udo D. Schwarz

09:20 Conservative and Dissipative Tip-Molecule Interactions: Force Spectroscopy Investigations on an Organic Adsorbate
Gernot Langewisch, Daniel-Alexander Braun, Jens Falter, Harald Fuchs, Andre Schirmeisen, Wojciech Kaminski, and Ruben Perez

09:40 NC-AFM and Force spectroscopy applied to H terminated Si(111)7x7
Toyoko Arai, Tatsuya Ikeshima, Yuqi Zhang, and Masahiko Tomitori

10:00 Quantitative static and dynamic force spectroscopy of atomic-scale forces and energy dissipation
Shigeki Kawai, Filippo Federici Canova, Thilo Glatzel, Adam S. Foster, and Ernst Meyer

10:20 An atomic contact studied by small amplitude dynamic force microscopy
Shigeki Kawai, Thilo Glatzel, Sascha Koch, Alexis Baratoff, and Ernst Meyer

10:40 Coffee Break

KPFM

chair: H. Onishi

11:20 Polarization effects and charge state characterization in nc-AFM
Franck Bocquet, Laurent Nony, and Christian Loppacher

11:40 Detection of charge state of individual gold nanoparticles with single-electron resolution
Yoichi Miyahara, Antoine Roy-Gobeil, Lynda Cockins, and Peter Grütter

12:00 Effect of Orbital Hybridization on Kelvin Probe Force Microscopy Images
Masaru Tsukada, A. Masago, and M. Shimizu

12:20 Surprise-surprise: local work function variations on clean Au(111)
Peter Milde, Ulrich Zerweck-Trogisch, Denny Köhler, and Lukas M. Eng

12:40 High-resolution surface potential mapping on single-walled carbon nanotubes using frequency-modulation high-frequency electrostatic force microscopy
Masanao Ito, Kei Kobayashi, Yuji Miyato, Kazumi Matsushige, and Hirofumi Yamada

13:00 Lunch

Tuesday 20. September

Semiconductors

chair: U.D. Schwarz

14:30 Atomic and chemical resolution of heterogenous In-Sn chains on Si(100)-(2x1) studied by nc-AFM and DFT
Martin Setvín, Pingo Mutombo, Zsolt Majzik, Martin Ondráček, Pavel Sobotík, Vladimir Cháb, and Pavel Jelínek

14:50 Molecular recognition of single molecules adsorbed on the Si(111)-(7x7) surface by means of nc-AFM
Zsolt Majzik, Wojciech Kaminski, Benedict Drevniok, Alastair B. McLean, Vladimir Cháb, and Pavel Jelínek

15:10 Visualization of atomic scale elasticity on Ge(001) surface with multifrequency FM-AFM
Yoshitaka Naitoh, Yan Jun Li, and Yasuhiro Sugawara

15:30 Dopants & Defects on Si(100): Imaging & manipulation by qPlus NC-AFM
Adam Sweetman, Sam Jarvis, Rosanna Danza, and Philip Moriarty

15:50 Coffee Break

Techniques

chair: R. Pérez

16:30 Tip-induced heating of Co atoms on Cu(110)-O surface with low-temperature AFM
Yasuhiro Sugawara, Yukinori Kinoshita, Yoshitaka Naitoh, and Yan Jun Li

16:50 Force and conductance of contacts to a C60 molecule
Nadine Hauptmann, Leo Gross, Fabian Mohn, Gerhard Meyer, Thomas Frederiksen, and Richard Berndt

17:10 Measurement of tip-sample interaction forces under infrared irradiation toward high-spatial-resolution infrared spectroscopy using FM-AFM
Yoshihiro Hosokawa, Kei Kobayashi, Hirofumi Yamada, and Kazumi Matsushige

17:30 Mapping Electron Clouds with Force Microscopy
C. Alan Wright and Santiago Solares

17:50 Topography and KPFM measurements of NaCl islands grown on copper surface by means of nc-AFM in pendulum geometry
Marcin Kisiel, M. Langer, U. Gysin, S. Rast, Th. Glatzel, and E. Meyer

