

Schedule of the XXII. Linz Winter Workshop 2020

Friday, Jan.31

19:00-23:00 **Get Together & Registration** **Sommerhaus Hotel Julius-Raab-Heim, Ground Floor**

Saturday, Feb.1

08:00-09:00 **Registration** **Sommerhaus Hotel Julius-Raab-Heim, Ground Floor**

09:00-09:05 **Welcome / Opening** **Peter Hinterdorfer**
Johannes Kepler University Linz, Austria

09:05-09:50 **Plenary Lecture** **Hermann Gaub**
Ludwig-Maximilian University Munich, Germany
Force and function of proteins *in-vitro* and *in-silico*

Session I: High-Speed AFM

Chairman: Georg Fantner

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| 09:50-10:15 | <i>Toshio Ando</i> Kanazawa University, Japan | 1 | Preautophagosomal structure is formed by liquid-liquid phase separation through weak intermolecular interactions between Atg13 and Atg17 |
| 10:15-10:40 | <i>Simon Scheuring</i> Weill Cornell Medicine, USA | 2 | High-speed atomic force microscopy: a forceful tool for molecular biophysics <i>Platinum sponsor talk</i> |
| 10:40-10:55 | <i>Heiko Haschke</i> Bruker Nano GmbH, Germany | 3 | From single molecule to medical applications – a new AFM toolkit for the nanoscopic investigation of mechanics, structures and dynamic processes in life science |

10:55-11:15 **Coffee Break & Exhibitions** **Sommerhaus Hotel Julius-Raab-Heim, Ground Floor**

Session II: Advances in Scanning Probe Microscopy

Chairman: Dario Anselmetti

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| 11:15-11:40 | <i>Georg Fantner</i> EPF Lausanne, Switzerland | 4 | Direct cantilever actuation and multi-activation controls for multi-parametric high-speed AFM imaging |
| 11:40-11:55 | <i>Liming Ying</i> Imperial College London, UK | 5 | Seeing is believing: probing protein oligomers and protein-ligand interactions by single molecule spectroscopy and imaging |
| 11:55-12:10 | <i>Sebastian Wood</i> National Physical Laboratory, UK | 6 | Quantitative nanoscale electrical and optical characterization using atomic force microscopy |
| 12:10-12:25 | <i>Ulrich Schmid</i> Technical University Vienna, Austria | 7 | High performance piezoelectric MEMS resonators in fluids |
| 12:25-12:40 | <i>Vyacheslav Polyakov</i> NT-MDT Spectrum Instruments, Russia | 8 | <i>Platinum sponsor talk</i> Automation of topography and phase contrast measurements in tapping mode |

12:40-14:00 **Lunch & Exhibitions** **Sommerhaus Hotel Julius-Raab-Heim, Ground Floor**

Session III: Nanomicrobiology

Chairman: Yoo Jin Oh

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| 14:00-14:20 | <i>Ulrike Endesfelder</i> MPI for Terrestrial Microbiology, Germany | 9 | Visualizing the inner life of microbes by single-molecule localization microscopy |
| 14:20-14:35 | <i>Felipe Viela</i> Université Catholique de Louvain, Belgium | 10 | Mechanostability of the fibrinogen bridge between staphylococcal surface protein CifA and endothelial cell integrin $\alpha_v\beta_3$ |
| 14:35-14:50 | <i>Mitchel Doktycz</i> Oak Ridge National Laboratory, USA | 11 | Capturing and correlation the molecular, physical and functional characteristics of plant-associated microbes |
| 14:50-15:05 | <i>Marion Mathelié-Guinlet</i> Université Catholique de Louvain, Belgium | 12 | Molecular length and covalent anchorage of the lipoprotein Lpp play key roles in regulating the mechanical properties of the Escherichia coli cell envelope |
| 15:05-16:30 | Poster Session I Coffee Break & Exhibitions | | Sommerhaus Hotel Julius-Raab-Heim, Ground Floor |

