

30 November. Ivannikov ISPRAS Open Conference 2017.

08:30-09:30	Registration (BLUE HALL)
09:30-13:00	ISP RAS Technologies Showcase (p. 7)
09:30-09:40	Opening and greetings: (BLUE HALL)
09:40-10:20	Prof. Dionysios (Dennis) Tschritzis, President of the Scientific Council of the Hellenic Foundation for Research and Innovation (Athens, Greece) "Victor Ivannikov: his legacy viewed from outside Russia"
10:20-11:00	Prof. Assaf Schuster, The Computer Science Department at the Technion, ACM fellow "IoT Security Threats and Solutions"
11:00-11:40	Coffee break
11:40-12:20	Yael Yaniv, Head of the Bioelectrical and Bioenergetics System Lab "IT devices to predict arrhythmogenic events and classified cardiac diseases"
12:20-13:00	Costas Stasopoulos, IEEE Director Region 8, Electricity Authority of Cyprus "IEEE Overview"
13:00-14:00	Lunch

TECHNOLOGIES OF PROGRAM ANALYSIS, MODELING AND TRANSFORMATION (BLUE HALL)		MANAGEMENT OF DATA AND INFORMATION SYSTEMS (GREEN HALL)	
14:00-14:25	Alexander Monakov, Vladislav Ivanishin, Evgeny Kudryashov "System-Wide Elimination of Unreferenced Code and Data in Dynamically Linked Programs"	14:00-14:25	Ivan Andrianov, Vladimir Mayorov "Transfer Learning for Morphological Tagging in Russian"
14:25-14:50	A.V.Podkopaev ^{1,2} , O.Lahav ³ , V.Vafeiadis ⁴ (1 - St. Petersburg University, 2 - JetBrains Research, 3 - Tel Aviv University, 4 - Max Planck Institute for Software Systems) "Promising Compilation to ARMv8.3"	14:25-14:50	Ilseyar Alimova, Elena Tutubalina "A Machine Learning Approach to Classification of drug reviews in Russian"
14:50-15:15	Andrey Mikhaylov, Alexei Hmelnov "Delphi object files decompiler"	14:50-15:15	Alexandra Khadzhiiskaia, Andrey Sysoev. "Coreference Resolution for Russian: Taking Stock and Moving Forward"
15:15-15:40	Alexander Kogtenkov "Null safety benchmarks for object initialization"	15:15-15:40	Amir Bakarov, Andrey Kutuov "A Comparison of Word2Vec and Swivel on the Task of Modeling Compositional Distributional Semantics"
15:40-16:00	Coffee break	15:40-16:00	Coffee break

16:00-16:25	Alexey A. Mitsyuk "Non-Local Correction of Process Models using Event Logs"	16:00-16:25	Kyrylo Chykhradze, Ivan Malyshev, Denis Turdakov, Anton Korshunov "Distributed Generation of Mobile Call Graphs with DPLN Degree Distribution"
16:25-16:50	Elena Aksenova, Andrew Sokolov "Modeling of the memory management process for dynamic work-stealing schedulers"	16:25-16:50	Mikhail Drobyshevskiy, Denis Turdakov, Sergey Kuznetsov "Reproducing Network Structure: a Comparative Study of Random Graph Generators"
16:50-17:15	I.A. Yakimov, A.S. Kuznetsov "Searching for missing library function calls using machine learning"	16:50-17:15	Ivan Kozitsin, Vadim Sushko, Tatiana Babkina, Alexander Belolipetskii "Opinion Dynamics in Case of Different Communication Channels and Incomplete Awareness"
17:15-17:40	D.V. Efremov, M.U. Mandrykin "Formal Verification of Linux Kernel Library Functions"	17:15-17:40	Yuri Slovokhotov "To construction of modular model of distributed intelligence "
17:40-18:05	Y. Moiseyenko, A. Podkopyayev "Relational interpretation of multithreading"	17:40-18:05	Andrey Lependin, Jacob Filin "Fusion of Several Binary Classifiers for Countermeasure of Speech Replay Spoofing Attack"