Poster Session II (18:30 - 20:30)

chair: P. Jelínek

21. September Wednesday

Molecules I

chair: A. Schwarz

09:00 Reversible bond formation in a metal-molecule complex
Fabian Mohn, Jascha Repp, Leo Gross, Gerhard Meyer, Matthew S. Dyer, and Mats Persson

09:20 Exploring short range interactions between two neutral molecules
Martina Corso, Christian Lotze, and José Ignacio Pascual

09:40 Measuring the charge state of a single redox molecule with nc-AFM
Thomas Leoni, Hermann Walch, Olivier Guillermet, Véronique Langlais, Andrew Scheurman, Jacques Bonvoisin, and Sébastien Gauthier

10:00 Sub-molecular resolution imaging and orientational control of on tip C_{60}
Cristina Chiutu, Lakin Andrew, Stannard Andrew, Sweetman Adam, Jarvis Samuel Dunn Janette, and Moriarty Philip

10:20 Dynamic Force Spectroscopy at a Single Molecule Junction
Christian Lotze, Martina Corso, Gunnar Schulze, Katharina J. Franke, and Jose Ignacio Pascual

10:40 Coffee Break

Theory

chair: A. Foster

11:20 Measuring individual up and down tip forces in Dynamic AFM
Lev Kantorovich, Adam Sweetman, and Philip Moriarty

11:40 Chemical identification of surface ions on polar surfaces using metallic tips and adsorbed molecule
Thomas Trevethan, Gilberto Teobaldi, Knud Lammle, Matt Watkins, Alexander Schwarz, and Alexander Shluger

12:00 NC-AFM energy dissipation mechanisms
Filippo Federici Canova, Shigeki Kawai, Thilo Glatzel, Adam S. Foster, and Ernst Meyer

12:20 What role does orbital overlap play in atomic manipulation?
Sam Jarvis, Adam Sweetman, Lev Kantorovich, and Philip Moriarty

12:40 Lunch

Wednesday 21. September

Magnetics

chair: E. Meyer

13:50 Properties of Magnetic Tips for Magnetic Exchange Force Microscopy and Spectroscopy
Rene Schmidt, Alexander Schwarz, and Roland Wiesendanger

14:10 Atomic Scale Magnetic Dissipation from Spin-Dependent Adhesion Hysteresis
Elena Y. Vedmedenko, Q. Zhu, U. Kaiser, A. Schwarz, and R. Wiesendanger

14:30 Single vortex manipulation in superconducting $NdFeAsO_{1-x}F_x$
Magdalena Huefner, Jeehoon Kim, Matt Tillman, Paul Canfield, and Jennifer Hoffman

Excursion & Conference Dinner (15:30)

15:30 Departure of the Königin Katharina from Lindau Harbour

16:40 Arrival in Friedrichshafen

17:00 Guided tours through the Zeppelin museum

18:45 Conference Dinner

21:30 Departure of the Königin Katharina from Friedrichshafen

22:45 Arrival in Lindau

22. September Thursday

Molecules II

chair: A. Shluger

09:00 Exploiting transient non-equilibrium structures for the formation of complex molecular islands on insulating surfaces
Martin Körner, Felix Loske, Mario Einax, Michael Reichling, Philipp Maass, and Angelika Kühnle

09:20 Mechanical switching of single porphyrins investigated with a tuning fork sensor
Rémy Pawlak, Sweetlana Fremy, Shigeki Kawai, Thilo Glatzel, Hongjuan Fang, Leslie-Anne Fendt, François Diederich, and Ernst Meyer

09:40 Phase transition of a molecular film: Following the rearrangement of a transient molecular structure on calcite ($10\bar{1}4$)
Markus Kittelmann, Philipp Rahe, Christopher Hauke, Markus Nimmrich, and Angelika Kühnle

10:00 Extended 2-dimensional growth of hexahydroxy triphenylene on KCl
Laurent Nony, Franck Bocquet, Stefan Mannsfeld, Vincent Oison, Franck Para, Louis Porte, and Christian Loppacher

10:20 Adsorption and structure formation of organic molecules on $CaCO_3(10\bar{1}4)$ – Impact for molecular self-assembly on insulating substrates
Philipp Rahe, Markus Nimmrich, Jens Schütte, Markus Kittelmann, and Angelika Kühnle

