

6th Multifrequency AFM Conference

Wednesday 30th March 2016

Time	Duration (minutes)	Type	Title and Speaker
08:30 -10:00	1h 30	Registration	
Opening			
10:00 –10:15	15	Welcome	Multifrequency AFM and beyond Ricardo Garcia
Session I: General Multifrequency AFM Chairperson: Roger Proksch			
10:15	30	Invited MF1	Scanning Probe Microscopy: Exploring the Information Dimension Sergei V. Kalinin
10:45	20	Expert MF1	Rapid quantitative chemical mapping of surfaces with sub-2nm resolution in bimodal AFM Sergio Santos
11:05	20	Expert MF2	Clarifying the paradigm of force reconstruction in air Matteo Chiesa
Coffee Break 11:25-12:00			
Session II: Torsional harmonics and bimodal AFM Chairperson: David Haviland			
12:00	30	Invited MF2	Towards imaging of intracellular forces with atomic force microscopy Ozgur Sahin
12:30	15	Oral MF1	Unveiling amplitude sensitivity and vertical resolution in bimodal AM-AFM with soft polymeric samples in liquid Horacio V. Guzman
12:45	15	Oral MF2	Fast Nanomechanical Spectroscopy of Soft Matter by Bimodal-AFM Alma P. Perrino
13:00	15	Oral MF3	Tridirectional scanning force microscopy Christopher F. Reiche
Lunch break 13:30-15:00			

Session III: Nanomechanics of biological systems

Chairperson: Toshio Ando

15.00	30	Invited MF3	Imaging of G-protein coupled receptors while quantifying their ligand-binding free energy landscape to multiple ligands Daniel J. Müller
15:30	15	Oral MF4	Mass evolution of adherent animal cells over the cell cycle by inertial detection in culture conditions David Martinez-Martin
15:45	15	Oral MF5	Multimodal live cell mass distribution measurement Pablo D. Garcia
16:00	15	Oral MF6	Elucidation of interactions between single bacterium and polycationic brushes by force microscopy Yoo Jin Oh

Coffee Break 16:15-16:45**Session IV: Multifrequency AFM applications**

Chairperson: Julio Gómez-Herrero

16:45	20	Expert MF3	Friction as Contrast Mechanism in Heterodyne Force Microscopy Marcel J. Rost
17:05	15	Oral MF7	Subsurface imaging of silicon nanowires circuits and iron oxide nanoparticles with sub-10 nm spatial resolution Carlos A. Amo
17:20	15	Oral MF8	Multifrequency effects in Piezoresponse Force Microscopy Neus Domingo

Session V – Posters**17:45 – 19:00**

Thursday 31st March 2016

Session VI: Multifrequency AFM

Chairperson: Sergei V. Kalinin

9:00	30	Invited MF4	Towards Enriched Viscoelastic Material Descriptions within Multifrequency AFM Santiago D. Solares
9:30	20	Expert MF4	On the Probing of the Viscoelastic Properties of (very) Soft Polymers Philippe Leclère
9:50	15	Oral MF9	Thermal noise mapping to explore the mechanical properties of AFM cantilevers Ludovic Bellon
10:05	15	Oral MF10	Selective enhancement of individual cantilever high resonance modes for nanomechanical beam resonators Monica Luna
10:20	15	Oral MF11	Investigation into the Effective Spring Constants of an AFM Cantilever at Higher Modes Namid Shatil

Coffee Break: 10:35-11:00

Session VII: Intermodulation and bimodal AFM applications

Chairperson: Agustina Asenjo

11:00	15	Oral MF12	Multifrequency kernel spectroscopy Daniel Platz
11:15	15	Oral MF13	Evaluation and enhancement of image contrast in multifrequency AFM Daniel Forchheimer
11:30	15	Oral MF14	Imaging of graphene structures with Intermodulation Riccardo Borgani
11:45	15	Oral MF15	New insights in Bimodal Magnetic Force Microscopy Miriam Jaafar
12:00	15	Oral MF16	Capacitive tip sample distance control for MFM measurements on particulate media Johannes Schwenk

15' break

Session VIII: Nanomechanical Spectroscopy

Chairperson: Jose M. Gomez-Rodriguez

12:30	30	Invited MF5	Robust High-Resolution Imaging and Quantitative Force Spectroscopy in Vacuum with Tuned-Oscillator Atomic Force Microscopy Udo D. Schwarz
13:00	30	Invited MF6	Mechanical properties of fluctuating graphene Julio Gomez - Herrero

