
# 18th Conference on Engineering of Functional Interfaces and 3rd International SIIRI Symposium

07 – 08 July 2026, Hannover, Germany

# 18th Annual Conference on
# Engineering of Functional Interfaces (EnFI)
# and
# 3rd International SIIRI Symposium

## Scientific Advisory Board

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## Conference Organisation

Prof. Dr.-Ing. Theo Doll (Chair), Medizinische Hochschule Hannover
Dr. Katharina Nikutta (Chair), Medizinische Hochschule Hannover
Prof. Dr. Meike Stiesch (SIIRI Spokesperson), Medizinische Hochschule Hannover
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Dr. Nils Heine, Medizinische Hochschule Hannover
Dr. Maria Leilani Torres-Mapa, Leibniz Universität Hannover
Dr. Stefan Kaierle, Laser-Zentrum Hannover e.V.

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## Welcome to Hannover for EnFI 2026

Dear Colleagues, Distinguished Guests, and Early-Career Researchers,

On behalf of NIFE, the Collaborative Research Center/Transregio 298 Safety-Integrated and Infection-Reactive Implants (SIIRI), the Cluster of Excellence Hearing4all, and the Department of Otorhinolaryngology at MHH, we welcome you most warmly to Hannover! This year, we celebrate a special milestone: the 20th anniversary of "Engineering of Functional Interfaces" (EnFI 2026), hosted in close synergy with the 3rd International SIIRI Symposium.

This anniversary highlights two fundamental pillars: active translation and a successful generational transition. In the new funding phases of our major research consortia funded by the German Research Foundation (SIIRI and Hearing4all), our junior research group leaders serve as the structural backbone – driving the transfer of innovation from bench to bedside.

Our scientific program captures the full breadth of modern interface research spanning form nanotechnology to surface electrochemistry. Key highlights include highly innovative antimicrobial surfaces and novel materials to prevent infections, integrated intelligent sensor technology for real-time monitoring, and cutting-edge approaches from the new Lower Saxony Graduate School "RNApp" for RNA-based medical technology.

To our early-career scientists: this forum belongs to you! Use these two days to present your data, challenge paradigms, and build lasting interdisciplinary networks to create the future of functional interfaces.

We extend our sincere gratitude to the organizing committee and our international speakers. We wish you all an inspiring conference and a wonderful stay in Hannover!

Prof. Dr. Meike Stiesch
*Spokesperson, Collaborative Research Center SIIRI &*
*Deputy Chairwomen of the Executive Board, Lower Saxony Center for Biomedical Engineering, Implant Research and Development (NIFE)*

Prof. Dr. Dr. (Ph.D.) Andrej Kral
*MHH Spokesperson, Cluster of Excellence Hearing4all &*
*Executive Board, Lower Saxony Center for Biomedical Engineering, Implant Research and Development (NIFE)*

Prof. Dr. Anke Leichtle
*Director, Department of Otorhinolaryngology, MHH*

Prof. Dr. Alexander Heisterkamp
*Chairman of the Executive Board, Lower Saxony Center for Biomedical Engineering, Implant Research and Development (NIFE)*

## Conference Venue


**Lower Saxony Center for Biomedical Technology, Implant Research and Development (NIFE)**

Stadtfelddamm 34
30625 Hannover

NIFE is a joint scientific institution of the Hannover Medical School, the Foundation of the University of Veterinary Medicine Hannover and the Leibniz University Hannover in cooperation with the Laser Zentrum Hannover e.V.. This institution was founded with the aim of bundling transdisciplinary research and development with a focus on implant research in Lower Saxony.

Since 2016, biological, biohybrid and biofunctionalized implants are developed at NIFE to replace or restore failed organ functions. The aim is to achieve optimal biological function with the greatest possible lifelong durability. This takes into account the growing importance of suitable implants that are tailored to the needs of the patient, which results not least from the demographic development of the population, as the percentage of elderly people in society is increasing.

At the same time, completely new approaches are to be researched at NIFE. Postoperative and cost-intensive complications of implants, for example due to infections or mechanical or electrical failure, are to be reduced, as these often require very expensive treatments as a consequence. Despite different functionalities in the various organ areas and the associated demands on the specificity of the implants, there is a large area of organ-independent, concurrent issues that benefit from common approaches to solutions. Thus, the close collaboration of the natural science, engineering and medical research groups will be elevated to a higher level in terms of efficiency, quality and synergy generation.

In parallel to research and development, the preclinical and clinical expertise available at the site is used to translate biomedical engineering findings from the laboratories into marketable products more quickly. The topics range from the development of biomaterials for implants and infection biology to imaging and laser medicine as well as regenerative therapies.