10:40 Coffee Break

High-k Oscillators

chair: S. Morita

11:20 A comparison of quartz force sensors for scanning probe microscopy based on tuning forks and length extensional resonators
Franz J. Giessibl, Toyoaki Eguchi, Florian Pielmeier, Toshu An, and Yukio Hasegawa

11:40 Probing Local States with the Phantom Force
Alfred J. Weymouth, Thorsten Wutscher, and Franz J. Giessibl

12:00 Combined NC-AFM and STM investigations of individual molecules adsorbed on ultrathin insulating films using functionalized tips
Leo Gross, Fabian Mohn, Nikolaj Moll, and Gerhard Meyer

12:20 Atomic Force Maps on Epitaxial Graphene
Thomas Hofmann and Franz J. Giessibl

12:40 Quantitative atomic force microscopy with CO terminated tips
Z. Sun, M. P. Boneschanscher, I. Swart, D. Vanmaekelbergh, and P. Liljeroth

Awards and Closing Remarks (13:00 - 13:40)

Guided City Tour (14:30 - 15:30)

POSTER SESSION I

19. September POSTER SESSION I

chair: S. Solares

Insulators

P.I-01 Atom-resolved NC-AFM studies of polar surfaces of insulating metal oxides

Morten K. Rasmussen, Thomas N. Jensen, Kristoffer Meinander, Fillipo F. Canova, Adam S. Foster, R. Wahl, G. Kresse, F. Besenbacher, and Jeppe V. Lauritsen

P.I-02 Investigation of TiO_2(110) by AFM/STM with the Tungsten-Coated Tip

Lili Kou, Takeshi Kamijo, Yoshitaka Naitoh, Yan Jun Li, and Yasuhiro Sugawara

P.I-03 AFM/STM Simultaneous measurement on Cu(110)-O with metal-coated cantilever

Zong-Min Ma, Yoshitaka Naitoh, Yan-Jun Li, and Yasuhiro Sugawara

P.I-04 The charge state of steps on cleaved CaF_2 studied by NC-AFM and KPFM

Hans Hermann Pieper, Clemens Barth, and Michael Reichling

P.I-05 Classification for the NC-AFM contrast formation on $CaCO_3(10\bar{1}4)$

Philipp Rahe, Jens Schütte, Michael Reichling, Masayuki Abe, Yoshiaki Sugimoto, and Angelika Kühnle

P.I-06 Scanning Probe Microscopy on Organic Layer Compound Crystals

G. Fessler, M. Schulzendorf, S. Kawai, T. Glatzel, S.-X. Liu, S. Decurtins, and E. Meyer

P.I-07 Changes in Morphology and Electronic Structure of MgO on Mo(001)

Stefanie Stuckenholz, Leonid Lichtenstein, Christin Büchner, Markus Heyde, and Hans-Joachim Freund

P.I-08 Stable Contrast Mode on TiO_2(110) Surface Using AFM with Tungsten-coated Tips

Yan Jun Li, Yoshihiro Tsukuda, Yoshitaka Naitoh, and Yasuhiro Sugawara

KPFM

P.I-09 Growth and work function studies of NaCl thin films on silver

Gregory Cabailh, Claude R. Henry, and Clemens Barth

P.I-10 Scanning Kelvin Probe Microscopy for C_{60}/TiOPc Molecular Interfaces

Kristen Burson, Yinying Wei, William G. Cullen, and Janice E. Reutt-Robey

P.I-11 Scanning Kelvin Probe Microscopy of Graphene-Supporting Substrates

Kristen Burson, Alexandra Curti,n Shaffique Adam, Michael S. Fuhrer, and William G. Cullen

P.I-12 A NC-AFM and KPFM study of a triphenylene derivative on KBr(001)

Antoine Hinaut, Florian Chaumeton, Sonia Bataillé, André Gourdon, David Martrou, and Sébastien Gauthier

P.I-13 Kelvin probe force microscopy on single and bilayer graphene

Christian Held, Thomas Seyller, and Roland Bennewitz

POSTER SESSION I 19. September

KPFM

chair: S. Solares

P.I-14 Work function of graphene exfoliated on insulating substrates
Benedict Kleine Bußmann, Oliver Ochedowski, and Marika Schleberger

