BIH Berlin Institute of Health @Charité

BIH Scientific Symposium

Translation at Its CORE

October 9, 2025

Digital Conference Booklet

bihealth.org

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Dear BIH Colleagues,

We are thrilled to extend a warm welcome to all members of the Berlin Institute of Health (BIH) @ Charité for our second internal scientific symposium with the title **"Translation at its CORE".**

At BIH, we believe in the power of collaboration, innovation, and the exchange of ideas. Our symposium has been thoughtfully designed to provide a platform for our diverse community of health researchers to come together and forge new connections.

For today, we have a rich program featuring engaging talks, informative posters, interactive sessions including a presentation of the Core Units, and invaluable networking opportunities. We wholeheartedly encourage the active participation of young scientists and early career researchers.

Scientific Committee & Organizing Committee*

Berlin Institute of Health (BIH) @ Charité

* Brüning, Ulrike; Carvalho, Silvia; da Costa Zemsch, Maria Luise; Flanagan, Luke; Fritsche, Raphaela; Hartung, Mara Lena; Kielhoz, Lisa; Laksi, Aleksandra; Loyal, Lucie; Mei, Henrik; Neuschulz, Anika; Planatscher, Elisa Marie; Rönnefarth, Maria; Shivananda, Soumya; Wetzel, Christiane; Williamson, Alice

WLAN: LVH Gäste

Passwort: LVH2004!

Scientific Program

08:00 – 09:00	Registration ***(badge pick-up) with Networking coffee***
09:00 - 09:15	**WELCOME SESSION** [Auditorium] *Chair: Luke Flanagan and Aleksandra Laski* **Introduction to the Symposium** *(by Organizing Committee)* **Words of Welcome** *(by Christopher Baum)*
09:15 – 10:00	**SCIENTIFIC SESSION I** [Auditorium] *Chair: Luke Flanagan* Han Le Ngoc *Safety and Antiviral Activity of mAb19, a novel broadly neutralizing Anti-HBV Antibody: Interim First-in-Human Phase I Results from the SAMBA (EUCT 2023-508444-22-01) and RUHBV1 Trials (NCT05856890)* Adam Graefe *Interoperability in rare diseases as a foundation for linking international registries and advanced clinical algorithms* Sofija Vojvodic *Improving Translatability of Preclinical Models Through Systematic Review*
10:00 – 10:30	**POSTER TEASER SESSION I** [Auditorium] *Chair: Aleksandra Laski* **Introduction PhD Net** **Logistics**
10:30 – 11:30	**POSTER SESSION I** [Foyer, Wandelhalle 1. + 2.OG] **MARKETPLACE SESSION I with BIH Central management** [Bernhard von Langenbeck] *Legal & Compliance* *Personnel* *Controlling/ Fund Management* *Equal Opportunities & Diversity/ Welcome Service* *External Affairs* *Campus Development & Infrastructure* *Communication* *Strategic Science Management & PhD Net* *With coffee break*
11:30 – 12:30	**PARALLEL FLASHTALK SESSION**

SESSION I: [Auditorium] *Chair: Anika Neuschulz* Charité BIH Innovation (CBI) Thomas Gazlig: *Knowledge Valorization and the Role of Tech Transfer for Translation*	**SESSION II:** [Expertisium] *Chair: Christiane Wetzel* Martijn Zoodsma *Advancing Computational Team Science at BIH* Meet the current BIH-Stiftung Charité	**SESSION III** [Rudolf Virchow] *Chair:* Raphaela Fritsche Martin Braun and Jacques Ehret *The Clinical Cloud Infrastructure: A Review of Key Use Cases*

	Bettina Otto: *An introduction to CBI´s Idea Office* Fireside Chat *From Idea to Product - Personal Career Paths in Translational Medicine with Sophie Lehnerer, René Hägerling, Claudia Keil-Dieckmann*	Visiting Fellows: Katy Börner (Indiana University, US) *Envisioning the Multiscale Human Reference Atlas.* Harry Hemingway (UCL, UK) *Atlas for Health in 56 million people*	Peter Brunecker *Curious to CURIT? A look back and forth.* Alexandra Bannach-Brown *Facilitating uptake of preclinical systematic review and meta-analysis: update on the journey from local to national*
12:30 – 14:00	**LUNCH BREAK**		
14:00 – 14:45	**SCIENTIFIC SESSION II.I** [Auditorium] *Chair: Maria Luise da Costa Zemsch* Kalliopi Zampeta *CATCH - Chasing antigen-specific T cells with high avidity* Ramonique Lim *Epigenetic editing for conventional to regulatory T cell reprogramming* Maximilian Schöls *Predictive modelling using time series data in neurology*	**SCIENTIFIC SESSION II.II** [Rudolf Virchow] *Chair: Soumya Shivananda* Janine Altmüller - Genomics technology Platform *Introduction to the recently funded Einstein Center for Early Disease Interception* Philipp Mertins - BIH Proteomics Platform *Towards a proteomic plasma biomarker panel for diagnosing vasculitis remission* Harald Stachelscheid - Pluripotent Stem Cells and Organoids *Integrated Quality Control of iPSC Genomic Integrity and Differentiation States Using StemCNV-check and SteMClass*	
14:45 – 15:15	**POSTER TEASER SESSION II** [Auditorium] *Chair: Ulrike Brüning*		
15:15 – 16:45	**POSTER SESSION II** [Foyer, Wandelhalle 1. + 2.OG] **MARKETPLACE SESSION II with BIH Platforms and Programs** [Bernhard von Langenbeck] *IT-Services* *Proteomics* *Imaging Mass Spectrometry* *Metabolomics* *Biobank* *Bioportal* *Genomics* *Bioinformatics* *Cytometry* *Charite-BIH Innovation*		