With NIFE, a transdisciplinary center in the field of implant research has been created, which conducts research across several organ systems along the entire innovation chain. This can be expected to provide considerable impetus for the transfer of scientific results to industry. With this center, Hannover as a biomedical technology location underscores its outstanding position and becomes all the more attractive for the settlement of national and international life science companies.

## Scientific Program

# Tuesday, 07.07.2026

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|---|---|
| 8:00 – 8:55 | **Registration**<br>Technical Checkup Flash Talk Session A<br>Hanging Posters |
| 8:55 – 9:15 | **Welcome Note** |
| 9:15 – 9:55 | **Keynote: Physics-Based Machine Learning for Computational Engineering Across Scales**<br>Prof. Dr.-Ing. Fadi Aldakheel<br>*Chair: Meike Stiesch* |
| 9:55 – 10:15 | **Coffee Break**<br>Technical Checkup Flash Talk Session B |
| 10:15 – 11:45 | **Flash Talk Session A – Electrochemistry, Analytics and Sensors**<br>*Chair: Fadi Aldakheel & Katharina Frings* |
| 11:45 – 12:45 | **Poster Session A – Electrochemistry, Analytics and Sensors** |
| 12:45 – 13:30 | **Lunch Break** |
| 13:30 – 14:10 | **Keynote: Electrochemical Deposition for Functional Surfaces and Interfaces: Principles, Applications, and Analysis**<br>Prof. Dr. Masahiro Kunimoto<br>*Chair: Michael Schöning* |
| 14:10 – 15:40 | **Flash Talk Session B – Materials, Structures and AI**<br>*Chair: Masahiro Kunimoto & Imran Rahim* |
| 15:40 – 16:00 | **Coffee Break**<br>Technical Checkup Flash Talk Session C |
| 16:00 – 17:00 | **Poster Session B – Materials, Structures and AI** |
| 17:00 – 17:40 | **Keynote: From Lost Limb to Restored Connection: AMI and other Mechanoneural Interfaces for Human-Machine Integration**<br>PD Dr. Jennifer Ernst<br>*Chair: Andrej Kral* |
| 17:40 – 18:00 | **Organizational Remarks**<br>Announcement EnFI 2027 |
| 18:00 – 19:00 | Transfer to the Water Sports Club Altwarmbüchen (see page 17) |
| 19:00 – 23:30 | **Evening Reception with Dinner and Networking** |

# Wednesday, 08.07.2026

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| 8:00 – 8:30 | **Arrival** |
| 8:30 – 9:30 | **Flash Talk Session C – Biomedical and Systems Engineering**<br>*Chair: Patrick Evers & Tatiana Blank* |
| 9:30 – 10:15 | **Poster Session C – Biomedical and Systems Engineering** |
| 10:15 – 10:35 | **Coffee Break**<br>Technical Checkup Flash Talk Session D |
| 10:35 – 11:15 | **Keynote: Microfluidics, Cells and Organoids**<br>Prof. Dr. Christine Ruffert<br>*Chair: Steffi Krause* |
| 11:15 – 12:15 | **Flash Talk Session D – Microfluidics, Cells and Organoids**<br>*Chair: Christine Ruffert & Sven Ingebrandt* |
| 12:15 – 13:00 | **Lunch Break** |
| 13:00 – 13:45 | **Poster Session D – Microfluidics, Cells and Organoids** |
| 13:45 – 14:05 | **Coffee Break** with Poster Evaluation |
| 14:05 – 14:20 | **Poster Award Ceremony & Farewell Note** |

## Keynote Speakers

**Prof. Dr.-Ing. Fadi Aldakheel** studied Mechanical Engineering and Computational Mechanics at the University of Aleppo, Syria, and the University of Stuttgart, Germany. Following his PhD at the University of Stuttgart, he continued his work as Postdoc at the Institute of Continuum Mechanics at the Leibniz University Hannover and achieved his habilitation in 2020. In 2023, he was appointed Professor at Montan University Leoben (declined) and Professor at the Institute of Mechanics and Computational Mechanics, Leibniz University Hannover. Prof. Aldakheel's scientific interests are, e.g., machine learning, multi-scale modeling and material modeling in biomedical research.

**Prof. Dr. Masahiro Kunimoto** is an associate professor at the Waseda Center for Carbon Neutral Society, Waseda University, Japan. After studying Applied Chemistry at Waseda University, he finished his PhD at the Graduate School of Advanced Science and Technology. He joined the university as researcher and lecturer and was appointed associate professor at Yamanashi University Clean Energy Research Center in 2023 before becoming associate professor at Waseda University the same year. Prof. Kunimoto's field of research are composite materials, electrochemistry and computational chemistry.

