

ISPM 2026

SPM on SPM 2026

Genova, May 26th- May 29th, 2026

Tuesday 26

11:00 – 11:50		Welcome and registration
12:00 – 12:30		Memorial Session for Prof. Mervyn Miles
12:45 – 14:00		Lunch
		Session I – Multifunctional SPM
13:45 – 14:15	Invited talk	Christine Kranz , <i>Ulm University, Germany</i> Scanning electrochemical probe microscopy: from combined to correlative studies of functional interfaces
14:15 – 14:30		Takuji Takahashi , <i>University of Tokyo, Japan</i> Cross-sectional investigation by dual bias modulation electrostatic force microscopy on directly bonded semiconductors
14:30 – 14:45		Sidney Cohen , <i>Weizmann Institute of Science, Rehovot, Israel</i> Application and analysis of deep learning in AFM image enhancement
14:45 – 15:00		Sven Renkert , <i>Park Systems Europe GmbH, Germany</i> Characterizing the electronic properties of graphene on silicon carbide via atomic force microscopy
15:00 – 15:15		Giorgio Zambito , <i>University of Genoa, Italy</i> Work function engineering of 2D semiconductors nanostructured via thermal scanning probe lithography
15:15 – 15:30		Philippe Leclere , <i>University of Mons, Belgium</i> Towards correlative analysis of mechanical and chemical properties of soft materials
15:30 – 15:40	Company talk	Bruker
15:40 – 16:15		Coffee break and Exhibition

		Session II – SPM: from Atoms to Functions
16:15 – 16:45	Invited talk	Giada Franceschi , <i>TU Wien University, Vienna, Austria</i> Accessing the surface chemistry of silicate minerals with NC-AFM
16:45 – 17:00		Paolo Nicolini , <i>Czech Academy of Sciences, Prague, Czech Republic</i> Introducing FireCore: efficient modeling of self-assembling and manipulation of organic molecules on ionic substrates
17:00 – 17:15		Elina Mkrtchian , <i>IMEM-CNR, Genova, Italy</i> Self-assembly of (L)-Cysteine on Ag(110): an XPS and STM investigation
17:15 – 17:30		Anshika Singh , <i>University of Genova, Italy</i> The role of interfacial oxygen on nucleation and stability of Ni nanoclusters at MgO ultrathin films: insights from STM and first principles DFT calculation
17:30 – 17:45		Soumyaranjan Jhankar , <i>Max Planck Institute for Solid State Research, Stuttgart, Germany</i> Josephson effect at the atomic scale with high energy resolution and microwave irradiation
17:45 – 18:00		Matilde Padula , <i>Politecnico di Milano, Italy</i> New insights into the evolution of gold islands on Au(111) immersed in perchloric acid: an electrochemical scanning tunnelling microscopy investigation
18:00 – 18:10	Company talk	Vmicro

Wednesday 27

		Session III – Multimodal AFM
8:45 – 9:15	Invited talk	Sonia Contera , <i>University of Oxford, UK</i> Nanoscale viscoelasticity of living and soft matter with AFM
9:15 – 9:30		Matteo Chiesa , <i>UiT, Tromsø, Norway</i> Time-dependent wettability driven by interfacial water
9:30 – 9:45		Chengfu Ma , <i>Lanzhou Institute of Chemical Physics, China</i> In-plane elastic imaging reveals shear anisotropy domains on graphene
9:45 – 10:00		Himangshu Paul , <i>Indian Institute of Technology, Patna, India</i> Nanoscale mechanical characterization of non-covalent free standing discotic liquid crystal thin films by atomic force microscopy
10:00 – 10:15		Daniel Martin-Jimenez , <i>Instituto de Ciencia de Materiales de Barcelona, Spain</i> Bimodal atomic force microscopy with a torsional eigenmode for highly accurate imaging of grain orientation in organic thin films
10:15 – 10:30		Fabio Biscarini , <i>Università di Modena e Reggio Emilia, Modena, Italy</i> Nanoscale quantized oscillations in thin film growth largely enhance transconductance in organic transistors
10:30 – 11:05		Coffee break and Exhibition
		Session IV – SPM in Nanotribology
11:05 – 11:35	Invited talk	Roland Bennewitz , <i>Leibniz Institute for New Materials, Saarbrücken, Germany</i> Friction force microscopy of molecular adhesive bonding
11:35 – 11:50		Thilo Glatzel , <i>University of Basel, Switzerland</i> Moiré energy dissipation driven by nonlinear dynamics
11:50 – 12:05		Antoine Hinaut , <i>University of Basel, Switzerland</i> Superlubricity of Borophene: tribological properties in comparison to hBN
12:05 – 12:20		Ernst Meyer , <i>University of Basel, Switzerland</i> Atomic friction modulated by charge density waves
12:20 – 12:35		Pawel Koczanowski , <i>Jagiellonian University, Kraków, Poland</i> Avalanche dynamics and anisotropic effects in nanoscale scratching of molybdenum disulfide
12:35 – 12:45	Company talk	Park-Gambetti
12:45 – 14:00		Lunch and Poster Session 1
		Session V – SPM in Polymer Science