P.I-15 The influence of the cantilever capacitance on the accuracy of surface potential measurements in Kelvin probe force microscopy
Franciszek Krok, Kristof Szot, Jerzy Konior, Piotr Piatkowski, and Marek Szymonski

P.I-16 CNT-probes in NC-AFM: Tip broadening and KPFM signature
Kristoffer Meinander, Thomas N. Jensen, Søren B. Simonsen, Stig Helveg, and Jeppe V. Lauritsen

P.I-17 Nucleation, growth and shape of Au cluster on CeO_2(111)
Hans Hermann Pieper and Michael Reichling

Liquids

P.I-18 Dynamic Force Spectroscopy of Electrostatic Interactions in Aqueous Salt Solutions of Variable Concentration and Valency
Daniel Ebeling, Dirk van den Ende, and Frieder Mugele

P.I-19 Cantilever array sensing techniques in life sciences
N. Backmann, F. Huber, H.P. Lang and C. Gerber

P.I-20 High resolution Kelvin Probe Force Microscopy of single biomolecules
Carl Leung, Dario Maradan, Armin Kramer, Helen Kinns, Stefan Howorka, Patrick Mesquida, and Bart Hoogenboom

P.I-21 High-resolution AFM by tracking the resonance frequency of ultrasmall cantilevers
Carl Leung, Jake Stinson, Christian Markovich, and Bart Hoogenboom

P.I-22 High-resolution Imaging on Ionic Liquid/Solid Interfaces using Frequency Modulation Atomic Force Microscopy
Takashi Ichii, Motohiko Fujimura, Masahiro Negami, Kuniaki Murase, and Hiroyuki Sugimura

P.I-23 Phase Modulation Atomic Force Microscopy in Ionic Liquids using quartz tuning folk sensors
Masahiro Negami, Motohiko Fujimura, Takashi Ichii, Kuniaki Murase, and Hiroyuki Sugimura

P.I-24 Pulse-response measurement of frequency-resolved water dynamics on a hydrophilic surface using a Q-damped AFM cantilever
Masami Kageshima

P.I-25 Subnanometer-scale Imaging of CaF_2(111) Surfaces by FM-AFM in Various Solutions
Shiro Itakura, Naritaka Kobayashi, Hitoshi Asakawa, and Takeshi Fukuma

P.I-26 FM-AFM study of n-Alkane-Adsorbed Graphite Immersed in Liquids
Ryohei Kokawa, Masashi Yamazaki, Masahiro Ohta, Kazuyuki Watanabe, Takumi Hiasa, Kenjiro Kimura, and Hiroshi Onishi

19. September POSTER SESSION I

chair: S. Solares

Liquids

P.I-27 Atomic-Resolution Imaging of Clean Lithium Niobate Surfaces in Aqueous Solution
Sebastian Rode, Stefanie Klassen, Simone Sanna, Wolf Gero Schmidt, and Angelika Kühnle

P.I-28 Adhesion Analysis of Gecko-Inspired Hierarchical Adhesives Using Atomic Force Microscopy
Michael Röhrig, Michael Thiel, Farid Oulhadj, Fabian Pfannes, Matthias Worgull, and Hendrik Hölscher

P.I-29 FM-AFM analysis of dye-adsorbed TiO_2 surfaces in pure water
Tetsuya Yoshi, Le Tran Uyen Tu, Akira Sasahara, and Masahiko Tomitori

P.I-30 High Resolution Imaging in Liquid Using an Improved Frequency Modulation Atomic Force Microscope
Katsuyuki Suzuki, Shin-ichi Kitamura, Shulochi Tanaka, Kei Kobayashi, and Hirofumi Yamada

P.I-31 Effect of Ionic Liquid on Immobilizing Au nanoparticle onto TiO_2(110)
Shushi Suzuki, Yasuhiro Ohta, Takashi Kurimoto, Susumu Kuwabata, and Tsukasa Torimoto

P.I-32 Quantitative study of local electric double layer force by FM-AFM in aqueous solutions
Ken-ichi Umeda, Yoshiki Hirata, Noriaki Oyabu, Kei Kobayashi, Kazumi Matsushige, and Hirofumi Yamada