Session IV: Cell Mechanics and Mechanobiology

Chairman: Gerhard Schütz

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|-------------|---|-----------|---|
| 16:30-16:55 | <i>Gabriel Gomila</i> University of Barcelona, Spain | 13 | Mapping the nanoscale dielectric properties of cells by scanning dielectric force volume microscopy |
| 16:55-17:20 | <i>Ricardo Garcia</i> CSIC Madrid, Spain | 14 | Advances in single cell nanomechanics: high-resolution, sub-surface imaging and nanorheology |
| 17:20-17:45 | <i>Marco Fritzsche</i> University of Oxford, UK | 15 | Nanoscale mechanobiology shapes T-cell activation |
| 17:45-18:00 | <i>Thomas Schmidt</i> Leiden University, The Netherlands | 16 | Fibronectin patches as anchoring points for force sensing and transmission in human induced pluripotent stem cell-derived pericytes |
| 18:00-18:15 | <i>Lukas Schrangl</i> Technical University Vienna, Austria | 17 | A FRET-based sensor for probing forces exerted by single T cell receptors on their ligands |
| 19:30 | Meeting point Main Square | | Yellow trains depart for City Tour at 19:45 |
| 20:15-23:00 | Conference Dinner | | LENTOS Art Museum |

Sunday, Feb. 2

Session V: Biomolecular Interactions

Chairman: Hongbin Li

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| 09:00-09:25 | <i>Dario Anselmetti</i> Bielefeld University, Germany | 18 | Exploring the nature of catch bonds between cell surface sulfatases and heparin sulfate with AFM single molecule force spectroscopy |
| 09:25-09:50 | <i>David Alsteens</i> Université Catholique de Louvain, Belgium | 19 | Nanomechanical mapping of virus binding sites to animal cells |
| 09:50-10:15 | <i>Wesley Wong</i> Harvard Medical School, USA | 20 | Probing biomolecular interactions with parallel force spectroscopy |
| 10:15-10:40 | <i>Joon Won Park</i> Pohang University, South Korea | 21 | Ultra-sensitive quantification of various DNA biomarkers with AFM |
| 10:40-11:00 | Coffee Break & Exhibitions | | Sommerhaus Hotel Julius-Raab-Heim, Ground Floor |

Session VI: Single Molecule Mechanics

Chairman: Giovanni Dietler

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|-------------|---|-----------|---|
| 11:00-11:25 | <i>Laura Finzi</i> Emory University, USA | 22 | The effects of tension on transcription |
| 11:25-11:50 | <i>Hongbin Li</i> University of British Columbia, Canada | 23 | Single molecule force spectroscopy reveals the mechanical design governing the efficient translocation of the bacterial toxin protein RTX |
| 11:50-12:05 | <i>Christian Kaiser</i> Johns Hopkins University, USA | 24 | Energetic dependencies dictate folding mechanism in a multi-domain protein |
| 12:05-12:20 | <i>Damien Sluysmans</i> University of Liège, Belgium | 25 | Probing the mechanochemical properties of a synthetic overhand knot by AFM |
| 12:20-12:35 | <i>Tamás Hegedűs</i> Semmelweis University, Hungary | 26 | The folding pathway of the CFTR nucleotide binding domain 1 |
| 12:35-13:45 | Lunch & Exhibitions | | Sommerhaus Hotel Julius-Raab-Heim, Ground Floor |

Session VII: Nanoscopy and Nanospectroscopy

Chairman: Peter Pohl

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|-------------|---|-----------|---|
| 13:45-14:10 | <i>Stefan Jakobs</i> MPI for Biophysical Chemistry, Germany | 27 | Focusing on mitochondria with super-resolution microscopy |
| 14:10-14:35 | <i>Alexander Jesacher</i> Medical University of Innsbruck, Austria | 28 | 3D single molecule localization microscopy close to the coverslip: exploiting "forbidden light" for high precision measurements |
| 14:35-15:00 | <i>Steve Pressé</i> Arizona State University, USA | 29 | New mathematics for new physics: learning about single molecules one photon at a time |
| 15:00-16:30 | Poster Session II Coffee Break & Exhibitions | | Sommerhaus Hotel Julius-Raab-Heim, Ground Floor |

