



UNIVERSITÄT
BIELEFELD

Bl.research

C O N F E R E N C E

2025

Presentation of Focus and
Exploration Areas

Introduction of Potential
Profile and Focus Areas

2 July 2025

University Main Building
[uni-bielefeld.de/biresearch-
conference](https://uni-bielefeld.de/biresearch-conference)

Programme

08:30	Registration
09:15 - 10:15	Welcome and Introduction (Audimax)
10:15 - 10:30	Room Change
10:30 - 11:45	Focus Areas: Parallel Sessions I <ul style="list-style-type: none">• Processes of Innovation and Creativity (PINC), room: H7• Microbiology in a data-driven world - Microbiomes and sustainable bioproduction (MDDW), Room: H5• Emerging Synergies in Mathematics (ESyMath), Room: H15• Universalizing the Particular - Contesting the Universal (UNIVERSAL), Room: H16
11:45 - 12:00	Room Change
12:00 - 13:15	Focus Areas: Parallel Sessions II <ul style="list-style-type: none">• Contestations of Gender and Democracy - Intersectional Perspectives on the Experience of Gender (ConGeD), Room: H5• Foundations and Implications of Human-AI Teamwork (FAITH), Room: H16• Quantifying and Managing Uncertainty (QUAMU), Room: H15• Shifting Worlds: InterAmerican (Dis)Entanglements (SHIFT), Room: H10
13:15 - 14:15	Break
14:15 - 15:00	Presentation of Potential Profile and Focus Areas <ul style="list-style-type: none">• Mathematical Innovations through Collaborative Synergies (MICoS; potential Profile Area), Room: H7• Individualisation in Changing Environments (InChangE; potential Profile Area), Room: H4• Understanding and Fostering Students' Future Skills in Terms of Critical Thinking (REFLECT; potential Focus Area), Room: H15
15:00 - 16:00	Poster Session of the Exploration Areas with drinks, snacks, and open exchange <ul style="list-style-type: none">• Location: University Hall in front of the Audimax
16:00 - 17:15	Focus Areas: Parallel Sessions III <ul style="list-style-type: none">• Interactive Inclusive AI for People with Cognitive Disabilities (AI*IM), Room: H7• Conflicts of Inequality (CoIn), Room: H5• Individualisation in Changing Environments (InChangE), Room: H15• Architecture of Nature: Elementary Building Blocks and the Emergence of New Structures (ANBauEn), Room: H16
17:15 - 17:30	Room Change
17:30 - 18:00	Joint Closing Session (Audimax)
18:00 - 19:30	Get-together

Moderator: Jörg Heeren

Presentations of the Focus Areas: Parallel Sessions I

Processes of Innovation and Creativity (PINC)

Time: 10:30 - 11:45, **Room:** H7, **Format:** Workshop

Moderators/content design: Tanja Ackermann, Joana Cholin, Claudia Hillebrandt, Johanna Kißler, Ralf Vogel

The goal of PINC is to gain a deeper general understanding of social or cultural processes of creative renewal. To this end, we will analyse, model and compare processes of individual, interactive and collective creative action as well as dynamics of innovation in different domains. The workshop offers the opportunity to discuss these aspects and develop project ideas in interdisciplinary working groups. All members and interested colleagues are cordially invited to attend.

Microbiology in a data-driven world - Microbiomes and sustainable bioproduction (MDDW)

Time: 10:30 - 11:45, **Room:** H5, **Format:** follows

Details may follow at short notice on the website.

Emerging Synergies in Mathematics (ESyMath)

Time: 10:30 - 11:45, **Room:** H15, **Format:** Lectures with discussion

Moderator: Claudia Alfes

Speakers: Claudia Alfes, Charles Vial, Vitali Wachtel

ESyMath stands for *Emerging Synergies in Mathematics*. In this session, we will briefly introduce the focus area and current projects.

Afterward, Charles Vial will give a talk on *algebraic periods*. These are numbers that can be represented as a special kind of integral—for example, the number π is one of them. It is conjectured that Euler's number e is not such a period. Studying periods requires the combination of methods from geometry, algebra, analysis, number theory, and physics. The talk will provide an accessible introduction and highlight the importance of periods in both classical problems and current research.