P.I-33 Interfaces between solids and ionic liquids investigated by AM-AFM
Kislon Voitchovsky and Francesco Stellacci

P.I-34 FM-AFM phase analysing on the demixed $Ag_xNa_{1-x}Br$ system
Bo Zhang, Friedrich Güthoff, and Götz Eckold

Magnetics

P.I-35 Suppression of electronic friction on Nb-films below the critical temperature
Marcin Kisiel, Enrico Gnecco, Urs Gysin, Simon Rast, Laurent Marot, and Ernst Meyer

P.I-36 Structural Phases of the first Co layers in W(001)
Arne Köhler, René Schmidt, Alexander Schwarz, and Roland Wiesendanger

P.I-37 Quantifying magnetic moments in magnetic force microscopy (MFM) tips
Denny Köhler, Peter Milde, Ulrich Zerweck-Trogisch, and Lukas M. Eng

P.I-38 Molecular dynamics of Co-Salen on NiO(001) at submonolayer coverages
Josef Grenz, Kai Ruschmeier, Alexander Schwarz, and Roland Wiesendanger

P.I-39 qPlus Magnetic Force Microscopy in Frequency-Modulation Mode with milli-Hertz Resolution
Maximilian Schneiderbauer and Franz J. Giessibl

POSTER SESSION I 19. September

Molecules

chair: S. Solares

P.I-40 Non-contact atomic force microscopy of individual organic molecules

Florian Albrecht, Mathias Neu, and Jascha Repp

P.I-41 Self-assembly of Tetrathiafulvalene-Fused Dipyridophenazine (TTF-dppz) analyzed by tuning fork based AFM/STM

Sweetlana Fremy, Rémy Pawlak, Shigeki Kawai, Thomas Jung, Shi-Xia Liu , Silvio Decurtins, Ernst Meyer, and Thilo Glatzel

P.I-42 Systematic measurement of pentacene assembled on Cu(111) by bimodal dynamic force microscopy at room temperature

Shigeki Kawai, Rémy Pawlak, Thilo Glatzel, and Ernst Meyer

P.I-43 Influence of chirality on molecular structure formation: Helicene molecules on calcite ($10\bar{1}4$)

Christopher Hauke, Philipp Rahe, Markus Nimmrich, Jens Schütte, Markus Kittelmann, Irena G. Stara, Ivo Starý, Jirí Rybácek, and Angelika Kühnle

P.I-44 Dynamic force spectroscopy on individual molecules

Manfred Lange, Dennis van Vörden, and Rolf Möller

P.I-45 The role of a molecular dipole on the adsorption on an ionic surface

Laurent Nony, Franck Bocquet, Franck Para, Frederic Cherioux, Eric Duverger, Frank Palmino, Vincent Luzet, Louis Porte, and Christian Loppacher

P.I-46 Epitaxial growth of Pentacene thin films on KCl(100)

Julia Neff, Jan Götzen, Enhui Li, and Regina Hoffmann-Vogel

P.I-47 Structure and energetics of fluorinated C_{60} monolayer on Au(111)

Tomoko Shimizu, Jaehoon Jung, Tetsuya Otani, Young-Kyu Han, Maki Kawai, and Yousoo Kim

Semiconductors

P.I-48 Electronic grain boundary properties in Cu(In,Ga)Se_2 – An orientation-dependent Kelvin Probe Force Microscopy study

Robert Baier, Daniel Abou-Ras, Thorsten Rissom, Martha Ch. Lux-Steiner, and Sascha Sadewasser

P.I-49 NC-AFM observation of Si(111)7x7 terminated with hydrogen

Toyoko Arai, Tatsuya Ikeshima, and Masahiko Tomitori

P.I-50 Junction formation of Cu_3BiS_3 investigated by Kelvin probe force microscopy and surface photovoltage

F. Mesa, R. Baier, Th. Dittrich, S. Sadewasser, and M.Ch. Lux-Steiner

P.I-51 Passivated Ge(001) surface investigated by tuning-fork NC-AFM at 4K

Bartosz Such, Marek Kolmer, Szymon Godlewski, Mateusz Wojtaszek, Janusz Budzioch, and Marek Szymonski

P.I-52 Observation of local dipole moments on cleaned Si(111) surface with defects by non-contact scanning nonlinear dielectric microscopy

