

**The Fourth International Conference  
on Optimization, Simulation and  
Control**

**PROGRAM**

**July 1 – 4, 2013**

**Ulaanbaatar, Mongolia**



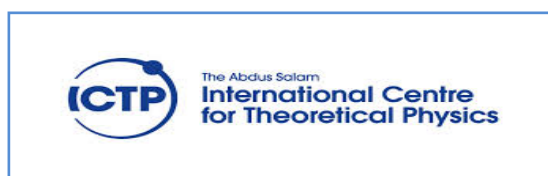
Endorsed by: Ministry of Education and Science

Co-Chairs: R. Enkhbat (National University of Mongolia)  
L. Altangerel (National University of Mongolia)  
A. Chinchuluun (National University of Mongolia)  
I. Tseveendorj (University of Versailles Saint-Quentin-en-Yvelines, France)  
P.M. Pardalos (University of Florida)

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• The School of Economic Studies  
• The School of Mathematics and Computer Sciences  
• The Institute of Mathematics  
Mongolian University of Science and Technology:  
• The School of Mathematics  
• Computer Science and Management School

Co-organizers: University of Versailles Saint-Quentin-en-Yvelines, France  
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## **Secretary:**

N.Tungalag (National University of Mongolia)

<b>July 1, 2013 Monday</b>		
9.00-9.40	Hall, Floor 1, Mongolia-Japan Center, National University of Mongolia	Registration
<b>Plenary Session</b>	<b>Multipurpose room 1-2</b>	
09:40-10:20	Opening Ceremony	
10:20-10:40	Coffee Break	
Time	Speaker and title	Chair
10:40-11:25	<b>Christodoulos A. Floudas</b> / Princeton University, USA/ Global Optimization of Mixed-Integer Quadratically Constrained Quadratic Programs (MIQCQP) and Mixed-Integer Signomial Optimization (MISO)	A.Chinchuluun
11:30-12:15	<b>J.Dutta</b> / Indian Institute of Technology Kanpur, India/ MPCC Problems : A Fritz John View	
<b>12:30-14:00</b>	<b>Lunch</b>	<b>Puma hotel</b>
<b>Session M1 Optimization and Optimal Control</b>		
<b>Multipurpose room 1-2, Floor-1</b>		
Time	Speaker and title	Chair
14:00-14:30	<b>Invited Talk : Akhtar A.Khan</b> /Rochester Institute of Technology, USA/ Set-valued optimization and Applications	
14:30-14:45	<b>Anikin A. S</b> / Institute for System Dynamics and Control Theory of SB RAS, Russia/ Performance comparison of global search methods implementation for parallel computing systems with different architecture	Baoyin Hexi
14:45-15:00	<b>Weiai Liu</b> / Tongji University, Shanghai, China/ An infeasible penalty-free-type method for nonlinear inequality constrained optimization	
15:00-15:15	<b>Gornov A. Yu</b> / Institute for System Dynamics and Control Theory of SB RAS, Russia/ Project OPTCON: Software for Optimization Problems	
15:15-15:30	Coffee Break	
15:30-15:45	<b>Georg Still</b> / University of Twente, The Netherlands/ Linear cone programs: Structure and generic properties.	
15:45-16:00	<b>Bavuudorj Ovgor /Inha University, South Korea/</b> Aerodynamic and Aeroacoustic optimization of an axial-flow fan	
16:00-16:15	<b>Gompil Battur</b> /School of Mathematics and Computer Science, NUM, Mongolia/ Numerical Integration of Lipschitzian ODEs	
16:15-16:30	<b>Shengping Gong</b> / School of Aerospace, Tsinghua University, Beijing, China/ Time-optimal Control Law Design for Cone Angle Restricted Solar Sail	Buldaev.A.S
16:30-16:45	<b>Khishektueva I.Kh</b> / Buryat State University/ The numerical algorithm of search of fixed points in optimization problems with parameters	
<b>18:00</b>	<b>Welcome reception</b>	<b>Puma hotel</b>

