

**Russian – German Conference: Supercomputing in Scientific  
and Industrial Problems – 2018 (SSIP-2018)  
Conference Program**

**Monday 23rd April 2018**

9:30-9:40	<b>Greeting speech</b> <b>Chair of the Conference Prof. Dr.Sci. Boris Chetverushkin</b> , Scientific Director of Keldysh Institute of Applied Mathematics of RAS, Moscow, Russia <b>Prof. Dr.Sci. Andrei Klemeshev</b> Rector of the Immanuel Kant Baltic Federal University
9:40-10:10 <b>Plenary Lecture</b>	<b>Prof. Dr.Sci. Boris Chetverushkin</b> , Keldysh Institute of Applied Mathematics of RAS, Moscow, Russia <b>Radiation transport modelling by means of Hybrid HPC.</b>
10:10-10:50 <b>Plenary Lecture</b>	<b>Prof. Dr. Michael Resch</b> , HPC Center Stuttgart (HLRS), University of Stuttgart, Stuttgart, Germany <b>Education and Training in HPC.</b>
10:50-11:30 <b>Plenary Lecture</b>	<b>Prof. Dr.Sci. Evgeny Tyrtshnikov</b> , Marchuk Institute of Numerical Mathematics of RAS, Moscow, Russia <b>Recent developments of Low Rank approximation.</b>
11:30-12:00: <b>Coffee Break</b>	
12:00-12:40 <b>Plenary Lecture</b>	<b>Prof. Dr. Wolfgang Schröder</b> , RWTH Aachen University, Institute of Aerodynamics, Aachen, Germany <b>Large-eddy Simulation of Turbine Rim Seal Flow.</b>
12:40-13:10	B. Chetverushkin, A. Saveliev, <b>Prof. Dr.Sci. Valery Saveliev</b> , Immanuel Kant Baltic Federal University, Kaliningrad, Russia <b>Statistical distribution function of charged particles in electromagnetic field for high performance algorithms.</b>
15:00-15:20	Y. Kriksin, P. Kuchugov, M. Ladonkina, O. Nekliudova, <b>Prof. Dr.Sci. Vladimir Tishkin</b> , Keldysh Institute of Applied Mathematics of RAS, Moscow, Russia <b>A research of the accuracy of the discontinuous Galerkin method on the model problem for the shallow water equations.</b>
15:20-15:40	<b>Dr. Anastasia Shamakina</b> , High Performance Computing Center (HLRS), Stuttgart, Germany <b>Performance optimization of scientific and industrial application.</b>
15:40-16:00	<b>Dr. Stanislav Stavtsev</b> , Marchuk Institute of Numerical Mathematics of RAS (INM RAS), Moscow, Russia <b>Application of block low-rank matrices in the solver of integral equations.</b>
16:00-16:20	<b>Dr. Alexey Cheptsov</b> , HLRS, Stuttgart, Germany <b>Advances and challenges of Industry-4.0 in dynamic systems simulation.</b>
16:20-16:40	<b>Dmitry Zheltkov</b> , A. Osinskiy, E. Tyrtshnikov, N. Zamarashkin, INM RAS, Moscow, Russia <b>Global optimization method based on tensor train decomposition.</b>
16:40-17:00	<b>Sergey Matveev</b> , R. Zagidullin, A. Smirnov, E. Tyrtshnikov, Skolkovo Institute of Science and Technology; INM RAS, Moscow, Russia <b>Parallel implementation of numerical method for advection-coagulation equation.</b>

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**Tuesday 24th April 2018**

9:30-10:10 <b>Plenary Lecture</b>	<b>Prof. Dr. Wolfgang Nagel</b> , Center of Information Services and High Performance Computing (ZIH), TU Dresden, Dresden, Germany <b>To be announced</b>
10:10-10:50 <b>Plenary Lecture</b>	<b>Prof. Dr.Sci. Arutyun Avetisyan</b> , Ivannikov Institute for System Programming of the RAS <b>Cloud platform for solving computational fluid dynamics problems.</b>
10:50-11:30 <b>Plenary Lecture</b>	<b>Prof. Dr. Dietmar Kröner</b> , Albert-Ludwigs-Universität Freiburg, Freiburg, Germany <b>Volume of fluid method to track interfaces for flows with phase transition.</b>
11:30-12:00: <b>Coffee Break</b>	
12:00-12:40 <b>Plenary Lecture</b>	<b>Prof. Dr.Sci. Mikhail Yakobovskiy</b> , Keldysh Institute of Applied Mathematics of RAS, Moscow, Russia <b>Numerical algorithms and fault tolerance of Hyperexascale Computer Systems.</b>
12:40-13:10	<b>Dr. Vladimir Gorodetsky</b> , O. Tushkanova, St. Petersburg Institute for Informatics and Automation of RAS, St. Petersburg, Russia <b>Does Big Data processing really need supercomputing?</b>