14:00 – 14:30	Invited talk	Giovanni Costantini , University of Birmingham, UK Imaging conjugated polymers one chain at a time: from surface science to molecular analytics
14:30 – 14:45		Miguel Cantero Reviejo , Zernike Institute for Advanced Materials, Groningen, The Netherlands Capturing the (dis)assembly of light-responsive supramolecular polymers with high-speed AFM
14:45 – 15:00		Yan Fett , Leibniz Institute for new Materials, Saarbrücken, Germany Single-molecule adhesion on pluronic hydrogels - interactive analysis of massively repeated force spectroscopy data
15:00 – 15:15		Hector Corte-León , Nanosurf AG, Liestal, Switzerland Automated AFM framework applied to polymer nanomechanical characterization at different temperatures
15:15 – 15:30		Adrien Delanoë , Le Mans University, France AFM: a powerful tool to study thermo-mechanical properties of amorphous thin polymer films
15:30 – 15:40		Francesco Leoni , University of Birmingham, UK High-resolution atomic force microscopy in air for molecular-scale imaging of functional materials
15:40 – 16:15		Coffee break and Exhibition
		Session VI – SPM in Mechano-Sensing/Transduction
16:15 – 16:45	Invited talk	Daniel Müller , ETHZ, Basel, Switzerland Mechanobiology from single molecules to complex cellular systems
16:45 – 17:00		Zdenek Otruba , Columbia University, New York, USA Probing global mechanical response of cells to local AFM indentation
17:00 – 17:15		Guillaume Lamour , Evry-Paris Saclay University, France AFM-based nanomechanical profiling of human myotubes with cytoskeletal mutations
17:15 – 17:30		Maximillian Seuss , Bruker Nano GmbH, Berlin, Germany Large-area AFM mapping for mechanobiology studies in cells and tissues
17:30 – 17:45		Andrea Lagomarsino , IIT Genova, Italy Cell mechanics and mechano-transduction is altered in ADLD pathology: insights from AFM and Brillouin analysis
17:45 – 18:55	Company talk	Nanosurf
20:00		Social Dinner

Thursday 28

		Session VII – SPM in Nanomedicine
8:45 – 9:15	Invited talk	Wouter Roos , <i>University of Groningen, The Netherlands</i>
9:15 – 9:30		Stefano Chiodini , <i>IBEC, Barcelona, Spain</i> Pathogenic collagen VI variants impair extracellular matrix mechanics at the nanoscale
9:30 – 9:45		Sunandan Tandon , <i>University of Waterloo, Canada</i> AFM and force spectroscopy study of the effects of Psilocin, Serotonin and Melatonin on model biomembranes
9:45 – 10:00		Eva Bystrenova , <i>CNR-ISMN, Bologna, Italy</i> Scanning probe microscopy as a tool to study amyloid-related diseases and functional biomaterials from small molecules to functionalized nanoparticles
10:00 – 10:15		Niccolò Fantini , <i>University of Genova, Italy</i> Stromal architecture determines mechanical phenotype in pediatric neuroblastic tumors
10:15 – 10:30		Silvia Maria Cristina Rotondi , <i>CERIC-ERIC, Trieste, Italy</i> AFM nanografting for multiplex detection of virus-related sequences and viral particles
10:30 – 11:05		Coffee break and Exhibition
		Session VIII – SPM on Single Molecules
11:05 – 11:35	Invited talk	Peter Hinterdorfer , <i>Johannes Kepler University, Linz, Austria</i> Single-molecule interaction and dynamics of antibodies and ligands for cancer defense
11:35 – 11:50		Hexuan Mao , <i>Institute of Science, Tokyo, Japan</i> Investigation of the adhesion mechanism of Catechol-containing block copolymers based on AFM nanomechanics
11:50 – 12:05		Luca Camilli , <i>Roma Tor Vergata University, Italy</i> Chalcogen bond interactions at work on surfaces
12:05 – 12:20		Sam Harley , <i>Lancaster University, UK</i> An automated STM break-junction for high-throughput multivariate characterisation of single-molecule junctions
12:20 – 12:35		Anthony Bevitch , <i>Liège University, Belgium</i> Exploring the mechanochemistry of Furan-Maleimide Diels-Alder adducts by AFM-based single molecule force spectroscopy
12:35 – 12:45	Company talk	Quantum Design
12:45 – 14:00		Lunch and Poster Session 2
		Session IX – SPM on Model Biological Systems