**PD Dr. Jennifer Ernst** is a board-certified plastic surgeon, who started her medical and academic career at the University of Göttingen. In 2021, she established the Division for Innovations in Amputation Medicine within the Department for Trauma Surgery (Prof. Dr. Stephan Sehmisch) at Hannover Medical School and is leading it as head of division since. In 2025, she received her *venia legendi*. Dr. Ernst applies innovative surgical techniques to the agonist-antagonist-myoneural interface to cure amputation-associated pain qualities creating new possibilities for people living with a disability.

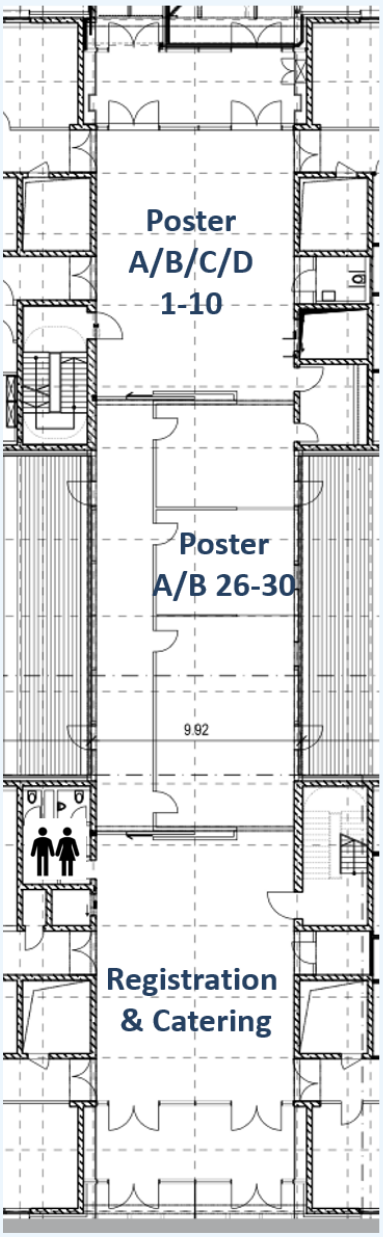
**Prof. Dr. Christine Ruffert** studied Physics at the Leibniz University Hannover. In 2007, she finished her PhD on microactuators and gained her habilitation in Microfluidics in 2017 at the TU Braunschweig. After research stays in Paris, Lausanne and the industry, she joined the Fraunhofer Institute for Microengineering and Microsystems in Mainz and later the Fraunhofer Institute for Photonic Microsystems in Cottbus. In 2024, Prof. Ruffert was additionally appointed professor at the Brandenburg University of Technology Cottbus-Senftenberg, where her research and teaching now focusses on industrial applications of microsystem and microsensor technologies.

## Poster Presentations

Posters should be hung up during the registration on the first day. You can find the poster plan below. Please note that posters are to be pinned on both sides of a poster wall. We will turn the poster walls depending on the session. Posters should stay during the entire conference.