Session VIII: Correlative Imaging

Chairman: Mitchel Doktycz

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|-------------|---|-----------|---|
| 16:30-16:55 | <i>Rainer Hillenbrand</i> CIC nanoGUNE and Ikerbasque, Spain | 30 | Chemical nanoimaging by infrared nanoscopy and nanospectroscopy |
| 16:55-17:10 | <i>Eric Lesniewska</i> University of Bourgogne, France | 31 | Multifrequency-AFM-IR platform for chemical and subsurface element density analysis |
| 17:10-17:25 | <i>Patrick Frederix</i> Nanosurf AG, Switzerland | 32 | <i>Platinum sponsor talk</i> CoreAFM with an integrated inverted microscope and FluidFM |
| 17:25-17:40 | <i>Pablo Dörig</i> Cytosurge AG, Switzerland | 33 | <i>Gold sponsor talk</i> Applications of FluidFM hollow probes in biophysics and life sciences |
| 17:40-17:55 | <i>Petr Gorelkin</i> NUST "MISIS", Russia | 34 | Directly examining of cellular mechanics with scanning ion conductance microscopy (SICM) |
| 18:30-23:00 | Conference Dinner in Cider Press House Freiseder | | Buses depart in front of the Sommerhaus Hotel at 18:45 Boarding starts at 18:30 |

Monday, Feb. 3

Session IX: Advanced Bioimaging

Chairman: Matthias Rief

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|-------------|---|-----------|---|
| 09:00-09:25 | <i>Mervyn Miles</i> University of Bristol, UK | 35 | Vertically-oriented-probe (VOP) force microscopy for bio imaging: new developments |
| 09:25-09:40 | <i>Pierre-Emmanuel Milhiet</i> University of Montpellier, France | 36 | Septin oligomerization induces membrane remodelling |
| 09:40-09:55 | <i>George Heath</i> University of Leeds, UK | 37 | CLC antiporter dimerization dynamics revealed by novel developments in high-speed AFM |
| 09:55-10:10 | <i>Jürgen Strasser</i> University of Applied Sciences Upper Austria, Austria | 38 | The dynamics of IgG oligomerization on antigenic surfaces |
| 10:10-10:25 | <i>Victor Gisbert</i> CSIC Madrid, Spain | 39 | High-speed bimodal AFM nanomechanical mapping of collagen self-assembly |

10:25-10:45

Coffee Break & Exhibitions

Sommerhotel Julius-Raab-Heim, Ground Floor

Session X: Single Molecule Force Spectroscopy

Chairman: Sandor Kasas

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|-------------|--|-----------|---|
| 10:45-11:10 | <i>Matthias Rief</i> Technical University of Munich, Germany | 40 | Single molecule mechanics of proteins |
| 11:10-11:25 | <i>Zhu Rong</i> Johannes Kepler University Linz, Austria | 41 | Studies of the interaction between desipramine and monoamine transporters using force spectroscopy |
| 11:25-11:40 | <i>Christina Lo Giudice</i> Université Catholique de Louvain, Belgium | 42 | Human glucagon receptor is activated through a "dock and lock" mechanism |
| 11:40-11:55 | <i>Gurunath Apte</i> Institute for Bioprocessing and Analytical Measurement Techniques, Germany | 43 | HIT antibodies as mediators between platelets and breast cancer cells |
| 11:55-12:10 | <i>Alessandra Griffo</i> Saarland University, Germany | 44 | On the nanoscale interactions of recombinant proteins toward bio-based hybrid materials: an AFM study |
| 12:10-12:25 | <i>Claudia Gusenbauer</i> University of Natural Resources and Life Sciences, Tulln, Austria | 45 | Chemical mapping of lignocellulosic substrates via chemical force microscopy |

12:25-13:45

Lunch & Exhibitions

Sommerhotel Julius-Raab-Heim, Ground Floor

Session XI: Cellular and Membrane Mechanics

Chairman: Mervyn Miles

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|-------------|--|-----------|--|
| 13:45-14:10 | <i>Giovanni Dietler</i> EPF Lausanne, Switzerland | 46 | AFM: new and old stuff under the tip |
| 14:10-14:25 | <i>Shivprasad Patil</i> Indian Institute of Science Education and Research, India | 47 | Differential stiffness of body column facilitates the <i>somersault</i> locomotion of hydra on solid substrates |
| 14:25-14:40 | <i>Yeraldinne Carrasco-Salas</i> University of Lyon, France | 48 | AFM studies of the mechanical properties of AAC capsids at the single virus level |
| 14:40-14:55 | <i>Leda Lacaria</i> University Aix-Marseille, France | 49 | Mechanics and structure of the cortical cytoskeleton of micropatterned cells |
| 14:55-15:10 | <i>Lorena Redondo-Morata</i> Institute Pasteur Lille, France | 50 | In situ conversation of sphingomyelin to ceramide reveals a local increase of the viscoelasticity of lipid membranes |

