

Cell in fluid workshop, Vrátna 9.2.-13.2.2020												
PROGRAM	8:00	8:30-9:30	10:00-12:30	13:00	14:00-15:00	15:00-16:00	16:00	16:30-17:30	17:30-18:30	18:30	19:30-20:30	20:30-
Sunday 9.2.2020									arrival	D	I. Cimrak: Welcome and Introductory lecture	social program
Monday 10.2.2020	B	practical hands-on session	individual activities	L	S. Mendez: Models for RBCs in flow	K. Kovalčíková: Atypical obstacles, F. Kajánek: RBC tracking using NNs	coffee break	T. Krüger (remote): Reduced order models	B. Bohinikova: Data from experiments, I. Goncalves: Cell deformability	D	social program	
Tuesday 11.2.2020	B	practical hands-on session		L	S. Alebrand: Microfluidic flows	M. Gusenbauer: Biomedical applications and material sciences	coffee break	D. Fedosov: Cells in microfluidics	A. Nair: CFD-DEM coupling, B. Buganova: Dean's vortex	D	moderated discussion	social program
Wednesday 12.2.2020	B	collaborative work		L	F. Reichel: High throughput microfluidics	E. Yilmaz: Cell sorting, M. Mulik: Visualisation of simulation data	coffee break	A. Vialat: Cells in splenic slits and lung capillaries	H. Bachraty: DNNs for cell simulations, M. Smiesková: Blood cell interactions	D	social program	
Thursday 13.2.2020	B	departure										

Full talk titles:

Sabine Alebrand, Michael Bašler: Particle equilibrium velocity in microfluidic flows: From experimental investigations to applications
Hynek Bachratý, Katarína Jasenčáková, Katarína Bachratá: Perspectives of using deep neural networks in the simulation of blood flow in microfluidic devices
Alžbeta Bohiniková: Understanding data from biological experiments
Alžbeta Bugáňová: Dean's vortex and a special geometry of the channel
Ivan Cimrák: PyOIF: Recent advancements and future directions
Zunmin Zhang, Wei Chien, Stefan H. Holm, Ewan Henry, Jason P. Beech, Jonas O. Tegenfeldt, Gerhard Gompper, Dmitry A. Fedosov: Analysis of cells in microfluidics
Markus Gusenbauer, Thomas Schrefl: Bridging the gap between biomedical applications and material sciences
František Kajánek: Red blood cell tracking evaluation
Kristína Kovalčíková: Creation of atypic-shaped obstacles in ESPResSo
Timm Krüger, Qi Zhou, Lowell Edgar, Romain Enjalbert, Peter Hoskins, Miguel Bernabeu: Challenges of cellular blood flow simulations for reduced-order models
Simon Mendez: Models for red blood cells under flow: From the fundamentals of red blood cell dynamics to hematology measurements
Inês Gonçalves, Cristiana Caldeira, Ana S. Moita, Rui Lima, António L. N. Moreira: Predicting cell deformability behaviour from analogue fluids in microfluidic devices
Dominik Medvecký, Adam Mračko, Michal Mulik, Livia Sluková: Different possibilities of visualization of simulation results
Achuth N. Balachandran Nair, Stefan Pirker, Mahdi Saeedipour: Modelling red blood cell dynamics using CFD-DEM coupling
Felix Reichel, Lucas Wittwer, Marta Urbanska, Shada Abuhattum, Sebastian Aland, Jochen Guck: High-throughput characterization of the time-dependent mechanical properties of hydrogel beads, liquid droplets and biological cells
Monika Smiesková: Blood cell interactions in shear flow
Annie Viallat: Red blood cells in splenic slits and white blood cells in lung capillaries
Esra Yilmaz, H. Cumhur Tekin: Modeling of magnetic levitation based microfluidic cell sorting system