Vitali Wachtel will speak about *randomness as a reliable helper*. Usually, randomness is seen as a disruptive element that needs to be understood and controlled. Vitali Wachtel will explain, using the example of route planning in networks, how the artificial introduction of randomness can actually be beneficial.

Universalizing the Particular - Contesting the Universal (UNIVERSAL)

Time: 10:30 - 11:45, **Room:** H16, **Format:** Panel

Moderator: Mathias Albert

Panel Participants: Martin Petzke, Oliver Flügel-Martinsen, Minh Nguyen, Martin Lutz, Holger Straßheim

The panel asks how universalization functions as the universalization of a particular perspective. It inquires into the conditions and the processes of the successful establishment of universalizations, as well as into dynamics of their contestation and their relativizing. A special focus lies on practices of comparison as key processes of a modernity constituted through universalizations.

Presentations of the Focus Areas: Parallel Sessions II

Contestations of Gender and Democracy - Intersectional Perspectives on the Experience of Gender (ConGeD)

Time: 12:00 - 13:15, **Room:** H5, **Format:** Panel

Panel Participants: Diana Lengersdorf, Tomke König, Alexandra Scheele-Baer, Julia Roth, Birte Förster, Pamela Wicker

ConGeD is interested in contestations of gender in democratically constituted societies and assumes that gender and democracy are closely interwoven.

We thus refer to the current socio-political situation in which semantics of gender equality, democracy and plurality are no longer taken for granted, but are contested. At the same time, we are interested in the increase in possibilities for experiencing gender that are and have been produced by democratic practice. The focus area combines empirical research on the transformation of gender (in the present and past, locally, (trans)nationally and globally) with the theoretical and methodological development of interdisciplinary gender studies. Gendered modes of existence are entangled with other dimensions of social inequality and discrimination. Global, transnational, post- & decolonial perspectives are just as important in our further developments as perspectives of democracy research.

In our session, we will present four project contexts that illustrate the diversity of our perspectives and we are looking forward to a joint discussion.

Foundations and Implications of Human-AI Teamwork (FAITH)

Time: 12:00 - 13:15, **Room:** H16, **Format:** Panel followed by a poster session

Moderators: Anja Abendroth, Philipp Cimiano, Stefan Kopp, Günter Maier, Sina Zarriß

The FAITH focus area examines the fundamental limits and design possibilities of “Human-AI Teamwork”, in which humans and AI systems coordinate their complementary skills in a targeted manner to pursue a common goal. The session on the focus area will start with a panel in which the speakers will present their perspectives on the focus area and put them up for discussion. A subsequent poster session will provide an opportunity for discussion and exchange.

Quantifying and Managing Uncertainty (QUAMU)

Time: 12:00 - 13:15, **Room:** H15, **Format:** Lectures

Moderator: Giorgio Ferrari

Speakers: Timo Adam, Manuel Foerster, Pamela Wicker, Christian Deutscher, Josephine Fandrich, Frank Riedel

We highlight interdisciplinary approaches to understanding, quantifying, and managing uncertainty across economic, social, and environmental domains. In particular, we present research on uncertainty and wellbeing, explore why receivers of narratives sometimes prefer to be naïve, address the question of whether football fever can be measured, and, last but not least, discuss the trade-off between today’s welfare and the wellbeing of future generations in the context of climate change.

Shifting Worlds: InterAmerican (Dis)Entanglements (SHIFT)

Time: 12:00 - 13:15, **Room:** H10, **Format:** Panel

Moderators: Olaf Kaltmeier, Kirsten Kramer, Eleonora Rohland

Panel Participants: Christiane Clemens, Frank Grüner, Caroline Müller, Lena Neuenkamp, Carsten Reinhardt, Matti Steinitz, Philipp Wolfesberger

SHIFT examines transformation processes in social, political and ecological human-environment relations in the Americas in their relation to the global world. The BI.research Conference will host an interdisciplinary panel focusing on the underlying entanglement approach in relation to distinct practices, actors and epistemologies. Their interaction will be discussed in short contributions from the fields of natural and economic sciences, history of science, history and cultural studies.