1 December. Ivannikov ISPRAS Open Conference 2017.

08:30-09:30	Registration (BLUE HALL)
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TECHNOLOGIES OF PROGRAM ANALYSIS, MODELING AND TRANSFORMATION (BLUE HALL)		OPEN SOURCE SOFTWARE IN CONTINUUM MECHANICS PROBLEMS SOLVING (GREEN HALL)	
9:30-10:10	Andrei Tchernykh, CICESE Research Center, Ensenada, Baja California, México "Mitigating Uncertainty of Energy Consumption in Cloud Computing"	9:30-10:10	I. Tkachenko, N. Tryaskin, S. Chepurko (State Marine Technical University of St.Petersburg, Russia) "HPC technologies in ship hydrodynamics"
10:10-10:35	Alexander Gerasimov, Sergey Vartanov, Mikhail Ermakov, Leonid Kruglov, Daniil Kutz, Alexander Novikov, Seryozha Asryan (ISP RAS) "Anxiety: a dynamic symbolic execution framework"	10:10-10:50	Thierry Dauxois "Internal Wave Attractors"
10:35-11:00	Andrey Fedotov, Vadim Kaushan, Sergey Gaissaryan, Shamil Kurmangaleev "Building security predicates for some types of vulnerabilities"	10:50-11:30	Dmitry Nechipurenko "Selected biophysical problems in biorheology"
11:25-11:50	Coffee break	11:25-11:50	Coffee break
11:50-12:15	Alexey Nurmukhametov, Shamil Kurmangaleev, Evgeniy Zhabotinskiy, Sergey Gaissaryan, Alexey Vishnyakov "Fine-granular randomization of the program's address space at launch"	11:50-12:30	Splash talks

12:15-12:40	A.I. Legalov, V.S.Vasilyev, I.V.Matkovskii, M.S.Ushakova "Support tools for creation and transformation of functional-dataflow parallel programs"		
12:40-13:15	Maksim Bakulin, Maria Klimushenkova, Danila Egorov "Dynamic Diluted Taint Analysis for Evaluating Detected Policy Violations"	12:30-12:50	Ilia Marchevsky, Kseniia Kuzmina, Ryatina Evgeniya "Open Source Code for 2D Incompressible Flow Simulation by Using Meshless Lagrangian Vortex Methods"
13:15-14:10	Lunch	12:50-13:10	Rodion Stepanov, Andrei Teimurazov, Valerij Titov, Mahendra K. Verma, Satyajit Barman, Abhishek Kumar, Franck Plunian "Direct numerical simulation of helical magnetohydrodynamic turbulence with Tarang code"
14:10-14:35	Aleksandr Bezzubikov, Nikita Belov, Kirill Batuzov "Automatic Dynamic Binary Translator Generation from Instruction Set Description"	13:10-14:10	Lunch
14:35-15:00	Hayk Aslanyan, Arutyun Avetisyan, Mariam Arutunian, Grigor Keropyan, Shamil Kurmangaleev, Vahagn Vardanyan "Scalable framework for accurate binary code comparison"	14:10-14:30	Vasiliy Goloviznin, Michail Zaitsev, Sergey Karabasov "Mathematical simulation of the unsteady motion of continua media using Cabaret method and open-source software OpenFOAM"
15:00-15:25	Alexander Kozachok, Evgeniy Kochetkov "Approach to implementing a system of verified execution of program code"	14:30-14:50	Artem Semakin "An adaptive mesh refinement software package based on the wavelete theory"
		14:50-15:10	Igor Kulikov, Igor Chernykh "Numerical Modeling of Jellyfish Galaxy at Intel Xeon Phi supercomputers"

15:25-15:50	Vasiliy Efimov, Oleg Goremykin, Danila Bogomolov, Aleksandr Bezzubikov "Automatization of device and machine development for QEMU"	15:10-15:30	Arina Kruchkova, Sergei Strijhak, Jackson Tellez-Alvarez, Jose M. Redondo "Assessment of turbulent wake for two model wind turbines using multi-fractal analysis"
15:50-16:10	Coffee break	15:30-15:50	Matvey Kraposhin, Viktoria Korchagova, Joern Beilke, Ahmad Al-Zoubi "Comparison of Star CCM and OpenFOAM solvers capabilities for simulation of viscous compressible gas jet flows"
16:10-16:35	R. Ayrapetyan, A. Kvochko "Tizen .NET Memory Profiler"	15:50-16:10	Coffee break
16:35-17:00	Viacheslav Barinov, Maxim Ostapenko, Viacheslav Garbuzov "Applying GCC-based Address Sanitizer Dynamic Analysis Technology to Tizen OS"	16:10-16:30	Christoph Traxinger, Matthias Banholzer "Mixing induced phase separation at elevated pressures"
17:00-17:35	Yauhen Klimiankou (Belarusian State University of Informatics and Radioelectronics) "M-M/S-CD Memory Management: Conceptual and System Models"	16:30-16:50	Jens Trümner "Application of a preconditioned density based solver to transonic nozzle flows"
		16:50-17:10	Vladimir Koterov, Vladimir Krivtsov, Vladimir Zubov "Software package to calculate the aerodynamic characteristics of aircrafts"
		17:10-17:30	Andrey Aksenov, Sergey Zhlukto, Viacheslav Ilyin, Dmitriy Silaev, Sergey Kharchenko, Andriy Pechenyuk, Evgeny Ryabinkin, Vasily Velikhov "Investigating the Problems of Ship Propulsion on a Supercomputer"
		17:30-17:50	Alexey Ryakhovskiy, Valeriy Antonov, Alexander Schmidt "Numerical Simulation of High-Speed Non-equilibrium Flow with Applied Magnetic Field"

ISP RAS Technologies Showcase (p. 6).