**Session M2 Numerical Analysis and Simulation**

<b>Multipurpose room 3, Floor-1</b>		
Time	Speaker and title	Chair
14:00-14:30	<b>Invited Talk : Sheng Bau</b> /University of the Witwatersrand, Johannesburg, South Africa/.	Darmaev. T

	An application of differential equations to the feedback numbers of random regular graphs	
14:30-14:45	<b>L. Bokhoeva</b> /East-Siberian State University of Technologies and Management, Russia/ Study of Samples of Pipes Made of Layered Composite Materials with Technological Defects	
14:45-15:00	<b>T.Dultuya</b> / Seoul National University, South Korea/ Multiple-Region Segmentation using Level Set Method	
15:00-15:15	<b>Honglei Xu</b> / Curtin University, Perth, Australia/ Practical Set Stability of Switched Nonlinear Systems with Multiple Subsystem Equilibria	
15:15-15:30	Coffee Break	
15:30-15:45	<b>Richard Hartl</b> /University of Vienna, Austria/ Lateral Transshipment with Vehicle Routing	
15:45-16:00	<b>V.Ulziibayar</b> /School of Mathematics, MUST, Mongolia/ Higher-order accurate numerical solution of Burgers' equation	
16:00-16:15	<b>Scherbakov N. R</b> / Buryat State University, Tomsk State University, Russia/ Mathematical Simulation of the Process of Formbuilding of the Details of the Driving Gear	Khoroshilova.E
16:15-16:30	<b>Dingguo Pu</b> /Tongji University, China/ SQP-free infeasible method without a penalty function and a filter	
16:30-16:45	<b>Darmaev Tumen</b> / Buryat State University/ Numerical research of periodic modes of Blazius flow	
<b>18:00</b>	<b>Welcome reception</b>	<b>Puma hotel</b>

**Session M3 Global Optimization: *Special Session in Celebration of A.S.Stekalovsky's 65<sup>th</sup> Birthday***

**Seminar room 1, Floor-2**

Time	Speaker and title	Chair
14:00-14:15	<b>R.Enkhbat</b> /Institute of Mathematics, NUM, Mongolia/ Recent Advances in Concave Programming	
14:15-14:30	<b>J.Dutta</b> / Indian Institute of Technology Kanpur, India/ Trying to understand the global maximization of a convex function	
14:30-14:45	<b>Altannar Chinchuluun</b> /Institute of Mathematics, NUM, Mongolia/ A Connection Between Variational Inequalities and Concave Programming	I.Tseveendorj
14:45-15:00	<b>Bazarragchaa Barsbold</b> /School of Mathematics and Computer Science, NUM/ A Numerical Approach to Optimal Control Problems with Smooth Control	
15:00-15:15	<b>E. A. Finkelshteyn</b> / Institute for System Dynamics and Control Theory of SB RAS, Russia/ The multistart method acceleration technique based on approximation of local extrema attraction domain	
15:15-15:30	Coffee Break	
15:30-15:45	<b>I.Tseveendorj</b> / INRIA, Domaine de Voluceau, Rocquencourt, University of Versailles, France/ Generalized Subdifferential for Nonconvex Nonsmooth Optimization	
15:45-16:00	<b>L. Altangerel</b> / School of Mathematics and Computer Science, NUM, Mongolia/ Weak Sharp Minima in Optimization Problems and Variational Inequalities	Barsbold.B
16:00-16:15	<b>Zh.Ariungerel</b> / School of Mathematics and Computer Science, NUM/	

	A Closed Form Solution to Stochastic Optimal Investment Problem for Insurance Companies	
16:15-16:30	<b>Mend-Amar Majig</b> /School of Mathematics and Computer Science, NUM, Mongolia/ Mathematical modeling and simulation for ore mixing process in the open pit copper mining	
16:30-16:45	<b>Gankhuyag.D</b> / Mongolian University Science and Technology/ Finding a solution of one application problem of Multicriteria Optimization.	
<b>18:00</b>	<b>Welcome reception</b>	<b>Puma hotel</b>