15:10-15:30

Coffee Break & Exhibitions

Sommerhotel Julius-Raab-Heim, Ground Floor

**Session XII: Nanostructures
and Nanosensors**

Chairman: Peter Hinterdorfer

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| 15:30-15:45 | <i>Martin Strnad</i> University of South Bohemia, Czech Republic | 51 | Molecular interactions between <i>Borrelia</i> adhesins and extracellular matrix |
| 15:45-16:00 | <i>Magdalena Rusaczonk</i> Jagiellonian University, Cracow, Poland | 52 | AFM image analysis of porous structures by means of neural networks |
| 16:00-16:15 | <i>Rana Omar</i> University Lorraine, France | 53 | Nanoscale analysis of the impact of storage conditions on surface properties of milk powders |
| 16:15-16:30 | <i>Markus Axmann</i> University of Applied Sciences Upper Austria, Austria | 54 | Lipoprotein particles and miRNA – a match made in hell? |
| 16:30-16:45 | <i>Robert Horvath</i> Nanobiosensorics Laboratory EK MFA, Budapest, Hungary | 55 | Label-free optical waveguide biosensors for proteins and living cells |

Poster Sessions

| Authors | Number | Title |
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SESSION I - Saturday, Feb. 1

1 – Advanced Nanoscopy

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| <u>Sandor Kasas</u> , Raphael Foschia, Leonardo Venturelli, Anne-Céline Kohler and Giovanni Dietler <i>EPF Lausanne, Switzerland</i> | 1-1 | Nanomotion detector |
| Luis Fernando Hill, <u>Wellington Silva Ferreira</u> Gustavo Miranda Rocha, Paulo Bisch, Gilberto Weissmüller <i>Carlos Chagas Filho Institute of Biophysics, IBCCF, Brasil</i> | 1-2 | Proposal for a cantilever sensor |
| <u>Zare-Eelanjegh E.</u> , Guillaume-Gentil O, Gäbelein C, Rougier JS, Vörös J, Abriel H, Edin Sarajlic, Zambelli T <i>ETH Zurich, Switzerland</i> | 1-3 | Fluid force microscopy for single cell micro-manipulation |
| <u>Sang Heon Lee</u> <i>Andong National University, South Korea</i> | 1-4 | Desing of OPU based AFM head for imaging in liquid |
| <u>Bianca Buchegger</u> , Gregor Langer, Jaroslaw Jacak, Thomas Berer, Thomas A. Klar <i>Johannes Kepler University Linz, Austria</i> | 1-5 | Frequency domain optical resolution photoacoustic and fluorescence microscopy |
| Benedikt K. Rossoth, René Platzer, Florian Baumgart, Eva Sevcsik, Hannes Stockinger, Gerhard J. Schütz, Johannes B. Huppa, <u>Mario Brameshuber</u> <i>Technical University of Vienna, Austria</i> | 1-6 | A Comprehensive Fluorophore Blinking Analysis Platform as a Prerequisite for CLUSTER Data Interpretation in PALM |
| <u>Magdalena C. Schneider</u> , Andreas M. Arnold, Robert Sablatnig, Christoph Hüsson, Florian Baumgart, Mario Brameshuber, Gerhard J. Schütz <i>Technical University of Vienna, Austria</i> | 1-7 | 2-Color Localization microscopy and Significance Testing Approach (2-CLASTA) |

2 – Biomechanics

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| <u>Simone Benaglia</u> , Ricardo Garcia <i>CSIC Madrid, Spain</i> | 2-1 | Fast, quantitative and high resolution mapping of viscoelastic properties with bimodal AFM |
| <u>Suyash Naik</u> , Manu Unni, Devanshu Sinha, Shatruhan Singh Rajput, P. Chandramouli Reddy, Apratim Chatterji, Shivprasad Patil and Sanjeev Galande <i>Institute of Science and Technology (IST) Austria Doctorate College "NanoCell"</i> | 2-2 | Differential tissue stiffness of body column facilitate locomotion of <i>Hydra</i> on solid substrates |
| <u>Viktoria Sergunova</u> , Ekaterina Sherstyukova, Elena Kozlova, Aleksandr Chernysh, Olga Gudkova <i>Federal Research and Clinical Center of Intensive Care Medicine and Rehabilitology, Moscow, Russia</i> | 2-3 | Depth h_{Hertz} as a biophysical criterion for linearity of RBC membrane deep bending |
| <u>Shatruhan Singh Rajput</u> , Surya Pratap S. Deopa, Shivprasad Patil <i>Indian Institute of Science Education and Research (IISER), Pune, India</i> | 2-4 | Measurement of viscoelastic properties of single-biomolecule using dynamic Atomic Force Microscopy |

