

# Schedule of the XXIII. Linz Winter Workshop 2024

**Friday, Feb. 2**

19:00-23:00

**Get Together & Registration**

**Sommerhaus Hotel Julius-Raab-Heim, Ground Floor**

**Saturday, Feb. 3**

08:00-08:45

**Registration**

**Sommerhaus Hotel Julius-Raab-Heim, Ground Floor**

08:45-09:00

**Welcome / Opening**

**Rector Stefan Koch / Peter Hinterdorfer**  
*Johannes Kepler University Linz, Austria*

## **Session I: High-Speed AFM**

**Chairman: Johannes Preiner**

09:00-09:25

*Toshio Ando*  
Kanazawa University, Japan

**1**

Dual mechanism of EEA1-mediated vesicle fusion

09:25-09:50

*Simon Scheuring*  
Weill Cornell Medicine, USA

**2**

High-speed atomic force microscopy (HS-AFM) uncovers a rare and transient state in the sensory ion channel TRPV3

09:50-10:05

*Mervyn Miles*  
University of Bristol, UK

**3**

High-speed contact AFM of Lipid Membranes

10:05-10:20

*Je-Kyung Ryu*  
Seoul National University, Korea

**4**

SMCs: not only for DNA-loop extrusion but also for phase condensation

10:20-10:35

*Heiko Haschke*  
Bruker Nano GmbH, Germany

**5**

*Platinum sponsor talk*  
Visualizing Molecular Dynamics with High-Speed Tip-Scanning Atomic Force Microscopy

10:35-10:55

**Coffee Break & Exhibitions**

**Sommerhaus Hotel Julius-Raab-Heim, Ground Floor**

## **Session II: Cellular Mechanics**

**Chairman: Ricardo Garcia**

10:55-11:20

*Nuno C. Santos*  
Universidade de Lisboa, Portugal

**6**

Fibrinogen-mediated erythrocyte-erythrocyte adhesion: experimental assessment and clinical relevance in cardiovascular diseases

11:20-11:35

*Hermann Schillers*  
University Hospital Münster, Germany

**7**

Development of a method to quantify cellular mechano-response on the single cell level

11:35-12:00

*Verena Ruprecht*  
Center for Genomic Regulation, Spain

**8**

Control of cellular morphodynamics by mechanotransduction in the nucleus

12:00-12:15

*Thomas Schmidt*  
Leiden University, Netherlands

**9**

Single-Cell Stress Analysis in Tumoroids using Deformable Hydrospheres and Cell Segmentation

12:15-12:30

*Jürgen Pfeffermann*  
Johannes Kepler University Linz, Austria

**10**

Photolipid excitation triggers depolarizing optocapacitive currents and action potentials

12:30-14:00

**Lunch & Exhibitions**

**Sommerhaus Hotel Julius-Raab-Heim, Ground Floor**

## **Session III: Electrical and Chemical Nanosensing**

**Chairman: Georg Gramse**

14:00-14:25

*Nicolas Clément*  
University of Tokyo, Japan

**11**

Quantum Bioelectrochemistry: A path towards super resolution electrochemical Technologies

14:25-14:50	<i>Serge G. Lemay</i> University of Twente, Netherlands	12	Internal dynamics of random-coil semiconducting polymers probed by coupled electronic/ionic transport
14:50-15:05	<i>Eric Lesniewska</i> University of Bourgogne, France	13	Multifrequency-AFM platform for chemical and local properties analysis in material
15:05-15:20	<i>Sukanya Das</i> INM-Leibniz, Germany	14	Conducting Atomic Force Microscopy on a Hybrid Gold Nanoparticle-Polymer Film
15:20-15:35	<i>Nikolaus Frischauf</i> University of Applied Sciences Upper Austria	15	IgG subclass oligomerization upon antigen binding – Full biophysical characterization of the missing link between antibody binding and complement activation
15:35-16:50	<b>Poster Session I</b> (odd numbers presenting) <b>Coffee Break &amp; Exhibitions</b>		<b>Sommerhaus Hotel Julius-Raab-Heim, Ground Floor</b>