	BIH Innovation Academy *The National Gene and Cell Therapy Office* *BIH Core Unit Research IT* *With coffee break*
16:45 – 17:30	**SCIENTIFIC SESSION III** [Auditorium] *Chair: Anika Neuschulz* Viktoria Flore and Simon Haas *From Single-Cell Genomics to Precision Medicine* Denise Jahn *Considering circadian impact on bone health and regeneration* Kai Pohl and Calvin Hon *A systematic high-throughput mapping and validation of John Cunningham virus T-cell epitopes*
17:30 – 18:15	**BIH VOICES** [Auditorium] *Chair: Maria Luisa Costa da Zemsch, Soumya Shivananda* Q&A with Cross-Team Representatives Thomas Gazlig, Leonhard Kohleick, Anika Neuschulz, Tobias Winkler
18:15 – 18:35	**CLOSING SESSION** [Auditorium] *Christopher Baum*
18:35 – 21:00	**DINNER & NETWORKING** **19:30 | Award Ceremony: Best Poster Prize**

Abstracts - Scientific Contributed Talks

SESSION I:

1. Safety and Antiviral Activity of HepB mAb19, a novel broadly neutralizing Anti- HBV Antibody: Interim First-in-Human Phase I Results from the SAMBA and RUHBV1 Trials - *Han Le Ngoc*
2. Interoperability in rare diseases as a foundation for linking international registries and advanced clinical algorithms – *Adam Gräfe*
3. Improving Translatability of Preclinical Models Through Systematic Review - *Sofija Vojvodic*

SESSION II.I

4. CATCH - Chasing antigen-specific T cells with high avidity – *Kalliopi Zampeta*
5. Epigenetic editing for conventional to regulatory T cell reprogramming. – *Ramonique Lim*
6. Predictive modelling using time series data in neurology. – *Maximilian Schöls*

SESSION II.II

7. Introduction to the Recently Funded Einstein Center for Early Disease Interception - *Janine Altmüller*
8. Towards a Proteomic Plasma Biomarker Panel for Diagnosing Vasculitis Remission - *Philipp Mertins*
9. Integrated Quality Control of iPSC Genomic Integrity and Differentiation States Using StemCNV-Check and SteMClass - *Harald Stachelscheid*

SESSION III

10. From Single-Cell Genomics to Precision Medicine. – *Viktoria Flore*
11. Considering circadian impact on bone health and regeneration. – *Denise Jahn*
12. A systematic high-throughput mapping and validation of John Cunningham virus T-cell epitopes. – *Kai Pohl*

SESSION I

1. Safety and Antiviral Activity of mAb19, a novel broadly neutralizing Anti-HBV Antibody: Interim First-in-Human Phase I Results from the SAMBA (EUCT 2023-508444-22-01) and RUHBV1 Trials (NCT05856890)

Han Ngoc Le[1,]

[1]Berlin Institute of Health (BIH), Charite–Universitätsmedizin Berlin, Germany

Hep mAb19, a highly potent, broadly neutralizing monoclonal antibody targeting the hepatitis B surface antigen (HBsAg), is currently being evaluated in patients with chronic hepatitis B (CHB) receiving standard antiviral therapy in two ongoing Phase-I-Trials: RUHBV1 and SAMBA. In these randomized, placebo-controlled, dose-escalation trials, 21 CHB patients received a single intravenous infusion of mAb19 in four ascending dose groups: 1mg/kg (n=8), 3mg/kg (n=4), 10mg/kg (n=4), and 30mg/kg (n=5), with one to two placebo recipients per group. Participants are followed for up to 48 weeks with regular assessments of safety, laboratory parameters, and HBV serological markers. HepB mAb19 was safe and well tolerated across all tested dose levels, demonstrating dose-dependent potent antiviral activity with sustained HBsAg suppression beyond 6 months. These findings highlight its potential as a therapeutic candidate for CHB and provide a strong rationale for continued clinical development.

2. Interoperability in rare diseases as a foundation for linking international registries and advanced clinical algorithms

Adam Graefe[1], Peter Robinson[1]

[1]Berlin Institute of Health (BIH) Charite–Universitätsmedizin Berlin, Germany

Rare diseases (RD) affect over 300 million people worldwide, but research and care are hampered by fragmented, heterogeneous data. Interoperability is key to progress, enabling cross-border registries, reproducible analysis, and advanced algorithms. In Germany, the MII defines a HL7 FHIR core dataset and is developing a module for rare diseases to capture phenotypes, genetic data, family history, and therapies, aligned with ERDRI-CDS, NARSE, and MVGenomSeq. Our RD-CDM and RareLink harmonise FHIR, GA4GH Phenopackets, EHRs and international registries. RareLink was deployed in Germany and internationally (Canada, South Africa, Japan). International collaboration through ERNs, EHDS, and IPS strengthens global registries. Standards like HPO and Phenopackets enable tools such as LIRICAL, Stratiphy, and GPSEA for scalable phenotype-driven diagnostics. These efforts reduce diagnostic delays, foster precision medicine, and establish a blueprint for equitable, data-driven healthcare worldwide.

3. Improving Translatability of Preclinical Models Through Systematic Review:

Sofija Vojvodic[1], Torsten Rakoll[1]

[1]Berlin Institute of Health @ Charité Universitätsmedizin, Berlin, Germany

The precise pathophysiology of ischemic stroke is not fully understood, and progress in developing treatments is limited by animal models that do not reflect important patient characteristics. Most preclinical studies use only male animals, even though stroke affects all genders, which risks developing therapies that fail, or even cause harm, when applied clinically. We systematically reviewed over 190 studies that included both sexes, following a pre-registered protocol. We focus on sex differences in stroke outcomes and treatment efficacy, providing insights into distinct pathophysiological pathways and sexually dimorphic therapeutic responses. Our findings highlight biological differences between males and females that influence stroke damage and recovery, and suggest these differences change with age. By clarifying how sex shapes stroke outcomes in animal models, this work supports the design of more effective treatments that are relevant to all patients.

