



XII Workshop on Applications of Scanning Probe Microscopy – STM/AFM 2023

Zakopane, 29 November - 3 December 2023

Thursday 30.11.2023			
Chairman: Mikołaj Lewandowski			
9.00 - 9.10	Welcome		
09:10 - 09:40	Atomic friction experiments on 2d-materials	Ernst Meyer	Invited
09:40 - 10.00	Rolling and Sliding Migration of Manipulated Colloidal Glass Microspheres on Glass Surface	Enrico Gnecco	contributed
10.00 - 10:20	Influence of graphene oxide thermal reduction on its conductivity and tribological properties	Łukasz Majchrzycki	contributed
10:20 - 10:40	The study of dry friction between silane nanolayer and diamond crystal in ultra-high vacuum conditions	Marek Weiss	contributed
10.40 - 11.00	Investigating ripple formation during the scratch process using Atomic force microscopy	Hesam Khasar	contributed
11:00 - 11:35	coffe break		
Chairman: Szczepan Zapotoczny			
11:35 - 12:05	"Molecular blinds" in the retina of the eye	Rafał Luchowski	Invited
12:05 - 12:25	Topographical and Nanomechanical Properties of Coexisting Domains in Single and Multicomponent Lipid Layers	Dawid Lupa	contributed
12:25 - 12:45	Mechanobiology of liver sinusoidal endothelial cells on soft substrates	Oliwia Blacharczyk	contributed
12:45 - 13:05	In silico approach to streptavidin-biotin unbinding: challenges, possibilities, and comparison to the in vitro experiment.	Wojciech Marciniak	contributed
13:05 - 13:25	Remodeling of intracellular architecture during SARS-CoV-2 infection of human endothelium	Agata Kubisiak	contributed
13:30 - 14:30	lunch		
Chairman: Ryszard Zdyb			
15:00 - 15:30	LEEM and STM - a strong combination for studying molecular systems on surfaces	Jan Čechal	Invited
15:30 - 15:50	Simulation of the ARPES Experiment – First Steps In Chinook	Przemysław Przybysz	contributed
15:50 - 16:10	From Isolated Alpha and Beta Antimonene Phases to Their Heterostructures	Piotr Dróżdź	contributed
16:10 - 16:30	Bi-molecular layers of CoPc and F16CuPc on Ag(100): how the structure factor can be used to identify chiral domains	Grażyna Antczak	contributed
16:30 - 16:50	PIK-Instruments	Marcin Lamczyk	contributed
16:50 - 17:20	coffe break		
Chairman: Ernst Meyer			
17:20 - 17:50	Quantum simulation on a surface	Emil Sierda	Invited
17:50 - 18:10	Charge density waves and Friedel oscillations as seen by STM	Mieczysław Jałochowski	contributed
18:10 - 18:30	BaTiO ₃ characterized at the atomic scale: surface structure and its ferroelectric behavior	Llorenç Albons Caldentey	contributed
18:30 - 18:50	Electronic structure investigations of Weyl semimetallic materials and hybrid systems	Wojciech Ryś	contributed
18.50 - 19.10	AFM and acoustics - an interesting marriage	Andrzej Kulik	contributed
19:30 - 20:30	dinner		
20:30 - 21:30	Poster session		



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Friday, 1.12.2023	
09:00 - 13:00	Excursion
13:30 - 14:30	lunch

Chairman: Lech Baczewski

15:00 - 15:30	Incommensurate STM image simulations with the moiré plane wave expansion model	Maxime Le Ster	Invited
15:30 - 15:50	Processing of PtSe ₂ ultra-thin layers using Ar plasma for applications in planar devices	Ryszard Czajka	contributed
15:50 - 16:10	Electrostatic gating of the Van der Waals heterostructures	Marek Kopciuszynski	contributed
16:10 - 16:30	Epitaxial MoO ₃ monolayer – manipulation and electrical properties study by atomic force microscopy	Aleksandra Nadolska	contributed
16.30 - 16.50		Labsoft sp z.o.o.	contributed
16:50 - 17:20	coffe break		