Lunch break: 13:30-15:00

Session IX: High Speed AFM

Chairperson: Daniel Muller

15:00	30	Invited MF7	High-speed Force Microscopy to Watch Nanoscale Dynamics Toshio Ando
15:30	30	Invited MF8	Antibody Walking on Membranes filmed with High-Speed AFM Peter Hinterdorfer
16:00	15	Oral MF17	Simultaneous High – Speed AFM & Contact Resonance Imaging Oliver Payton

Coffee break: 16:15-16:45**Session X: Novel probe methods**

Chairperson: Pedro A. Serena

16:45	20	Expert MF5	Passive Force-Distance Reconstruction Steven J. Eppel
17:05	15	Oral MF18	Rate dependent effects in off-resonance tapping mode for nanomechanical characterization Adrian P. Nievergelt
17:20	15	Oral MF19	Scanning Microwave Microscopy for electrical characterization of 2D materials and buried structures Georg Gramse
17:35	15	Oral MF20	Nanoscale Electric Permittivity of Single Bacterial Cells at GHz frequency by Scanning Microwave Microscopy Maria Chiara Biagi
17:50	15	Oral MF21	Bimodal HD-KFM and Resiscope Atomic Force Microscopy characterization of bidimensional materials and solar cells Nicolas F. Martinez

Session XI: Plenary talk

Chairperson: Ricardo Garcia

20:00	45	Plenary	Multifrequency AFM: Developing Science in a Company Roger Proksch
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Conference Dinner 21:00

Friday 1st April 2016

Symposium Solid-Liquid Interfaces

Chairperson: Ricardo Garcia

9:00	30	Invited SL1	Recent Developments in Liquid – Environment frequency modulation AFM Takeshi Fukuma
9:30	30	Invited SL2	Ion adsorption at solid-liquid interfaces: lessons from atomic resolution imaging and force spectroscopy Frieder Mugele
10:00	15	Oral SL1	High Resolution at High Viscosity – Dynamic Force Microscopy at Low Q-Factors Stefan Weber
10:15	15	Oral SL2	Multiparametrical investigation of confined underliquid systems Jean Spiece

Coffee Break: 10:30-11:00

Symposium Solid-Liquid Interfaces

Chairperson: Frieder Mugele

11:00	30	Invited SL3	Understanding Solid-Liquid Interfaces using Molecular Simulations Peter Spijker
11:30	30	Invited SL4	Rapid and Quantitative Measurements of 3D Force Maps and the Reconstruction of Water Density Distributions over Fluorite surfaces Matt Watkins
12:00	15	Oral SL3	Local structure and flow properties of ionic liquids on charged and electroneutral surfaces Monchai Jitvisate
12:15	15	Oral SL4	Hydrophobic Repulsion and its Origin Itai Scheisenger

10' break

Symposium Solid-Liquid Interfaces

Chairperson: Takeshi Fukuma

12:40	30	Invited SL5	Molecular demixing of binary liquid mixtures at the interface with solids Kislon Voitchovsky
13:10	15	Oral SL5	Atomically-resolved three-dimensional structures of electrolyte aqueous solutions near a solid surface Daniel Martin-Jimenez

Lunch break: 13:30 – 15:00

Symposium Solid-Liquid Interfaces

Chairperson: Oleg Kolosov

15:00	20	Expert SL1	Correct imaging of charges in liquids with low oscillation Dynamic Atomic Force Microscopy Jaime Colchero
15:20	20	Expert SL2	3-Dimensional Structure of a Prototypical Ionic Liquid-Solid Interface Daniel Ebeling
15:40	15	Oral SL6	High resolution Atomic Force Microscopy of double-stranded RNA Pablo Ares

Coffee Break: 15:55-16:10**Symposium Solid-Liquid Interfaces**

Chairperson: Sergio Santos

16:10	20	Expert SL3	Measuring mechanical properties in liquids using AFM: an atomistic molecular dynamics study Rubén Perez
16:30	20	Expert SL4	Measuring capillary forces and imaging of water thin films in ambient conditions using Atomic Force Microscopy Albert Verdaguer
16:50	15	Oral SL7	Resolving 2D Amorphous Materials with Atomic Force Microscopy Kristen Burson