SESSION II.I

4. CATCH - Chasing antigen-specific T cells with high avidity

Kalliopi Zampeta[1], Lucie Loyal[1], Andreas Thiel[1]

[1]Berlin Center for Immunomics, Charité-Universitätsmedizin Berlin, Berlin, Germany

Effective T cell responses are essential for the elimination of pathogens and tumors and for establishing lasting immunity. Their efficacy is supported by a strong avidity of antigen specific T cell receptors (TCRs) for cognate peptide–MHC complexes. In autoimmunity unwanted high avidity T cells too are discussed to drive auto-inflammatory immune reactions. Existing methods to measure TCR avidity are complex, time consuming, and lack scalability, limiting their clinical utility. We recently developed and patented the CATCH (Chasing antigen-specific T cells with high avidity) assay - a flow cytometry based, TCR avidity assay. CATCH enables rapid, high throughput quantification of TCR avidities for defined antigens without requiring prior knowledge of the MHC–peptide complex. We are now investigating CATCH across multiple applications to enhance advanced cancer immunotherapies, improve cellular therapies in infectious diseases and uncover novel therapeutic strategies for autoimmunity.

5. Epigenetic editing for conventional to regulatory T cell reprogramming

Ramonique Lim[1]

[1]BIH - Center for Regenerative Therapies (BCRT)

Regulatory T cells (Tregs) offer strong therapeutic potential to control excessive immune responses in autoimmunity, transplantation, and graft-versus-host disease. Yet, their use in adoptive cell therapy is hampered by low numbers in blood, poor expandability, lack of antigen-specific protocols, and lineage instability. To overcome these hurdles, we established a protocol for de novo Treg induction using CRISPR-dCas9-based epigenetic editing with in vitro transcribed mRNA in proinflammatory T cells. This approach robustly induced a Treg phenotype, including reduced pro-inflammatory cytokine production and acquisition of suppressive function. Importantly, editing was also effective in memory T cells, the preferred source for therapies, but previously considered resistant to phenotype switching. This mRNA-based epigenetic editing strategy thus represents a promising approach for targeted T cell reprogramming with high translational potential in immune tolerance therapy.

6. Predictive modelling using time series data in neurology

Maximilian Schöls[1]

[1]BIH - Center Health Data Sciences

Neurology relies on clinical assessment and diagnostic tests, traditionally limited to visits and brief observations. Emerging sensor technologies, digital warehousing, and advanced analytics have the potential to transform the field by enabling comprehensive mapping and deeper understanding of disease trajectories, improving diagnosis and treatment. We present efforts from our group and partners to establish warehouse infrastructures for multimodal high-resolution time series data to develop predictive diagnostic methods for time-critical therapies in intensive care, epilepsy, and stroke. Applications include predicting atrial fibrillation, forecasting adverse events such as pneumonia or intracranial hypertension, camera-based detection of seizures and stroke symptoms, EEG-based brain state characterization, and collaborations with industry to translate these tools into everyday clinical practice.

SESSION II.II

7. Introduction to the recently funded Einstein Center for Early Disease Interception

Altmüller, Janine[1]

[1]BIH – Genomics Technology PLatform

Precision medicine is becoming a necessity for improving patient outcomes through more effective diagnosis and treatment of widespread diseases. Recent developments in technologies that quantify molecular events in tissues at single-cell and subcellular resolution enable in combination with data-science tools the early detection of pathological changes in organs and cells with great precision. Cell-based interceptive medicine leverages this interdisciplinary approach to detect, understand, and target pathological changes in cells as early as possible. In the “Einstein Center for Early Disease Interception” (EC-EDI), 12 leading Berlin institutions across disciplines, amongst them the BIH, are about to establish a yet open and scalable collaboration and innovation hub to share forces to establish a new, highly visible international research focus, translating cutting-edge science into societal and economic value by driving technology transfer and translation.

8. Towards a Proteomic Plasma Biomarker Panel for Diagnosing Vasculitis Remission

Philipp Mertins[1], Marieluise Kirchner[1]

[1]BIH/MDC Proteomics Platform

Active autoimmune vasculitis requires intensive immunosuppressive therapy, but continued treatment after remission is achieved can cause serious harm. Current diagnostic markers, such as C-reactive protein and anti-neutrophil cytoplasmic antibodies, lack sensitivity and specificity for the remission status, failing to guide treatment de-escalation safely. We hypothesized that the plasma proteome contains specific biomarkers that reliably diagnose remission in vasculitis patients. To test this assumption, we applied a two-tiered proteomics strategy combining global discovery with targeted validation to identify a robust protein signature of remission. The resulting protein panel was successfully implemented in a targeted mass spectrometry-based assay, with diagnostic performance confirmed in an independent patient cohort. The panel consistently outperformed routine clinical markers and will be further developed for clinical use.

9. Integrated Quality Control of iPSC Genomic Integrity and Differentiation States Using StemCNV-check and SteMClass

Stachelscheid, Haradl[1]

[1]BIH – Translational Sciences and Applications (TSA), CUSCO

Ensuring genomic integrity and consistent differentiation outcomes is essential for the safe and reproducible use of iPSCs in research and therapy. We present two complementary quality control tools: StemCNV-check, a robust SNP-array analysis pipeline for copy number and identity verification, and SteMClass, a DNA methylation–based classifier for iPSC-derived cell state identification. StemCNV-check combines automated CNV/SNV detection, biological prioritisation via a scoring system, and sample identity checks, producing intuitive and interactive HTML reports suitable for routine use in stem cell labs. SteMClass, developed using a reference set of 140 samples across eight differentiation states, enables single-assay, protocol-independent classification via a random forest model. It is accessible through a publicly available prototype web application. Together, these tools support harmonised and scalable QC workflows, enhancing reproducibility and reliability in iPSC-based applications.