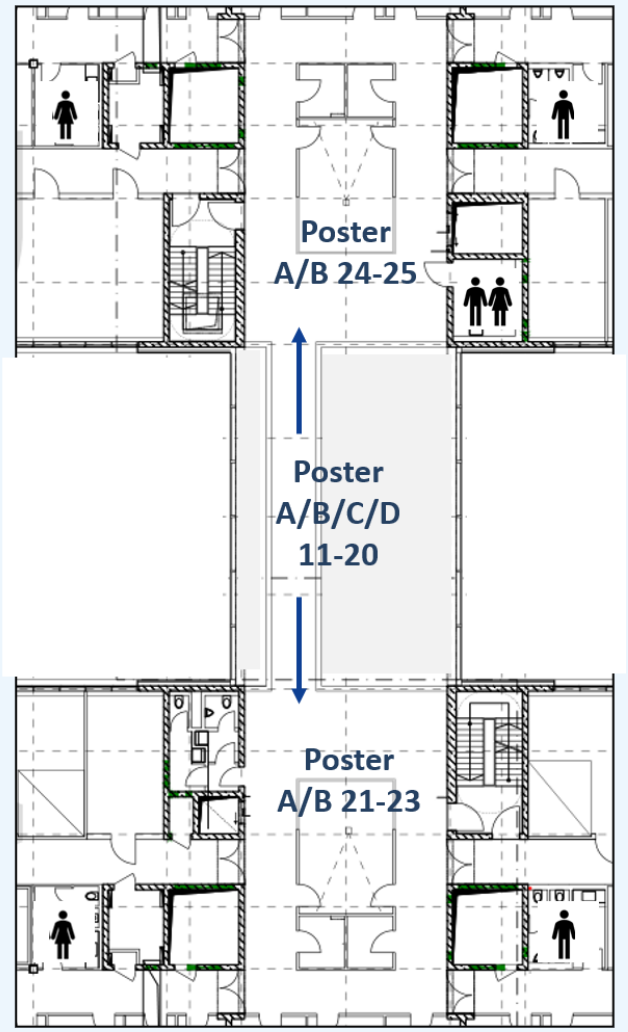
### Ground Floor S0

Back Entrance




Main Entrance

### Second Floor H1



| Session A | Electrochemistry, Analytics and Sensors |
|---|---|
| A1 | Silk fibroin–riboflavin substrates for transient magnesium temperature sensors<br>**M. Zach**, S. Achtsnicht, M. Welden, M. Rodrigues, B. Isella, A. Kopp, M. Keusgen, M. J. Schöning |
| A2 | How viruses gate a sensor: Modelling C-V response of TMV modified EISCAPs and experimental data<br>**M. Welden**, A. Poghossian, C. Wege, M. J. Schöning |
| A3 | pH sensitive hydrogels for plasmonic-based biofluid sensing<br>**K. El-Jamal**, A. Ahmed, N. Heine, K. Doll-Nikutta, M. L. Torres-Mapa, A. Heisterkamp |
| A4 | Surface treatment using plasma sterilization - generation, application and mechanisms of action<br>**S. Achtsnicht**, H. Geissler, M. J. Schöning |
| A5 | Dynamic reconstruction of anodized Fe-Co-Ni spinel oxide functional interfaces during the oxygen evolution reaction (OER)<br>**T. Nagao**, S. Kitano, M. Iwai, K. Fushimi, H. Habazaki |
| A6 | A synthetic receptor approach for the rapid identification of clinical cancer biomarkers<br>**A. Alsholi**, S. Lyons, C. Hart, R. Bristow, A. Sachdeva, M. Peeters |
| A7 | Template-bacteria-free engineering of biomimetic polymer interfaces for selective *E. coli* capture and detection<br>**D. Özsoylu**, E. Börmann-El Kholy, P. Wagner, M. J. Schöning |
| A8 | Combinatorial screening of anodic Ti-Hf oxides for memristive switching properties<br>**E. Atanasova**, A. Minenkov, A. Greul, A. W. Hassel, A. I. Mardare |
| A9 | Design and implementation of a catheter-integrated biosensor based on molecularly imprinted polymers for histamine detection<br>**B. Batool**, S. B. Sichani, J. Tack, P. Wagner |
| A10 | Electrospinning of PDMS elastomer for hydrophobic surface coatings<br>**J. Drexler**, T. Bode, M. Mueller, G. Paasche, B. Glasmacher |
| A11 | Non-enzymatic creatinine detection using electroactive molecularly imprinted polymers: toward point-of-care sensing<br>**S. Garg**, A. Alsholi, G. de Melo Cossani, P. Singla, R. D. Crapnell, C. E. Banks, M. Peeters |
| A12 | Temporally and spatially resolved pH in commensal and pathogenic oral biofilms *in vitro*<br>**M. Duitscher**, N. Heine, M. Stiesch, K. Doll-Nikutta |
| A13 | Effect of UV irradiation on the flatband voltage of chemical sensors with field-effect structures<br>T. Yoshinobu, **H. Iken**, T. Sato, K. Miyamoto, T. Wagner, M. J. Schöning |