Presentations of the Focus Areas: Parallel Sessions III

Interactive Inclusive AI for People with Cognitive Disabilities (AI*IM)

Time: 16:00 - 17:15, **Room:** H7, **Format:** Workshop

Moderators: Claudia Hornberg, Tanja Sappok, Anna-Lisa Vollmer, Britta Wrede

AI*IM aims to enhance medical care for individuals with cognitive impairments through interactive AI that supports communication with their environment. In the session, current projects and ideas will be presented in pitches and commented on by discussants. Attendees can pin questions and comments on boards, which will be discussed later in a plenary session. Finally, working groups on existing or interesting topics will be introduced.

Conflicts of Inequality (Coln)

Time: 16:00 - 17:15, **Room:** H5, **Format:** Panel

Moderator: Tobias Hecker

Panel Participants: Christina Morina, Carsten Sauer, Odile Sauzet, Anna Zaharieva, Andreas Zick

Societies are characterised by social inequalities. Pronounced inequalities harbour social conflicts that can be institutionalised, suppressed or carried out violently - and which in turn can reduce existing inequalities or create new ones. The Conflicts of Inequality (Coln) focus area approaches these complex interactions. In our panel discussion, our interdisciplinary panelists will discuss promising directions and potential mechanisms and moderators linking conflict and inequality.

Individualisation in Changing Environments (InChangE)

Time: 16:00 - 17:15, **Room:** H15, **Format:** Lecture with discussion

Lecture: Oliver Krüger

Discussion: Oliver Krüger, Barbara Caspers, Marie Kaiser

Individuals differ, but the causes and consequences are still unclear. The process of individualisation arises from interactions between individuals and their environment. InChangE brings together researchers from various fields to close this gap and investigate the causes and consequences of individualisation in animals and humans. The aim of the session is to develop ideas for the future and to attract further researchers to the topic.

Architecture of Nature: Elementary Building Blocks and the Emergence of New Structures (ANBauEn)

Time: 16:00 - 17:15, **Room:** H16, **Format:** Lectures with discussion

Moderators: Bastian Brandt, Sören Schlichting, Dominik Schwarz

Speaker: Armin Gölzhäuser, Thomas Koop, Daniel Merkle, Caroline Robin

The focus area ANBauEn investigates how complex systems with emergent properties arise from fundamental building blocks and how, conversely, the behavior of complex systems in the natural sciences can be inferred from fundamental structures and principles. In the planned session, we will have four impulse talks and discussion, aiming to extend and sharpen the overarching topics for individual subprojects.

Presentation of potential Profile and Focus Areas

Mathematical Innovations through Collaborative Synergies (MiCoS)

Potential Profile Area

Time: 14:15 - 15:00, **Room:** H7, **Format:** Lectures with discussion

Moderators: Claudia Alfes, Giorgio Ferrari, Moritz Kaßmann, Benjamin Paaßen, Roland Langrock, Alexander Salle, Cora Uhlemann

We present the idea of Mathematical Innovations through Collaborative Synergies (MiCoS): Building on the focus area ESyMath, this profile area initiative emphasizes mathematical questions that arise from neighboring disciplines such as data science, economics, and the natural sciences. These interdisciplinary impulses not only open up new fields of application but also foster synergies within mathematics itself—for example, through the interaction of various subfields such as algebra, analysis, geometry, numerical analysis, stochastics, and statistics.

Pedagogical and educational questions constitute another integral dimension of the initiative. This likewise illustrates how strong interconnections between diverse mathematical fields and their dissemination can yield new insights.

Individualisation in Changing Environments (InChangE)

Potential Profile Area

Time: 14:15 - 15:00, **Room:** H4, **Format:** Lecture with discussion

Lecture: Oliver Krüger

Discussion: Oliver Krüger, Barbara Caspers, Marie Kaiser, Bastian Mönkediek

InChangE combines social sciences, humanities and natural sciences to investigate individualisation in animals and humans. Although individual differences are visible, the causes and consequences remain unclear.

InChangE brings together experts from different disciplines to investigate the causes, consequences and the complex interactions between individuals and their environment. During the session, the focus will be on forward-looking ideas and inspiring more scientists to work on the topic.

