



## Monday, 28 October

8am	<b>Registration</b> <i>Galerie</i>
8:50am	<b>Opening session</b> <i>Amphithéâtre Friedel</i>
9am	<b>Plenary Session</b> <i>Amphithéâtre Friedel</i> Chaired by: Prof. Frank Vollmer
9am	<b>Subnanometer Resolved and Multilevel Molecular Logics Single-Molecule Sensing</b> » <a href="#">Prof. Philip Tinnefeld</a>
9:40am	<b>Watching single molecules interact with metal surfaces under light</b> » <a href="#">Prof. Jeremy Baumberg</a>
10:20am	<b>Coffee Break</b> <i>Galerie</i>
10:50am	<b>Plenary Session</b> <i>Amphithéâtre Friedel</i> Chaired by: Prof. Philip Tinnefeld
10:50am	<b>Molecule-scale resolution and dynamics in fluorescence microscopy</b> » <a href="#">Prof. Stefan Hell</a>
11:30am	<b>The Alchemy of Vacuum</b> » <a href="#">Prof. Thomas Ebbesen</a>

12:10pm **Lunch**  
*Restaurants*

1:30pm **Poster Session**  
*Galerie*

### **Towards Photonic Integrated Optoplasmonic Single-Molecule Biosensor**

» [Dr. Koji Masuda](#), Mr. Abdullah Alabbadi, Prof. Pascal Del'Haye, Prof. Frank Vollmer

### **Biosensors based on graphene and DNA**

» [Dr. Ewa Czechowska](#), Mrs. Karolina Gronkiewicz, Dr. Alan Szalai, Mr. Giovanni Ferrari, Mr. Lars Richter, Mr. Jakob Hartmann, Ms. Merve-Zeynep Kesici, Mr. Bosong Ji, Dr. Kush Coshic, Ms. Annika Jaeger, Prof. Aleksei Aksimentiev, Dr. Ingrid Tessmer, Dr. Andrés M. Vera, Dr. Izabela Kamińska, Prof. Philip Tinnefeld

### **Optimal design of surface plasmon-coupled emission substrates for two-color single-molecule localization imaging**

» Mr. Jian-Zong Lai, [Mr. Fan-Ching Chien](#)

### **Microsphere enhanced laser fabrication and fluorescence collection of quantum emitters in hexagonal boron nitride**

» [Ms. XILIAN YANG](#), Dr. Sabina Caneva

### **Pristine Hexagonal Boron Nitride (hBN) for smFRET Studies of Fluorescently Labelled DNA Structures**

» [Ms. Daria Orekhova](#), Dr. Ze Yu, Dr. Sabina Caneva

### **Topologically dark metamaterials for label-free optical biosensing**

» [Dr. Gleb Tselikov](#), Dr. Georgy Ermolaev, Dr. Aleksey Arsenin, Dr. Valentyn Volkov

### **3D single-molecule detection using semiconductor nanowires**

» [Mx. Rubina Davtyan](#), Prof. Nicklas Anttu, Ms. Julia Valderas Gutiérrez, Prof. Fredrik Höök, Prof. Heiner Linke



Continued from **Monday, 28 October**

**Measurements with single NV centers and optimization of parameters using theoretical model**

» [Mr. Asier Mongelos](#), Prof. Gabriel Molina Terriza, Dr. Ruben Pellicer Guridi, Dr. Jason Francis

**Dielectrophoretic Trapping of Label-Free Single-Molecule Proteins**

» [Mr. Jamal Soltani](#), Ms. Janike Bolter, Mr. Jacco Ton, Dr. Théo Travers, Mr. Daniel Wijnperle, Mr. Dmytro Shavlovskiy, Prof. Michel Orrit, Dr. Sergii Pud

**Plasmonic Tweezer-Assisted Analysis of Single-Molecule Heme Binding to h-CLOCK Proteins and Its Impact on Circadian Rhythm**

» Dr. Yanhong Wang, [Mr. Saaman Zargarbashi](#), Prof. Andrew Hudson, Dr. Jingzhi Wu, Dr. Lei Xu, Prof. Mohsen Rahmani, Dr. Cuifeng Ying

**Single-molecule fluorescence enabled by nanogap gold antennas toward imaging and biosensing**

» [Mr. José Santos](#), Dr. Ana R. Silva-Santos, Dr. Vanda V. Serra, Prof. Duarte M. F. Prazeres, Prof. Peter Zijlstra, Prof. Sílvia M. B. Costa, Dr. Pedro M. R. Paulo

**Continuous-Wave Vibrational Sum Frequency Generation with a Molecular optomechanical Nanocavity**

» [Ms. Zhiyuan Xie](#), Mr. Francesco Ciccarello, Mr. Christophe Galland

**Sequencing of alpha-Synuclein Intrinsically Disordered Protein through single-layer MoS2 Solid-State Nanopores**

» [Dr. Adrien Nicolai](#), Dr. Patrice Delarue, Ms. Andreina Urquiola Hernandez, Prof. Patrick Senet