### **Session IV: Nano-Microbiology**

**Chairman: Yoo Jin Oh**

16:50-17:15	<i>Francius Gregory</i> Université de Lorraine, France	16	Mechanical and chemical features of crosslinked poly(allylamine)-hyaluronic acid hydrogels using AFM combined to chemometric methods
17:15-17:30	<i>Mitchel J. Doktycz</i> Oak Ridge, USA	17	Understanding surface fouling at the molecular level
17:30-17:45	<i>Telmo O. Paiva</i> Université catholique de Louvain, Belgium	18	<i>Staphylococcus aureus</i> forms catch bonds between its surface protein SdrE and complement regulator factor H to evade human immune system
17:45-18:00	<i>Can Wang</i> Université catholique de Louvain, Belgium	19	Catch Bond-Mediated Adhesion Drives <i>Staphylococcus aureus</i> Host Cell Invasion
19:15	<b>Meeting point Main Square</b>		<b>Yellow trains depart for City Tour at 19:30</b>
20:00-23:00	<b>Conference Dinner</b>		<b>Old Civic Center on Main Square</b>

### **Sunday, Feb. 4**

### **Session V: Single Molecule Force Spectroscopy**

**Chairman: Georg Fantner**

09:00-09:25	<i>Hongbin Li</i> University of British Columbia, Canada	20	Two-Molecule Force Spectroscopy
09:25-09:50	<i>Anne-Sophie Duwez</i> University of Liège, Belgium	21	Interrogating molecular machines and topologically nontrivial synthetic small molecules with single-molecule force spectroscopy
09:50-10:05	<i>Shivprasad Patil</i> Indian Institute of Science Education and Research, India	22	Dynamic Atomic Force Microscopy for Viscoelasticity of Single Folded Domains of Proteins
10:05-10:20	<i>Kerstin G. Blank</i> Johannes Kepler University Linz, Austria	23	Coiled Coils as Molecular Force Sensors
10:20-10:40	<i>Joon Won Park</i> NB Postech, Korea	24	Quantifying DNA Biomarkers of Low Copy Numbers without Amplification: Application for Liquid Biopsy
10:40-11:00	<b>Coffee Break &amp; Exhibitions</b>		<b>Sommerhaus Hotel Julius-Raab-Heim, Ground Floor</b>

## **Session VI: Biomolecular Dynamics**

**Chairman: Mateuzs Sikora**

11:00-11:25	<i>Helmut Grubmüller</i> MPI Göttingen, Germany	<b>25</b>	Ribosome Stalling and Shock Freezing
11:25-11:50	<i>Christian Kaiser</i> Johns Hopkins University, USA	<b>26</b>	Co-translational stabilization drives folding of a kinetically stable protein
11:50-12:05	<i>Borja Ibarra</i> IMEDA Nanociencia, Madrid, Spain	<b>27</b>	Conformational dynamics of influenza A virus ribonucleoprotein complexes during RNA synthesis revealed by HS-AFM
12:05-12:30	<i>Gijs J. L. Wuite</i> Vrije University Amsterdam, Netherlands	<b>28</b>	Mechanics and microrheology of native human mitotic chromosomes

12:30-14:00

**Lunch & Exhibitions**

**Sommerhaus Hotel Julius-Raab-Heim, Ground Floor**

## **Session VII: Super Resolution Microscopy**

**Chairman: Birgit Plochberger**

14:00-14:25	<i>Ralf Jungmann</i> MPI for Biophysical Chemistry, Germany	<b>29</b>	Localizomics: towards spatial omics using DNA-based super-resolution microscopy
14:25-14:50	<i>Iztok Urancic</i> Jozef Stefan Institut, Slovenia	<b>30</b>	Predicting health hazards of inhaled nanomaterials
14:50-15:05	<i>S. Masó</i> University of Vic, Spain	<b>31</b>	Exploring the role of $\alpha 5\beta 1$ glycosylation at the cellular and molecular level
15:05-15:20	<i>Dmitry Sivun</i> University of Applied Sciences Upper Austria, Austria	<b>32</b>	Chasing individual extracellular vesicles: from population analysis to co-localization within cells at single particle level
15:20-15:35	<i>Karin Kornmueller</i> Medical University of Graz, Austria	<b>33</b>	Structural resolution vs. dynamics: low density lipoprotein explored by HS-AFM and cryo-EM