SESSION III

10. From Single-Cell Genomics to Precision Medicine

Schayan Yousefian[1], Simon Haas[1]

[1]BIH - Center of Functional Genomics

Single-cell genomics has driven major advances in biomedical research, offering unprecedented insights into cellular diversity and the mechanisms underlying disease. However, their high costs and limited scalability have hindered widespread adoption and impact on clinical translation. Here we present our approach to addressing these challenges by scaling single-cell technologies to large patient cohorts and augmenting routine clinical tools with insights derived from single-cell genomics. Using hematology and oncology as a use case, we demonstrate single-cell genomics and single-cell genomics-informed strategies can be used to advance disease classification, drive robust biomarkers, improve precision diagnostics, and establish predictive tools for therapy decision guiding.

11. Considering circadian impact on bone health and regeneration

Denise Jahn[1]

[1]BIH - Center for Musculoskeletal Biomechanics and Regeneration (Julius Wolff Institute)

In mammals, bone metabolism follows a circadian rhythm regulated by both the central clock in the suprachiasmatic nucleus (SCN) and an intrinsic peripheral bone clock. Hormones like parathyroid hormone and vitamin D exhibit daily fluctuations that influence bone remodeling, which peaks during the night. Disruptions such as shift work or sleep deprivation are associated with reduced bone quality and increased fracture risk, yet the underlying mechanisms remain unclear. Using genetically modified mice with targeted disruption of the circadian clock, we found that impairment of the clock in the SCN alone significantly decreases bone quality. Additionally, circadian disruption impairs bone fracture healing. Our research aims to elucidate how circadian rhythms regulate musculoskeletal regeneration, providing insights essential for developing time-informed, targeted therapies to improve bone health and repair.

12. A systematic high-throughput mapping and validation of John Cunningham virus T-cell epitopes

Kai Pohl[1], Calvin Hon[1]

[1]BIH - Center for Regenerative Therapies (BCRT)

PML is a demyelinating disease of the CNS caused by reactivation of JCV in immunocompromised individuals. Despite its high mortality, no licensed therapies exist and reconstitution of cellular immunity remains the most effective treatment. JCV-specific T-cells are strongly associated with favorable clinical outcome but the extremely low frequencies of these T-cells hampers efforts in identifying T-cell epitopes and cognate TCRs, thus posing a major roadblock in PML therapy design. Here, we developed a T-cell epitope ranking tool that integrates mathematical models from multiple-criteria decision analysis (MCDA), enabling consideration of diverse determinants of antigen immunogenicity. In parallel, we established T-cell expansion protocols tailored to the low frequency JCV-specific T-cells coupled with a scalable combinatorial pooling strategy to enable high-throughput epitope mapping. Using this framework, we uncovered novel immunogenic MHC-I/-II epitopes across all major JCV antigens.

Scientific Poster - Number and Titles

Postersession I

P-01 Avila, Laura: Generation of iPSC-derived hepatocytes with enhanced functionalities for advanced cellular therapies

P-03 Baum, Lena and Johns, Marco: Empowering Data-Driven Research: The BIH/Charité Clinical Data Warehouse Platform

P-05 Bodur, Leylanur: Can we make prevention programs in Germany more cost-effective with electronic healthcare records?

P-07 Pratibha Dhumale, Bianca Lemke, Mario Theile, Leila Amini, Jens-Uwe Blohmer, Georg N Duda: Advancing Regenerative Therapies through SLA-Guided Bioprinting of Functional Tissue Constructs

P-10 Finke, Marcel: De novo generation of T cells for adoptive immunotherapy: Deciphering epigenetic differences of stem cell-derived T cell progenitors and their ex vivo thymic counterparts

P-12 Gütig, Robert and Polemiti, Elli: One-shot learning in spiking neurons

P-14 Jentsch, Marcel: CLUES: A Comprehensive Workflow for Integrating Geospatial Data in Biomedical Research

P-16 Kazezian, Vartan: Mapping and modeling the human innate immune response and the regulatory role of oxidative stress in post-traumatic osteoarthritis initiation

P-18 Kohleick, Leonhard and Zoodsma, Martijn: Annotating the non-coding genome will enable drug target identification and repurposing in living humans

P-20 Kühnlenz, Tim: Massively Parallel Reporter Assays (MPRA) Identify Causal Variants in Complex Inflammatory Disease for Translational Medicine

P-22 Marti Grifol, Claudia: Uncovering the Cellular Origins of High-Grade Serous Ovarian Cancer (HGSOC)

P-24 Meixner, Maximilian: MII project CALM-QE - Integrating Smart Wearable and Environmental Data into Machine-Learning Approaches to Predict Pulmonary Exacerbations

P-26 Mühlegger, Jakob: Time-constrained multi-spike tempotron learning

P-28 Papapostolou, Grigorios and Otte, Karen: Data Anonymization and Privacy Risk Assessment Tools at the BIH

P-30 Püstow, Katja: INVESTIGATING CHOLANGIOCARCINOMA BIOLOGY IN-VIVO AND IN-VITRO

P-32 Rotter, Sophia and Pellegrini, Pasquale: Improving Translation: Meta-research findings from preclinical confirmatory multi-laboratory trials

P-34 Schubach, Max and Nazaretyan, Lusiné: Interpreting genomic variant function across molecular effects and variant types