**Electronic mapping of a human genome at high throughput using a nanochannel detector**

» [Mrs. Shira Weisthal](#), Dr. jasline Deek, Prof. Yuval Ebenstein

**Using Whispering Gallery Modes to Detect the Single-Enzyme turnover events of NanoLuc**

» [Ms. Alice Attenborough](#), Dr. Daniel Kattnig, Prof. Frank Vollmer

**Gold nanoparticle-mediated direct detection of unmodified DNA via surface-enhanced Raman spectroscopy: assessing reproducibility and conformational changes**

» [Ms. Daria Ioana Stoia](#), Dr. Ana-Maria Craciun, Prof. Marc Lamy de la Chapelle, Dr. Monica Focsan

**Label-free classification of extracellular vesicles using double nanohole optical tweezers and convolutional neural networks**

» [Mr. Tianyu Zhao](#), Mr. Matthew Peters, Mr. Sina Halvaei, Mrs. Annie Yang-Schulz, Prof. Karla C. Williams, Prof. Reuven Gordon

**Ultrahigh-Q silicon metasurfaces for sensing with improved limit of detection**

» [Dr. Keisuke Watanabe](#), Prof. Tadaaki Nagao, Dr. Masanobu Iwanaga

**Impact of size of plasmonic nanoparticles on their detection sensitivity.**

» [Ms. Sapna Sudan](#), Prof. Sunil Bhand

**Temperature dependent dynamics of membrane proteins using single-molecule FRET**

» [Mr. Kémil Belhadji](#), Dr. Alicia Damm, Mr. John Manzi, Dr. Daniel Levy, Dr. Raju Regmi, Dr. Patricia Bassereau

**Development of force-sensors based on mechanochromic polydiacetylene**

» [Ms. Jianlu Zheng](#), Dr. Kaori Sugihara

**Quantum-enabled super resolution imaging**

» [Mr. Kyle Clunies-Ross](#), Prof. Warwick Bowen, Dr. Larnii Wone, Dr. Nicolas Mauranyapin, Dr. Rumelo Amor

**Development of interfaces having dual characteristics to comb DNA molecules for studying chromatin accessibility at early embryonic stage**

» [Dr. Hemendra Yadav](#)

**Single-molecule detection and super-resolution imaging with electrochemiluminescence microscopy**

» [Ms. Wenxin Zhu](#), Prof. Jiandong Feng



Continued from **Monday, 28 October**

**Towards Direct Transcriptome Characterization Using RNA Nanotechnology in Solid-State Nanopores**

» [Mr. Simon Brauburger](#), Prof. Ulrich Keyser

**Optical widefield nuclear magnetic resonance microscopy**

» [Ms. Julia Draeger](#)

**Label-free Microsensor of Breast Cancer DNA concentration through Electrical Bioimpedance Spectroscopy**

» [Dr. César Antonio González Díaz](#), Ms. Leticia Arias Gonzalez, Dr. Jose A Cruz Ramos, Dr. Nadia M Pérez Vielma, Dr. Jacobo E Mungua Cervantes, Dr. Modesto Gómez López

**Elaboration of biocide thin films deposition by plasma from mixture of titanium tetrakisprooxide (TTIP) and Oxygen molecules**

» [Dr. Fella Esmâ Teniou](#), Prof. Mouloud KIHÉL, Prof. SALAH SAHLI, Dr. MOUNA SAOUDI, Prof. Patrice RAYNAUD

**2:30pm Micro/Nanofluidics/Chemical control at the Nanoscale -1**

*Amphithéâtre Friedel*

Chaired by: Prof. Laurent Cognet

**2:30pm Nanopores with polymer brushes for long-term non-invasive trapping of proteins**

» [Prof. Andreas Dahlin](#)

**3:02pm Advanced Fluorescence Lifetime DNA-PAINT Microscopy for Cell and Tissue Imaging**

» [Dr. Samrat Basak](#), Dr. Nazar Oleksiievets, Dr. Jan Christoph Thiele, Dr. Felipe Opazo, Prof. Jörg Enderlein, Dr. Roman Tsukanov

**3:19pm Innovative platform for single molecule studies of nanoswitches for continuous biosensing**

» [Ms. Claudia Scarpellini](#), Dr. Annelies Dillen, Mr. Livio Oliveira de Miranda, Dr. Dragana Spasic, Prof. Peter Zijlstra, Prof. Jeroen Lammertyn

**3:36pm Probing the nucleation and assembly of biomolecular condensates with single molecule mass photometry**

» [Dr. Wayne Yang](#), Mr. Amaury Autric, Prof. Aleksandra Radenovic

**3:53pm Conical nanopores with tunable geometries for multiple nanoscale applications**

» [Mr. German Lanzavecchia](#), Ms. Anastasiia Sapunova, Dr. Ali Douaki, Mr. Shukun Weng, Prof. Denis Garoli

**2:30pm Single-molecule Sensors and Sequencers - 1**

*Room 3*

Chaired by: Prof. Peter Zijlstra

**2:30pm Exploiting the Purcell Effect for Advanced Fluorescence Techniques: Nanocavity-Based Quantum Yield Measurement and Metal-Induced Energy Transfer Imaging**