15:35-16:50

**Poster Session II**  
(even numbers presenting)  
**Coffee Break & Exhibitions**

**Sommerhaus Hotel Julius-Raab-Heim, Ground Floor**

## **Session VIII: Nanomechanics**

**Chairman: Nuno Santos**

16:50-17:15	<i>Ricardo Garcia</i> CSIC Madrid, Spain	<b>34</b>	Real-time nanomechanical mapping of collagen interactions and processes
17:15-17:30	<i>Robert Magerle</i> Technische Universität Chemnitz, Germany	<b>35</b>	Interactive Haptic Exploration of Nanomechanical Tissue Properties
17:30-17:45	<i>Wonho Jhe</i> Seoul National University, Korea	<b>36</b>	Tip-enhanced Raman spectroscopy of confinement-controlled nano water
17:45-18:00	<i>Hans Gunstheimer</i> Nanosurf AG, Switzerland	<b>37</b>	<i>Platinum sponsor talk</i> Advancing AFM Nanomechanical Analysis through Off-Resonance Photothermal Excitation
19:00-23:00	<b>Conference Dinner</b> <b>in House Freiseder</b>		<b>Buses depart in front of the Sommerhaus Hotel at 18:45</b> <b>Boarding starts at 18:30, Return of first bus 22:00</b>

**Monday, Feb. 5**

**Session IX: Correlative Imaging**

**Chairman: Thomas Schmidt**

09:00-09:25	<i>Christophe Leterrier</i> Aix Marseille Universite, France	<b>38</b>	The axonal cytoskeleton down to the nanoscale
09:25-09:50	<i>Claudio Canale</i> University of Genoa, Italy	<b>39</b>	Fluorescent monomers alter the aggregation propensity of amyloidogenic peptides; AFM-STED correlative nanoscopy applications.
09:50-10:05	<i>Pierre-Emmanuel Milhiet</i> University Montpellier, France	<b>40</b>	Correlative AFM-Fluorescence Microscopy as a tool to probe biological membranes
10:05-10:20	<i>Roman Renger</i> LUMICKS, Amsterdam	<b>41</b>	<i>Silver sponsor talk</i> Visualizing and quantifying biomolecular interactions across scales with fluorescence optical tweezers
10:20-10:40	<b>Coffee Break &amp; Exhibitions</b>		<b>Sommerhotel Julius-Raab-Heim, Ground Floor</b>

**Session X: Single-Molecule Virus Biophysics**

**Chairman: Melanie Köhler**

10:40-11:05	<i>Miklós Kellermayer</i> Semmelweis University, Hungary	<b>42</b>	Single-molecule virus biophysics
11:05-11:30	<i>Mateusz Sikora</i> University Krakow, Poland	<b>43</b>	Integrative modeling of glycoproteins, lessons from the pandemic.
11:30-11:45	<i>Rong Zhu</i> Johannes Kepler University Linz, Austria	<b>44</b>	Force-tuned Avidity of Spike Variant-ACE2 Interactions viewed on the Single-Molecule Level
11:45-12:00	<i>Horacio V. Guzman</i> Universidad Autónoma de Madrid, Spain	<b>45</b>	Adsorption and flexibility patterns of the WT, delta and omicron RBDs onto polarized model surface
12:00-12:15	<i>Joshua D. Simpson</i> Université catholique de Louvain, Belgium	<b>46</b>	Binding Dynamics of Viruses with Host-Cell Receptors and Glycans
12:15-12:30	<i>Yuzhen Feng</i> Rijksuniversiteit Groningen, Netherlands	<b>47</b>	Reversible structural changes in human papillomavirus upon glycan binding
12:30-14:00	<b>Lunch &amp; Exhibitions</b>		<b>Sommerhotel Julius-Raab-Heim, Ground Floor</b>

