

Conference

Optimization without borders

Venue: Sirius University of Science and Technology
(Sochi, Sirius Arena)

July 12, 2021

Time	Speaker	Title
09:00 – 10:00	Registration (Conference hall “Sochi”)	
09:00 – 10:00	Breakfast (Sirius Arena)	
10:00 – 10:30	Alexander Gasnikov (MIPT, HSE University)	Nesterov's method and its influence on approaches to solving optimization problems
10:30 – 11:30	Yury Nesterov (Catholic University of Leuven)	Superfast second order methods for the smaller classes of convex problems (online)
11:30 – 12:00	Coffee Break	
12:00 – 12:45	Peter Richtarik (KAUST)	Distributed Second Order Methods with Fast Rates and Compressed Communication (online)
12:45 – 13:30	Vladimir Spokoiny (WIAS, HSE University, Humboldt University, IITP RAS)	Random gradient free optimization: Bayesian view
13:30 – 14:30	Lunch (Sirius Arena)	
14:30 – 15:30	Boris Mordukhovich (Wayne State University)	Variational analysis in numerical optimization and applications (online)
15:30 – 16:15	Jérôme Bolte (Toulouse 1 Capitole University)	A Bestiary of Counterexamples in Smooth Convex Optimization (online)
16:15 – 16:30	Break	
16:30 – 17:00	Denis Belomestny (Duisburg-Essen University, HSE University)	Model-Free Approach to Evaluate Reinforcement Learning Algorithms (online)
17:30 – 21:00	Welcome dinner (Omega Sirius Hotel, Conference hall “Turin”)	

July 13, 2021

Time	Speaker	Title
09:00 – 10:00	Breakfast (Sirius Arena)	
10:00 – 10:30	Tatiana Zaitseva (MSU)	About V.Y. Protasov
10:30 – 11:30	Vladimir Protasov (MSU, HSE University)	Optimization tools in the Lyapunov stability problem
11:30 – 12:00	Coffee Break	
12:00 – 12:45	Vladimir Shikhman (Chemnitz University of Technology)	Discrete choice prox-functions on the simplex (online)
12:45 – 13:30	Alexandre d'Aspremont (Ecole Normale Supérieure)	Sparsity, Feature Selection and the Shapley Folkman Theorem (online)
13:30 – 14:30	Lunch (Sirius Arena)	
18:00 – 19:00	Dinner (Sirius Arena)	

School of Junior Researchers «Development of numerical optimization methods in applications to control problems, inverse problems and learning»

July 14, 2021

Time	Speaker	Title
09:00 – 10:00	Breakfast (Sirius Arena)	
Opening School of Junior Researchers (A. Gasnikov)		
10:00 – 11:00	Boris Polyak (Institute for Control Sciences RAS)	Optimization and control: mutual connections (online)
11:00 – 11:45	Adrien Taylor (Inria)	A few constructive approaches to optimal first-order optimization methods in convex optimization (online)
11:45 – 12:15	Coffee Break	
12:15 – 13:00	Sebastian Stich (EPFL)	Escaping local minima for a class of smooth non-convex problems (online)
13:00 – 14:00	Marc Teboulle (Tel Aviv University)	Faster Lagrangian-Based Methods in Convex Optimization (online)
14:00 – 15:00	Lunch (Sirius Arena)	
15:00 – 15:45	Jean Lasserre (LAAS-CNRS)	On homogeneous optimization on the Euclidean unit sphere (online)

Time	Speaker	Title
15:45 – 16:15	Alexander Gasnikov (MIPT, HSE University)	Sum-type convex optimization under similarity
16:15 – 16:30	Break	
16:30 – 17:15	Arkadi Nemirovski (Georgia Institute of Technology)	From estimating linear forms to conic representations of convex-concave functions and monotone vector fields (online)
17:00 – 18:00	Nathan Srebro (TTIC, University of Chicago)	Mirrorless Mirror Descent (online)
18:00 – 19:00	Dinner (Sirius Arena)	