P-36 Skrobot, Matej: Machine learning-based biomechanical score of pathological gait in persons with anterior cruciate ligament reconstruction

P-38 Sudy, Alexander: Spatial Mapping of Innate Immune System Activation in the Central Nervous System Following Systemic Infection

P-40 von Arnim, Georg: LLMs for Efficient Clinical Prediction using Unstandardized EHR Data

P-42 Yaman, Ferhat Ali: Production of CAS9 expressing hiPSCs for genetic screen

Postersession II

P-02 Bachinger, Fabian: Large scale production of hiPSC derived Hepatocytes for Cell Based Therapy

P-04 Bierbaum, Dominik: Multi-omics analysis for improved diagnosis and prognosis of viral and bacterial (Co-)Infections

P-06 Cagna, Marta: ELUCIDATING THE ROLE OF PLASTICITY FACTORS IN HUMAN LIVER REGENERATION

P-09 Fath, Emma Katherine: Lab2HPO: A web server for converting local lab results to Human Phenotype Ontology (HPO) terms

P-11 Flanagan, Luke: Project VERANDA: Bridging Healthcare Gaps in Stigmatized Conditions Through Privacy and Interdisciplinary Innovation

P-13 Hamo, Dania: Improving T Cell Therapy: Unravelling the Identity Trap of T Cells

P-15 Jiao, Songsong: Immortalized MSC-Derived Extracellular Vesicles Reduce Inflammatory Responses and Promote Chondrocyte Regeneration in Osteoarthritis

P-17 Koehler, Kristin: Long-read single-cell RNA sequencing reveals alternative splicing–mediated fine- tuning of the immune response in COVID-19

P-19 Kostevc, Tomislav: IL-10: a key regulator of endolysosomal biogenesis and proteolytic activity in myeloid cells

P-21 Magg, Andreas: Investigating enhancer function by creating synthetic Ihh regulatory landscapes

P-23 Matz, Isabell: Refining myocarditis diagnostics: Integrative characterisation of immune cells and fibroblasts to track disease progression

P-25 Moewis, Philippe: Integration of in vivo knee joint kinematics into the design and optimization of total knee arthroplasty systems.

P-27 Nothacker, Johanna and Simon, Susanne: The BIH and Charité Broad Consent Infrastructure

P-29 Andrade, Jorge and Potente, Michael: Deconvolution of complex biological phenotypes through targeted protein degradation

P-31 Romeike, Merrit: Genetic Screen to Identify Lipid Metabolism Regulators using hiPSC-derived Hepatocytes

P-33 Salla, Maren: Cryo-mtscATC-seq for single-cell mitochondrial DNA genotyping and clonal tracing in archived human tissues

P-35 Schulz, Robert: Matters of Research Assessment and its Implementation: Interim results of an interview study with decision makers in administration and governance (A&G) of professorial appointments at the Berlin University Alliance (BUA) and the Berlin senate

P-37 Stölting, Gabriel: STREAM - Signal TRansduction in Endocrine Adrenal Mutations

P-39 Vock, Simon: Critical dynamics govern performance in deep learning

P-41 Vorisek, Carina Nina and Saß, Julian: From Germany to Europe: National Data Infrastructures Supporting the European Health Data Space

P-43 Zilske, Christoph: Patient-Reported Outcomes in the Medical Informatics Initiative (PCOR-MII)

P-45 Florian Seidel, Jennifer Hoos - Core Unit Research IT: Data Integration Center and Health Data Platform: Scalable Research Data Services for the Charité and BIH Ecosystem

P-57 Eric Wündisch und Armin Müller - Medical Informatics: The Data Trustee Office (THS) at BIH@Charité: Secure and Efficient Data Management for Translational Research

P-58 Braun, Martin and Ten, Foo Wein – BIH - Center Digital Health - An Overview of our Cloud and HPC Infrastructure at the Center for Digital Health

A Marketplace of Opportunity

The Marketplace of Ideas offers a dynamic forum to explore core and innovative services available at the Berlin Institute of Health (BIH). Through engaging poster presentations, participants will gain insights into cutting-edge infrastructures and innovative solutions that support biomedical research and medical translation. This format is designed to spark dialogue, showcase opportunities for collaboration, and highlight how BIH's services can accelerate scientific discovery. Innovation stands at the center—bringing together expertise, technology, and creativity to transform ideas into impact.

Marketplace Session I

P-60 Core Management – Legal & Compliance

P-61 Core Management – Personnel

P-62 Core Management – Controlling/ Fund Management

P-63 Core Management – Campus Development & Infrastructure

P-64 Core Management - Communication

P-65 Core Management - External Affairs

P-66 Core Management – Equal Opportunities & Diversity/ Welcome Service

P-67 Core Management – Strategic Science Management & PhDNet

Marketplace Session II

P-46 Core Unit Proteomics

P-47 Oliver Klein - BIH-Core Unit Imaging Mass Spectrometry: Bridging Molecular Insights and Patient Care with Advanced Mass Spectrometry Technologies Core Unit Imaging Mass

P-48 Jennifer Kirwan - BIH Metabolomics Platform: A variety of targeted and untargeted methodologies of metabolomics and lipidomics to advance translational research at BIH

P-50 Alexandra Trinks- Bioportal Core Unit

P-51 Genomics Core Unit; The Genomics Platform at the Berlin Institute of Health (BIH)

P-52 Genomics Core Unit; The Genomics Platform at the Berlin Institute of Health (BIH)

P-53 Core Unit Bioinformatics

P-54 Charité-BIH Innovation (CBI)

P-55 Charité-BIH Innovation (CBI)

P-59 Alexandra Stege, Jenny Schlesinger - Central Biobank – ZeBanc: Translational Biobanking - An Overview

P-XX BIH Innovation Academy

P-XX National Gene and Cell Therapy office

P-XX BIH Core Unit Research IT

Flashtalk Sessions

Flashtalks are a series of dynamic, 15-minute presentations designed to spark ideas and share knowledge across the BIH community. Each talk highlights a topic of broad interest – ranging from new developments and innovative approaches to personal insights and cross-disciplinary perspectives. By keeping the format short and focused, Flashtalks encourage lively exchange, provide inspiration, and make complex themes accessible to everyone.