» [Prof. Jörg Enderlein](#)

**3:02pm Advanced 3D Nanoplasmonic Cavity toward Single DNA Mutation Detection**

» [Dr. Sung-Gyu Park](#)

**3:19pm Enhancing the detection threshold of fluorescence lifetime correlation spectroscopy (FLCS) to the sub-picomolar range**

» [Ms. Malavika Kayyil Veedu](#), Dr. Jerome Wenger

**3:36pm Decoding Ferritin Disassembly at the Single-Molecule Level with Solid-State Nanopores**

» [Ms. Mahya Assadipapari](#), Mr. Max Adam, Mr. Alireza Soleimani, Mr. Arman Yousefi, Mr. Saaman Zargarbashi, Dr. Lei Xu, Prof. Jiali Li, Prof. Mohsen Rahmani, Dr. Cuifeng Ying

**3:53pm Single-molecule, label-free insights into protein flexibilities and dynamics using optical nanotweezers**

» Mr. Arman Yousefi, Mr. Saaman Zargarbashi, Ms. Mahya Assadipapari, Dr. Lei Xu, Prof. Mohsen Rahmani, [Dr. Cuifeng Ying](#)



Continued from **Monday, 28 October**

- 2:30pm **Single-Molecule Spectroscopy, Imaging, and Forces -1**  
*Room 8*  
Chaired by: Prof. Reuven Gordon
- 2:30pm **Nanofluidic Scattering Microscopy and Spectroscopy of Single Nano-Objects**  
» [Mr. Christoph Langhammer](#)
- 3:02pm **Single-molecule Toxicogenomics: Optical Genome Mapping of DNA-damage in nanochannel arrays**  
» [Prof. Yuval Ebenstein](#)
- 3:19pm **Single molecule imaging with plasmonic and enzymatic amplification of fluorescence**  
» [Ms. Katharina Schmidt](#), Dr. Naoto Asai, Mr. Dario Cattozzo Mor, Dr. Prasanth Asokan, Dr. Andres de los Santos Pereira, Dr. Tomas Riedel, Dr. Chun Jen Huang, Dr. Jakub Dostalek
- 3:36pm **Label-free detection and profiling of individual solution-phase molecules**  
» [Dr. Lisa-Maria Needham](#), Prof. Randall Goldsmith
- 3:53pm **Broadband Plasmonic Nanoantennas for Multi-Color Nanoscale Dynamics in Living Cells**  
» [Dr. Maria Sanz-Paz](#), Dr. Thomas van Zanten, Prof. Carlo Manzo, Dr. Mathieu Mivelle, Prof. Maria Garcia-Parajo
- 4:10pm **Coffee Break**  
*Galerie*
- 4:40pm **Group Picture**  
*Galerie*

- 4:50pm **Molecular Machines, Synthetic Biology, and DNA Origami -1**  
*Amphithéâtre Friedel*  
Chaired by: Mr. Andreas Dahlin
- 4:50pm **Using physics to understand and fight viruses**  
» [Prof. Jan Lipfert](#)
- 5:22pm **Investigating the R-loop formation by CRISPR-Cas9 with ultrafast single-molecule twist measurements**  
» [Mr. Fabian Welzel](#), Dr. Julene Madariaga-Marcos, Dr. Dominik Kauert, Prof. Ralf Seidel
- 5:39pm **Single-molecule nanopore sensing enables quantitative detection of topologically barcoded RNA**  
» [Dr. Casey Platnich](#), Mr. Max Earle, Prof. Ulrich Keyser
- 5:56pm **Single-molecule sensing with a single photon counting microscope - Luminosa**  
» [Dr. Evangelos Sisamakos](#), Dr. Fabio Barachati, Dr. Marcelle Koenig, Dr. Maria Loidolt-Krüger, Ms. Ellen Schmeier, Mr. Matthias Patting, Mr. Marcus Sackrow, Dr. Felix Koberling, Mr. Rainer Erdmann
- 6:13pm **Coiled Coils as Molecular Force Sensors: from Molecular Mechanisms to Applications in Cell Biology**  
» Dr. Russell J. Wilson, Dr. Melis Goktas, [Prof. Kerstin G. Blank](#)
- 4:50pm **Single-Molecule Spectroscopy, Imaging, and Forces -2**  
*Room 3*  
Chaired by: Prof. Jörg Enderlein
- 4:50pm **Membrane mechanics affects transmembrane proteins' dynamics and function**  
» [Dr. Patricia Bassereau](#)
- 5:22pm **Single-Molecule FLIM of Plasmonic and Dielectric Nanostructures For Light-Matter Interaction Imaging At The Nanometer Scale**  
» [Dr. Valentina Krachmalnicoff](#), Dr. Margoth Cordova-Castro, Dr. Bart van Dam, Dr. Yannick DE Wilde, Dr. Ignacio Izeddin



Continued from **Monday, 28 October**

5:39pm **Topological darkness in two-dimensional materials for biosensing**  
 » [Dr. Georgy Ermolaev](#), Dr. Gleb Tselikov, Dr. Aleksey Arsenin, Dr. Valentyn Volkov