**Session XI: Nanoanalysis**

**Chairman: Mervyn Miles**

14:00-14:25	<i>Zeynep Altintas</i> University Kiel, Germany	<b>48</b>	Hydrogel Microneedle Array-Based Transdermal Dressing System for Multiplexed Assessment and Intelligent Therapy of Chronic Wounds
14:25-14:50	<i>Stefan Howorka</i> University College London, UK	<b>49</b>	A DNA nanodevice that measures the nanomechanics of live-cell membranes
14:50-15:15	<i>Georg E. Fantner</i> EPFL Lausanne, Switzerland	<b>50</b>	Single Cell and Single Molecule Biophysics with Glass Nanopores
15:15-15:30	<i>Chalmers Chau</i> University of Leeds, UK	<b>51</b>	Single molecule analysis with solid-state nanopore: Properties and kinetics
15:30-15:45	<i>Kislon Voitchovsky</i> Durham University, UK	<b>52</b>	Quantitative nanoscale mapping of the molecular mobility in fluid biomembranes
15:45-16:00	<i>Carine Assaf</i> University of Bordeaux, France	<b>53</b>	Development of Atomic Force Microscopy related modes for the study of plasma membrane repair
16:00-16:20	<b>Coffee Break &amp; Exhibitions</b>		<b>Sommerhotel Julius-Raab-Heim, Ground Floor</b>

**Session XII: Optical Nanoscopy**

**Chairman: Peter Pohl**

16:20-16:45	<i>Jonas Ries</i> University of Vienna, Austria	<b>54</b>	MINFLUX for dynamic structural biology
16:45-17:00	<i>Mario Brameshuber</i> Technical University of Vienna, Austria	<b>55</b>	Monte Carlo simulations for the evaluation of quantitative single molecule fluorescence microscopy
17:00-17:25	<i>Peter Dedecker</i> KU Leuven, Belgium	<b>56</b>	More informative fluorescence imaging using 'smart' probes and new instrumentation
17:25-17:40	<i>Steve Presse</i> Arizona State University, USA	<b>57</b>	Re-pitching Structured Illumination Microscopy Image Reconstruction in Real Space for Robust Analysis across SNR regimes
17:40-17:55	<i>Raju Regmi</i> CNRS, France	<b>58</b>	Diffusion of active transporters in bio membranes