**July 2, 2013 Tuesday**

<b>Plenary session</b>	<b>Multipurpose room 1-2</b>	
	<b>Time</b>	<b>Speaker and title</b>
	09:00-09:45	<b>David Y Gao</b> /University of Ballarat, Australia/ Canonical Duality Theory for Solving Global Optimization Problems with Nonconvex Constraints
	09:45-10:30	<b>Alexander Strelakovsky</b> /Institute for System Dynamics and Control Theory of SB RAS, Irkutsk, Russia/ New Methods for Solving Nonconvex Optimal Control Problems
	10:30-10:45	Coffee Break
		I.Tseveendorj

**Session T1 Optimization and Optimal Control**

	<b>Multipurpose room 1-2, Floor-1</b>	
	<b>Time</b>	<b>Speaker and title</b>
	10:45-11:00	<b>Peter Richtarik</b> / The University of Edinburgh, United Kingdom/ Parallel Coordinate Descent Methods for Big Data Optimization
	11:00-11:15	<b>Yan Gao</b> / School of Management University of Shanghai for Science and Technology, China/ Second-order Sufficient Optimality Conditions Problems with State Jump for Hybrid Control
	11:15-11:30	<b>Buldaev A.S</b> / Buryat State University, Russia/ Method of fixed points in optimal control problems
	11:30-11:45	<b>Maltugueva N</b> / Institute for System Dynamics and Control Theory of SB RAS, Russia/ Sufficient Conditions for Global Optimality in Discrete-Continuous Systems
	11:45-12:00	<b>B.Barsbold</b> / School of Mathematics and Computer Science, NUM / Derivative Variation Approach for Some Class of Optimal Control
	<b>12:30-14:00</b>	<b>Lunch</b>
		<b>Independence Palace</b>
	14:00-14:15	<b>Baoyin Hexi</b> /Tsinghua University, Beijing, China/ Optimal Guidance and Control for Soft Landing on Asteroids
	14:15-14:30	<b>Elena Khoroshilova</b> / Lomonosov Moscow State University, Russia/ Extragradient type Method for Solving the Boundary Value Optimal Control Problem
	14:30-14:45	<b>Bolor Jargalsaikhan</b> / University of Groningen, The Netherlands/.
		Mend-Amar. M

	Checking copositivity: Tractable cases	
14:45-15:00	<b>Mingxia Huang</b> / Tongji University, Shanghai, China/ A new trust region SQP method for nonlinear programming without a penalty or a filter	
15:15-15:30	<b>S.Battugs</b> / School of Natural Sciences, MSUA, Mongolia/ Results of Optimization of Technological Parameters of Pneumatic Separator for Cleaning of Grain	

**Session T2 Mathematical Applications in Economics and Engineering**

<b>Multipurpose room 3, Floor-1</b>		
<b>Time</b>	<b>Speaker and title</b>	<b>Chair</b>
10:45-11:15	<b>Invited Talk : Richard Vogel</b> / Farmingdale State College, USA/ Mining and Infrastructure Development: Prospects for Mongolia's long-run Growth	
11:15-11:30	<b>Bayasgalan Tsetsgee</b> / School of Information and Communication Technology, MUST, Mongolia/ System Dynamics models for improved power plant operation planning	Gornov.A.Yu
11:30-11:45	<b>Lutbat Yadamsuren</b> / Inje University, South Korea/ Bayesian Configuration of Wireless Sensor Networks	
11:45-12:00	<b>Ch. Battuvshin</b> / University of the Humanities, Mongolia/ Application of Dynamic Programming to Cash Flow Process	
<b>12:30-14:00</b>	<b>Lunch</b>	<b>Independence Palace</b>
14:00-14:15	<b>J.Enkhbayar</b> / School of Economic Studies, National University of Mongolia, Mongolia/ Theory and Methods for Utility Maximization in Oligopsonistic Market	
14:15-14:30	<b>L.Amarsanaa</b> / Mongolian State University of Agriculture, Mongolia/ Perfection of curricula and programs on the basis of the network graph	Lutbat.Ya
14:30-14:45	<b>Batsuuri Dovdon</b> / Business school, University of the Humanities, Mongolia/ Application of threshold autoregressive model to exchange rate of USD in Mongolia	
14:45-15:00	<b>D.Bayanjargal</b> / School of Economic Studies, National University of Mongolia, Mongolia/ Stochastic Solow growth model with the logistic function	
15:00-15:15	<b>L.Oyuntsetseg</b> / School of Economic Studies, NUM, Mongolia/ Actuary Estimation of New Pillar of Pension Scheme in Mongolia	