5:56pm **Anti-Brownian Electrokinetic Trapping of Fluorescence-free Nanoparticles in Water**  
 » [Mr. Farshad Rezakhanloo](#), Dr. Yera Ussembayev, Prof. Kristiaan Neyts, Prof. Filip Strubbe

6:13pm **Three-dimensional multi-target super-resolution microscopy of cells using Metal-Induced Energy Transfer and DNA-PAINT**  
 » Dr. Nazar Oleksiievets, Dr. Nikolaos Mougios, Dr. Daniel C. Jans, Dr. Lara Hauke, Dr. Jan Christoph Thiele, Dr. Samrat Basak, Prof. Stefan Jakobs, Dr. Felipe Opazo, Prof. Jörg Enderlein, [Dr. Roman Tsukanov](#)

6:30pm **Nanographenes as single quantum emitters**  
 » Mr. Thanh Trung HUYNH, Dr. Hugo Levy-Falk, Mr. Sébastien Quistrebart, Dr. Suman Sarkar, Dr. Daniel Medina-Lopez, Dr. Elsa Cassette, Dr. Loïc Rondin, Dr. Stéphane Campidelli, [Prof. Jean-Sébastien Lauret](#)

4:50pm **Advanced Techniques in Optical Microscopy, Single-Molecule Analysis, and Thermodynamics**  
*Room 8*  
 Chaired by: Prof. Sonja Schmid

4:50pm **Label-Free Detection and Hydrodynamic Profiling of Single Solution-Phase Molecules using Optical Microcavities**  
 » [Prof. Randall Goldsmith](#)

5:22pm **Thermodynamic Significance of Effective temperature in driven and active systems: experimental investigation**  
 » [Prof. Yael Roichman](#), Mr. Galor Geva, Dr. Maayan Shalom

5:39pm **Uncovering the energy landscape of single protein conformational changes in nanoaperture optical tweezers**  
 » [Mr. Matthew Peters](#), Prof. Reuven Gordon

5:56pm **Low-mode-volume open-access microcavity for continuously tuneable light-matter coupling**  
 » [Dr. Dmitrii Dovzhenko](#)

6:13pm **A Bayesian solution to single molecule counting in fluorescence microscopy**  
 » [Dr. Alexander Hillsley](#), Dr. Johannes Stein, Dr. Paul Tillberg, Dr. David Stern, Dr. Jan Funke

6:30pm **DeepQR: Single-molecule QR codes provide extreme multiplexing for optical gene-expression analysis**  
 » [Mr. Jonathan Jeffet](#), Prof. Yuval Ebenstein

7pm **Afterwork 1: Cheese and Wine**  
*Le Mouffetard*

**Tuesday, 29 October**

8:30am **Registration**  
*Galerie*

9am **Plenary Session**  
*Amphithéâtre Friedel*  
 Chaired by: Prof. Michael Mayer

9am **Quantum sensing at nanoscale enabled by diamond spin qubits**  
 » [Prof. Fedor Jelezko](#)

9:40am **Shape matters: morphology remodeling and membrane channel formation in synthetic cells via reconfigurable DNA nanorfts**  
 » [Prof. Laura Na Liu](#)

10:20am **Coffee Break**  
*Galerie*



Continued from **Tuesday, 29 October**

10:50am **Plenary Session**  
*Amphithéâtre Friedel*  
Chaired by: Prof. Vincent Croquette

10:50am **Lumen charge governs memristive ion transport in  $\beta$ -barrel nanopores**  
» [Prof. Aleksandra Radenovic](#)

11:30am **Beyond the Genome: Unlocking Proteomic Discoveries with Quantum-Si's Next-Generation Protein Sequencing Technology**  
» [Dr. Brian Reed](#)

12:10pm **Lunch**  
*Restaurants*

1:30pm **Poster Session**  
*Galerie*

**Solid-State Nanopore Technology for Detecting DNA in Laboratory Experiments: Icy World Analogs**

» [Ms. Madeline Garner](#), Dr. Christine Foreman, Dr. Scott Perl

**Nanopore technology allied to machine learning for single-nanoparticle sensing applications**

» [Dr. Javier Villa](#), Mr. Oliver Burman, Dr. Aleksandar Ivanov, Prof. Joshua Edel

**Towards nanopore-based digital quantification of mitochondrial DNA copy number**

» [Dr. Sohini Pal](#), Dr. Diana Huttner, Prof. Amit Meller

**Exploration of single-molecule protein dielectrophoresis by means of trapping and actuation**

» [Ms. Janike Bolter](#), Mr. Jamal Soltani, Mr. Jacco Ton, Dr. Théo Travers, Mr. Dmytro Shavlovskiy, Mr. Daniel Wijnperle, Prof. Michel Orrit, Dr. Sergii Pud

**Towards scanning nanogap cavity microscopy**

» [Ms. Debora Kottmeier](#), Mr. Lennart König, Mr. Paul Weinbrenner, Prof. Friedemann Reinhard

