

5th Conference on Nano- and Micromechanics Program

4 July (Tuesday)		
09:00-09:30		REGISTRATION
09:30-09:45		OPENING
SESSION 1: Carbon Nanotubes		
09:45-10:15	[I-01]	Cosmin Roman - ETH Zurich - <i>Nanomechanical sensors based on individual carbon nanotubes</i>
10:15-10:45	[O-01]	Piotr Grabiec - ITE Warsaw, emeritus - <i>MEMS/NEMS challenges in IoT/Industry 4.0 era</i>
10:45-11:05	[O-02]	Burhanettin Erdem Alaca / Mustafa Yilmaz - Koç University - <i>Finite Element Modeling for Twist-Bend Buckling of Si Nanowire Structures</i>
11:05-11:25		COFFEE BREAK
SESSION 2: Thermal		
11:25-11:55	[I-02]	Andrzej Kulik - EPFL - <i>AFM-IR: new tool for bio- and polymer research (Infrared Spectroscopy with 10 nm spatial resolution)</i>
11:55-12:15	[O-03]	Bernd Kaestner - PTB Berlin - <i>Application of nano-FTIR spectroscopy and infrared near-field imaging for contactless thermography</i>
11:15-12:25	[E-01]	Piotr Kasprzycki - Irtech - <i>AFM and SEEC equipment for nanoscale imaging and measurements</i>
12:25-12:45	[O-04]	Wojciech Chomicki - EPFL - <i>Devices to detect oscillations induced by living organisms</i>
12:45-13:05	[O-05]	Maciej Rudek - PWR - <i>Using piezoresistive NanoHeat cantilevers for quantitative thermal investigations of nanostructures</i>
13:05-14:20		LUNCH
SESSION 3: Chemistry & Physics		
14:20-14:50	[I-03]	Krzysztof Sozański - IChF PAN Warsaw - <i>How to Break a Molecular Motor: A Study of Kinesin Motion in Crowded Environment</i>
14:50-15:10	[O-06]	Sylvia Pawłowska - IPPT PAN Warsaw - <i>Lateral Migration of Highly Deformable Nanofilaments Conveyed by Oscillatory Flow</i>
15:10-15:20	[E-02]	Łukasz Zarodkiewicz - MSA System - <i>A Closer Look at nanoTechnology</i>
15:20-15:40	[O-08]	Przemysław Sadowski - IPPT PAN Warsaw - <i>Micromechanical modelling of elasto-plastic composites: efficient and robust finite-element implementation of Mori-Tanaka model</i>
15:40-16:00	[O-09]	Paweł Ziółkowski - IMP PAN Gdansk - <i>On Navier slip and Reynolds transpiration numbers</i>
16:00-18:00		Travel to the National Museum
18:00-21:00		WELCOME PARTY AT THE NATIONAL MUSEUM

5 July (Wednesday)		
SESSION 4: Nanoscale		
09:00-09:30	[I-04]	Eberhard Manske - TU Ilmenau - <i>Nanofabrication on the base of Nanopositioning and Nanomeasuring Machines</i>
09:30-09:50	[O-10]	Ludger Koenders - PTB Braunschweig - <i>Self-organized and FIB modified silicon surface used as a measurement standard for the calibration at the nanoscale</i>
09:50-10:10	[O-11]	Andrew Yacoot - NPL Teddington - <i>Metrological applications of x-ray interferometry</i>
10:10-10:20	[E-03]	Ferdinando Ciceri - MadCityLabs - <i>MCL nanopositioning and instrumentation: down to 10pm resolution</i>
10:20-10:40	[O-12]	Michael Kühnel - TU Ilmenau - <i>Spring constant measurement of small cantilevers</i>
10:40-11:00		COFFEE BREAK
COFFEE BREAK SPONSORED BY THE OPTOTOM		
SESSION 5: Graphene		
11:00-11:30	[I-05]	Norbert Klein - Imperial College - <i>Graphene for nanoscale sensor devices</i>
11:30-11:50	[O-13]	Anna Kucaba-Piętal - PRz - <i>Wall material effect on water transport coefficients in nanoconfinement</i>
11:50-12:00	[E-04]	Ignacy Mościcki - IGHT s.c/LabNaTek - <i>Innovative solutions for Surface and Nanoscience</i>
12:00-12:20	[O-14]	Zhongquan Liao - Fraunhofer IKTS - <i>In-Situ Stretching Patterned Graphene Nanoribbons in the Transmission Electron Microscope</i>
12:20-12:30	[E-05]	Dominika Gnatek / Marcin Foltyniak - AGP - <i>New approach to large-area graphene - HSMG</i>
12:30-12:50	[O-15]	Krzysztof Gajewski - PWR - <i>Electromechanical studies of graphene based devices</i>
12:50-13:40		LUNCH