This format offers the BIH community the chance to discover new perspectives in a compact way and fosters connections across different areas of the organization.

<u>FLASHTALK SESSION I</u>

1. Leveraging science to unlock its treasures - *Thomas Gazlig*
2. CBI's IDEA OFFICE- *Bettina Otto*
3. Fireside Chat: From Idea to Product – Personal Career Paths in Translational Medicine - *Sophie Lehnerer, René Hägerling, Claudia Keil-Dieckmann, Moderator: Aleksandra Laski*

<u>FLASHTALK SESSION II</u>

4. Advancing Computational Team Science at BIH - *Martijn Zoodsma*

Meet the current BIH-Stiftung Charité Visiting Fellows:

5. Envisioning the Multiscale Human Reference Atlas. - *Katy Börner (Indiana University, US)*
6. Atlas for Health in 56 million people- *Harry Hemingway (UCL, UK)*

<u>FLASHTALK SESSION III</u>

7. The Clinical Cloud Infrastructure: A Review of Key Use Cases - *Martin Braun and Jacques Ehret*
8. BIH Core Unit Research IT - *Peter Brunecker*
9. Facilitating uptake of preclinical systematic review and meta-analysis: update on the journey from local to national - *Alexandra Bannach-Brown*

FLASHTALK SESSION I

1. Leveraging science to unlock its treasures

Thomas Gazlig
Charité-BIH Innovation

Charité and BIH have excellent research and nationally unique funding instruments, but transfer and impact on society, patients, and the economy remain insufficient: "Less than 10% of innovative ideas are brought into a commercialization perspective. An exploratory analysis has shown: 40% of publications contain undiscovered intellectual property. We are missing opportunities and realizing only a fraction of our potential. True 'game changers' emerge far too rarely. Can we afford this? Do we have the right transfer mindset, and what incentives for transfer do we need in the academic system? Let's talk about it. Charité BIH Innovation is your central service point for technology transfer. Together with you, we realize biomedical translation and bring your research to patients.

2. CBI's IDEA OFFICE

Bettina Otto
Charité-BIH Innovation (CBI)

The IDEA OFFICE or "Ideensprechstunde" at CBI is the primary access point to connect with CBI to navigate all matters of protecting and managing intellectual property and related rights at Charite, BIH, and DHZC. Typically, the office is consulted when translation of research becomes a tangible aim: when working on an invention or innovative ideas, when starting external research or industry collaboration, when sharing sensitive materials (patient samples or patentable compounds) with external partners. Common topics include patentability of innovations and alternative protection rights (e.g. software, trademarks, designs); procedures for invention or software disclosures and patenting, employee benefits and obligations; utilization options of patents, internal funding opportunities through SPARK and Digital Health Accelerator (DHA) programs, and guidance on safe disclosure of innovations or results (without destroying patentability), as well as next steps toward a start-up.

3. Fireside Chat: From Idea to Product – Personal Career Paths in Translational Medicine

Sophie Lehnerer, René Hägerling, Claudia Keil-Dieckmann, Moderator: Aleksandra Laski

The fireside chat explores the diverse career paths that bridge the worlds of academia and entrepreneurship. Our speakers will share their personal journeys, highlighting how they navigated transitions from research to founding startups or moving between both spheres. We will discuss key challenges along the way – such as balancing scientific rigor with market demands, securing funding, building teams, and managing uncertainty. Beyond the practical hurdles, the conversation will also address the personal lessons learned: what motivated pivotal decisions, how setbacks shaped growth, and which insights proved most valuable in hindsight.

The session offers an open exchange of experiences and advice for (junior) researchers, and aspiring entrepreneurs who are considering their own career transitions.

FLASHTALK SESSION II

4. Advancing Computational Team Science at the Berlin Institute of Health

Martijn Zoodsma
BIH - Center Digital Health

The first draft of human genome was published over two decades ago, yet our understanding of how genetic variation leads to disease is still limited. Within the Computational Medicine team, we generate and integrate large-scale, molecular and clinical data to characterize genetic effects across organs, tissues and cells, advance our understanding of the causes of human diseases, identify individuals at high risk of future development or rapid progression of diverse diseases (www.omicscience.org). Our aims are to i) identify mechanisms shared across diseases, ii) understand the causes and clinical consequences of the heterogeneity of human metabolism, iii) predict the onset of human diseases, and iv) characterize the genetic architecture of molecular traits. Here, different team members will show their work across different research areas and place them into the context of the BIH research environment, including an emphasis on research infrastructure development and open science.

5. Envisioning the Multiscale Human Reference Atlas.

Katy Börner
Indiana University, US

Katy Börner is the Victor H. Yngve Distinguished Professor of Engineering and Information Science in the Departments of Intelligent Systems Engineering and Information Science, Luddy School of Informatics, Computing, and Engineering; core faculty of the Cognitive Science Program; and founding director of the Cyberinfrastructure for Network Science Center (http://cns.iu.edu)—all at Indiana University in Bloomington, Indiana. She is a curator of the Mapping Science exhibit (http://scimaps.org) and she leads the international Human Reference Atlas effort (https://humanatlas.io). She holds an MS in electrical engineering from the University of Technology in Leipzig, and a PhD in computer science from the University of Kaiserslautern. Börner is a Fellow of the American Association for the Advancement of Science (AAAS), a Humboldt Research Fellow, an Association for Computing Machinery (ACM) Fellow, and a Network Society Fellow.