**A probe-integrated multi-dimensional microscope (PIMM)**

» [Mr. Yang Xu](#), Prof. Jiandong Feng

**Site-specific Integration of Hexagonal Boron Nitride Quantum Emitters on 2D DNA Origami Nanopores**

» [Mr. Yabin Wang](#), Dr. Ze Yu, Dr. Carlas Smith, Dr. Sabina Caneva

**Adding the fluorescence lifetime dimension to Single-Molecule Localization Microscopy with the confocal microscope Luminosa**

» [Dr. Evangelos Sisamakias](#), Dr. Maria Loidolt-Krüger, Dr. Samrat Basak, Dr. Fabio Barachati, Dr. Roman Tsukanov, Dr. Oleksii Nevskiy, Dr. Cecilia Zaza, Mr. Germán Chiarelli, Prof. Guillermo Pedro Acuna, Prof. Jörg Enderlein, Mr. Rainer Erdmann

**Wide-field imaging in solution using NV centers**

» [Mr. Yibo Yang](#), Prof. Jiandong Feng

**Studying noncovalent, chirality-driven biomolecular interactions at the nanoscale by plasmon-enhanced spectroscopies**

» Dr. Angela Capocéfalo, Ms. Benedetta Fantasia, Ms. Khadidja Elkobra Benzahra Belkacem, Dr. Adele Bosi, Prof. Alessandro Nucara, Dr. Marco Moroni, Prof. Lorenzo Malavasi, [Dr. Claudia Fasolato](#)

**Label-Free Sensing of Single Zinc Ions Using a Whispering-Gallery Mode Microlaser**

» Dr. Samir Vartabi Kashanian, [Dr. Victor Vassiliev](#), Prof. Frank Vollmer

**Preventing Non-Specific Adsorption in Nanofluidic Scattering Microscopy**

» [Ms. Leyla Beckerman](#), Mr. Bohdan Yeroshenko, Mr. John Andersson, Mr. Andreas Dahlin, Mr. Joachim Fritzsche, Mr. Christoph Langhammer

**Single barium ion detection to study the nature of the neutrino**

» [Mr. Mikel Elorza Romera](#), Dr. Alexey Brodolin, Dr. Ane Izaskun Aranburu, Dr. Pablo Herrero-Gómez, Prof. Zoraida Freixa, Prof. Juan José Gómez-Cadenas, Prof. Gabriel Molina-Terriza



Continued from **Tuesday, 29 October**

**Efficient Photoisomerization Control Using Plasmon-Enhanced Upconversion Photoluminescence**

» [Prof. Doo-Hyun Ko](#)

**Exploring Controlled Single-File Translocation of Proteins and DNA Through Solid State Nanopore Sensors**

» [Mr. Neeraj Soni](#), Prof. Amit Meller

**Lightguiding nanowire biosensors for the study of highly curved lipid membranes**

» [Ms. Julia Valderas Gutiérrez](#), Mx. Rubina Davtyan, Prof. Heiner Linke, Prof. Christelle Prinz, Prof. Fredrik Höök

**ON-OFF nanopores for optical control of transmembrane ionic communication**

» [Mr. xingzao wang](#), Dr. Aidan Kerckhoffs, Mr. Jorin Riexinger, Dr. Matthew Cornall, Prof. Matthew Langton, Prof. Hagan Bayley, Prof. Yujia Qing

**Characterizing artificial motor proteins**

» [Mr. patrik Nilsson](#), Dr. Neil Robertson, Dr. Nils Gustafsson, Dr. Ivan Unksöv, Prof. Paul Curmi, Prof. Heiner Linke

**Self-organized plasmonic particle aggregates in front of mirrors**

» [Mr. Aleksei Overchenko](#), Prof. Frank Cichos

**Single-molecule analysis of chemiluminescence reaction kinetics and thermodynamics in solution**

» [Ms. Ziqing Zhang](#), Prof. Jiandong Feng

**Sensing single polymer actuation**

» [Mr. Thieme Schmidt](#), Dr. Gerardo Patino Guillen, Prof. Ulrich Keyser, Prof. Jeremy Baumberg

**Geometry Dependent Flow Behavior of Graphene Oxide Nanostructures**

» [Prof. Rina Tannenbaum](#)

**A toolkit for detecting and reconstructing biomolecule scribbles to decipher interactions at the single-molecule level**

» [Dr. Chiara Schirripa Spagnolo](#), [Prof. Stefano Luin](#)

**Plasmonic enhancement of single molecule emission in DNA origamis**

» [Mr. Marco Capuzzo](#), Ms. Claudia Corti, Mr. Nicolas Triomphe, Mr. Gabriel Vazquez, Dr. Sylvie Marguet, Dr. Gaëtan Bellot, Dr. Sebastien Bidault

**Innovative Analysis of Medicinal Plant Composition Using LIBS and Chemometrics**

» [Dr. Khan Muhammad Nouman](#)

**Multi-colour single-molecule FRET to sense the dynamic assembly of the Hsp90 chaperone machinery**

» [Mrs. Julia Schimpf](#), Ms. Leonie Vollmar, Prof. Thorsten Hugel

**Nucleic acid-based nuclear pore complex (NA-NPC) mimics for selective transmembrane transport**

» [Dr. Ze Yu](#), Dr. Sabina Caneva

**Investigation of the behavior of ion current rectification in 3D dielectric oxides nanopores via numerical simulations**

