

International Workshop on Flow-Induced Blood Damage in Rotating Systems

September 1st-2nd 2022

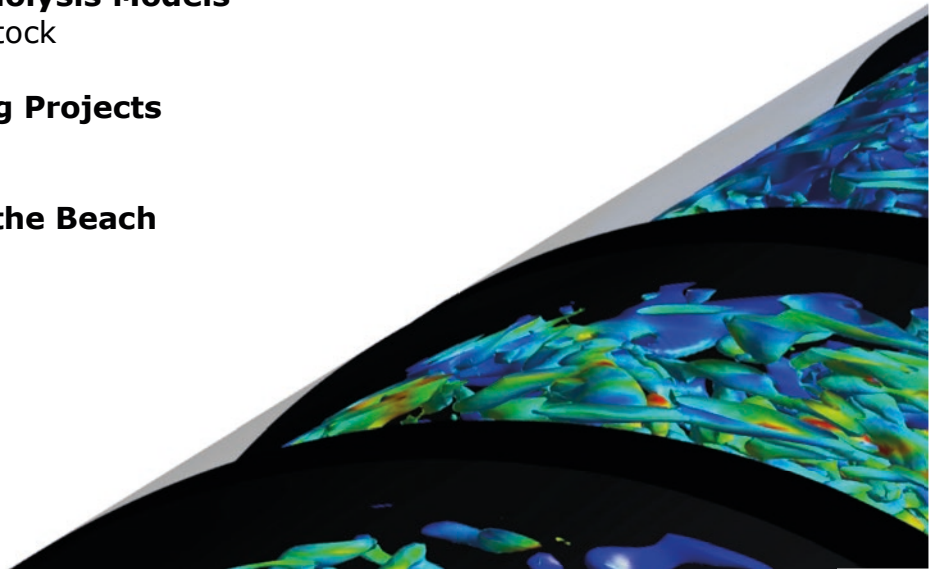
Rostock, Germany

Program

Thursday 1st



- 11.30 Lunch**
- 12.30 Welcome Session**
Frank-Hendrik Wurm, University of Rostock
- 12.45 Short Lecture on Blood Trauma**
Michael Simmonds, Griffith University
- 13.30 Approximating Blood as a Shear-Thinning Generalized Newtonian Fluid Underestimates Secondary Flow in Rotating Domains, as Quantified by the Relative Torque**
Katharine Fraser, University of Bath
- 14.15 Numerical Simulations of Johnson-Segalman Viscoelastic Fluids in Shear-Thinning Setting**
Tomas Bodnár, Czech Academy of Sciences
- 15.00 Coffee Break**
- 15.30 Computational and Experimental Approach to Assess Hemolysis Risk Associated with Hemodialysis Catheters**
Ilaria Guidetti, Politecnico di Milano
- 16.15 Flow Simulation-Based Particle Swarm Optimisation for Developing Improved Hemolysis Models**
Ben Torner, University of Rostock
- 17.00 Information about Ongoing Projects**
all Participants
- 18.00 Leisure Time and Walk to the Beach**
- 19.00 BBQ at the Beach**



Friday 2nd

Necessity for Test Cases 09.00

Frank-Hendrik Wurm, University of Rostock

Impulse Lecture to Develop a New Collaboration in Hemolysis Modelling 09.10

Michael Lommel, Charité Berlin

Discussion about Potential Test Cases & Collaborations 09.45

Coffee Break 10.15

Rapid Fire Session: 10.30

(1) Erysense, a Lab-on-a-Chip-Based Characterization Technique for the Mechanical Properties of Red Blood Cells

Christian Wagner, Saarland University

(2) Visualization of Platelet Deposition in a Flow Chamber

Isabell Esslinger, Charité Berlin

(3) Towards Computational Fluid Dynamics Based Machine Learning for Predictions of Haemodynamics in Medical Devices

Harshinee Goordoyal, University of Bath

(4) Improved Highly Dynamic Couette Shear Device for the Study of Flow-Induced Hemolysis in Rotary Blood Pumps

Vera Froese, Charité Berlin

Lunch 11.30

Towards Fast & Reliable Thrombosis Modeling in Rotary Blood Pumps - A Mechanistic and a Data-Based Approach 12.30

Michael Neidlin, RWTH Aachen

Geometry Optimisation of the NeoVAD to Reduce Blood Damage Using Machine Learning Methods 13.15

Lee Nissim, University of Bath

Coffee Break 14.00

Velocity Measurement and Turbulence Quantification for the Validation of Numerical Methods Using Magnetic Resonance Velocimetry 14.15

Kristine John & David Frank, University of Rostock

Influence of the Pulsatile Flow of an Axial Blood Pump on the Radial Tip Vortex and Evaluation of the Resulting Blood Damage 15.00

Adrian Wisniewski, Berlin Heart GmbH

Future Perspectives and Closing Ceremony 15.45

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Traditio et Innovatio