July 15, 2021

Time	Speaker	Title
09:00 – 10:00	Breakfast (Sirius Arena)	
10:00 – 10:10	Zhang Xian (Huawei)	Opening of Huawei Day
10:10 – 10:25	Andrey Vorobyev (Huawei)	Optimization problems from Wireless Communication
10:25 – 10:45	Eugeny Yanitsky (Huawei)	Digital Pre-Distortion algorithm introduction
10:45 – 11:05	Sergey Bakhurin (Huawei)	Newton's method for nonconvex real-valued functions of complex argument
11:05 – 11:25	Sergey Dudorov (Huawei)	Design/tuning of filters, filtering antennas, antenna arrays, and optimization problems related to that
11:25 – 11:45	Semen Molokov (Huawei)	Geometry & Optimization
11:45 – 12:00	Conference Photo	
12:00 – 12:30	Coffee Break	
12:30 – 13:00	Vladimir Spokoiny (WIAS, HSE University, Humboldt University, IITP RAS)	Adaptive manifold recovery
13:00 – 13:30	Anton Anikin (ISDCT SB RAS), Alexander Gornov (ISDCT SB RAS), Dmitry Pasechnyuk (MIPT)	Full-gradient based methods for modeling nonlinear systems in digital signal processing
13:30 – 14:00	Alexander Maslovskiy (MIPT), Roman Vlasov (Huawei),	Stochastic optimization methods for nonlinear systems in digital signal processing

Time	Speaker	Title
	Alexander Rogozin (MIPT, HSE University)	
14:00 – 15:00	Lunch (Sirius Arena)	
15:00 – 15:30	Roland Hildebrand (Université Grenoble Alpes)	Minimization of sums of squares of holomorphic functions
15:30 – 16:00	Pavel Dvurechensky (MIPT, HSE University), Aleksander Gasnikov (MIPT, HSE University), Nazarii Tupitsa (MIPT, HSE University)	Primal-dual accelerated gradient methods with alternating minimization (online)
16:00 – 16:30	Alexander Nazin (ICS RAS, Moscow)	Using the Mirror Descent Method for Online Optimization of Controlled Uncertain Dynamic Systems with Sliding Mode (Continuous Time)
16:30 – 17:00	Andrey Vorobyev (Huawei)	Discussions
17:30 – 22:00	Dinner (Transfer to Krasnaya Polyana)	

July 16, 2021

Time	Speaker	Title
09:00 – 10:00	Breakfast (Sirius Arena)	
10:00 – 11:00	Eric Moulines (Ecole Polytechnique, HSE University)	DoStoVoq: doubly stochastic VQ for communication efficient Federated Learning (online)
11:00 – 12:00	Anatoli Juditsky (Université Grenoble Alpes)	Sparse recovery by reduced variance stochastic approximation (online)
12:00 – 12:30	Coffee Break	
12:30 – 14:00	Round Table	
14:00 – 15:00	Lunch (Sirius Arena)	
15:00 – 17:00	Poster Session and Discussions	
17:00 – 18:00	Aaron Sidford (Stanford University)	Interior Point Methods for Nearly Linear Time Algorithms (online)
18:00 – 19:00	Dinner (Sirius Arena)	

July 17, 2021

Time	Speaker	Title
09:00 – 10:00	Breakfast (Sirius Arena)	
10:00 – 10:20	Nazarii Tupitsa (MIPT, HSE University)	On some problems allowing alternative minimization
10:20 – 10:40	Dmitry Kamzolov (MIPT)	High-order Tensor Method for Distributed Convex Optimization
10:40 – 11:00	Anton Anikin (IDSTU SB RAS)	"Forest" - GPU-accelerated method for solving global optimization problems
11:00 – 12:00	PhD Students talks	TBA
12:00 – 12:30	Coffee Break	
12:30 – 13:30	PhD Students talks	TBA
13:30 – 14:00	End of Conference and School	
14:00 – 15:00	Lunch (Sirius Arena)	
18:00 – 19:00	Dinner (Sirius Arena)	