

# International Workshop on Flow-Induced Blood Damage in Rotating Systems 2024

Funded by



Deutsche  
Forschungsgemeinschaft  
German Research Foundation



## Program

---

Thursday, September 5

- 09.00 Welcome Session**  
Frank-Hendrik Wurm, University of Rostock
- 09.15 Improving Hemolysis Prediction via generalized  $k-\omega$  Model Optimization and Strain-Based Approach**  
Illaria Guidetti, Politecnico di Milano
- 10.00 On the Significance of Flow Vorticity in Hemolysis Modeling**  
Nico Dirkes, RWTH Aachen University
- 10.45 Coffee Break**
- 11.15 Suitability of Stress- and Strain-based Hemolysis Models for short-Term stress Peaks in Rotary Blood Pumps: An Experimental Investigation**  
Michael Lommel/Henri Wolff, Charité Berlin
- 12.00 Lunch**
- 13.00 Assessment of the Hemocompatibility of third Generation Rotodynamic Blood Pumps under realistic Operating Conditions in-Vitro and in-Silico**  
Rosmarie Schoefbeck/He Xiangyu, MedUni Vienna
- 13.45 New Perspectives on Blood Damage Modeling: Insights from in-Silico and in-Vivo Data of VV-ECMO Therapy**  
Christopher Blum, RWTH Aachen University
- 14.30 Coffee Break**
- 15.00 Towards Predictions of Clot Type in different Mechanical Circulatory Support Devices**  
Thomas Williams/Katharine Fraser, University of Bath
- 15.45 Micropatterned Surfaces aimed to reduce the Risk of Thrombusformation in Cardiovascular Devices**  
Marta Bonora, MedUni Vienna
- 16.30 Coffee Break**
- 16.45 News from the BDW Testcase**  
Benjamin Torner, University of Rostock
- 17:15 Leisure Time and Walk to the Beach**
- 19.15 BBQ at the Beach**
- 

Friday, September 6

**Morning Coffee** 08.00

**Ghost Cells as a two-Phase Blood analog Fluid-  
Visualization of mechanical Hemolysis** 08.15  
Benjamin Schürmann, RWTH Aachen University

**Rapid fire Session:**

**Investigating the Influence of Blood`s Multiphase Content on  
Haemodynamics in Blood Contacting Medical Devices using a novel  
Ultrasound Method** 09.00  
Evelyn Ying Hu, University of Bath

*and*

**Experimental and Numerical Analysis of Particle and Cell Migration in Gap-  
like Flows in VADs at Hematocrit Levels up to 20%** 09:20  
Finn Knüppel, University of Rostock

*and*

**The Influences of Size Reduction of a Total Artificial Heart on Fluid  
Dynamics and Blood Compatibility** 09:40  
Minu Bahrami, University of Bath

**Coffee Break** 10.00

**On the development of a benchmark maglev Blood Pump and influence of  
manufacturing tolerance on Pump Performance** 10.30  
Peng Wu, Southeast University (Nanjing)

**High-Fidelity Turbulence Modelling of a Paediatric Blood Pump using  
Openfoam** 11.15  
Nathaniel Kelly, University of Bath

**Lunch** 12.00

**Closing ceremony** 12.15  
Frank Hendrik Wurm, University of Rostock

**Possible Train Connection to Aachen:** Departure from Warnemünde Werft 13.50  
Arrival at Aachen Main Station 22.36