

# **Dorn Yuriy**

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**Date & place of birth:** January 14, 1987, Togliatty, Russia.

**Nationality:** Russian

**Office Address:**

141707 Institutskiy lane. Moscow Institute of physics and technology, Laboratory for Structural Methods of Data Analysis in Predictive Modeling, Department of Mathematical Foundation of Control

8 (495) 408-80-88

**Marital status:** married.

**Languages:** Russian, English.

**Education:**

2004-2011 - Undergraduate student of the Moscow Institute of physics and technology.

GPA = 4.5

2010-2012 - Undergraduate student of the Higher School of Economics.

GPA = 4.3

2011 – now – Ph.D. Student at CCAS.

2012 – now – Ph.D. Student at PreMoLab.

**Degrees:**

2011 - Master Degree in Applied Mathematics and Physics, MIPT, Russia.

2014 - Master Degree in Economics, HSE, Russia.

**Publications:** 3 papers

**Professional experience:**

– Department of Mathematical Foundation of Control MIPT:

September 2012 - now: Lectures and Seminars on Optimization.

– Laboratory for Structural Methods of Data Analysis in Predictive Modeling MIPT

April 2012 - now: Junior Researcher and Ph.D. student.

– Computational center of the Russian Acad.Sci., Moscow:

September 2011 - now: Ph.D. Student

**Fields of expertise:**

*Transportation sciences:* static and dynamic equilibrium in congested transportation networks. Braess Paradox.

*Game Theory and Mechanism Design:* new models for congested games.

*Algorithms and Methods of Optimization:* new algorithms for structured convex optimization problems.

**Fields of interests:**

*Optimization Theory and its Applications*

**Teaching, supervision:**

Teaching Assistant, Course “Optimization Methods” at MIPT.

Instructor, Course “Introduction in mathematical models of traffic flows” at MIPT

Instructor, Course “Convex Optimization in Applications”

**Extension courses:**

**2011 – Introduction to Artificial Intelligence** (Stanford Online Course, based on CS221, [www.ai-class.com](http://www.ai-class.com)).

**2012 – Modern Parametric Statistics** (V. Spokoiny, IUM, <http://ium.mccme.ru/s12/spokoinyi-s12.html>).

**2012 – Monte-Carlo Vicinity** (B.Polyak, MIPT, <http://premolab.ru/courses/monte-carlo-and-vicinity/>)

**2012 – Sparsity** (A.Tsybakov, HSE, <http://www.hse.ru/news/49115987.html>).

**2012 – Modern nonlinear optimization methods** (S.Spirko and Yu.Nesterov, MIPT, [http://dame.mipt.ru/studyandscience/a\\_5gc1te.html](http://dame.mipt.ru/studyandscience/a_5gc1te.html))

**2012 – Summer School on Operation Research and Applications** (Laboratory of Algorithms and Technologies for Network Analysis, HSE, <http://nnov.hse.ru/latna/conferences/school2012>, 1-6 may 2012 ).

**2012 – IV Traditional All-Russia Youth Summer School «Control Information, Optimization»** (Moscow Institute of Control Studies, Zvenigorod, <https://sites.google.com/site/traditionalschool/>, 17-24 June 2012).

**2012 – Algorithmic Foundations of Modern Optimization Theory** (Yu.Nesterov, IUM, <http://ium.mccme.ru/f12/nesterov.html>).

**2012 – Robust Convex Optimization** (A.Nemirovsky, IUM, <http://premolab.ru/content/robust-convex-optimization-short-course>).

**2013 – V Traditional All-Russia Youth Summer School «Control Information, Optimization»** (Moscow Institute of Control Studies, <https://sites.google.com/site/traditionalschool/>, 16-24 June 2013).

**2013 - High-Dimension Statistics** (Sara van de Geer, IITP RAS, 22-24 April 2013).

**2013 - Estimation and inference in parametric econometric models** (S. Anatolyev, IITP RAS, 14-23 October 2013).

**2013 - Stochastic Programming, Modeling and Theory** (A. Shapiro, IITP RAS, 15-17 October 2013).

**2013 - Linear and Integer Programming** (Coursera, University of Colorado Boulder).

**2013 – General Game Playing** (Coursera, Stanford University).

**2013 – Game Theory** (Coursera, Stanford University).

**2013 – Markets with Frictions** (Coursera, University of Wisconsin–Madison)

**2014 - Recent Results on Approximation of Solutions of Stochastic Differential Equations** (D. Belomestny, MIPT, 11-25 March 2014).