3 – Nanomedicine

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| <u>Martin Fölser</u> , Iris Dorner, Viktoria Motsch, Gerhard J. Schütz <i>Technical University of Vienna, Austria</i> <i>Doctorate College "NanoCell"</i> | 3-1 | From Single Microvilli to the Full Immunological Synapse: AFM Manipulation of T Cells during Activation |
| <u>Li-Yu Chen</u> , Nicola Schuster, Andreas Greinacher, Konstanze Aurich and Thi-Huong Nguyen <i>Institute for Bioprocessing and Analytical Measurement Techniques, Heiligenstadt, Germany</i> | 3-2 | Identification of Binding Pathways between Magnetic Nanoparticles and Human Platelets by Atomic Force Spectroscopy |
| <u>Boris Buchroithner</u> , Florian Weber, Mario Mairhofer, Karin Strohmeier, Eleni Priglinger, Mario Gimona, Heinz Redl, Johannes Grillari, Birgit Plochberger, Jacak Jaroslaw <i>University of Applied Sciences Upper Austria, Linz, Austria</i> | 3-3 | Combined atomic force- and fluorescence microscopy for characterization of extracellular vesicles used for therapeutic application |
| Markus Axmann, Mario Mairhofer, Martina Witsch-Baumgartner, Andreas Karner, Florian Weber, Herbert Stangl, Hans Dieplinger, <u>Birgit Plochberger</u> <i>University of Applied Sciences Upper Austria, Linz, Austria</i> | 3-4 | How Receptor Mutations Affect Lipid Metabolism? |
| <u>Ingrid Hartl</u> , Yasmin Striedner, Atena Yasari, Renato Salazar, Pavel Krejčí, Irene Tiemann-Boege <i>Johannes Kepler University Linz, Austria</i> <i>Doctorate College "NanoCell"</i> | 3-5 | Functional analysis of driver mutations in the FGFR3 expanding with paternal age |
| <u>Nikola Čanigová</u> , Michael Sixt <i>Institute of Science and Technology (IST) Austria</i> <i>Doctorate College "NanoCell"</i> | 3-6 | Invasive migration of dendritic cells into collagen matrices |
| <u>Heidi Hannula</u> , Lauriane Janssen, Gabriela S. Lorite <i>University of Oulu, Finland</i> | 3-7 | Atomic Force Microscopy probe coating with type II collagen antibody for cartilage evaluation |
| <u>Hendrik von Eysmond</u> t, Michael Böttcher, Robert Feil, Tilman E. Schäffer <i>Eberhard-Karls-University Tübingen, Germany</i> | 3-8 | Investigation of thrombus morphology with scanning ion conductance microscopy (SICM) |

4 – Single Molecule Force Spectroscopy

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| <u>Thomas Carabin</u> , Damien Sluysmans, Guillaume De Bo, Anne-Sophie Duwez <i>University of Liège, Belgium</i> | 4-1 | Investigation into the mechanical stability of mechanophores by AFM-based single-molecule force spectroscopy |
| <u>Hannah Seferovic</u> , Javier Chaparro-Riggers, Wei Chen, Peter Hinterdorfer <i>Johannes Kepler University Linz, Austria</i> | 4-2 | Binding dynamics of monoclonal hIgG antibodies to CD40 |
| <u>Begüm Dikecoglu</u> , Gerald B. Pier, Peter Hinterdorfer <i>Johannes Kepler University Linz, Austria</i> | 4-3 | IgG MAbs binding to Poly N-Acetylglucosamine using Single Molecule Force Spectroscopy |
| <u>Maxime Ledent</u> , Damien Sluysmans, Damien Dattler, Quan Li, Tom Ellis, Nicolas Giuseppone, Anne-Sophie Duwez <i>University of Liège, Belgium</i> | 4-4 | Single-molecule force spectroscopy on synthetic molecular rotors |
| <u>Simone Schirra</u> , M. Ončák, M.S. Sammon, M.K. Beyer <i>University of Innsbruck, Austria</i> | 4-5 | Single molecule force spectroscopy of polyethylene glycol under variation of salt concentrations |
| <u>Prem Kumar Viji Babu</u> , Manfred Radmacher <i>University of Bremen, Germany</i> | 4-6 | Cadherin extracellular binding dynamics influenced by actomyosin contraction |
| <u>Lisa Hain</u> , Martin Strnad, Marie Vancová, Ryan O. M. Rego, Peter Hinterdorfer, Yoo Jin Oh <i>Johannes Kepler University Linz, Austria</i> | 4-7 | Molecular Interactions between Borrelial Adhesins and the Extracellular Matrix by Single Molecular Force Spectroscopy |
| <u>N. Khan</u> , Y.Xu, S.Brandt, M.Mandelkow, R.Raschke, U. Strobel, M.Delcea, W.Zhou, J.Liu, A.Greinacher, T-H.Nguyen <i>Institute for Bioprocessing and Analytical Measurement Techniques, Heiligenstadt, Germany</i> | 4-8 | The Role of Atomic Force Spectroscopy in Development of Safer Heparins |
| <u>M. S. Sammon</u> , M. Biewend, P. Michael, M. Ončák, W. H. Binder, M. K. Beyer <i>University of Innsbruck, Austria</i> | 4-9 | Mechanical activation of a copper biscarbene catalyst using single-molecule force spectroscopy |

