

Multiscale Modeling in Fluid Mechanics and Fluid-Structure Interaction

7-11 October, 2019 | Vilnius, Lithuania

Conference Programme

<i>Monday, October 7</i>	
9:00 - 9:45	Registration
9:45 - 10:00	Opening of the Conference
10:00 - 10:40	A. Quarteroni: Mathematical models for the heart and the circulation
10:45 - 11:15	Coffee break
11:15 - 11:55	A. Aidietis, D. Zakarkaite, S. Aidietiene, A. Drasutiene, K. Rucinskas: Transcatheter and Minimally-Invasive Heart Valve Interventions: Current Approaches and Future Perspectives
12:00 - 12:20	G. Gaidulis, A. Aidietis, R. Kačianauskas : Personalized Computational Modeling of Transapical Mitral Valve Repair
12:25 - 14:00	Lunch
14:00 - 14:40	D. Nechipurenko, V. Kaneva, M. Pantelev, F. Ataullakhanov: Biomechanics of arterial thrombosis
14:45 - 15:25	C. Bertoglio: Robust multiscale modeling of blood flows
15:30 - 16:10	R. Stavre: Control of fluid-structure interaction problems with medical applications
18:00	Welcome party
<i>Tuesday, October 8</i>	
10:00 - 10:25	É. Canon, F. Chardard, G. Panasenکو, K. Pileckas, O. Štikonienė: Asymptotic analysis and hybrid dimension models for the flows in thin tube structures
10:30 - 10:55	F. Chardard, É. Canon, G. Panasenکو, O. Štikonienė: Numerical solution of the viscous flows in a network of thin tubes: equations on the graph
11:00 - 11:25	É. Canon, F. Chardard, G. Panasenکو, O. Štikonienė: On weakly singular kernels arising in equations set on a graph, modelling a flow in a network of thin tubes
11:30 - 12:00	Coffee break
12:00 - 12:40	M.-C. Viallon, G. Panasenکو: Method of asymptotic partial decomposition with discontinuous junctions. Finite volume implementation
12:45 - 14:00	Lunch
14:00 - 14:40	I. Pažanin: Effects of rough boundary and boundary conditions on the lubrication process with micropolar fluid
14:45 - 15:25	E. Marušić-Paloka: Asymptotic analysis of the viscous flow through a pipe and the derivation of the Darcy-Weisbach law
15:30 - 16:00	Coffee break
16:00 - 16:40	B. Muha, S. Schwarzacher: Existence and regularity for weak solutions for a fluid interacting with a non-linear shell in 3D
16:45 - 17:05	G. Zavorokhin, S. Nazarov, V. Kozlov: Fluid flow in a flexible pipe with layered elastic walls

Wednesday, October 9	
10:00 - 10:40	G.P. Galdi: On the Motion of a Rigid Body with a Liquid-Filled Interior Cavity
10:45 - 11:15	Coffee break
11:15 - 11:55	J. Ball: Microstructure in single crystals and polycrystals
12:00 - 12:40	J.-J. Casanova, C. Grandmont, M. Hillairet: Global existence of weak solutions for a fluid beam interaction system
12:45 - 14:00	Lunch
15:00	Excursion
Thursday, October 10	
10:00 - 10:40	A. Sequeira: Cardiovascular modeling and simulations. Applications to some clinical studies
10:45 - 11:15	Coffee break
11:15 - 11:55	B. Vernescu, G. Nika: A Multi-scale Model for Magnetorheological Suspensions
12:00 - 12:40	D. Givoli, H. Amar, D. Rabinovich: Mixed-Dimensional Coupling for Time-Dependent Wave Problems
12:45 - 14:00	Lunch
14:00 - 14:40	C. J. van Duijn, A. Mikelić: On the Equations of Nonlinear Single-Phase Poroelasticity
14:45 - 15:05	M. Specovius, K. Pileckas: Spatial asymptotics of time dependent Stokes problems
19:00	Conference Dinner
Friday, October 11	
10:00 - 10:20	E. Misiulis, A. Džiugys, R. Navakas, G. Skarbalius: The FSI framework for the numerical modeling of the arterial blood flow and its application in the clinical case scenario
10:25 - 10:45	S. Trifunović, Y.-G. Wang: Incompressible viscous fluid interacting with a nonlinear thermoelastic plate
10:50 - 11:20	Coffee break
11:20 - 11:40	M. Radulović, I. Pažanin: Rigorous justification of the asymptotic model describing a nonsteady micropolar fluid flow through a thin curved pipe
11:45 - 12:05	Closing