Understanding and Fostering Students' Future Skills in Terms of Critical Thinking (REFLECT)

Potential Focus Area

Time: 14:15 - 15:00, **Room:** H15, **Format:** Lectures with discussion

Presenters and moderators: Kirsten Berthold, Susanne Miller, Matthias Wilde, Fabian Wolff

Given the high societal relevance of critical thinking competence (CTC), we address students' CTC in the educational context as a key future skill. Bielefeld University as a "reform" university with a long discourse culture is the perfect place to examine and foster CTC to prepare students to participate as critical citizens in democracies. Our interrelated aims are: (a) *Research*: concept for a DFG application for a Research Training Group. (b) *Teaching*: a new Bielefeld Critical Thinking Lab. (c) *Transfer*: science communication on critical thinking to the public.

Poster Session of the Exploration Areas

Time: 15:00 - 16:00, Location: University Hall in front of the Audimax

Approval and Liability of Automation Innovations (InnoHaZu)

Spokesperson: Paul Schrader

The Art of Conflict (K_IKT)

Spokesperson: Johannes Voit

Behave Sustainably, Shape the Future (NahZug)

Spokespersons: Günter W. Maier, Pamela Wicker

Bielefeld Precision Medicine and Cellular Technology Network (BI.PREMAC)

Spokespersons: Kristian Müller, Sven Thoms

Chatbots as Tutors at School (CATS)

Spokesperson: Fabian Wolff

Crop Optimization and Management Automation (CROPTIMA)

Spokesperson: Hanno Meyer zu Theenhausen

Diversity-sensitive research in mental illness (PED - Network)

Spokespersons: Katja Kölkebeck, Kristina Hennig-Fast

Dynamics of 24h-Rest-Activity Patterns and Variability in Psychological and Health Outcomes in Intensive Longitudinal Data (DAVID)

Spokesperson: Sakari Lemola

Enactive learning environments of school labs-networks for STEM education (EnLab-STEM)

Spokesperson: Michael Kleine

Energy Transformations, Inequalities and Dependencies in Contemporary History (Energistories)

Spokesperson: Christian Zumbrägel

The Ethos of Religious Peacebuilders in Ukraine (ERPU)

Spokesperson: Raphaela Meyer zu Hörste-Bührer

Exclusion and Inclusion Processes in the Segregating School System - Accessibility and Acceptability (ExISt)

Spokesperson: Sina Schürer

Explainable AI and Advanced Methodology for Statistical Analyses of Radiomics Data (ExAMS)

Spokesperson: Annika Hoyer

Health equity in time of crises and disruptions (HECoD)

Spokesperson: Odile Sauzet

Immigrants' Minds Connect: An AI-Driven Digital Mental Hub for Wellbeing in Germany (ImMiCo-Project)

Spokesperson: John Elvis Hagan

Interdisciplinary Aspects of Housing (IWö)

Spokesperson: Markus Artz

Interpersonal Interaction and Perception (IPIP - Network)

Spokepersons: Kristina Hennig-Fast, Gernot Horstmann, Timothy Mc Call

Into the Wild: Synergetic Development of Technological and Methodological Approaches for Future Real-World Experiments (WildWorld)

Spokesperson: Marc Hesse

Leadership and Welfare in (Social) Transformation Processes (LeadWel)

Spokesperson: Christian Oelschlägel

Literary-Studies Perspectives on *Literarische Bildung* (LiBlib)

Spokesperson: Mona Körte

The Material as an Interface between Temporality and Historicity (MaTH)

Spokesperson: Lisa Regazzoni

Mis(sing) Information in the Educational Sector (Mis/sl)

Spokesperson: Michaela Vogt

Pathways from trauma and adversity to mental health (PATH)

Spokespersons: Tina Lonsdorf, Tobias Hecker

Science (Teacher) Identity (SciT-ID)

Spokesperson: Lisa Stinken-Rösner

Smart Products and Smart Services (SPASS)

Spokespersons: Christian Stummer, Paul Schrader

Sports in Prison (SpiP)

Spokespersons: Milan Dransmann, Uta Czyrnick-Leber

Statistical Inference on Latent Structures from Sequential Data (SILAS)

Spokesperson: Roland Langrock

Sustainable Entrepreneurship

Spokespersons: Sabrina Backs, Reinhold Decker, Christian Stummer

Teacher Education through Development, Application, and Reflection in the teutolab Network (LEARNlab)

Spokesperson: Claas Wegner

Television research in Literary Studies (LiFe)

Spokesperson: Claudia Hillebrandt

Understanding Randomness as Functional Principle in Polymer and Proteins (URSUPPE)