# Poster Sessions

**Saturday, Feb. 3 (odd numbers presenting)**

**Sunday, Feb. 4 (even numbers presenting)**

Authors	Number	Title
---------	--------	-------

## **1 – High Resolution AFM Imaging**

<u>Hikaru Ichida</u> , Kenichi Umeda, Mohammad Shahidul Alam, Risa Omura, Kudo Makiko, Takehiko Ichikawa, Fukuma Takeshi, Nakayama Takahiro, Mikihiro Shibata, Noriyuki Kodera <i>Grad. School NanoLS., Kanazawa, Japan</i>	1	Intracellular Exploration using High-Speed Atomic Force Microscopy
<u>Maryam Merefat</u> , Andreas Karner, Martina Hofmann, Tina Karimian, Jürgen Strasser, Crhstine Siligan, Sandra Posch, Andreas Horner, Peter Lanzerstorfer, Johannes Preiner <i>University of Applied Sciences Upper Austria, Austria</i>	2	Insights on IgG oligomer mediated Fc Receptor clustering
<u>Borja Ibarra</u> , Diego Carlero, Shingo Fukuda, Rebeca Bocanegra, Toshio Ando, Jaime Martin-Benito <i>IMEDA Nanociencia, Madrid, Spain</i>	3	Conformational dynamics of influenza A virus ribonucleoprotein complexes during RNA synthesis revealed by HS-AFM
<u>Adai Colom</u> , Souvik Naskar, Andreas Merino, Javier Espadas, Jayanti Singh, Aurelien Roux, Harry H. Low <i>University of Basque Country, Spain</i>	4	Mechanism for ring biogenesis and lipid membrane repair: Vipp1
<u>Jürgen Strasser</u> , Petra Dallinger, Martina Hofmann, Johannes Preiner <i>University of Applied Sciences Upper Austria, Austria</i>	5	Tapping IgM, IgA and their Derivatives for Preclinical Research
<u>Sarah Stainer</u> , Aline Cisse, Ambroise Desfosses, Eaazhisai Kandiah, Gerd Leitinger, Gerd Hoerl, Judith Peters, Peter Hinterdorfer, Ruth Prassl, Karin Kornmueller <i>Johannes Kepler University Linz, Austria</i>	6	Exploring low-density lipoprotein (LDL) with cry-EM and HS-AFM to unify structural resolution and mobility analysis
<u>E. M. Martin-Cuevas</u> , C. Aicart-Ramos, M. Marín-Baquero, F. Moreno-Herrero <i>CNB, Madrid, Spain</i>	7	Visualization of RNA structural domains using Atomic Force Microscopy
<u>Ronnie G. Willaert</u> , Andreas Kraus, Charlotte Yvanoff, Yeseren Kayacan, Timothy Januarius, Heiko Haschke, Giovanni Dietler, Eveline Peeters, Sandor Kasas <i>NAMI, Vrije Universiteit Brussel, Brussels, Belgium</i>	8	High-speed AFM and DNA origami to study single-protein – DNA interaction dynamics
Margherita Montorsi, Lorenzo Zavagna, Lorenzo Scarpelli, Serena Danti, Simone Capaccioli, <u>Massimiliano Labardi</u> <i>CNR-IPCF, Sede Secondaria di Pisa, Italy</i>	9	Piezoelectric yield of single polymer nanofibers: intermittent-contact piezoresponse force microscopy and numerical modeling

## **2 – Molecular Force Spectroscopy and Interaction**

Julia Benthin, Sanjai Karanth, Phil Richter, Veronika Somoza, <u>Melanie Koehler</u> <i>Leibniz Institute for Food Systems Biology at the Technical University Munich, Germany</i>	10	Maximizing flavor: Leveraging nano-biophysical methods in food perception and formulation research.
<u>Dylan Schener</u> , Damien Sluysmans, Charles-André Fustin, Anne-Sophie Duwez <i>University of Liège, Belgium</i>	11	Investigation into the mechanical properties of tethered disulfide bonds by single-molecule force spectroscopy using AFM