Kohei Yamasue and Yasuo Cho

Semiconductors

chair: S. Solares

P.I-53 Interpretation of the electrical functionality of Cu(In,Ga)Se_2 grain boundaries based on cross-sectional Kelvin probe force microscopy

Zhenhao Zhang, Xiaochen Tang, Oliver Kiowski, Philip Jackson, Michael Hetterich, Uli Lemmer, Michael Powalla, and Hendrik Hölscher

Spectroscopy

P.I-54 Rapid reconstruction of frequency shift vs. distance curves by multiple lock-in detection

Shigeki Kawai, Sadik Hafizovic, Thilo Glatzel, Aexis Baratoff, and Ernst Meyer

P.I-55 Force Field Spectroscopy of Graphene on Ru(0001)

Sascha Koch, Sarah Barja, Enrico Gnecco, Shigeki Kawai, Ernst Meyer, and Thilo Glatzel

P.I-56 Coupling of conservative and dissipative forces in frequency modulation atomic force microscopy – a source of apparent damping

Aleksander Labuda, Yoichi Miyahara, Lynda Cockins, and Peter H. Grütter

Post-Deadline

P.I-57 Variable temperature liquid AFM reveal change in coverage of water on mica

Hideki Kawakatsu, Shuhei Nishida, Dai Kobayashi, Miao-Miao Wang, and K. Ohashi

P.I-58 Design of a Low-Temperature Ultra-High Vacuum Non-Contact Atomic Force Microscope

N. Nicoara, B. de la Torre, M. M. Ugeda, J. Gómez-Herrero, O. Custance, and J. M. Gómez- Rodríguez

POSTER SESSION II

Spectroscopy

chair: P. Jelínek

P.II-01 Investigation of Point Defects at the TiO_2(110) Surface by 3D-AFM

Harry Mönig, Mehmet Z. Baykara, Özhan Unverdi, Todd C. Schwendemann, Eric I. Altman, and Udo D. Schwarz

P.II-02 Force and Current Spectroscopy with Atomically Defined Tips

William Paul, Jean-Benoît Lalanne, David Oliver, Yoichi Miyahara, and Peter Grütter

P.II-03 How do you calculate chemical interactions from Δf(z)?

Andrew Stannard and Adam Sweetman

Techniques

P.II-04 Interaction-free measurement with tunnelling microscope

Hiroo Azuma

P.II-05 A low temperature AFM tailored for lowest-noise qPlus operation

Matthias Emmrich and Franz J. Giessibl

P.II-06 What are the sources of frequency noise in NC-AFM ?

Sébastien Gauthier

P.II-07 Combined SIMS-SPM instrument for high sensitivity and high resolution elemental 3D analysis

Urs Gysin, Yves Fleming, Tom Wirtz, Urs Wegmann, Thilo Glatzel, Ernst Meyer, and Urs Maier

P.II-08 The NanoWizard® 3 – The Most Flexible, High Resolution AFM With True Optical Integration

Heiko Haschke, Torsten Jaehnke, Elmar Hartmann, and Gerd Behme

P.II-09 Combined TEM and NC-AFM study of Al2O3-supported Pt nanoparticles

S. B. Simonsen, S. Helveg, I. Chorkendorff, S. Dahl M. Skoglundh K. Meinander, T. N. Jensen, and J. V. Lauritsen

P.II-10 Force Control and Bandwidth: Enabling Faster AFM imaging in Survey, Screening and Dynamics Applications

Johannes H. Kindt, Andrea Slade, Lars Mininni, Bede Pittenger, Shuiqing Hu, Chanmin Q. Su, and Steve C. Minne

P.II-11 Local Potential Measurements of Nanoparticles with Different Surface Charges in Liquid by Open-loop Electric Potential Microscopy

Naritaka Kobayashi, Hitoshi Asakawa, and Takeshi Fukuma

P.II-12 All digital PLL-based control system for high-frequency AFM cantilevers

J. Bouloc, L.Nony, W. Rahajandraibe, F. Bocquet, L. Zaid, and Christian Loppacher

POSTER SESSION II 20. September

Techniques

chair: P. Jelínek

P.II-13 Determination of cantilever stiffness from dimensions and eigenfrequencies
Jannis Lübbe, Lutz Doering, and Michael Reichling

