



82nd International Scientific
Conference of the
University of Latvia 2024

Use of High Performance Computing in Numerical Simulations

Thursday, 22nd February 2024, 10.00 AM,
University of Latvia House of Sciences, Riga, 3
Jelgavas Str. and zoom platform.

Programme

Chair: Jānis Virbulis		
9.30-10.00	Registration and Coffee	
10.00-10.10	Opening	
10.10-10.30	Valters Dzelme <i>University of Latvia</i>	Simulation of liquid metal MHD with free surface
10.30-10.50	Maksim Sokolov, Yuri A. Mastrikov, Guntars Zvejnieks, Eugene A. Kotomin <i>Institute of Solid State Physics University of Latvia</i>	Modeling of hydrogen production on stepped surfaces of SrTiO₃ perovskite nanoparticles - ab initio computational study
10.50-11.10	Antun Balaz <i>Institute of Physics Belgrade, Serbia</i>	Numerical modeling of dipolar quantum gases: from Bose-Einstein condensates to supersolids
11.10-11.30	Heiko Herrmann <i>Tallinn University of Technology (TalTech)</i>	OpenFOAM Simulation of Fiber Concrete Flow
11.30-11:50	Valters Ribickis, Valters Dzelme <i>University of Latvia</i>	Numerical analysis of heat exchange in a double layer system with opposing fluid flow
11:50-12:10	Jurijs Ješkins <i>University of Latvia</i>	HPC demonstration in practice. Jupyterhub example. Questions and answers (<i>in latvian</i>)
12.10-12.50	Lunch and Discussions	
Chair: Jānis Virbulis		
12.50-13.10	Andrejs Sabanskis, Dagnis Daniels Vidulejs, Jānis Virbulis, Andris Jakovičs <i>University of Latvia</i>	Numerical simulations of air disinfection using a UV purifier

13.10–13.30	Andrejs Timuhins, Juris Seņņikovs, Uldis Bethers <i>University of Latvia</i>	Dam installation assessment: a hydrogeological modeling approach for Lielais Pelečāres mire and Cena mire
13.30-13.50	Kirils Surovovs, Jānis Virbulis <i>University of Latvia</i>	Investigation of the scalability of OpenFOAM hydrodynamic simulations on HPC clusters
13:50-14.10	Emanouil Atanassov, Aneta Karaivanova <i>Institute of Information and Communication Technologies – Bulgarian Academy of Sciences</i>	Optimization of execution on HEMUS supercomputer
14.10-14.30	Resume, Concluding Discussion, Coffee	



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