<u>Valentin Foidart</u> , Raphael Riva, Anne-Sophie Duwez <i>University of Liege, Belgium</i>	12	Studying the Mechanical Reversibility of a Click-Chemistry Linkage by AFM-Based Single-Molecule Spectroscopy
<u>Martin Blavier</u> , Guillaume De Bo, David A. Leigh, Anne-Sophie Duwez <i>University of Liège, Belgium</i>	13	Single-Molecule Force Spectroscopy of a Trefoil Knot Gated by a Diels-Alder Mechanophore
<u>Célia Franceschini</u> , Thomas Carabin, Hanna Traeger, Stephen Schrettl, Christoph Weder, Anne-Sophie Duwez, Damien Sluysmans <i>University of Liège, Belgium</i>	14	Investigating the Mechanical Strength of Individual Perylene Diimide Interactions by Advanced Force Spectroscopy Experiments
<u>Spantzel L.</u> , Pérez I., Heitkamp T., Westphal A., Reuter S., Mrowka R., Börsch M. <i>Jena University Hospital, Germany</i>	15	Single-molecule spectroscopy of GPCR oligomerization using a Anti-Brownian Electrokinetic Trap (ABELtrap)
<u>Chalmers Chau</u> , Gayathri Mohanan, Fabio Marcuccio, Dimitrios Soulias, Sheena E. Radford, Eric W. Hewitt, Martin A. Edwards, Christoph Wälti, Paolo Actis <i>University of Leeds, UK</i>	16	Single molecule analysis with solid-state nanopore: Properties and kinetics
<u>Y.J. Oh</u> , J. F-W Chan, D. Hoffmann, S. Mereiter, D. Canena, R. Zhu, L. Hain, M. Klausberger, K-Y. Wuen, J. Penninger, D. Markovitz, C. Oostenbrink, P. Hinterdorfer <i>Johannes Kepler University Linz, Austria</i>	17	Single molecule characterization of lectin binding to SARS-CoV-2 spike glycans
<u>L. Hain</u> , M. Klausberger, E. Laurent, G. Wirnsberger, N. F. Kienzl, L. Mach, J. M. Penninger, D. Markovitz, P. Hinterdorfer, Y. J. Oh <i>Johannes Kepler University Linz, Austria</i>	18	Characterization of SARS-CoV-2 Spike Interactions by Surface Plasmon Resonance
<u>Peng Zheng</u> <i>Nanjing University, China</i>	19	Force Spectroscopy Investigation of the Ultrahigh-Affinity Zinc Sites in S100A12
<u>Julia Benthin</u> , Veronika Somoza, Melanie Köhler <i>Leibniz Institute for Food Systems Biology at the Technical University Munich, Germany</i>	20	Mouthfeel – How texture influences taste qualities studied by nano-biophysical approaches
<u>Sandor Kasas</u> , Maria I. Villalba, Ronnie G. Willaert <i>Swiss Federal Institute of Technology Lausanne, Switzerland</i>	21	Optical nanomotion based adhesion measurements
<u>Miguel Cantero</u> , Virginija Cvirkaite-Krupovic, Mart Krupovic, Pedro J. de Pablo <i>Universidad Autónoma de Madrid, Spain</i>	22	Fluid-like Archaeal Virus: extreme mechanics for extreme environments
<u>Pooja Bhat</u> , Wafa Muftuhin, Michael Walter <i>University of Freiburg, Germany</i>	23	Rupture force prediction made easy
<u>Shatruhan Singh Rajput</u> , Surya Pratap S. Deopa, Ajith V.J., Shivprasad Patil <i>IISER, India</i>	24	Validity of point-mass model in off-resonance dynamic atomic force microscopy in liquid environment

### 3 – Cellular Imaging

<u>Markus Axmann</u> , Andreas Karner, Herbert Stangl, Birgit Plochberger <i>University of Applied Sciences Upper Austria, Austria</i>	25	A self-regulating mechanism for cholesterol exchange between lipoprotein particles and membranes?
<u>Florian Weber</u> , Mariana Amaro, Markus Axmann, Hof, Herbert Stangl, Taras Sych, Erdinc Sezgin, Birgit Plochberger <i>University of Applied Sciences Upper Austria, Austria</i>	26	Unraveling the lipid glycerol linkage site's impact on HDL particle interaction
<u>Xiliang Yang</u> , Dong Hoon Shin, Yu Ze, Kenji Watanabe, Takashi Taniguchi, Vitaly Babenko, Stephan Hofmann, Sabina Caneva <i>Delft University of Technology, The Netherlands</i>	27	Hexagonal Boron Nitride Spacer Layers for Fluorescence Imaging of Biomolecules

<u>Hsiang-ling Chuang</u> , Kum-Yi Cheng, Er-Chien Horng, Yi-De Chou, Yu-Chen Fa, Chun-hsien Chen, Li-Chen Wu, Ja-an Annie Ho <i>National Taiwan University, Taiwan</i>	28	Two distinct lipid raft dynamics directed by $\alpha_v\beta_3$ -responsive stimuli on live MCF-7 cells: Resveratrol versus fibrinogen
J. Hieslmayr, M. Nemeth, L. Ebner, G. Hanneschläger, B. Heise, I. Alic, A. Ebner, <u>M. Leitner</u> <i>Johannes Kepler University Linz, Austria</i>	29	Optical Coherence Tomography for Guiding an Atomic Force Microscope in Turbid Liquids
<u>Arvi Freiberg</u> , Kõu Timpmann, Margus Rätsep <i>University of Tartu, Estonia</i>	30	Color Tuning in Photosynthesis
<u>Tamás Gerecsei</u> <i>Cytosurge AG, Switzerland</i>	31	Applications of fluidic force microscopy (FluidFM) in biophysics and single-cell manipulation

