

# Dmitry Kovalev

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## Education

### King Abdullah University of Science and Technology

MS/PHD IN COMPUTER SCIENCE

*Thuwal, Saudi Arabia*

*Sep. 2018 - PRESENT*

### Moscow Institute of Physics and Technology

B.S. APPLIED MATHEMATICS AND PHYSICS

*Moscow, Russia*

*Sep. 2014 - Jun. 2018*

## Skills

**Programming** C/C++, Python, LaTeX, Go

**Mathematics** Probability and Statistics, Calculus, Linear Algebra

## Honors & Awards

2012 **Prize-Winner**, All-Russian School Physics Olympiad, Final Round

*Saransk, Russia*

2013 **Winner**, All-Russian School Physics Olympiad, Final Round

*Vladivostok, Russia*

2014 **Prize-Winner**, All-Russian School Physics Olympiad, Final Round

*Saint Petersburg,  
Russia*

2014 **Winner**, All-Russian School Math Olympiad, Region Round

*Moscow, Russia*

2014 **Winner**, All-Russian School Programming Olympiad, Region Round

*Moscow, Russia*

2014 **Honourable Mention**, APHO (Asian Physics Olympiad)

*Singapore*

2012-2014 **Russian President's Scholarship**, for high school students

*Russia*

2012-2014 **Moscow Governor's Scholarship**, for high school students

*Moscow, Russia*

2012-2014 **Abramov's Fund Scholarship**, for top students of Moscow Institute of Physics and Technology

*Moscow, Russia*

## Papers

### Stochastic Distributed Learning with Gradient Quantization and Variance Reduction

SAMUEL HORVÁTH, DMITRY KOVALEV, KONSTANTIN MISHCHENKO, PETER RICHTÁRIK AND SEBASTIAN U. STICH

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• <https://arxiv.org/abs/?????.?????>

### Don't Jump Through Hoops and Remove Those Loops: SVRG and Katyusha are Better Without the Outer Loop

DMITRY KOVALEV, SAMUEL HORVÁTH AND PETER RICHTÁRIK

*24 Jan. 2019*

• <https://arxiv.org/abs/1901.08689>

### A hypothesis about the rate of global convergence for optimal methods (Newton's type) in smooth convex optimization

ALEXANDER GASNIKOV, DMITRY KOVALEV

*11 Feb. 2018*

• <https://doi.org/10.20537/2076-7633-2018-10-3-305-314>

### Stochastic Spectral and Conjugate Descent Methods

DMITRY KOVALEV, EDUARD GORBUNOV, ELNUR GASANOV AND PETER RICHTÁRIK

*11 Feb. 2018*

• <https://papers.nips.cc/paper/7596-stochastic-spectral-and-conjugate-descent-methods>

• This paper was accepted to NeurIPS 2018 conference.

## Conferences & Talks

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### Optimization and Big Data Workshop

*KAUST, Thuwal, Saudi Arabia*

POSTER PRESENTER

*Feb. 2018*

- Workshop Site: <https://obd.kaust.edu.sa/>
- Poster: <https://epostersonline.com/obd2018/node/51>

### Tradition School (Control, Information and Optimization)

*Voronovo, Moscow Region, Russia*

POSTER PRESENTER

*Jun. 2018*

- [http://www.mathnet.ru/php/seminars.phtml?option\\_lang=rus&presentid=23658](http://www.mathnet.ru/php/seminars.phtml?option_lang=rus&presentid=23658)
- <https://www.ipu.ru/node/50794>

### 32nd Conference on Neural Information Processing Systems (NeurIPS 2018)

*Palais des Congrès de Montréal,  
Montréal CANADA*

ACCEPTED PAPER: «STOCHASTIC SPECTRAL AND CONJUGATE DESCENT METHODS»

*Dec. 2018*

- <https://neurips.cc/Conferences/2018/Schedule?showEvent=11338>
- I didn't go there because of MS qualification exams.

### Seminar «Modern Optimization Methods»

*Moscow Institute of Physics and  
Technology, Moscow, Russia*

TALK: «STOCHASTIC DISTRIBUTED LEARNING WITH GRADIENT QUANTIZATION AND VARIANCE REDUCTION»

*25 Mar. 2019*

- [https://vk.com/miptopt?w=wall-132864820\\_40%2Fall](https://vk.com/miptopt?w=wall-132864820_40%2Fall)

### Weekly seminar «Automatic control and Optimization Theory»

*Institute for Control Problems,  
Moscow, Russia*

TALK: «STOCHASTIC SPECTRAL AND CONJUGATE DESCENT METHODS»

*26 Mar. 2019*

- [http://www.mathnet.ru/php/seminars.phtml?option\\_lang=rus&presentid=23658](http://www.mathnet.ru/php/seminars.phtml?option_lang=rus&presentid=23658)
- <https://www.ipu.ru/node/50794>