15:00-15:40 <b>Plenary Lecture</b>	<b>Prof. Dr. Dieter Kranzlmüller</b> , Leibniz Supercomputing Centre (LRZ), Munich, Germany <b>The Road to Smart Scaling: SuperMUC-NG at LRZ.</b>
15:40-16:10	<b>Dr. Kirill Terekhov</b> , I. Konshin, K. Nikitin, Y. Vassilevski, Marchuk Institute of Numerical Mathematics of RAS, Moscow, Russia <b>INMOST platform for parallel modelling and applications.</b>
16:10-16:30	G. Kooij, <b>Dr. Mikhail Botchev</b> , B. Geurts, KIAM RAS, Moscow, Russia <b>A time-parallel exponential time integrator for the incompressible Navier-Stokes equation.</b>
16:30-16:50	<b>Dr. Matvey Kraposhin</b> , V. Korchagova, J. Beilke, A. Al-Zoubi, Ivannikov Institute for System Programming of RAS, Moscow, Russia <b>Performance comparison of open-source and commercial programs for numerical simulation of super-sonic compressible flows.</b>
16:50-17:10	A. Kryuchkova, K. Koshelev, <b>Dr. Sergei Strijhak</b> , Ivannikov Institute for System Programming of RAS, Moscow, Russia <b>SOWFA – an open source library for simulation of turbulent flows in wind farms.</b>

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**Wednesday 25th April 2018**

**9:30 Trip to Kaliningrad**

**18:00 Conference Dinner**

**Thursday 26th April 2018**

9:30-10:10 <b>Plenary Lecture</b>	<b>Prof. Dr.Sci. Valery Il'in</b> , Institute of computational mathematics and mathematical geophysics of Siberian Branch of RAS, Novosibirsk, Russia An integrated computational environment for optimization methods of the inverse problems.
10:10-10:40	<b>Dr. Thomas Bönisch</b> , High Performance Computing Center (HLRS), University of Stuttgart, Stuttgart, Germany <b>Future HPC Technologies - Issues, Prospects and Chances.</b>
10:40-11:10	<b>Dr. Sergei Pravdin</b> , Krasovskii Institute of Mathematics and Mechanics of the Ural Branch of RAS, Ekaterinburg, Russia <b>The use of supercomputers in the heart modelling.</b>
11:10-11:40: <b>Coffee Break</b>	
11:40-12:10	<b>Dr. Uwe Wössner</b> , HLRS, University of Stuttgart, Stuttgart, Germany <b>Immersive visualization for HPC simulation analysis.</b>
12:10-12:40	<b>Dmitry Khabi</b> , HLRS, University of Stuttgart, Stuttgart, Germany <b>Towards performance and power model for multi-core processors with DVFS.</b>
12:40-13:20 <b>Plenary Lecture</b>	<b>Prof. Dr.Sci. Alexander Pechen</b> , Steklov Mathematical Institute, Moscow, Russia <b>To be announced</b>

15:00-15:20	<b>Dr. Alexey Boldarev</b> , V. Gasilov, Keldysh Institute of Applied Mathematics of RAS (KIAM RAS), Moscow, Russia <b>Object-oriented code MARPLE for 3D radiative magnetohydrodynamics simulations on high-performance computer systems.</b>
15:20-15:40	<b>Dr. Vladimir Bakhtin</b> , A. Kolganov, V. Krukov, N. Podderiyugina, M. Pritula, KIAM RAS, Moscow, Russia <b>DVM system for parallel programming.</b>
15:40-16:00	I. Abalakin, <b>Vladimir Bobkov</b> , P. Bakhvalov, T. Kozubskaya, KIAM RAS, Moscow, Russia <b>Supercomputer simulation of helicopter rotor characteristics on unstructured meshes.</b>
16:00-16:20	V. Borisov, A. Davydov, <b>Tatiana Konstantinovskaya</b> , A. Lutsky, KIAM RAS, Moscow, Russia <b>Effective use of multiprocessor systems for simulations of supersonic vortex wake.</b>
16:20-16:40	<b>Prof. Dr.Sci. Andrey Kozlov</b> , V. Konovalov, KIAM RAS, Moscow, Russia <b>Numerical study of radiation transport in the ionising gas flow in plasma accelerator by means of supercomputers.</b>
16:40	<b>Closing of the Conference</b>