SESSION II - Sunday, Feb. 2

5 – DNA: Properties and Applications

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| <u>Nora Hagleitner</u> , Denis Knyazev, Adam Dorey, Xing Yongzheng, Peter Pohl, Peter Hinterdorfer, Stefan Howorka <i>Johannes Kepler University Linz, Austria</i> | 5-1 | Functional characterization of a synthetic protein-conductive DNA nanopore |
| <u>Saanfor Hubert</u> , Xing Yongzheng, Peter Hinterdorfer, Stefan Howorka <i>Johannes Kepler University Linz, Austria</i> | 5-2 | AFM Characterisation of Cargo selective DNA nanopores |
| <u>Ann Mukhortava</u> , Baerbel Lorenz, Avin Ramaiya, Philipp Rauch <i>LUMICKS B.V., Amsterdam, The Netherlands</i> | 5-3 | Bronze sponsor poster Breaking the Barriers: the full workflow for dynamic single-molecule research |
| <u>Joschka Hellmeier</u> , R. Platzer, A. Karner, V. Motsch, J. Preiner, J.B. Huppa, G. J. Schütz, E. Sevcsik <i>Technical University of Vienna, Austria</i> | 5-4 | DNA origami as a nanoscale platform for T-cell activation |
| <u>Ranjit Gulvady</u> , M. Lucchino, L. Johannes, P. Bassereau <i>Institute Curie, Paris, France</i> | 5-5 | A novel DNA-based force sensor to quantify the clustering of membrane proteins |
| <u>Woo Cheol Shim</u> and Joon Won Park <i>Pohang University of Science and Technology, South Korea</i> | 5-6 | Recognition of DNA Methylated at a Specific Site with Atomic Force Microscopy |

6 – Channels and Transporters

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| <u>Lena Maltan</u> , Sarah Weiß, Hadil Najjar, Sonja Lindinger, Adela Tiffner, Isabella Derler <i>Johannes Kepler University Linz, Austria</i> <i>Doctorate College "NanoCell"</i> | 6-1 | Photocrosslinking unveils Orai1 pore opening mechanisms in real-time |
| <u>Christian Manuel Kitzler</u> , Petr Rathner, Agrim Gupta, Marc Fahrner, Christoph Romanin, Norbert Müller <i>Johannes Kepler University Linz, Austria</i> <i>Doctorate College "NanoCell"</i> | 6-2 | Investigating the binding of the STIM1 protein to Ca ²⁺ and to an intracellular loop of the Orai protein using NMR |
| <u>Herwig Grabmayr</u> , M. Fahrner, I. Frischauf, C. Romanin <i>Johannes Kepler University Linz, Austria</i> <i>Doctorate College "NanoCell"</i> | 6-3 | Activation of STIM1 variants by STIMATE |
| <u>Agrim Gupta</u> , C.M. Kitzler, P. Rathner, M. Fahrner, C. Romanin, N. Müller <i>Johannes Kepler University Linz, Austria</i> <i>Doctorate College "NanoCell"</i> | 6-4 | Conformation and dynamics of the STIM1 protein using NMR |
| <u>Ferdinand Horvath</u> , Thomas Renger, Heinrich Krobath <i>Johannes Kepler University Linz, Austria</i> <i>Doctorate College "NanoCell"</i> | 6-5 | Molecular dynamics simulations elucidate the functional role of key residues in the STIM1 CC1 domain |
| <u>A. Karner</u> , K. Winkler, A. Horner, D. Knyazev, M. Zimmermann, R. Kuttner, C. Siligan, P. Pohl, J. Preiner <i>University of Applied Sciences Upper Austria, Linz, Austria</i> | 6-6 | Binding of SecA to SecYEG in the absence of ATP |
| <u>Sarah Stainer, Michael Sackel, N. Zeppezauer, N. Gössweiner-Mohr, D. Knyazev, C. Siligan, P. Pohl, P. Hinterdorfer</u> <i>Johannes Kepler University Linz, Austria</i> <i>Doctorate College "NanoCell"</i> | 6-7 | Forces and dynamics in protein translocation through the bacterial translocon SecYEG |
| <u>German Sergej</u> , Nikolaus Gössweiner-Mohr, Peter Pohl <i>Johannes Kepler University Linz, Austria</i> <i>Doctorate College "NanoCell"</i> | 6-8 | Vesicle immobilization for single molecule microscopy |