P.II-14 Quantification of noise in NC-AFM systems for UHV applications
Jannis Lübbe, Matthias Temmen, Sebastian Rode, and Michael Reichling

P.II-15 Measurement of intrinsic cantilever properties from thermal noise
Jannis Lübbe, Matthias Temmen, and Michael Reichling

P.II-16 Measuring Wear by Friction Force and Dynamic Force Microscopy
Tobias Meier, Özhan Ünverdi, Jan-Erik Schmutz, and Hendrik Hölscher

P.II-17 qPlus-based low-temperature STM/AFM: Built up and first experiments
Mathias Neu, Andreas Pöllmann, Florian Albrecht, and Jascha Repp

P.II-18 NanoXAS - Combining Scanning Probe and X-Ray Microscopy for Nanoanalytics
N. Pilet, J. Raabe, R. Fink, H. Hug, and C. Quitmann

P.II-19 Reflection from diffraction grating etched onto the backside surface of AFM cantilever increases the force sensitivity
Sergey Sekatskii, Mounir Mensi, Andrey Mikhailov, and Giovanni Dietler

P.II-20 Trimodal Tapping-Mode Atomic Force Microscopy
Gaurav Chawla and Santiago Solares

P.II-21 Silicon AFM probes for dynamic AFM with sub-nanometre amplitudes
Thomas Sulzbach, Oliver Krause, Hans-Jürgen Luedge, and Manfred Detterbeck

P.II-22 The effect of different tip preparations on force distance curves
Dennis van Vörden, Manfred Lange, Christian Notthof, and Rolf Möller

P.II-23 Design and construction of a 300 mK, 10 Tesla, UHV facility for AFM
Henning von Allwörden, Kai Ruschmeier, Alexander Schwarz, and Roland Wiesendanger

P.II-24 Sapphire-based multi-environment AFM tips
Daniel Wastl, Alfred J. Weymouth, Kilian Knot, Elisabeth Wutscher, and Franz J. Giessibl

P.II-25 Towards in-situ Creation and Characterization of Graphene Devices
Percy Zahl and Peter Sutter

P.II-26 Open Source SPM Software GXSM and very a affordable DSP MK2-A810
Percy Zahl

20. September POSTER SESSION II

High-k Oscillators

chair: P. Jelínek

P.II-27 Long Range Tip Sample Forces using a FIM Characterized Tip
Jens Falter, Daniel-Alexander Braun, Gernot Langewisch, Hendrik Hölscher, Harald Fuchs, and André Schirmeisen

P.II-28 Split quartz tuning fork sensor for enhanced sensitivity force detection
M. Labardi and M. Lucchesi

P.II-29 Hybrid AFM, STM, and Near-Field Microwave Microscopy
Christian J. Long, Jonghee Lee, and Ichiro Takeuchi

P.II-30 Ultra-sensitive bias dependence of force-distance curve and hysteresis measured on single Pb adatom on Pb(111)
Hanqing Mao, Na Li, Xi Chen, and Qikun Xue

P.II-31 MgO on Ag(100): A simultaneous STM/AFM study
Florian Pielmeier, Susanne Baumann, Chris P. Lutz, Andreas Heinrich, and Franz J. Giessibl

P.II-32 Development of nc-AFM/STM using a tuning fork quartz force sensor
Toyoko Arai, Tatsuya Sakuishi, Hiroaki Ooe, and Masahiko Tomitori

P.II-33 Small-amplitude FM-AFM using a Si cantilever with very high stiffness
Masahiro Haze, Yoshitaka Naitoh, Yan Jun Li, and Yasuhiro Sugawara

P.II-34 The role of van der Waals versus chemical forces in atom identification
Joachim Welker, Alfred J. Weymouth,Thomas Hofmann, and Franz J. Giessibl

P.II-35 FM-AFM on Epitaxial Graphene in Air with the qPlus Sensor
Elisabeth Wutscher, Daniel Wastl, and Franz J. Giessibl

P.II-36 Exploring the Scale of a Tunnel Current Induced Phantom Force
Thorsten Wutscher, Alfred J. Weymouth, and Franz J. Giessibl

