

**Guest Professor Prof.ⁱⁿ Dr. Janina Bahnemann
(Host Prof.ⁱⁿ Dr. Cornelia Kasper)**

Course BTLW001057

From Fabrication to Function: 3D Printing in Microfluidics, Bioanalytics and Biotechnological Applications

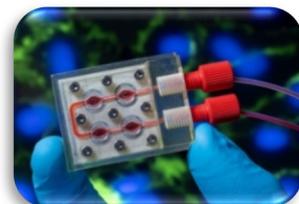
When: 27. - 29. May 2026 (9 am – 3 pm)

Where: Muthgasse 18 (for location/room please check BOKU online)

How can 3D printing accelerate innovation in microfluidics, biosensors, and biotechnology? This course explores how modern additive manufacturing technologies are reshaping the design, fabrication, and functionality of microfluidic systems and bioanalytical devices. Bridging fundamental concepts with real-world applications, the lecture and seminar provide a hands-on and forward-looking perspective on one of the most dynamic areas in life sciences and bioengineering.

Course Highlights

- Fundamentals of microfluidics, biosensor technologies, and 3D printing
- Computer-Aided Design (CAD) for microfluidic and bioanalytical systems
- Biosensors from concept to practical application
- Sensor integration into microfluidic platforms
- Case studies in biotechnology, diagnostics, and medical applications
- Design-oriented exercises on microfluidics and biosensors



The course combines theoretical lectures with interactive seminar sessions and exercises, where participants develop conceptual designs of microfluidic systems and biosensors and discuss current challenges and emerging opportunities in the field.

About the Speaker: Janina Bahnemann has been Professor of Life Sciences and Head of the Chair of Technical Biology at the Institute of Physics, University of Augsburg, since 2022. She studied Life Sciences at Leibniz University Hannover and received her PhD from Hamburg University of Technology. Following a postdoctoral stay at California Institute of Technology (Caltech), she was awarded the prestigious Emmy Noether Fellowship of the German Research Foundation (DFG).



From 2017 to 2022, she led an independent Emmy Noether junior research group at Leibniz University Hannover and held a substitute professorship at Bielefeld University. Her research focuses on biotechnology, cell culture and microsystems technology, as well as the development of lab-on-a-chip systems and biosensors for biotechnological and medical applications.