**2014 – VI Traditional All-Russia Youth Summer School «Control Information, Optimization»** (Moscow Institute of Control Studies, <https://sites.google.com/site/traditionalschool/>, 24-30 June 2014).

**2014 – Advance Topics in Machine Learning** (DTU, <http://www2.compute.dtu.dk/courses/02901/>, 25-29 August 2014).

### **Publications:**

*E. Gasnikova, Yu. Dorn*, [On stochastic markovian dynamic leading to Nash-Wardrop equilibrium at traffic assignment model](#) // Proceedings of Moscow Institute of Physics and Technology, V.2, N.4., 2010, P.55-57.

*Yu. Dorn*, Detecting inefficient arcs in transportation network //

Proceedings of Moscow Institute of Physics and Technology, V.4, N.1., 2014, P.612-168.

*A. Gasnikov, Yu. Dorn, Yu. Nesterov, S. Shpirko*, On the Three-Stage version of the Stable Dynamic model // Mathematical Models and Computer Simulations, V.26 (6), 2014.

### **Conferences:**

- *A. Gasnikov, E. Gasnikova, Y. Dorn*. On some examples of finite homogeneous ergodic markov processes with huge number of states – MIPT Conference - 2009.
- *Y. Dorn*. On the influence of the geometric parameters of the city with a strongly non-uniform structure of the distribution of origins and destinations to the efficiency of the transportation network - MIPT Conference - 2009.
- *Y. Dorn*. Mathematical modelling of evolutionary games on transportation networks: Equilibriums. Convergence. эволюционных игр на транспортном графе: Равновесия. Сходимость. - MIPT Conference - 2010..
- *Y. Dorn*. Transportation tolls as the tool to achieve better transport equilibrium. MIPT Conference - 2011.
- *Y. Dorn*. Introduction of control parameters in the equilibrium traffic flow model – ITAS – 2012 (<http://itas2012.iitp.ru/index-rus.html>).
- *A. Gasnikov and others*, On some problems of mathematical modeling of traffic flows – MMRO - 2012 (<http://www.mmro.ru/about.php>).
- *Y. Dorn*. Detecting inefficient arcs in transportation networks Дорн Ю.В., Поиск неэффективных ребер в транспортном графе - MIPT Conference - 2012.
- *A. Gasnikov, Yu. Dorn, Yu. Nesterov, S. Shpirko*, On the Three-Stage version of the Stable Dynamic model – ORM – 2013.

- *A.Gasnikov, Yu. Dorn, Yu. Nesterov, S. Shpirko*, Connection between Beckmann and Stable Dynamic models – ORM – 2013.
- *Y.Dorn* – Equilibrium Transportation Modeling – Invited Lecture on School of Interdisciplinary analysis of Socio-Economic Processes - 2013.
- *Y.Dorn* – Algorithmic Transportation Modeling – Invited Lecture on “Baikal reading” – 2014.

## **Awards:**

### **Best student work**

Moscow Institute of Physics and Technology

November 2010

Best student work on 53 MIPT conference

Section of Numerical Math

### **Best student work**

Moscow Institute of Physics and Technology

November 2011

Best student work on 54 MIPT conference

Section of Systems and decision analysis

### **Best student work**

Moscow Institute of Physics and Technology

November 2012

Best student work on 55 MIPT conference

Section of Economics, Ecology and Sociology modeling

### **Best poster**

Institute of Control Science of Russian Academy of Science

June 2013

Best poster work on V Traditional summer school "Information, optimization and control"

### **Best student work**

Higher school of economics

2014

Best master thesys

## **Grants:**

- RFBR 12-01-33007 mol\_a\_ved “The concept of equilibrium of a macrosystem and its applications to sociodynamic and traffic assignment problem”  
Status: Junior Researcher
- RFBR 12-01-007 ofi\_m “New universal models and methods for urban traffic networks analysis and congestion treating”  
Status: Researcher
- President Grant № MK-5285.2013.9  
Status: Junior Researcher