Monday 7th July 2025

8:30 Registration (Tea, Coffee and Pastries)

9:00 Opening

Session A:

9:15 **Tutorial Lecture A**: Prof. Petra Agota Szilagyi (University of Oslo)
MOF-guest interfaces and their relevance in catalytic reactions

10:05 Poster Teaser A

11:00 Poster Session A (Tea and Coffee)

12:00 Lunch

Session B:

13:00 **Tutorial Lecture B:** Prof. Julien Gautrot (Queen Mary University of London)
Engineering Protein Assemblies and the Mechanics of Liquid-Liquid Interfaces for Stem Cell Technologies

13:50 Poster Teaser B

14:50 Poster Session B (Tea and Coffee)

Session C:

15:50 **Tutorial Lecture C:** Prof. Tom McDonald (University of Manchester)
Long-acting Therapeutics Enabled by Nanomedicines

16:40 Poster Teaser C

17:40 Poster Session C (Tea and Coffee)

18:40 Group Photo (Geography Square)

19:00 Dinner in Octagon

22:00 End of day 1

Tuesday 8th July 2025

Session D:

8.30 Tea, Coffee and Pastries

9:00 **Tutorial Lecture D:** Prof. Pedro Estrela (University of Bath)
Electrochemical Biosensors and Biodevices for Medical Diagnosis and Water Monitoring

9:50 Poster Teaser D

10:50 Poster Session D (Tea and Coffee)

12:00 Lunch

Closing Session

13:00 Poster Prices

Announcements EnFI2026,

Closing

13:30 Lab tours

16:00 End

Topical Session A: Advanced Materials and Characterisation

Tutorial Lecture A: *MOF-guest interfaces and their relevance in catalytic reactions* – **Prof. Petra Agota Szilagyi** (University of Oslo)

Short Oral Presentations:

A1 **Elena Atanasova (**Johannes Kepler University of Linz**) -** *Basic properties of tungsten oxide anodic memristors*

A2 **Ingeborg Braskerud Tangevold** (University of Oslo) - *Bioinspired copper active sites in UiO-67 for selective C-H activation in methane*

A3 **Max Court** (Queen Mary University of London) - *Ferroelectric – photocatalyst nanocomposites for enhanced solar fuel generation*

A4 **Flavia Di Scala** (Maastricht University) - *Molecular rotor: a real-time approach to assess polymerization process*

A5 **Ester Clarisse do Couto Lopes** (Queen Mary University of London) - *Improving stability of PEDOT nanowire composites through elastomer matrix immobilised dopants*

A6 **Maximilian Knoll** (Aachen University of Applied Sciences) - *Impact of illumination on characteristics of Al2O3- and Ta2O5- type extended-gate ion-sensitive field-effect transistors*

A7 **Ruixiang Li** (Queen Mary University of London) - *Optimized High Performance α-Fe2O3 Semiconductor towards Ultra-Fast Photoelectrochemical Imaging*

A8 **Andrei Ionut Mardare** (Johannes Kepler University Linz) - *Intrinsic defect engineering in anodic memristors*

A9 **Ko-ichiro Miyamoto** (Tohoku University) - *Scanning Photoelectron Yield Spectroscopy for Visualization of Hydrogen in Steel Specimen*

A10 **Rumjhum Mukherjee** (Hannover Medical School) - *Biofilm Formation of Porphyromonas gingivalis on Titanium Surfaces in Response to 1,4-Dihydroxy-2-Naphthoic Acid: An Integrative In Vitro-In Silico Approach*

A12 **Stefan Schmidt** (Aachen University of Applied Sciences) - *Immobilizing aptamers on sputtered gold nanostructures*

A14 **Jiazhe Zhao** (Queen Mary University of London) - *3D photoelectrochemical imaging for the investigation of the localized kinetics of photocatalytic water splitting*

A15 **Raphael Viana** (Queen Mary University of London) - *Development of Novel Photovoltaic Devices Combining Ferroelectric Nanostructures with Perovskite Solar Cells*

A16 **Chang You** (Queen Mary University of London) - *Enhanced thermoelectric performance of copper iodide films by cesium fluoride dopant*

A17 **A Udovičić** (Johannes Kepler University of Linz) - *Volatile analog resistive switching in anodic titanium-tungsten combinatorial library*