## 4 – Molecular and Cellular Mechanics

<u>Clara Garcia-Sacristan</u> , Victor G. Gisbert, Kevin Klein, Andela Saric, Ricardo Garcia <i>CSIC Madrid, Spain</i>	32	Towards a real-time imaging of the assembly and disassembly of collagen nanofibers
<u>Martin Dehnert</u> , Paul Zech, Alexandra Bendixen, Andreas Otto, Robert Mangerle <i>Technische Universität Chemnitz, Germany</i>	33	Rate-independent hysteretic energy dissipation in collagen fibrils
<u>Holly Barter</u> , Zhen Bai, Ellen Oudkerk-Sodia, Emilie Gachon, Patrick Mesquida <i>King's College London, UK</i>	34	Determining the tensile modulus of collagen fibrils by bending on a flexible substrate
<u>Christina M. Sulea</u> , Dominik Sziklai, Miklós Pólos, Kálmán Benke, Zoltán Szabolcs, Miklós S.Z. Kellermayer <i>Semmelweis University, Hungary</i>	35	Atomic force microscopy investigation of human fibrillin microfibril morphology and mechanics in Marfan syndrome
<u>Dominik Sziklai</u> , Miklós Kellermayer, Zsolt Mártonfalvi <i>Semmelweis University, Hungary</i>	36	Molecular Preparation and Study of the Sarcomeric M-line Complex using Atomic Force Microscopy (AFM)
<u>M. Csilla Csányi</u> , Dominik Sziklai, Tímea Feller, Jolán Hársfalvi, Miklós Kellermayer <i>Semmelweis University, Hungary</i>	37	Nanosurgical manipulation of extended von Willebrand factor multimer
<u>Imre Hegedüs</u> , Rita Pázmány, Voniatis Constantinos, Krisztina Juriga-Tóth, Domokos Máthé, Miklós Kellermayer, Angéla Jedlovskzy-Hajdú <i>Semmelweis University, Hungary</i>	38	AFM investigations of nanomechanical properties of electrospun nanofibers
<u>Giorgia Demontis</u> , Fernanda De Castro Reis, Paul Heppenstall, Laura Andolfi <i>IOM-CNR, Trieste, Italy</i>	39	Localized mechanical stimulation of Piezo2 channel by Atomic Force Microscopy
<u>Carine Assaf</u> , Anthony Vial, Cécile Feuillie, Anthony Bouter, Michael Molinari <i>University of Bordeaux, France</i>	40	Development of Atomic Force Microscopy related modes for the study of plasma membrane repair
<u>Francesco M. Espinosa</u> , Victor G. Gisbert, Juan G. Sanchez, Maria Concepcion Serrano, Ricardo Garcia <i>CSIC, Madrid, Spain</i>	41	Nanorheology and Nanoindentation Revealed a Softening and an Increased Viscous Fluidity of Adherent Mammalian Cells upon Increasing the Frequency
<u>Simon Neidinger</u> , Isabella Kroiß, Anna Jötten, Christoph Westerhausen <i>University of Augsburg, Germany</i>	42	The effective dynamic elastic modulus of cancer cells as function of temperature and membrane order
<u>Viktorija Sergunova</u> , Vladimir Inozemtsev, Nina Vorbojeva <i>V.A. Negovsky Research, Moscow, Russia</i>	43	Surface Parameters of Neutrophils: Assessing Activation and NETosis with Atomic Force Microscopy
<u>Gergely T. Iványi</u> , Gaszton Vizsnyiczai, Jana Kubacková, Cyril Clabý, Denis Horváth, Andrej Hovan, Alena Strejcková, Zoltán Tomori, Lóránd Kelemen, Gregor Bánó <i>HUN-REN Biological Research Centre, Hungary</i>	44	Ultrasmall viscometers based on flexible polymer microstructures
<u>E. Sentre-Arribas</u> , O. Malvar, J.J. Ruz, S. Sbarra, A. Lemaître, I. Favero, J. Tamayo, M. Calleja, E. Gil-Santos	45	Simultaneous optical and mechanical sensing based on optomechanical resonators