Spokesperson: Thomas Hellweg



Detailed descriptions of the Exploration Areas:
<https://www.uni-bielefeld.de/intern/profilbildung/erkundungsbereiche/>
(login required)

Accompanying Presentations

Throughout the entire conference, selected supporting areas are providing information about their portfolios in front of the Audimax (poster session area):

Bielefeld University Press (BiUP)

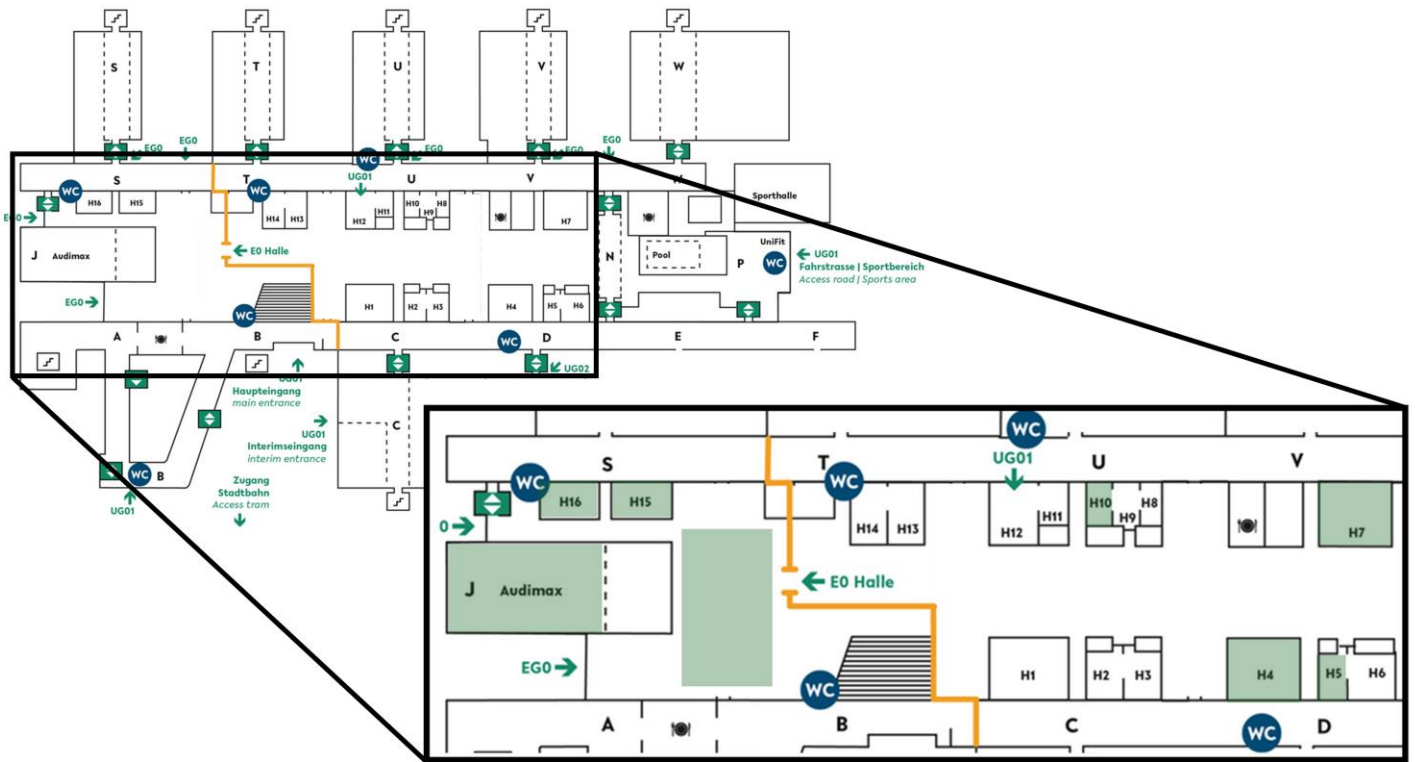
Department for Research Administration and Technology Transfer (FFT)

Research Support for Medicine

Graduate and Academic Career Development Centre (GrACe)

The organisational preparation and implementation of the conference is managed by the Communication Unit (KOM).

Floor Plan



For last minute updates such as room changes, please visit the conference website:
uni-bielefeld.de/biresearch-conference

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