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| A14 | Spin-dependent wetting of chiral molecules via CISS<br>**M. Biswas**, M. Villanueva, A. Gupta, R. Naaman, P. Losada Pérez, Y. H. Geerts |
| A15 | Building a portable measurement platform to detect per- and polyfluoroalkyl substances (PFAS) in soil and wastewater<br>**T. Karschuck**, J. Pettrak, M. J. Schöning, T. Wagner |
| A16 | Raman-based visualization of diffusion-driven delamination at metal–polymer–interfaces of active implantable medical devices (AIMDs)<br>**C. Angerer**, A. Onken, G. Fischer, T. Doll, S. Hild |
| A17 | Effectiveness of deconvolution methods for surface reconstruction in AFM<br>**L. Lehnert**, L. Helgest, E. Kunnen, R. Thoelen, H. Möbius |
| A18 | Biofilm-dependent MG-63 responses in the 3D INTER$_b$ACT-B peri implant model<br>**B. Malekahmadi**, M. Kheirmand-Parizi, C. Mikolai, M. I. Rahim, A. Winkel, K. Doll-Nikutta, H. Menzel, D. Wirth, M. Stiesch |
| A19 | BDNF-optimized mesenchymal stem cells for therapeutic application in the inner ear<br>**E. Wiebe**, S. Christoffers, C. Blume |
| A20 | Development of flexible polyimide devices incorporated with polyvinylidene fluoride for applications as piezoelectric sensors and supercapacitors<br>**G. Badagnani de Carvalho**, J. R. Siqueira Júnior, M. J. Schöning |
| A21 | Neodymium-Samarium alloys with improved mechanical properties<br>**F. Reiter**, H. Zengin, A. Ernst, A. W. Hassel |
| A22 | Device-to-device matching of extended-gate field-effect transistors with atomic-layer deposited high-k Ta2O5 as pH-sensitive material<br>**M. Knoll**, A. Poghossian, G. Elias, S. Meier, E. Müllner, M. Keusgen, M. J. Schöning |
| A23 | Titanium-hydrogel-interaction in a peri-implant *in-vitro* model<br>**L. Heine**, M. Duitscher, M. L. Torres-Mapa, K. Doll-Nikutta, M. Stiesch |
| A24 | Structural and electrochemical investigation of electrodeposited PEDOT:PSS microelectrodes<br>**Q. Li**, D. Tang, S. Ingebrandt, Z. Gao |
| A25 | Surface functionalization with photoelectrons<br>**G. Janzen**, A. Onken, P. Torgau, T. Doll, M. Müller, P. Born |
| A26 | Development of molecularly imprinted polymers as an indirect sensing approach for spore-forming bacteria detection<br>**A. Guzman-Landero**, H. Diliën, B. van Grinsven, R. Arreguin-Campos |
| A27 | Modular raman image analysis of Calcium-crosslinked alginate hydrogels<br>**D. Schäffl**, S. Hild |
| A28 | PEDOT:PDA as a promising new polymer for the development of MIPs in electrochemical sensors<br>**M. W. Konrad**, P. Wagner, I. Taurino |

| Session B | Materials, Structures and AI |
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| B1 | Enhanced corrosion stability of Scandium-rich Magnesium alloy thin films in simulated body fluid<br>**H. Zengin**, A. I. Mardare, G. Popescu-Pelin, G. Socol, A. W. Hassel |
| B2 | Studying of organic semiconductors in light-addressable potentiometric sensors (LAPS)<br>**S. Kimoto**, Y. Hemmi, A. Ichikawa, H. Matsui, Y. Guo, F. Hirose, C. F. Werner |
| B3 | PECVD preparation of silicon carbide layers as passivating contacts for POLO solar cells<br>**S. Börnert**, F. Wünsch, R. Peibst, J.-D. Kähler, T. Pernau, J. Krügener |
| B4 | Ultrasensitive electrochemical detection of penicillin G using electroactive molecularly imprinted polymers for sepsis monitoring<br>**P. Singla**, S. Garg, T. Felton, M. Peeters |
| B5 | Superparamagnetic iron oxide nanoparticles in niosomal systems for biomedical applications<br>**S. Kumar**, V. Maurer, G. Garnweitner |
| B6 | ML-based porous metamaterials design for hip implant stability<br>**B. Ayouch**, M. Haertlé, F. Aldakheel |
| B7 | Influence of various oxygen levels on tissue-biofilm interaction in an implant-tissue-oral-bacterial-biofilm model<br>**Y. Sun**, G. A. Grassl, M. Meurer, M. von Köckritz-Blickwede, A. Winkel, C. Mikolai, M. Stiesch |
| B8 | Investigation of TiNx thin film deposited by ion beam deposition and sputtering for electronic and bioelectronic applications<br>**V. H. Vu**, J. Heiss, D. Khan, V. Pachauri, S. Ingebrandt, X. T. Vu |
| B9 | Melt electrowritten fibrous scaffolds for bone tissue engineering: From architectural design to dynamic cell culture<br>**M. Yousaf**, S. Reichl, I. Constantinou |
| B10 | An advanced three-dimensional peri-implant tissue model to investigate host-microbe interactions<br>**A. Gaikwad**, M. I. Rahim, A. Winkel, D. Wirth, H. Menzel, M. Stiesch |
| B11 | Diabetes-associated host dysregulation at the peri-implant tissue interface in an immunocompetent 3D cell culture model<br>**T. Nawaz**, M. I. Rahim, R. Lohar, H. Haller, M. Stiesch |
| B12 | Interface-induced shear control for enhanced flow of shear-thinning silicones in micro-annular printheads<br>**T. Schulz**, A. Onken, R. Johow, Y. Xi, T. Biermann, T. Doll |