**July 3, 2013 Wednesday**

**Plenary session**

**Multipurpose room1-2**

<b>Time</b>	<b>Speaker and title</b>	<b>Chair</b>
09:00-09:45	<b>Antipin A.S</b> / Computing Center of Russian Academy of Sciences, Russia. Computation of the Extreme Mapping Fixed Point as Boundary Value Optimal Control Problem	Bayanjargal.D
09:45-10:30	<b>Kok Lay Teo</b> / Curtin University, Perth, Australia/ Minimizing Control Variation in Nonlinear Optimal Control	

10:30-11:15	<b>Myungjoo Kang</b> / Seoul National University, South Korea/. Non-convex hybrid total variation for image denoising	
11:15-11:30	Coffee Break	
11:30-11:45	<b>Andrey V. Orlov</b> /Institute for System Dynamics and Control Theory of SB RAS, Russia/. On a Local and Global Search in Bilevel Problems with a Matrix Game at the Lower Level	
11:45-12:00	<b>Ser-Od Bayaraa</b> / School of Mathematics, MUST, Mongolia/ The Portfolio Selection Problem Using Curve Fuzzy Numbers	J.Enkhbayar
<b>12:30-14:00</b>	<b>Lunch</b>	<b>Independence Palace</b>
<b>14:00</b>	<b>Visiting Museums</b>	

Foster  
session

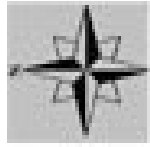
Time	Speaker and title
11:15-12:00	<b>G.Makhgal, Sh.Mungunsukh</b> /School of Mathematics and Computer Science, NUM/ Simulation and Forecasting of Cointegrated Multivariate Time Series
11:15-12:00	<b>S. Batbileg, Ya.Bazarsad</b> /The School of Economic Studies, NUM, School of Computer Science and Management, MUST/. Global Optimization Approach to Game Theory/
11:15-12:00	<b>B.Odbaatar, M.Mend-Amar</b> /School of Mathematics and Computer Science, NUM/. Capacitated Vehicle Routing Problem: A Case Study for "PETROVIS"
11:15-12:00	<b>Ch.Naranchimeg, E.Eldev-Ochir</b> /Institute of Finance and Economics/. Using Black-Schole's model to estimate option agreement cost
11:15-12:00	<b>T.Bayartugs</b> /School of Mathematics, MUST/ Global Optimality Conditions for Semidefinite Fractional Maximization Problem
11:15-12:00	<b>D. Sainbayar</b> /Defense University of Mongolia/ Using the search problems in Military affairs
11:15-12:00	<b>B.Taigiintuya, V.Batzorig</b> /Computer Science and Management School, MUST/ Modeling of Financial Time Series Using Fractal Stochastic Process
11:15-12:00	<b>D.Enkh-Amgalan</b> / The School of Economic Studies, NUM/ Economic Growth and natural resource
11:15-12:00	<b>M.Banzragch, B.Enkhtuya</b> / Computer Science and Management School, MUST/ Multi--Objective Portfolio optimization

**July 4, 2013 Thursday**

**Countryside trip to "Terelj Bumban tour"**

Departure time	Depart from
09:30	Mongolia-Japan Center, NUM





- 1- NUM, bld. 5
- 2- UB hotel
- 3- Chingis hotel
- 4- Michelle hotel
- 5- Zaluuchuud hotel
- 6- Sweet hotel
- 7- Center hotel
- 8- Guide hotel
- 9- Student dormitory



Mongolia  
~Japan  
Center

NUM  
bld 1

CHINESE  
EMBASSY

MUST

SQUARE

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