» [Ms. Anastasiia Sapunova](#), Dr. Dmitry Momotenko, Mr. German Lanzavecchia, Mr. Shukun Weng, Dr. Ali Douaki, Dr. Roman Krahne, Prof. Denis Garoli

**The Robin problem for second order elliptic equation, periodic by part of independent variables, in exterior domains**

» [Prof. Hovik Matevossian](#)

2:30pm

**Single-Molecule Spectroscopy, Imaging, and Forces - 3**

*Amphithéâtre Friedel*

Chaired by: Dr. Casey Platnich

2:30pm

**Dances of Millions of Molecules: Unveiling Molecular Processes through a New Advanced Single-Molecule Microscope**

» [Prof. Chirlmin Ioo](#)



Continued from **Tuesday, 29 October**

3:02pm **UV nanophotonics for auto-fluorescence correlation spectroscopy on single label-free proteins**

» [Dr. Jerome Wenger](#), Dr. Prithu Roy, Dr. Jean-Benoit Claude

3:19pm **Graphene/metal-Induced Energy Transfer (GIET/MIET) on Membrane biophysics**

» [Dr. Tao Chen](#), Prof. Jörg Enderlein

3:36pm **Monitoring the conformational dynamics of intrinsically disordered proteins using plasmonic nanotweezers**

» [Mr. Saaman Zargarbashi](#), Mx. Arman Yousefi, Mr. Matthew Peters, Prof. Reuven Gordon, Prof. Cyril Dominguez, Prof. Andrew Hudson, Dr. Christopher Mellor, Dr. Lei Xu, Prof. Mohsen Rahmani, Dr. Cuifeng Ying

2:30pm **Single-molecule Sensors and Sequencers - 2**

*Room 3*

2:30pm **Resolving individual multi-molecular interactions in living cells**

» [Prof. Maria Garcia-Parajo](#)

3:02pm **Focused on nanomaterials: Multilayer graphene and Van der Waals heterostructures for single-molecule fluorescence microscopy**

» [Mrs. Karolina Gronkiewicz](#), Mr. Lars Richter, Mr. Patryk Pyrcz, Prof. Sebastian Günther, Dr. Evelyn Plötz, Dr. Paul Leidinger, Prof. Philip Tinnefeld, Dr. Izabela Kamińska

3:19pm **PR65 binding to small molecule activator ATUX-8385: Single protein binding kinetics study with optical nanotweezer**

» [Mrs. Annie Yang-Schulz](#), Dr. Maria Zacharopoulou, Dr. Sema Zeynep Yilmaz, Dr. Anupam Banerjee, Mr. Satyaki Saha, Dr. Daniel Nietlispach, Dr. Michael Ohlmeyer, Dr. Mert Gur, Dr. Laura Itzhaki, Dr. Ivet Bahar, Prof. Reuven Gordon

3:36pm **Peptide Barcodes Decoded via Single Molecule Protein Sequencing**

» [Mr. Ahmed Rehan](#), Dr. Adeline Pichard-Kostuch, Ms. Ghada Mansour, Dr. Sebastian Hutchinson, Ms. Ellyn Redheuil, Dr. Margarida Gomes, Dr. Marco Ribezzi-Crivellari, Prof. Andrew D. Griffiths

2:30pm **Micro/Nanofluidics/Chemical control at the Nanoscale - 2**

*Room 8*

Chaired by: Prof. Randall Goldsmith

2:30pm **Identification of RNA molecules using DNA nanotechnology (online)**

» [Prof. Ulrich Keyser](#)

3:02pm **Identification and tracking of single proteins within nanochannels**

» [Dr. Marzia Iarossi](#), Mr. Noam Freundlich, Dr. Navneet Chandra Verma, Mrs. Ivy Bhattacharya, Dr. Diana Huttner, Dr. Barak Marom, Prof. Amit Meller

3:19pm **A Nanoscale Valve for Attoliter Continuous Flow Spectroscopy**

» Dr. Toon van Thillo, [Dr. Florian Lucas](#), Mr. Gerard Carrera i Cardona, Prof. Wim Vandenberg, Prof. Peter Dedecker

3:36pm **Controlled sensing of user defined aptamer-based targets using Scanning Ion Conductance Spectroscopy**

» [Ms. Helena Miljkovic](#), Dr. Gordanna Pistoletti, Ms. Lely Feletti, Prof. Alexandre Kuhn, Dr. Wayne Yang, Prof. Georg Fantner, Prof. Aleksandra Radenovic

3:50pm **Coffee Break**

*Galerie*

4:20pm **Single-molecule Sensors and Sequencers - 3**

*Amphithéâtre Friedel*

Chaired by: Prof. Chirlmin Joo

4:20pm **Single-molecule plasmon sensing across timescales**

» [Prof. Peter Zijlstra](#)





Continued from **Tuesday, 29 October**

4:52pm **Single-Molecule Insights into Lipid-Neurotransmitter Interactions**  
» [Dr. Thomas L. Derrien](#), Mr. Aneeth Arunkumar Kakkanattu, Prof. Frank Vollmer