6. Atlas for Health in 56 million people

Harry Hemingway
UCL, UK

The Human Reference Atlas (HRA) is a multiscale, multimodal, three-dimensional (3D) atlas of the anatomical structures and cells in the healthy human body. Cell types are linked to biomarkers (genes, proteins, lipids, metabolites) that are used to characterize cells across tissues and technologies. The HRA provides standard terminologies and data structures for describing specimens, biological structures (i.e., anatomical structures, cell types, biomarkers), and 3D spatial positions linked to existing ontologies. New experimental data can be mapped to the HRA spatially or semantically in support of novel analyses and predictions. All data and user interfaces are freely available via the HRA Portal (https://humanatlas.io)..

FLASHTALK SESSION III

7. The Clinical Cloud Infrastructure: A Review of Key Use Cases

Martin Braun[1], Jacques Ehret[2]
[1]BIH - Center Digital Health
[2]BIH – Clinical Study Center

The Clinical Cloud Infrastructure at Charité/BIH provides a secure, GPU-equipped infrastructure for in-house deployment of large language models (LLMs) and vision-language models (VLMs). Designed for privacy-preserving processing of sensitive health data, it offers a cloud environment for seamless integration into clinical research workflows. As an example use case, we present a webservice gateway that enables easy, on-demand access to locally deployed LLM/VLM-based tools developed in methodological research. These tools support tasks such as converting clinical images to text or structuring unstructured medical documents for downstream analysis, thereby combining state-of-the-art AI capabilities with robust data protection.

8. Curious to CURIT? A look back and forth.

Peter Brunecker
BIH Core Unit Research IT

The Core Unit Research IT delivers mission-critical digital infrastructure for medical translation. Its portfolio includes the Health Data Platform and Data Integration Center, large-scale research data management (e.g., for microscopy), and secure patient data access via the Health Data Lake. The unit fosters DevOps culture, supports scientists with tailored IT services, and aligns closely with Charité's IT strategy to ensure sustainability and scalability. With an agile, user-driven approach, Research IT strengthens digitalization, drives innovation, and underpins BIH's strategic focus on medical translation. Beyond infrastructure, the team contributes directly to numerous research projects and continuously improves services with a product-oriented perspective. In doing so, it makes innovative information technology an integral part of cutting-edge biomedical research.

9. Facilitating uptake of preclinical systematic review and meta-analysis: update on the journey from local to national

Alexandra Bannach-Brown
BIH - Center for Responsible Research (QUEST)

In 2019, we established the Charité 3R Supportive Technology Platform "CAMARADES Berlin Facility for Systematic Review and Meta Analysis of Animal Studies". We provide training in preclinical systematic reviews (SRs) and methodological support for researchers to conduct robust, high-quality reviews, with the goal of supporting higher-quality and more ethical animal research that is more likely to benefit patients. In 2021, we secured Volkswagen Foundation funding to launch the COReS (Communities for Open Research Synthesis) initiative and work towards scaling our approach nationally. We mapped attitudes towards SRs and barriers and enablers to their conduct at different German UMCs via surveys and interviews. Our strategy focuses on education and awareness raising, infrastructure to make SRs feasible, and community to make them normative, all essential aspects for uptake and quality. Our work demonstrates how collaborative action can help embed SR methods in translational research.

BIH Voices

BIH Voices brings together representatives from all career stages—PhD students, postdocs, principal investigators, and people from administration—for an open discussion on Tranlation at its CORE. This panel discussion enriched through audience participation presents an interactive format which offers diverse perspectives and fosters dialogue across the BIH community.

The session explores how BIH can strengthen its role in moving discoveries from the lab into clinical practice. Topics include the infrastructure, culture, and processes needed to achieve meaningful translational impact, and how to overcome barriers to interdisciplinary collaboration. We will discuss the balance between basic research and application, the importance of involving clinicians and patients early on, and strategies to navigate the "valley of death" between research and clinical trials. The conversation will also address incentives, ethics, and regulatory frameworks, while considering the role of new technologies and BIH's position in shaping the future of translational research at national and international levels.

Participants:

Leonhard Kohleick is a **PhD student at BIH representing the PhD Network**, where he explores machine learning in biomedical research, specifically population genetics and the ethics of AI. The **PhD Network** he represents is a young, student-led initiative that connects PhD students across the BIH, through social events, and working groups to strengthen collaboration and representation.

Dr. Anika Neuschulz is a **postdoctoral researcher** in the group of Prof. Birgit Sawitzki at BIH. She completed her PhD in the group of Prof. Jan Philipp Junker, where she studied cellular dynamics in development. This work connects directly to her current research on the dynamics of viral infection.

Prof. Dr. Tobias Winkler is an international **clinician–scientist** at BIH@Charité. With his clinical and scientific expertise as an orthopedic and trauma surgeon and Head of Musculoskeletal Advanced Therapies, he lives and breathes translation in practice. His translational work has been recognized with several distinctions, including the Innovation Award of the German Society for Trauma Surgery.

Thomas Gazlig is **head of Charité BIH Innovation** — the joint technology transfer of Charité and BIH. With his background in communications, management, and business, he and his team at CBI bridge gaps between science, policy, and industry to close the translational chain from bench to patients.

Code of Conduct

During this event, we want to strengthen the scientific community at the BIH and grow a community of contributors sharing their experiences and scientific insight.