14:00 – 14:30	Invited talk	Zoya Leonenko , <i>University of Waterloo, Canada</i> A small-molecule approach to neuroprotection in Alzheimer's disease: a nanoscale perspective
14:30 – 14:45		Jaime Colchero , <i>Murcia University, Spain</i> Nanoscale wetting of surfaces using non-contact atomic force microscopy in ambient conditions: spectroscopy and imaging applications applied to the characterization of plant surfaces
14:45 – 15:00		Yulia Fok , <i>Aix-Marseille University, France</i> Effects of microbial glycolipids on model phospholipid membranes using atomic force microscopy
15:00 – 15:15		Mattan Becker , <i>Ben Gurion University of the Negev, Beersheva, Israel</i> Conformation-driven mechanical duality: viscoelastic and poroelastic switching in protein hydrogels
15:15 – 15:30		Aurora Dols-Perez , <i>Institute for Bioengineering of Catalonia, Barcelona, Spain</i> Direct observation of humidity effects on lipid layers
15:30 – 15:40	Company talk	Oxford Instruments- Alfatest
15:40 – 16:15		Coffee break and Exhibition
		Session X – Cells and Multicellular Systems
16:15 – 16:45	Invited talk	Alessandro Podestà , <i>Milan University, Italy</i> Investigating the mechanical and adhesive properties of cells and tissues in health and disease using the atomic force microscope
16:45 – 17:00		Djamel Eddine Chafai , <i>Kanazawa University, Japan</i> Pulsed electric field-based intracellular nanoautopsy
17:00 – 17:15		Hermann Schillers , <i>Münster University Hospital, Germany</i> Time-resolved mechanical response: a novel approach to quantify cell mechanics
17:15 – 17:30		Yuri Efremov , <i>Sechenov University, Moscow, Russian Federation</i> Biomechanical analysis and modelling of multicellular aggregates
17:30 – 17:45		Annalisa Calò , <i>UB/IBEC, Barcelona, Spain</i> Mechanical mapping of soft materials and cells with colloidal AFM probes through advanced models

Friday 29

		Session XI – SPM in Metrology
8:45 – 9:15	Invited talk	Umberto Celano , <i>Arizona State University, Tempe, USA</i> Scanning probe microscopy for semiconductor metrology in the Ångström era
9:15 – 9:30		Ingo Busch , <i>Physikalisch-Technische Bundesanstalt, Braunschweig, Germany</i> New developments for the easy and reliable calibration of SPM at the nanometer level
9:30 – 9:45		Harrison Swift , <i>University of Sheffield, UK</i> Exploring tip bending in modern atomic force microscopy probes and its impact on imaging high aspect ratio structures
9:45 – 10:00		Bartosz Pruchnik , <i>Wrocław University of Science and Technology, Poland</i> Integrated multi-cantilever SPM probe with dynamic distancing for metrological microscopy
10:00 – 10:15		Yoojin Oh , <i>Johannes Kepler University, Linz, Austria</i> AFM characterization of vertical DNA nanostructure arrays for macro-scale surface functionalization
10:15 – 10:30		Andrea Giura , <i>INRIM, AE, Torino, Italy</i> AFM tip reconstruction with known tip characterizers, algorithms and applications in nanometrology
10:30 – 11:05		Coffee break and Exhibition
		Session XII – AI and novel SPM methodologies
11:05 – 11:35	Invited talk	Gabriel Gomila , <i>Institute for Bioengineering of Catalunya and University of Barcelona, Spain</i> Scanning dielectric microscopy enhanced by artificial intelligence
11:35 – 11:50		Rüdiger Berger , <i>Max Planck Institute for Polymer Research, Mainz, Germany</i> Soft and hard at the interface: mechanics of cathode electrolyte interphase layers in next-generation Lithium-ion batteries
11:50 – 12:05		Roger Proksch , <i>Asylum Research, Oxford Instruments, Santa Barbara, USA</i> 2,000 femtometers below the noise: hidden dynamics in nano mechanics and electromechanics
12:05 – 12:20		Andrea Silva , <i>CNR-IOM, Trieste, Italy</i> Can neural networks learn atomic stick-slip friction?
12:20 – 12:35		Luca Costa , <i>CNRS (CBS), Montpellier, France</i> AFM at liquid interfaces: (1) water-water interfaces in biomolecular condensates and (2) the water-air interface
12:45 – 14:00		Lunch
14:00 – 14:30		Best Poster Award
14:30 – 15:00		Concluding Remarks and Farewell