Theory

P.II-37 Huge & Complex Dissipation Signals from Small & Simple NC-AFM Scans
J. Bamidele, H. Nomura, S. Jarvis, Y. J. Li, Y. Naitoh, M. Kageshima, Y. Sugawara, and L. Kantorovich

P.II-38 A numerical FM-AFM for image calculations of adsorbed molecules
Fabien Castanié, Laurent Nony, Sébastien Gauthier, and Xavier Bouju

P.II-39 Modelling NC-AFM Resolution on Corrugated Surfaces
Kristen Burson, Mahito Yamamoto, and William G. Cullen

P.II-40 Wavelet coherency and phase analysis of cantilever oscillations
Gabriele Ferrini

Theory

chair: P. Jelínek

P.II-41 Soft material liquid AFM simulator
Naoki Watanabe, Naoki Hashimoto, and Akira Masago

P.II-42 Defect mediated anisotropic nanomanipulation of Au clusters on NaCl
Teemu Hynninen, Gregory Cabailh, Clemens Barth, and Adam Foster

P.II-43 Numerical Analysis of Band Excitation Signals in Atomic Force Microscopy
Adam Kareem and Santiago D. Solares

P.II-44 Unifying theory of quantitative AFM using piezo excitation in liquids
Daniel Kiracofe and Arvind Raman

P.II-45 Charge Alteration in Si(111)-DAS Surface by Atomic Force Microscopy
Akira Masago and Masaru Tsukada

P.II-46 Theoretical study of atomic manipulation on metals
Martin Ondráček, Zdeňka Chromcová, Cesar González, and Pavel Jelínek

P.II-47 Theoretical analysis of relation between force and current in the tunnelling regime
Martin Ondráček, Fernando Flores, and Pavel Jelínek

P.II-48 Multi-Scale Approach to Simulations of Kelvin Probe Force Microscopy
Ali Sadeghi, Alireza Ghasemi, Stefan Goedecker, Alexis Baratoff, Thilo Glatzel, Shigeki Kawai, and Ernst Meyer

P.II-49 Dependence of the most probable and average bond rupture force on the force loading rate: first order correction to the Bell – Evans model
Sergey K. Sekatski, Fabrizio Benedetti, and Giovanni Dietler

P.II-50 Development of a KPFM simulator for microscale imaging
Mamoru Shimizu, Akira Masago, Naoki Watanabe, and Masaru Tsukada

P.II-51 Development of integrated GUI for SPM simulator
Shuji Shinohara and Naoki Hashimoto

P.II-52 Computational insights into nanotribology: Antimony on HOPG
Ján Brndiar, Robert Turanský, and Ivan Štich

P.II-53 Simulation NC-AFM Imaging and Contrast Change on Cu(111) Surface
Robert Turanský and Ivan Štich

P.II-54 DFT analysis of combined 3D NC-AFM and STM imaging of Cu(100)-O
Milica Todorović, Mehmet Z. Baykara, Harry Mönig, Todd C. Schwendemann, Eric I. Altman, Udo D. Schwarz, and Rubén Pérez

P.II-55 Classical Force Field AFM Simulator
Kazuma Tsutsumi, Mamoru Shimizu, Syuji Shinohara, Akira Masago, Naoki Hashimoto, and Hiroo Azuma

Theory

chair: P. Jelínek

P.II-56 Molecular dynamics at tip-water-surface junctions

Matthew Watkins and Alexander L. Shluger

P.II-57 Acquisition of Tip-Sample Dissipation Models through Spectral Inversion

Jeffrey C. Williams and Santiago D. Solares

Post-Deadline

P.II-58 In-situ AFM for catalysis research at high pressures and temperatures

S.B. Roobol, M.E. Cañas-Ventura, C.T. Herbschleb, Q. Liu, V. Navarro, J.W. Bakker, I. Taminiau, W. G. Onderwaater, P. C. van der Tuijn, R. C. T. Koehler, A. Ofitserov, G. J. C. van Baarle and J. W. M. Frenken

P.II-59 Measurement of atomic-scale potential variations near a LiF step

S. Kawai, F. Federici Canova, Th. Glatzel, A. S. Foster, and E. Meyer