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| B13 | Computational modeling of stent failure during crimping and deployment in coronary arteries<br>**A. Tragoudas**, G. A. Holzapfel, F. Aldakheel |
| B14 | Biodegradable nanoMIP interfaces enable selective IL-6 detection in human perilymph<br>**M.-H. Nguyen**, T. Doll |
| B15 | Microwave-assisted preparation of bone regeneration materials<br>**H. Christmann**, M. Widerspan, M. Lietzow, P. Behrens, N. Ehlert |
| B16 | Direct detection of *Staphylococcus aureus* via microparticle imprinted polymers<br>**T. V. M. Bogaardt**, H. Diliën, B. van Grinsven, R. Arreguin-Campos |
| B17 | Biocompatible surface modification of dental implants<br>**E. Miller**, C. Boukari, M. Veith |
| B18 | Optimized implants through control of stem and immune cells: Modulation of TAK1 activity<br>**Y. Roger**, J. Libnow, N. Lachmann, S. Immenschuh, A. Hamm, A. Hoffmann |
| B19 | Simulation of biofilm growth and drug-induced degradation<br>**O. Höchel**, R. Mukherjee, M. Soleimani, M. Stiesch, S. P. Szafranski, P. Junker |
| B20 | Photovoltaic-driven organo-electronic ion pump for wireless retinal ionic stimulation<br>**K. Devkota**, S. Ingebrandt, Z. Gao |
| B21 | Development of an integration process for a high-density electrode array for future retinal implant<br>**F. Molasarvestani**, S. Ingebrandt, X. T. Vu |
| B22 | Electrostatics of thin-film MOS devices for gas electroadsorption<br>**V. M. Fuenzalida**, M. Moreno-Gutberlet, T. Doll |
| B23 | Single enzyme nanocapsules for highly stable & robust bio-sensing<br>**Dhanjai** |
| B24 | Characteristic pH profiles in a dual-species biofilm model associated with musculoskeletal implant infections<br>**L. Püttmann**, M. Duitscher, N. Heine, M. Stiesch, K. Doll-Nikutta |
| B25 | Electrospun SLIPS as anti-adhesive biomaterial coatings: Effects on wettability and biological interactions<br>**T. Bode**, J. Drexler, G. Paasche, B. Glasmacher, M. Mueller |
| B26 | Bioimpedance model fitting for clinical biomarker quantification<br>**J. Brüning**, T. Hilbel, M. Schlüter |
| B27 | A CFD–DEM framework for predicting thermo-mechanical drying behaviour of mRNA-LNP vaccine droplets<br>**J. Guo**, S. Wolf, J. H. Finke, C. Schilde |

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| B28 | The corrosion of titanium dental implants in dental hygiene products<br>**A. Greul**, C. Kleber, C. von See, A. W. Hassel |
| B29 | Influence of thiol-based self-assembled monolayers on the electrochemical behavior of combinatorial Ag-Cu thin films<br>**M. Lukina**, M. Hofinger, D. Farka, A. W. Hassel, A. I. Mardare |

| Session C | Biomedical and Systems Engineering |
|---|---|
| C1 | Insights in biomedical applications of magnetic nanoparticles from nonequilibrium dynamic relaxation simulations<br>**U. M. Engelmann**, S. Bolte, B. Simsek, M. B. Abbas |
| C2 | Impact of ionophore concentration on sensor performance of Na+-ion sensitive field-effect capacitors<br>**S. Beging**, P. Liegmann, K. Miyamoto, T. Wagner, T. Yoshinobu, M. J. Schöning |
| C3 | Analysing functionalisation of FETs used in biosensing with KPFM<br>**W. Łuczak**, A. W. Hassel, R. Hasler, C. Kleber |
| C4 | Towards tuneable biomineralization: Morphology studies of calcium carbonate formation in silk based solutions<br>**A. Hauseder**, D. Schäffl, G. Javanshir, S. Hild |
| C5 | A multiplexed impedimetric biosensor platform for lung-disease biomarker detection in exhaled breath condensate<br>**S. Bakhshi Sichani**, M. Khorshid, J. Hürttlen, M. M. Menger, J. M. Hohlfeld, G. Pohlmann, P. Lieberzeit, P. Wagner |
| C6 | Innovative sensing to optimise parkinson's disease management<br>**X. Liu**, O. Jamieson, A. Casson, M. Peeters |
| C7 | In vitro investigation of electrospun PVDF-TrFE fiber mats regarding their influence on electrical impedance and cell proliferation<br>**V. Braemer**, J. Drexler, L. Kötter, B. Glasmacher, G. Paasche |
| C8 | Long-term human brain-slice electrophysiology using a flexible microelectrode interface<br>**B. Chowdhury**, H. Koch, S. Ingebrandt, Z. Gao, F. Sommerhage |
| C9 | Qualification of a swellable hydrogel–silicone bimorph for implantable actuation<br>**E. Dosdogru**, A. Onken, P. Torgau, M. Müller, T. Doll |
| C10 | Medium-dependent Mg ion release and biological responses to WE43 magnesium alloy<br>**Q. Duan**, R. Lohar, A. Winkel, M. Stiesch |
| C11 | Double-imprinted nanoMIPS for targeted drug delivery in NSCLC<br>**S. Tiwari**, S. Garg, H. H. Rattu, P. Singla, T. Witney, M. Peeters |