5:09pm **Single molecule counting for quantitative analysis using an optical nanopore array**  
» [Ms. Thanh Hoang Phuong Doan](#), Dr. Jasper Fried, Dr. Yanfang Wu, Prof. Richard D. Tilley, Prof. J. Justin Gooding

5:26pm **Polydiacetylene sensor-based molecular identification enabled by hyperspectral imaging**  
» [Ms. Jiali Chen](#), Dr. Kaori Sugihara

4:20pm **Single-Molecule Spectroscopy, Imaging, and Forces - 4**  
*Room 3*  
Chaired by: Prof. Maria F. Garcia-Parajo

4:20pm **Interrogating Single Proteins with Plasmonic Optical Tweezers: Opportunities and Challenges**  
» [Prof. Michael Mayer](#)

4:52pm **Plasmon-induced threshold power downshift of single avalanching nanocrystals doped with rare earths**  
» [Dr. Marcin Szalkowski](#), Mr. Damian Cholch, Prof. Dawid Piątkowski, Ms. Zuzanna Korczak, Ms. Magdalena Dudek, Dr. Małgorzata Misiak, Prof. Artur Bednarkiewicz, Prof. Sebastian Maćkowski

5:09pm **Difference in optical properties of hybrid nanostructures containing silica-coated Ag2S quantum dots covered with gold island and gold layer**  
» [Mrs. Martyna Iankowska](#), Mr. Jakub Tracz, Dr. Marta Gordel-Wójcik, Prof. Sebastian Maćkowski

5:26pm **Eve-SMLM: Enhanced Single-Molecule Localization Microscopy with Event-Based Vision Sensors**  
» [Dr. Clément Gabriel](#), Ms. Manon Albecq, Dr. Tual MONFORT, Dr. Christian Specht, Dr. Ignacio Izeddin

4:20pm **Probing, Sensing, and Assembling at the nanometer scale**  
*Room 8*  
Chaired by: Dr. Patricia Bassereau

4:20pm **Single-molecule localization microscopy of & with SWIR emitting nanoparticles to probe nanoscale environments in biological tissue.**  
» Mr. Quentin Gresil, Dr. Benjamin Lambert, Dr. Somen Nandi, [Prof. Laurent Cognet](#)

4:52pm **A new IR nanospectroscopy platform to study the effect of static electric fields on molecules**  
» [Mrs. Maria Eleonora Temperini](#), Dr. Raffaella Polito, Dr. Tommaso Venanzi, Prof. Leonetta Baldassarre, Dr. Huatian Hu, Dr. Cristian Ciraci, Dr. Marialilia Pea, Dr. Andrea Notargiacomo, Dr. Francesco Mattioli, Prof. Michele Ortolani, Dr. Valeria Giliberti

5:09pm **Molecular Electronics with DNA towards Detection of Nucleic Acids**  
» [Dr. Dvir Rotem](#), Ms. Anna Makarovskiy, Mr. Chen Klugman, Dr. Roman Zhuravel, Prof. Danny Porath

5:26pm **Photo-Assembling using photosensitive molecular templates**  
» [Dr. Prokop Hapala](#), Dr. Paolo Nicolini, Mr. Mithun Manikandan

6:30pm **Afterwork 2: Théâtre des Nouveautés – How to become a Parisian in one hour?**  
*Théâtre des Nouveautés*