## IMN-CNM (CSIC), Spain

- Mikel Marin-Baquero, Pablo Ares, Eva M. Martin-Cuevas, Julio Gómez-Herrero, Fernando Moreno-Herrero  
CNB (CSIC), Spain 46 A home-build correlative AFM-TIRF microscope to study DNA-protein interactions
- Sang Heon Lee  
Andong National University, Korea 47 Swing type Atomic Force Microscope for large range and high speed scan
- Hyeonjun Kwon, Jihoon Shin, Rong Zhu, Sarah Stainer, Peter Hinterdorfer, Dongwhan Kim, Yoo Jin Oh  
Johannes Kepler University Linz, Austria 48 Fabrication of Homogenous and Highly Dense Biomolecular Receptor Surface Using Self-assembling DNA tiles
- Rohit Yadav, Jürgen Pfeffermann, Niklaus Goessweiner-Mohr, Toma Glasnov, Peter Pohl  
Johannes Kepler University Linz, Austria 49 Mechanical modulation of a voltage-gated potassium ion channel by a photolipid-based approach
- Jürgen Pfeffermann, Rohit Yadav, Simon Strassgschwandthner, Toma Glasnov, Olive Thorn-Seshold, Peter Pohl  
Johannes Kepler University Linz, Austria 50 Energy transfer facilitates asymmetric stress generation in photoswitchable lipid bilayers using red light
- Charlotte Yvanoff, Ronnie Willaert, Sandor Kasas  
NAMI-SBB, Vrije Universiteit Brussel, Belgium 51 Optical and mechanical phenotyping of osteoblasts exposed to fluid flow shear stress
- Vjera Radonicic, Hira Sohali, Charlotte Yvanoff, Maria Ines Villalba, Bart Devreese, Sandor Kasas, Ronnie Willaert  
Vrije Universiteit Brussel, Belgium 52 Single-Cell Optical Nanomotion of *Candida albicans* and *Escherichia coli* in Microwells for Rapid Antimicrobial Susceptibility Testing
- Villalba M.I., Parmar P., Alexandre Seiji Horii-Huber, Kalauzi A., Bartolic D., Radotic K., MacFabe D.F., Willaert R.G., Kasas S.  
EPFL, UNIL, Lausanne, Switzerland 53 Mitochondrial activity detected by nanomotion methods
- H. Schillers, D. Ciechanska  
University Hospital Münster, Germany 54 Development of a method to quantify cellular mechano-response on the single cell level

## 5 – Nanosensors

- Lovikka Ville A., Chen Lin, Figueiredo Patrícia I., Mikkonen Kirsi S.  
University of Helsinki, Finland 55 Atomic force microscopy of Pickering emulsions at the nanoscale
- Mohammad Saghafi, Suryasnata Tripathy, Serge G. Lemay  
University of Twente, Netherlands 56 High-Frequency Stochastic Biosensing At Nanoelectrodes
- Antonia Silvestri, Gianluca Fabi, Maxwell Sparey, Michael Leitner, Ivan Alic, Georg Gramse  
Johannes Kepler University Linz, Austria 57 Towards Pathogen Sensing in a Microfluidic Device based on a Microwave Narrowband Sensor
- Nisha Ranjan, Qiwei Hu, Andrej Weber, Rekha Sharma, Philipp Gaiser, Caroline Schmidt, Birgit Esser, Bizan N. Balzer  
University of Freiburg, Germany 58 Triboelectric Energy Harvesting: Charge Transfer via Redox Active Donor-Acceptor Pairs
- Memed Duman, Naim Yagiz Demir, Ipek Akyilmaz, Asli Erol, Fatma Zeynep Bozkurt  
Hacettepe University, Ankara, Turkey 59 Lab-on-a-CD based Nanostructured Modified Electrochemical Biosensor: Advancing Portable Diagnostics for Metabolic Diseases