Chairman: Rafał Luchowski

17:20 - 17:50	Probing the local chemical structure of artificial lipid membranes with Tip-enhanced Raman spectroscopy	Ewelina Lipiec	Invited
17:50 - 18:10	Therapeutic strategies against melanoma skin cancer metastasis by targeting exosomes, cells, and tissues with the use of label-free methods	Swamy Kasarla	contributed
18:10 - 18:30	Nanomechanical Changes in Erythrocytes of Diabetic Patients Before and After Dapagliflozin Therapy	Patrycja Twardawa	contributed
18:30 - 18:50	Nanospectroscopy for Revealing Secrets of Protein Aggregation in Alzheimer's Disease	Kamila Sofińska	contributed
18.50 - 19.10	Technolutions	Łukasz Kawelski	contributed
19:30 - 20:30	dinner		
20:30 - 21:30	Poster session		



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Saturday, 2.12.2023

Chairman: Jan Čechal

09:00 - 09:30	Advances in charge and spin characterization on the atomic scale using scanning probe microscopy	Pavel Jelinek	Invited
09:30 - 09:50	On-Surface Synthesis of Higher Acenes and Their Analogues	Szymon Godlewski	contributed
9:50 - 10:10	Synthesis of antimonene/silicene heterostructure by epitaxial growth and self-ordering induced by temperature	Mariusz Gołębiowski	contributed
10:10 - 10:30	Functional Nanopatterning of 2D-TMDs via large scale and thermal scanning probe lithography	Francesco Buatier de Mongeot	contributed
10:30 - 10:50	Characterization of metallic and oxidized 2D-Bi layers epitaxially grown on HOPG/hBN/mica	Klaudia Toczek	contributed
10:50 - 11:20	coffe break		

Chairman: Maxime Le Ster

11:20 - 11:50	New class of massless fermions	Ryszard Zdyb	Invited
11:50 - 12:20	Identifying nanostructures at surfaces using STM/STS	Mikołaj Lewandowski	Invited
12:20 - 12:40	Novel cantilever MEMS technologies for scanning probe microscopy nanometrology	Bartosz Pruchnik	contributed
12:40 - 13:00	Identification of electrical properties of third/fourth generation solar cells in nano-, micro- and macroscale.	Marcin Palewicz	contributed
13:00 - 13:20	Single Filament Bio-Mechanical Study of Type 3 Secretion System Reveals High Elastic Aspect Ratio	Ronen Berkovich	contributed
13:30 - 14:30	lunch		

Chairman: Emil Sierda

15:00 - 15:30	Infrared scattering-SNOM for chemical mapping of soft matter	Szczepan Zapotoczny	Invited
15:30 - 15:50	2D-supramolecular organization of liquid crystal bi- and ter-phenyl-based nonsymmetric dimers	Robert Nowakowski	contributed
15:50 - 16:10	Highly Hydrophobic Self-Assembled Monolayers on Technologically Relevant Aluminum Surface	Daria Cegiełka	contributed
16:10 - 16:30	Modification of MoS ₂ /Au Interface By Force Spectroscopy At Nanoscale For Resistive Switching Applications	Rafał Dunal	contributed
16:30 - 16:50	Dynamically altered conductance in organic thin film memristive devices	Jakub Rysz	contributed
16:50 - 17:20	coffe break		

Chairman: Pavel Jelínek

17:20 - 17:50	Magnetization switching of ferromagnetic thin film without applying a magnetic or electric field induced solely by adsorption of chiral molecules	Lech Baczewski	Invited
17:50 - 18:10	Using polymer processing techniques to obtain domains with Single Ion Magnets	Anna Majcher-Fitas	contributed
18:10 - 18:30	Iron-based magnetic materials for application in recording devices – DFT studies of thin films	Joanna Marciniak	contributed
18:30 - 18:50	Means of Control over Poly(4-vinylpyridine)-CoBr ₂ Complexes Functional Thin Films Formation in Static and Dynamic Conditions	Julia Chudzik	contributed
18.50 - 19.10	Magnetic tuning of nanomechanical spectroscopy in a freestanding graphene quantum dot	Marcin Kisiel	contributed

20:00 - 23:00

Conference dinner