**Wednesday, 30 October**

8:30am **Registration**  
*Galerie*



Continued from <b>Wednesday, 30 October</b>	
9am	<b>Plenary Session</b> <i>Amphithéâtre Friedel</i> Chaired by: Prof. Fedor Jelezko
9am	<b>Nanoaperture Optical Tweezers for Single Unmodified Proteins: Mutations, Drug Interactions, and Energy Landscapes</b> » <a href="#">Prof. Reuven Gordon</a>
9:40am	<b>Towards quantitative and universal single molecule biophysics with mass photometry</b> » <a href="#">Prof. Philipp Kukura</a>
10:20am	<b>Coffee Break</b> <i>Galerie</i>
10:50am	<b>Plenary Session</b> <i>Amphithéâtre Friedel</i>
10:50am	<b>NMR/MRI at the Nano and Micro-Scale using Quantum Diamond Sensors</b> » <a href="#">Prof. Ronald Walsworth</a>
11:30am	<b>TBC</b> » <a href="#">Prof. Vincent Croquette</a>
12:10pm	<b>Lunch</b> <i>Restaurants</i>
1:30pm	<b>Molecular Machines, Synthetic Biology, and DNA Origami - 2</b> <i>Amphithéâtre Friedel</i>
1:30pm	<b>DNA nanosensors – smart implementation of nucleic acid enzymes on DNA origami for single-molecule biosensing</b> » <a href="#">Mr. Seppe Driesen</a> , Dr. Karen Leirs, Ms. Mirjam Kümmerlin, Dr. Cláudio Pinheiro, Prof. An Hendrix, Prof. Achillefs N. Kapanidis, Prof. Jeroen Lammertyn
1:47pm	<b>Measuring VHH Kinetics and Specificity at the Single-Molecule Level</b> » <a href="#">Ms. Elynn Redheuil</a> , Dr. Margarida Gomes, Dr. Sebastian Hutchinson, Ms. Ghada Mansour, Dr. Adeline Pichard-Kostuch, Mr. Ahmed Rehan, Dr. Marco Ribezzi-Crivellari, Prof. Andrew D. Griffiths
2:04pm	<b>Single detection of tumoral receptors with peptides</b> » <a href="#">Dr. Corina Ciobanasu</a>
2:21pm	<b>Multiplexed Nanobody Screening via Single Molecule Kinetics and Protein Barcode Sequencing</b> » <a href="#">Ms. Ghada Mansour</a> , Dr. Sebastian Hutchinson, Mr. Ahmed Rehan, Ms. Elynn Redheuil, Dr. Adeline Pichard-Kostuch, Dr. Margarida Gomes, Dr. Marco Ribezzi-Crivellari, Prof. Andrew D. Griffiths
2:38pm	<b>DNA origami Nano-robot for Mechanical Activation of Membrane Proteins</b> » <a href="#">Dr. Nesrine Aissaoui</a> , Dr. Allan Mills, Dr. Gaëtan Bellot
2:55pm	<b>Detection of conformational directionality in the Hsp90 chaperone machinery by smFRET</b> » <a href="#">Ms. Leonie Vollmar</a> , Mrs. Julia Schimpf, Prof. Thorsten Hugel
1:30pm	<b>Micro/Nanofluidics/Chemical control at the Nanoscale - 3</b> <i>Room 3</i> Chaired by: Dr. Jerome Wenger
1:30pm	<b>New ways to study life at the nanoscale: the NEOtrap, DyeCycling, &amp; more.</b> » <a href="#">Prof. Sonja Schmid</a>



Continued from **Wednesday, 30 October**

1:47pm **Watching single hemoglobin "breathe"**  
 » [Dr. Edona Karakaci](#), Dr. Cuifeng Ying, Dr. Saurabh Awasthi, Dr. Esteban Bermudez Ureña, Prof. Reuven Gordon, Prof. Michael Mayer

2:04pm **Rapid droplet-based mixing for single-molecule spectroscopy**  
 » [Dr. Tianjin Yang](#), Dr. Louise Pinet, Dr. Andrea Sottini, Dr. Daniel Nettels, Prof. Benjamin Schuler

2:21pm **Solid state nanopores – fab to lab**  
 » Dr. Eric Beamish, Mr. Wouter Botermans, Mr. Wouter Renckens, Mr. Florian De Samblanx, Mrs. Ayesha Walikar, Dr. Wannas Peeters, Dr. Manoj Jayshankar, Mr. Bert Du Bois, Mr. Natan Biesmans, Dr. Matteo Pero Cartiglia, Dr. Simone Severi, Prof. Pol Van Dorpe, Dr. Ashesh Ray Chaudhuri, [Dr. Sanjin Marion](#)

2:38pm **A two-dimensional on-chip platform for programming and detecting multi-protein machine assembly**  
 » [Dr. Michael Levy](#), Dr. Reuven Falkovich, Dr. Shirley Daube, Prof. Roy Bar-Ziv

1:30pm **From Quantum Sensing to Quantum Biology**  
*Room 8*  
 Chaired by: Prof. Ronald Walsworth

1:30pm **Discrete Charge Fluctuations on Nanoparticles in Aqueous Solution**  
 » [Dr. Yera Ussembayev](#), Prof. Filip Beunis, Mr. Lucas Oorlynck, Mr. Mohammadreza Bahrami, Prof. Filip Strubbe, Prof. Kristiaan Neyts

1:47pm **Coupling single quantum emitters to dimers of plasmonic nanocubes using DNA origamis**  
 » [Ms. Claudia Corti](#), Mr. Marco Capuzzo, Mr. Nicolas Triomphe, Mr. Gabriel Vazquez, Dr. Jeanne Heintz, Dr. Sylvie Marguet, Dr. Gaëtan Bellot, Dr. Sebastien Bidault

2:04pm **Optical widefield nuclear magnetic resonance microscopy**  
 » [Ms. Julia Draeger](#)

2:21pm **Spin-based thermometry and rheometry at the nanoscale for probing local thermodynamics in biological systems**  
 » [Ms. Sophia Belser](#), Dr. Jack Hart, Ms. Louise Shanahan, Dr. Paula Milán-Rois, Dr. Qiushi Gu, Mr. Julien Roth, Ms. Annika Mechnich, Dr. Michael Högen, Dr. Soham Pal, Mr. Toby Mitchell, Dr. David Jordan, Prof. Eric Miska, Prof. Mete Atatüre, Dr. Helena Knowles

2:38pm **Multiplexed lifetime imaging of single molecules with a gated single-photon camera**  
 » [Mr. Nathan Ronceray](#), Mr. Salim Bennani, Ms. Marianna Mitsioni, Prof. Aleksandra Radenovic

3:10pm **Closing Ceremony**  
*Amphithéâtre Friedel*