Stand 1	Svace. Svace is the production static analysis tool for finding wide range of critical errors, vulnerabilities, and source code defects for programs written in C/C++, Java, and C#.
Stand 2	Obfuscating program code. Program obfuscation is the process of transforming its source or binary code such that the further program analysis, modification, or understanding becomes complicated, while fully retaining the program functionality.
Stand 3	Protosphere. Protosphere is network traffic analysis system.
Stand 4	Detecting program errors and vulnerabilities. Technologies of runtime program error and vulnerability detection.
Stand 5	Binary code analysis tools.
Stand 6	SharpChecker. SharpChecker is the static analysis tool for automatic defect and vulnerabilities detection in program source code. It is developed for C# engineers and their managers. SharpChecker allows them to find source code defects as well as to track quality of the product being developed.
Stand 7	AstraVer. A toolset for deductive verification of operating system security models.
Stand 8	LDV/Klever: a technology for static verification of Linux kernel drivers.
Stand 9	Verification of Digital Hardware: Retrascope and MicroTESK.
Stand 10	MASIW. Modular Avionics System Integrator Workplace.
Stand 11	Texterra. Texterra is a technology for automatic ontologies construction and text mining. It provides infrastructure for extracting knowledge from a variety of Internet resources, knowledge management system and tools for natural language processing.
Stand 12	TALISMAN: Tracking and Learning Insights from Social Media Analysis A technology for social media analysis based on machine learning, computational linguistics, complex network analysis, and big data processing.
Stand 13	ISP RAS Private Cloud.
Stand 14	Constructivity. Technology of modeling and analysis of large dynamic scenes. Technology is intended for the development of advanced software applications of computer graphics, scientific visualization, animation, robotics, geoinformatics, logistics, computer aided design, visual planning and project management facing big spatial-temporal data problems.
Stand 15	Cloud infrastructure for life cycle support of Tizen.Ru operating system.
Stand 16	SciNoon. Prototype of the smart searching system for scientific articles.

December 1, 2017. Interactive session. Open source software in continuum mechanics problems solving.

<p>Ilya Evdokimov, Denis Zakharkin, Anton Lebedev "Development of the Virtual Reality Post-Processing Software for the Head-Mounted Devices"</p>
<p>Artem Kuvshinnikov, Alexander Bondarev "Comparative study of the accuracy for OpenFOAM solvers"</p>
<p>Maxim Khomenko, Fikret Mirzade, Vladimir Niziev "Process planning and optimization of laser cladding considering hydrodynamics and heat dissipation geometry of parts"</p>
<p>Valeriia Melnikova, Pavel Lukashin, Sergei Strijhak, Georgy Shcheglov "The method of solving aeroelasticity problems for wind blade using open source software"</p>
<p>Sergey Dergachev "Mathematical simulation of external flow vorticity evolution using method of vortex loops"</p>
<p>Stepan Rogozin "Oven parameters optimization using HPC simulation of combustion process"</p>
<p>I. N. Sibgatullin, D.A. Ryazanov, E.V. Ermanyuk "Biharmonic internal wave attractors"</p>
<p>I.N. Sibgatullin, K.A. Vatutin, E.V. Ermanyuk, T. Dauxois "Three-dimensional wave attractors generated by localized wavemakers"</p>
<p>A. Isaev, C. Evrim, R. Kulenovic, E. Laurien "Experimental and numerical investigation of flow phenomena in a vertical t-junction configuration"</p>
<p>Ilias Sibgatullin, Eugeny Ermanyuk, Xu Xiulin, Thierry Dauxois "Direct numerical simulation of inertial waves attractors with various types of external forcing"</p>
<p>Ilya Evdokimov "OpenFOAM Case Simulation Control Using Graphs"</p>
<p>Evgeniy Avdeev, Valeriy Ovchinnikov, Kseniya Volkova "Final drive lubrication modeling"</p>
<p>Konstantin Koshelev, Sergei Strijhak "The possibility of reactingCentralFoam solver for flow simulation in test chamber"</p>
<p>Matvey Kraposhin, Daniil Ryazanov, Tatiana Elizarova, Maria Istomina, Elena Smirnova "Development of OpenFOAM solver for compressible viscous flows simulation using quasi-gas dynamic equations"</p>

Artem Nuriev, Airat Kamalutdinov, Olga Zaitseva

"Dependence of hydrodynamic forces acting on oscillating thin plates on the shape of edges"

Maxim N. Nikitin

"Simulation of mixed convection over horizontal plate"

Ilya Marchevsky, Valeria Puzikova

"The efficiency comparison of solvers for sparse linear algebraic equations systems based on the BiCGStab and FGMRES methods"

Anna Tsynaeva, Sergey Razorenov, Valeria Belaya

"Numerical modeling of heat transfer of channel with shallow curly dimples"