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| C12 | Accurate concentration prediction in multispecies bacterial samples using FTIR spectroscopy and deep learning<br>**K. A. Frings**, E. Baron, L. Baumann, N. Heine, K. Doll-Nikutta, M. L. Torres-Mapa, A. Heisterkamp |
| C13 | Effective contact-area investigation in polymer-based TENGs<br>**P. Mattauch**, A. Hilgert, S. Tremmel, G. Fischerauer |
| C14 | Finite element modelling for gentle removal of total hip arthroplasties by means of induction heating<br>**P. Evers**, M. Reulbach, S. Herbst, E. Jakubowitz, F. Nuernberger |
| C15 | Green chemistry meets thermal sensing: Sustainable metal MIP–based sensors for L-leucine detection<br>**A. I. Furtado**, J. W. Lowdon, V. D. B. Bonifácio, R. Viveiros, T. Casimiro, B. van Grinsven |
| C16 | Mussel-inspired nanoprecipitation coatings for complex geometries<br>**M. Leuker**, R. Berger, M. Weinhart |
| C17 | MatrixModel: Building a computational model of the HSPC niche<br>**J. Käsehagen**, S. Rudorf |
| C18 | Adjacent hydrogel thin-films for a competitive cell culture assay<br>**J. Baron**, C. Boukari, E. Miller, C. Hiepen, M. Veith |
| C19 | Establishment of personalized immunocompetent 3D peri-implant-mucosa models using patient-derived macrophages<br>**R. Lohar**, A. Gaikwad, A. Winkel, S. P. Szafranski, M. I. Rahim, M. Stiesch |
| C20 | Systematic study of Ytterbium influence in binary alloying systems<br>**M. Hofinger**, A. W. Hassel |

| **Session D** | **Microfluidics, Cells and Organoids** |
|---|---|
| D1 | Fully additive neural implants … and understanding why they fail<br>**A. Onken**, E. Dosdogru, B. Zerrik, E. Eiken, T. Doll |
| D2 | Continuous millifluidic synthesis of ZnO nanostructures<br>**L. Arndt**, S. Okeil, G. Garnweitner |
| D3 | Corrosion sensing for cochlear implants<br>**T. Blank**, N. Prenzler, T. Lenarz, C. Klose, H. J. Maier |
| D4 | Streptavidin-based anti-adhesive biofunctionalization for dental implants<br>**C. Boukari**, E. Miller, K. Doll-Nikutta, M. Stiesch, M. Veith |
| D5 | Advancing a multi-sensor array platform for real-time drinking water quality surveillance<br>D. Özsoylu, **E. Börmann-El Kholy**, S. Achtsnicht, M. J. Schöning |

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| D6 | Evaluation of host responses to biofilms with distinct pathogenic potential using a 3D macrophage-containing INTER$_b$ACT model<br>**S. Chen**, M. I. Rahim, A. Winkel, K. Doll-Nikutta, M. Stiesch |
| D7 | Controlling adhesion of bacteria and host tissue cells by polyelectrolyte multilayer coatings on titanium-based biomaterials<br>**Y. Guo**, T. Andreeva, A. Jahn, O. Akbas, D. Strauch, H. Hartwig, A. Greuling, A. Winkel, R. Krastev, M. Stiesch |
| D8 | Adhesion characteristics of *Candida albicans* on polymer-based materials<br>**S. Tamjidtash**, L. Brose, M. Stiesch, S. Hahnel, K. Doll-Nikutta, N. Kommerein |
| D9 | Development of an electrochemically synthesized RNA sensor<br>**N. Gellert**, M. Knabel, D. A. Contreras Pérez, T. Doll |
| D10 | Plasma-engineered coatings for the reduction of biomaterial adhesion<br>**J. Reus**, D. Püllmann, J. H. Finke, K. Lachmann |
| D11 | A biosensor with simplified target recognition for early detection of leprosy from serum of household contacts<br>**F. Di Scala**, A. Parreiras de Jesus, A. Guzman Landero Renteria, T. Houben, H. Dilien, T. Cleij, V. Myndrul, B. van Grinsven |
| D12 | Abstract withdrawn |
| D13 | New platform for microfluidic structuring in glass<br>**B. Schneider**, M. J. Schöning, T. Wagner |
| D14 | Hormone-driven modulation of implant-associated biofilms<br>R. Mukherjee, **M. Thomsen**, M. Stiesch, S. P. Szafranski |
| D16 | Photoelectrochemical sensing and mapping of flow velocity in microfluidics<br>**Y. Fang**, R. Li, B. Zhou, J. Gorecki, J. Zhao, J. Briscoe, K. Hing, S. Krause |
| D17 | Creating biomimetic 3D *in vitro* models of the bone-marrow / implant interface<br>**M. Brockert,** J. M. Hornbostel, M. Haertlé, A. Hoffmann, C. Lee-Thedieck |
| D18 | Direct 3D printing of soft neural implants onto flexible PCB substrates<br>**B. Zerrik**, A. Onken, T. Doll |
| D19 | Fabrication and preliminary optimization of an *in situ* written PEGDA membrane in a quartz glass microfluidic chip<br>**L. M. Ehlers**, L. Rennpferdt, H. K. Trieu |
| D20 | Bacteria-surface interaction on smooth and rough titanium: Correlation between surface characteristics and bacterial adhesion<br>**S. Awerbuch**, F. Fuchs, M. Stiesch, K. Doll-Nikutta |