7 – Membrane and Cytoskeleton Organization

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| <u>Veronika Dockalova</u> , G. Fülöp, G. J. Schütz, E. Sevcsik <i>Technical University of Vienna, Austria</i> <i>Doctorate College "NanoCell"</i> | 7-1 | Probing the membrane environment of transmembrane proteins: A micropatterning approach |
| <u>Florian Weber</u> , Markus Axmann, Birgit Plochberger <i>University of Applied Sciences Upper Austria, Linz, Austria</i> | 7-2 | Transport and transfer of bioactive substances with high-density lipoprotein particles |
| <u>Clara Bodner</u> , Gerhard J. Schütz, Mario Brameshuber <i>Technical University of Vienna, Austria</i> | 7-3 | Determining the oligomeric states of a GPI-anchored model protein via colocalization-based single-molecule microscopy |
| <u>Tiszlavicz Ádám</u> , I. Gombos, B. Peksel, B. Dukic, M.Péter, G. Balogh, I. Horváth, L. Vigh, Z. Török <i>Biological Research Centre, Szeged, Hungary</i> | 7-4 | Acquired cellular stress resistance in the absence of heat shock protein induction |
| <u>Lukas Velas</u> , P. Zelger, A. Jesacher, M. Brameshuber, Gerhard J. Schütz <i>Technical University of Vienna, Austria</i> | 7-5 | 3D superresolution fluorescence microscopy on T-cells |
| <u>Elena Kozlova</u> , Aleksandr Chernysh, Viktoria Sergunova, Aleksandr Kozlov, Ekaterina Sherstyukova <i>Federal Research and Clinical Center of Intensive Care Medicine and Rehabilitology, Moscow, Russia</i> | 7-6 | Transformation of spectrin matrix of red blood cell membranes |
| <u>Ji-seon Lim</u> and Joon Won Park <i>Pohang University of Science and Technology, Korea</i> | 7-7 | Quantification and Visualization of LIMK1 in a Single Cell with Atomic Force Microscopy |

8 – Bionanomaterials

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| <u>Sourav Islam</u> , S. Puthukodan, J. Jacak, T. A. Klar <i>Johannes Kepler University Linz, Austria</i> <i>Doctorate College "NanoCell"</i> | 8-1 | Bio-compatible 3D structures with STED lithography |
| <u>Eljesa Murtezi</u> , S. Puthukodan, J. Jacak, T. A. Klar <i>Johannes Kepler University Linz, Austria</i> <i>Doctorate College "NanoCell"</i> | 8-2 | Sub-Abbe bio-molecular patterning controlled by stimulated emission depletion (STED) |
| <u>Krisztina Zajki-Zechmeister</u> , K. Seelich, M. Eibinger, B. Nidetzky <i>Technical University of Graz, Austria</i> | 8-3 | Real time visualization of enzymatic cellulose deconstruction |
| <u>Caniglia, G.</u> , Heinzmann, A., Sportelli, M.C., Valentini, A., Cioffi, N., Kranz, C. <i>Ulm University, Germany</i> | 8-4 | Scanning probe microscopy study on antimicrobial silver-nanoparticle-based composite films |
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