Topical Session B: Biological interfaces and Sensors

Tutorial Lecture B: *Engineering Protein Assemblies and the Mechanics of Liquid-Liquid Interfaces for Stem Cell Technologies* – **Prof. Julien Gautrot** (Queen Mary University of London)

Short Oral Presentations:

B1 **Yunpeng Fang** (Queen Mary University of London) - *The influence of fluid shear on cell adhesion investigated with photoelectrochemical imaging (PEI)*

B2 **Andreas Greul** (Johannes Kepler University) - *Co-sputtered Titanium-Europium Thin Films for Biomedical Implants: Fabrication, Structure and Stability*

B3 **Nils Heine** (Hannover Medical School) - *Adaptive Oral Multispecies Biofilm Flow Chamber in vitro Model*

B4 **Dibyendu Khan** (RWTH Aachen University) - *A distributed Bragg Reflector interface with high spectral tunability for filter-free fluorescence microscopy*

B5 **Minh-Hai Nguyen** (Medical School Hannover) - *Conductive and Biodegradable MIP-Based Biosensor for Real-Time IL-6 Monitoring During Surgical Intervention*

B6 **Adrian Onken** (Hannover Medical School) - 3D Printing of Scaled Neural Implants: Additive Fabrication Tailored to Rodent Skulls

B7 **Lisan Puettmann** (Lower Saxony Centre for Biomedical Engineering, Implant Research and Development (NIFE)) - *InToSens - an Inflamatory Toxin Sensor for implants*

B8 **Saba Tamjidtash** (Hannover Medical School) - *Adhesion forces of Candida albicans to polymeric materials*

B9 **Ying Tu** (Imperial College London) - *Tracking cell migration by cellular force footprint recorded with a mechano-optical biosensor*

B10 **Csongor Tibor Urban** (KU Leuven) - *PCB-Integrated 3ω Sensor with Suspended Microwires for Thermal Measurements*

B11 **Derick Yongabi** (KU Leuven) - *Spontaneous cell detachment under thermal stimulation: A label-free pharmacological approach for assessing antifungal drug activity*

B12 **Madita Zach** (Aachen University of Applied Sciences) - *'Nature' in action - beeswax and carnauba wax as encapsulation materials for bioresorbable temperature sensors?*

B13 **Dongli Zhang** (RWTH Aachen University) - *Hybrid Flexible and Stretchable Epidermal Electronic System for Cardiac Monitoring*

B14 **Rachel Smyth** (Queen Mary University of London) - *Development of a Biochip for Dissection of Multivalent Atherosclerosis Signalling*

B15 **Sujitha Kunalan** (Queen Mary University of London) - *Bioactivity at the Interface: Investigating the Responses of Human Cells to Bioresorbable* Biomaterials

B16 **Aalia Rehman** (Queen Mary University of London) - *Microfluidic Environment Modulates Human Mesenchymal Stromal Cell Response to Orthobiologic Porous Synthetic Bone Graft Substitutes*

Topical Session C: Molecularly imprinted polymer and sensors

Tutorial Lecture C: *Long-acting Therapeutics Enabled by Nanomedicines* – **Prof. Tom McDonald** (University of Manchester)

Short Oral Presentations:

C1 **Tessa Bogaardt** (Maastricht University) - *Particle Imprinted Polymers for Bacteria Detection*

C2 **Elke Börmann-El Kholy** (Aachen University of Applied Sciences) - *Towards a novel SIP-based diffraction grating chip for label-free detection of Escherichia coli*

C3 **Saweta Garg** (University of Manchester) - *Non-Invasive Glucose Detection Using Electroactive Molecularly Imprinted Polymers (eMIPs) for Wearable Sensor Applications*

C4 **Alejandro Guzman Landero** (Maastricht University) - *Development of Molecularly Imprinted Polymers as an Indirect Sensing Approach for Spore-Forming Bacteria Detection*

C5 **Niels Knippenberg** (Maastricht University) - *Development towards a novel screening method for nipecotic acid bioisosteres using molecular imprinted polymers (MIPs) as alternative to in vitro cellular uptake assays*

C6 **Martin Wolfgang Konrad** (KU Leuven) - *Towards molecularly imprinted polymers for sensing 1-OH pyrene*

C7 **Xinlu Liu** (University of Manchester) - *Optimising Clinical Detection of Levodopa via Innovative Electrochemical Sensing*