In the interest of fostering an open and welcoming environment, we as organizers pledge to make participation in the **BIH Symposium 2025** a kind and harassment-free experience for everyone, regardless of age, body size, disability, ethnicity, sex characteristics, gender identity and expression, level of experience, education, socio-economic status, nationality, personal appearance, race, religion, or sexual identity and orientation.
We hope to host an event in which differing and diverse experiences and viewpoints are taken into account equally, and without judgement from other participants.
Sharing content in this event can only be done with the specific consent of the person who wrote/created the given content.

Examples of behavior that contributes to creating a positive environment include:

- Being welcoming and respectful/considerate of others
- Being respectful of differing viewpoints and experiences
- Gracefully accepting constructive criticism
- Showing empathy towards other community members
- Add trigger-warnings if your contribution includes personal stories about e.g., (power) abuse. Be mindful that your stories affect others around you.

Examples of avoidable behavior:

- Ironic and sarcastic comments as well as non-obvious jokes
- Use of UAs (unnecessary abbreviations :D)

Examples of unacceptable behavior by participants include:

- The use of sexualized language or imagery and unwelcome sexual attention or advances
- Trolling, insulting/derogatory comments, and personal or political attacks
- Public or private harassment
- Publishing others' private information, such as a physical or electronic address, without explicit permission
- Other conduct which could reasonably be considered inappropriate in a professional setting

The organizers are responsible for clarifying the standards of acceptable behavior and are expected to take appropriate and fair corrective action in response to any instances of unacceptable behavior.

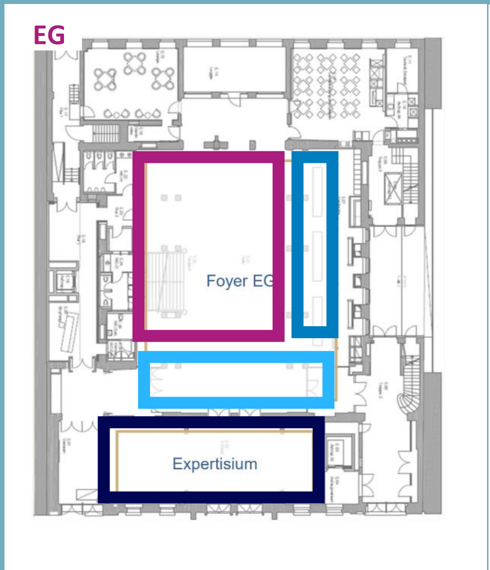
Organizers have the right and responsibility to remove participants that are not aligned to this Code of Conduct, or to ban temporarily or permanently any participant for other behaviors that they deem inappropriate, threatening, offensive, or harmful.

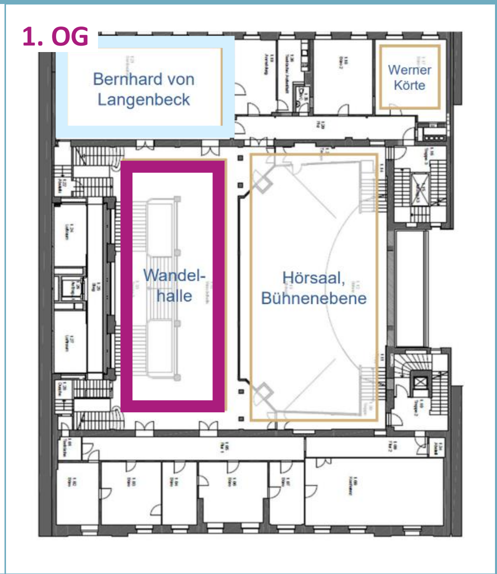
Scope: This Code of Conduct applies during the BIH symposium 2025 and subsequent resource creation process, and within all project spaces and formats (scientific talks, unconference, workshop, poster sessions, BIH success stories).

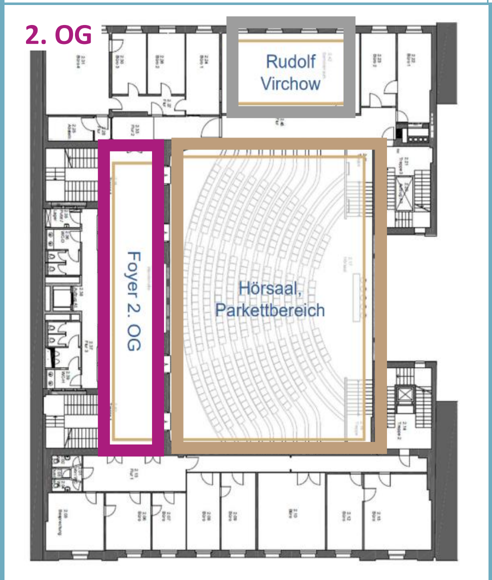
Instances of abusive, harassing, or otherwise unacceptable behavior may be reported by contacting the organizer-team at bih-symposium@bih-charite.de. All complaints will be reviewed and will result in a response that is deemed necessary and appropriate to the circumstances. The organizers are obligated to maintain confidentiality with regard to the reporter of an incident. Further details of specific enforcement policies may be posted separately.

This Code of Conduct is adapted from the Contributor Covenant, version 1.4, available at https://www.contributor-covenant.org/version/1/4/code-of-conduct.html

Floorplan Langenbeck-Virchow Haus







Foyer EG:

Poster Session I-II

Registration Desk

Coffee / Snacks

Expertisium:
Flashtalk II
Live-Stream

Bernhard von Langenbeck:
Marketplace I-II

Wandelhalle 1. + 2. OG: Postersession I-II

Auditorium/Hörsaal:
Scientific Sessions I, II.I, III
Poster Teaser Session I-II
Flashtalk I
BIH Voices

Rudolf Virchow:
Flashtalk III
Scientific Session II.II