## Evening Reception at the Altwarmbüchen Lake

**Water Sports Club Altwarmbüchen e.V.**
Seestraße 23
30916 Hannover-Isernhagen

**Transfer via Bus**

There will be a bus transport available, departing from NIFE at 18:15. At 22:30 and 23:30, there will be a transport from Altwarmbüchen back to NIFE.

**Transfer via Car**

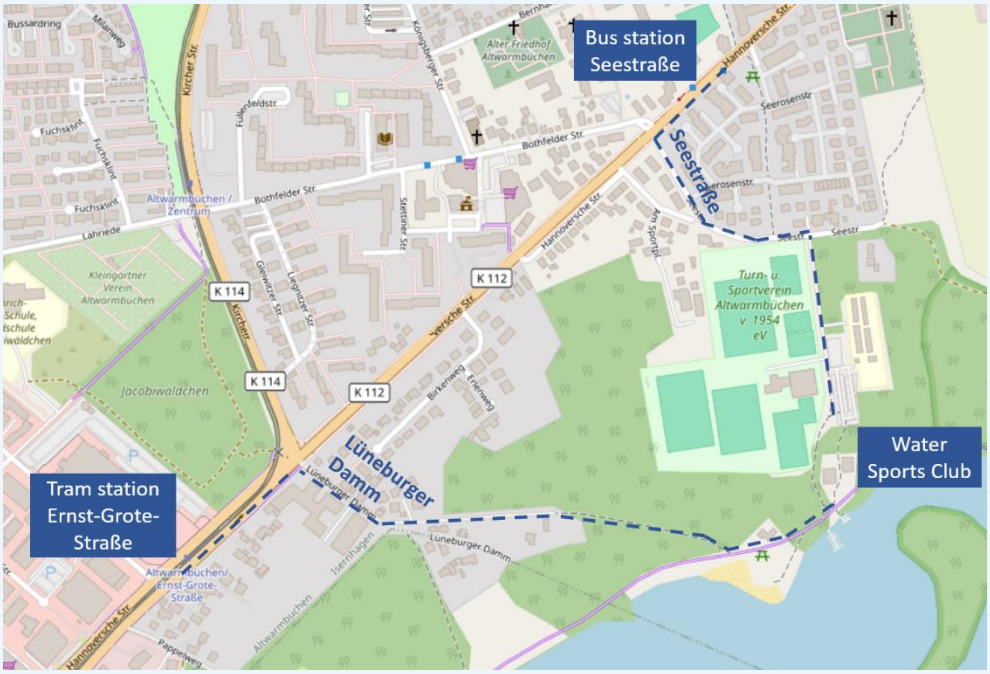
You reach the location at the address mentioned above. There is a free parking lot in front of the building.

**Transfer via Public Transport**

To reach the location via public transport, there are several options:

| | | | | |
|---|---|---|---|---|
| Bus station Neue-Land-Straße | > | Bus 137 till Klingerstraße | > | Tram line 3 till Ernst-Grote-Straße |
| Bus station Neue-Land-Straße | > | Bus 123 till Noltemeyerbrücke | > | Tram line 3 till Ernst-Grote-Straße |
| Bus station Neue-Land-Straße | > | Bus 123 till Noltemeyerbrücke | > | Bus 900 till Seestraße |

Our team will serve as guides for public transport. In addition, we recommend using the **uestra App** of the local public transport company. From Ernst-Grote-Straße, you can reach the Water Sports Club via Lüneburger Damm, across the little forest and along the lake. The walk takes approx. 17 minutes. From Seestraße, you can reach the Water Sports Club following Seestraße. The walk takes approx. 10 minutes.



## Contact

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## Acknowledgement

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