

2018 NanoScientific Forum Europe

Scanning Probe Microscopy (SPM)

NSFE 2018

10-12 October, 2018
TU Bergakademie Freiberg, Germany

Sponsored by Park Systems, TU Bergakademie Freiberg & NANOscientific Magazine

Program Overview

Wednesday, October 10

Time	Room	Event
9:00-10:30	Alte Mensa	Registration Meet and Greet Snack
10:30-10:45		Welcome
10:45-12:55		Invited Talks I / Nanomechanics & Electrical Characterization
13:00-14:00		*Lunch*
14.00-14:40		Contributed Talks I
14:45-15:25		*Nanobubbles* Session I
15:25-15:40		*Coffee Break*
16.00-17:00	Alte Mensa/ MVAT	Hands-on-Session I
17:00		*Wrap-up / Transfer*
18:00-21:30		Fusing Science & People - Conference Dinner

Thursday, October 11

9:00-11:25		Invited Talks II / SPM Methodology
10:25-10:45		*Coffee Break*
11:30-12:10		Invited Talks III/ / SPM & Biological Applications
12:15-13:15		*Lunch*
13:15-14:15		Contributed Talks II
14:20-14:40		*Nanobubbles* Session II
14:40-15:00		*Coffee Break*
15:20-16:20	Alte Mensa/ MVAT	Hands-on-Session II
16:20		*Wrap Up / Transfer*
17:00-18:30		terra mineralia Tour
18:30-20:30		Discovering Natural Treasures - terra mineralia Party

Friday, October 12

9:00-11:05		Invited Talks IV/ SPM & Nanostructuring
10:25-10:35		*Coffee Break*
11:05-11:45		*Nanobubbles* Session III
12:00-12:30	Alte Mensa/ MVAT	Hands-on-Session III
12:45		Closing Remarks

Wednesday, October 10

Time	Room	Speaker	Title
10:45-12:55		Invited Talks I	Nanomechanics & Electrical Characterization
10:45		Michael Kappl, Max Planck Institute for Polymer Research	From elasticity to capillarity in soft materials indentation
11:30		Tobias Cramer, University of Bologna	Atomic Force Microscopies to study Electronic Properties and Strain in Thin Films for Flexible Electronics
12:15		Cristiano Albonetti, CRN - ISMN, Italy	The Growth of Organic Ultra-thin Films on Silicon Oxides with Variable Vacancy States: a Scanning Force Microscopy Approach
13:00		*1:00 h*	*Lunch*
14:00-14:40		Contributed Talks I	
14:00		Kevin-Peter Gradwohl, Montanuniversität Leoben	Investigation of twin boundaries in CdZnTe for X-ray detector applications
14:20		Daniel Wesner, University of Siegen	Probing Surface Nanobubbles with Combined Fluorescence Lifetime Imaging and Atomic Force Microscopy
14.45-15:25		*Nanobubbles* Session I	
14:45		Urs Peuker, TU Bergakademie Freiberg	Detection of Hydrophobic Interactions on Rough Surfaces via Atomic Force Microscopy: from Measurement to Modelling
15:05		Paul Knüpfer, TU Bergakademie Freiberg	Evaluation of CP-AFM Force-Distance Curves: Limitations, Challenges and Possibilities
15:25		*20 min.*	*Coffee break*

Time	System	Location	Topic
16.00-17:00		Hands-on-Session I	
	XE-7	Alte Mensa	Non-contact vs. Tapping Mode
	NX10	Alte Mensa	Nanomechanical imaging (PinPoint) / FC
	XE-100	MVTAT	Liquid environment
	NX10	Alte Mensa	Piezoelectric Force Microscopy
			Kelvin Probe Force Microscopy
17:00			*Wrap-up / Transfer*
18:00			Fusing Science & People - Conference Dinner

Thursday, October 11

Time	Room	Speaker	Title
9:00-11:25		Invited Talks II	AFM Methodology
9:00		Lukas Eng, Technical University Dresden	Chemical Sensitivity for Scanning Probe Microscopy
9:45		Kristof Paredis, imec, Leuven, Belgium	Scanning Probe Microscopy for Future Semiconductor Devices
10:25		*20 min.*	*Coffee break*
10:45		Sang-il Park, Park Systems	The Latest Innovations in Atomic Force Microscopy and Its Related Techniques
11:30-12:10		Invited Talks III	SPM & Biological Applications
11:30		Francesco S. Ruggeri, University of Cambridge	Revisiting the Early Aggregation of Amyloids by AFM Single Molecule Statistical Analysis
12:15		*1:00 h*	*Lunch*
13:15-13:55		Contributed Talks II	
13:15		Jiangtao Zhou, EPFL Lausanne	Configurational identification of Hierarchically Twisted Amyloid Fibrils
13:35		Simonetta Croci, University of Parma	Cell Cytoskeleton: a Unconventional Target for Protons
13:55		Fabio Perissinotto, Elettra Sincrotrone Trieste, Italy	Atomic force microscopy to elucidate biological processes using model membrane systems: from signaling proteins to extracellular vesicles interactions
14:20-14.40		*Nanobubbles* Session II	
14:20		Lisa Ditscherlein, TU Bergakademie Freiberg	Approaches for the Detection of Nanobubbles on Technical Rough Surfaces via Atomic Force Microscopy (AFM) and Contribution of AFM Results to Engineering Processes
14:40		*20 min.*	*Coffee break*

Time	System	Location	Topic
15.20-16.20		Hands-on-Session II	
	XE-7	Alte Mensa	Non-contact vs. Tapping Mode
	NX10	Alte Mensa	Nanomechanical imaging (PinPoint) / FC
	XE-100	MVTAT	Liquid environment
	NX10	Alte Mensa	Piezoelectric Force Microscopy
			Kelvin Probe Force Microscopy
16:20			*Wrap-up / Transfer*
17:00			*terra mineralia* Tour
18:30			*Discovering Natural Treasures* - terra mineralia Party

Friday, October 12

Time	Room	Speaker	Title
9:00-11:05		Invited Talks IV	SPM & Nanostructuring
9:00		Steven de Feyter, KU Leuven, Belgium	"Controlling" Molecules on Surfaces: from DNA Dynamics to 2D Materials- Getting Close with SPM
9:45		Rigoberto Advincula, Case Western Reserve University	Nanostructured Films: Templated and Patterned Interfaces
10:25		*10 min.*	*Coffee break*
10:35		Christian Teichert, Montanuniversität Leoben, Austria	AFM based investigation and manipulation of organic nanocrystals on 2D materials
11:05-11:45		*Nanobubbles* Session III	
11:05		Edgar Schach, Helmholtz Institute Freiberg for Resource Technology, Freiberg	Investigation of Nano-Bubbles on Langmuir-Layers
11:25		Bent Babel, Helmholtz Institute Freiberg for Resource Technology, Freiberg	Characterizing Mineral Wettabilities on a Microscale by Colloidal Probe Atomic Force Microscopy

Time	System	Location	Topic
12:00-12:30		Hands-on-Session III	
	XE-7	Alte Mensa	Non-contact vs. Tapping Mode
	NX10	Alte Mensa	Nanomechanical imaging (PinPoint) / FC
	XE-100	MVTAT	Liquid environment
	NX10	Alte Mensa	Piezoelectric Force Microscopy
			Kelvin Probe Force Microscopy
12:45			Closing Remarks