C8 **Carolina Lourenço** (Maastricht University) - *Quantifying Perfluorooctanoic Acid: A MIP-Based Impedimetric Sensor Approach*

C9 **Minh-Hai Nguyen** (Medical School Hannover) - *Step towards in-vivo inflammation sensing in cochlear implant with nanoMIPs in biodegradable layer*

C10 **Nathalie Philippaerts** (Maastricht University) - *Gold Screen Printed Electrodes with Spore-Imprinted Polypyrrole for Fusarium oxysporum Spore Detection*

C11 **Alexander Stokes** (University of Manchester) - *Troponin I biomarker sensing from clinical patient samples using molecularly imprinted nanoparticles as recognition elements*

C12 **Ceyda Tutar** (Medical School Hannover) - *Optimization of a microfluidic channel system with integrated MIPs for intraoperative inflammation detection*

C13 **Gil van Wissen** (Maastricht University) - *Visual Sensor for Sinapic Acid via Bio-Based Molecularly Imprinted Polymers and Cu(II) Complexation*

C14 **Derick Yongabi** (KU Leuven) - *Cellular dynamite: Miconazole-induced bio-mechanical transitions in yeast interfaces monitored by QCM-D*

C15 **Pankaj Singla** (University of Manchester) - *Double-imprinted nanoMIPs for targeted breast cancer therapy*

C16 **Tobias Karschuck** (Aachen University of Applied Sciences) - *Towards on-site solid phase extraction of per- and polyfluoroalkyl substances (PFAS) in soil and wastewater*

Topical Session D: Electrochemical Methods and Sensors

Tutorial Lecture D: *Electrochemical Biosensors and Biodevices for Medical Diagnosis and Water Monitoring*– **Prof. Pedro Estrela** (University of Bath)

Short Oral Presentations:

D1 **Stefan Achtsnicht** (Aachen University of Applied Sciences) - *Towards a multi-sensor array system for online monitoring of drinking water quality*

D2 **Soroush Bakhshi Sichani** (Ku Leuven) - *Development of a catheter-based sensor for the in situ detection of histamine in IBS diagnosis*

D3 **Stefan Beging** (Aachen University of Applied Sciences) - Sodium-sensitive capacitive field-effect sensor

D4 **Fatemeh Ahmadi Tabar** (KU Leuven) - *Electrochemical detection of PFAS employing gold electrodes imprinted with polypyrrole*

D5 **Maximilian Knoll** (Aachen University of Applied Sciences) - *Cross-sensitivity of pH-sensitive HfO_2 extended-gate field-effect transistors to interfering Na+ ions*

D6 **Asghar Niyaziesfiyani** (University of Bath) - *One-Step Polyaniline-Platinum Nanoparticles Grafting on Porous Gold for self-powered glucose monitoring*

D7 **Augusto César Parreiras de Jesus** (Maastricht University) - *Biofunctionalization of aluminium surfaces with Mycobacterium leprae epitopes for serological detection of leprosy*

D8 **Stefan Schmidt** (Aachen University of Applied Sciences) - *Modular measurement platform for multi-ISFET characterization*

D9 **Madita Zach** (Aachen University of Applied Sciences) - *Surface modification of carbon electrodes for nitrite detection*

D11 **Bo Zhou** (University of Hamburg) - *Photoelectrochemical sensing of potassium ions using polyurethane-coated hematite nanorods*

D12 **Tobias Karschuck** (Aachen University of Applied Sciences) - *Magnetic microparticle-based enzymatic detection of C-reactive protein with capacitive field-effect sensors*

D13 **Hangyu Li** (Forschungszentrum Juelich GmbH) - *A label free electrochemical aptasensor enables ultrasensitive and specific detection of neurofilament light*

D14 **Anna Matsumoto** (Kyoto Institute of Technology) - *Effect of Parylene Coating on an Ion-Selective Membrane-Modified Light-Addressable Potentiometric Sensor*

D15 **Saeid Faraji** (Queen Mary University of London) - *Role of impurities on the interfacial stability of iron scales in CO2 pipelines*

D16 **Thorben Schulz** (Hannover Medical School) - *Interface induced shear viscosity control for 3d printing of medical grade silicone*

D17 **Polina Shelingovskaia** (Hannover Medical School) - *Device Design for Green Kerosene Synthesis via Electroadsorptive Effect*