SESSION 6: Diamond & Carbon		
13:40-14:10	[I-06]	Robert Bogdanowicz - PG - <i>Nanocrystalline-diamond thin films for MEMS and NEMS devices</i>
14:10-14:30	[O-16]	Marcus Kaestner - TU Ilmenau - <i>Mix match approach for high-throughput field-emission scanning probe lithography with active cantilever</i>
14:30-14:40	[E-06]	Mariusz Włodowski - OPTOTOM - <i>Optical Techniques in Measuring Surface Topography</i>
14:40-15:00	[O-17]	Claudia Lenk - TU Ilmenau - <i>Single electron transistors for room temperature operation fabricated by FE-SPL and cryogenic plasma etching</i>
15:00-15:20	[O-18]	Mateusz Ficek - PG - <i>Diamond-phase (sp³-C) rich boron doped carbon nanowalls (sp²-C): hay carbon</i>
15:20-16:20		POSTER SESSION
		COFFEE BREAK
COFFEE BREAK SPONSORED BY THE MSA SYSTEMS		
SESSION 7: Biotechnology		
16:20-16:50	[I-07]	Arkadiusz Ptak - PP - <i>Single-molecule force spectroscopy: theoretical models, simulations, experiments</i>
16:50-17:10	[O-19]	Abbas Montazeri Hedesh - KNTU Tehran - <i>The role of spherical voids on the deformation mechanism of Cu/Ag nanocomposites via MD simulation</i>
17:10-17:20	[E-07]	Janusz Budzioch - MeasLine - <i>Combined Optical Tweezers and AFM. The Ultimate Force Toolbox for Life Sciences</i>
17:20-17:40	[O-20]	Katarzyna Herman - IFJ PAN Kraków - <i>Quantitative characterization of the specific interactions of syndecans for cancer diagnosis with the dynamic force spectroscopy</i>
17:40-18:00	[O-21]	Wojciech Majstrzyk - PWr - <i>Electromagnetically actuated silicon microcantilever arrays for multicantilever force- distance spectroscopy</i>
18:00-18:30		Walk to the cruise
18:30		CONFERENCE DINNER ON THE CRUISE

6 July (Thursday)		
SESSION 8: Spectroscopy		
09:00-09:30	[I-08]	Marta Targosz-Korecka - UJ - <i>The impact of inflammation and some civilization diseases on nanomechanical properties of the endothelium</i>
09:30-09:50	[O-22]	Joanna Zemła - IFJ PAN Kraków - <i>Interaction of bladder cancer cells with extracellular matrix proteins measured by AFM</i>
09:50-10:10	[O-23]	Sebastian Kraszewski - PWr - <i>Molecular sharp edge, the antiseptic agents for cell membrane disruption</i>
10:10-10:30	[O-24]	Justyna Bobrowska - IFJ PAN Kraków - <i>Spectroscopic search for markers of cancer-related alterations</i>
10:30-10:50	[O-25]	Kinga Matuła - IChF PAN Warsaw - <i>Mechanoevolution of Escherichia coli bacteria under nanomechanical stress</i>
10:50-11:10		COFFEE BREAK
SESSION 9: NEMS & MEMS TECHNOLOGY I		
11:10-11:40	[I-09]	Dariusz Szmigiel - ITE Warsaw - <i>Design of novel type of active test sample for AFM thermal probes characterisation</i>
11:40-12:00	[O-26]	Justyna Chrzanowska - IPPT PAN Warsaw - <i>Comparison of tungsten borides layers deposited by laser pulse and magnetron sputtering</i>
12:00-12:20	[O-27]	Martin Hofmann - TU Ilmenau - <i>Selective pattern transfer of nano-scale features generated by FE-SPL in 10 nm resist</i>
12:20-12:30	[E-08]	Andrzej Sierakowski, Katarzyna Piekarska - ITE Warsaw / Prokon - <i>Use of EBL system for automatic control and characterization of micro-mechanical structures</i>
12:30-12:50	[O-28]	Anna Korczak - PolSI - <i>Application of the interval lattice Boltzmann method for a numerical modelling of 2D thin metal films irradiated by ultrashort laser pulses</i>
12:50-13:10	[O-29]	Karolina Orłowska - PWr - <i>Metrology of the optomechanical interactions with MEMS/NEMS</i>
13:10-14:10		LUNCH
SESSION 10: NEMS & MEMS TECHNOLOGY II		
14:10-14:40	[I-10]	Rafał Walczak - PWr - <i>Inkjet 3D printing for microsystems</i>
14:40-15:00	[O-30]	Piotr Korczyk - IPPT PAN Warsaw - <i>Experimental and numerical studies of the effect of inertia on the distribution of flows in microfluidic junctions</i>
15:00-15:10	[E-09]	Jan Neuman - Neno Vision - <i>SPM/SEM integration and new Correlative Probe and Electron Microscopy (CPEM) tool for nanoscience</i>
15:10-15:30	[O-31]	Danuta Szeliga - AGH Kraków - <i>Multiscale model of TRIP steel deformation</i>
15:30-15:50	[O-32]	Krzysztof Kwoka - PWr - <i>Nanogranular piezoresistors for deflection measurements of vibrating nanobridges</i>
15:50-16:10		CLOSING REMARKS