Dmitrii M. Ostrovskii

CONTACT INFORMATION	University of Southern California Department of Mathematics Kaprielian Hall, office 406h Phone: (+1) 213 952 6594 Email: dostrovs@usc.edu

WEBSITE — ostrodmit.github.io

OTHER LINKS: — Google Scholar • GitHub • YouTube

RESEARCH INTERESTS

- **Mathematical statistics:**
  - high-dimensional & robust estimation, adaptation, testing, nonparametrics.
- **Optimization theory:**
  - minimax & nonconvex problems, acceleration, non-Euclidean geometry, lower complexity bounds.
- **Learning theory:**
  - fast rates/low regret in statistical/online learning; model misspecification.
- **Signal processing:**
  - estimation with shift-invariant structure, super-resolution.

CURRENT POSITION

Assistant Professor (RTPC) of Mathematics — since 08/2021
University of Southern California, Department of Mathematics
Promoter: Stanislav Minsker

PREVIOUS POSITIONS

Postdoctoral Scholar — 08/2019–08/2021
University of Southern California, Viterbi School of Engineering
Host: Meisam Razaviyayn

ERCIM Alain Bensoussan Postdoctoral Fellow — 02/2018–06/2019
Inria Paris, France
Host: Francis Bach

Visiting PhD Student — 12/2016–05/2017
University of Washington, Seattle
Host: Zaid Harchaoui

DEGREES

PhD, University of Grenoble — 10/2014–01/2018

- PhD Thesis: *Adaptive Signal Recovery by Convex Optimization*
  Advisors: Anatoli Juditsky & Zaid Harchaoui

MSc & BSc, Moscow Institute of Physics and Technology — 09/2008–07/2014

- MSc Thesis: *Concentration Inequalities for the Exponential Weighting Method*
  Advisor: Yuri Golubev

- BSc Thesis: *Analytical Study of NHDP Link Management Protocol*

Preprints & Working Papers	**Nonconvex-Nonconcave Min-Max Optimization with a Small Maximization Domain** D. Ostrovskii, B. Barazandeh, M. Razaviyayn. `arXiv:2110.03950`, 2021.
	Near-Optimal Procedures for Model Discrimination with Non-Disclosure Properties D. Ostrovskii, M. Ndaoud, A. Javanmard, M. Razaviyayn. `arXiv:2012.02901`, 2020.
	Efficient Primal-Dual Algorithms for Large-Scale Multiclass Classification D. Babichev, D. Ostrovskii, F. Bach. `arXiv:1902.03755`, 2019.
	Structure-Blind Deconvolution via Convex Optimization D. Ostrovskii, A. Juditsky. *Available upon request*, 2018.
Book Chapter	**Adaptive Denoising of Signals with Shift-Invariant Structure** D. Ostrovskii, Z. Harchaoui, A. Judistky, A. Nemirovski. `arXiv:1806.04028` *Foundations of Modern Statistics: V. Spokoiny's 60th Anniversary Festscrift*, to appear.
Journal Publications	**Efficient Search of First-Order Nash Equilibria in Nonconvex-Concave Smooth Min-Max Problems** D. Ostrovskii, A. Lowy, M. Razaviyayn. `arXiv:2002.07919` SIAM Journal on Optimization, 31:4, pp. 2508-2538, 2021.
	Finite-Sample Analysis of M-Estimators Using Self-Concordance D. Ostrovskii, F. Bach. `arXiv:1810.06838` Electronic Journal of Statistics, 15:1, pp. 326-391, 2021.
	Concentration Inequalities for the Exponential Weighting Method Y. Golubev, D. Ostrovskii. `hal-01292413` Mathematical Methods of Statistics, 23:1, pp. 20-37, 2014.
	A Dynamic Channel Reservation Method for Multimedia Streaming in Wi-Fi Mesh Networks A. Krasilov, A. Lyakhov, D. Ostrovskii, E. Khorov. Automation and Remote Control, 74:9, pp. 1460-1473, 2013.
	Analytical Study of the Quality of Links Established by the Neighbourhood Discovery Protocol A. Lyakhov, D. Ostrovskii, E. Khorov. Journal of Communications Technology and Electronics, 57:12, pp. 1314-1321, 2012.
Refereed Conference Publications	**Affine Invariant Covariance Estimation for Heavy-Tailed Distributions** D. Ostrovskii, A. Rudi. `arXiv:1902.03086` COLT 2019
	Beyond Least-Squares: Fast Rates for Regularized Empirical Risk Minimization through Self-Concordance U. Marteau-Ferey, D. Ostrovskii, A. Rudi, F. Bach. `arXiv:1902.03046` COLT 2019
	Efficient First-Order Algorithms for Adaptive Signal Denoising D. Ostrovskii, Z. Harchaoui. `arXiv:1803.11262` ICML 2018

Structure-Blind Signal Recovery
D. Ostrovskii, Z. Harchaoui, A. Juditsky, A. Nemirovski. `arXiv:1607.05712`
NeurIPS 2016

Adaptive Recovery of Signals by Convex Optimization
Z. Harchaoui, A. Juditsky, A. Nemirovski, D. Ostrovskii. `hal-01250215`
COLT 2015

Dynamic Resource Allocation for MCCA-Based Streaming in Wi-Fi Mesh Networks
E. Khorov, A. Krasilov, A. Lyakhov, D. Ostrovskii.
WiFlex 2013

Analytical Study of Neighborhood Discovery and Link Management in OLSR
E. Khorov, A. Kiryanov, A. Lyakhov, D. Ostrovskii.
IFIP 2012

REVIEWING   Mathematical Programming, SIAM Journal on Optimization, Annals of Statistics, Journal of Machine Learning Research, NeurIPS, ICML, COLT, ALT, STOC.

TEACHING   University of Southern California (2019-2022):

2022, Spring: Elementary Probability and Statistics (Math 208)   49 st. 3h/wk.
2021, Fall: Introduction to Mathematical Statistics (Math 541b)   10 st. 3h/wk.
2019–2021: Optimization for Machine Learning (invited lectures)   10 st. 2h/mth.

University of Grenoble (2016-2017, in French):

2017, Spring: Calculus for Science & Engineering ("Cours-TD")   30 st. 3h/wk.
2016, Spring: Calculus for Science & Engineering ("Cours-TD")   30 st. 3h/wk.
2016, Spring: Statistical Methods for Biology & Medicine ("TP")   28 st. 3h/wk.

TALKS[1]   2021

University of Washington, IFDS seminar   i,z
Johns Hopkins University, AMS seminar   i
Southern California Probability Symposium   i,z
Higher School of Economics, Moscow   i
Universitat Pompeu Fabra, Barcelona   j,z
University of Southern California
École Polytechnique Fédérale de Lausanne   j,z
Weierstrass Institute, Berlin   i,z
Ecole Polytechnique, Paris ($\times 2$)   j,z

2019

University of Southern California, Epstein Seminar
COLT 2019, Phoenix
Optimization and Statistical Learning workshop, Les Houches   p
Toyota Technological Institute, Chicago   j

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[1]Legend: `i` - invited talk, `z` - via Zoom, `p` - poster, `j` - job talk.

2018

ICML 2018, Stockholm   p
Optimization and Learning workshop, Toulouse   p
CWI-Inria workshop, Paris
ICML 2018, Stockholm
CWI seminar, Amsterdam
Sierra seminar, Inria, Paris
PhD defense, University of Grenoble

2017 & before

Optimization Without Borders 2017, Les Houches
NeurIPS 2016, Barcelona   p
Université Grenoble Alpes
University of Göttingen   j
IRIT, Toulouse   j
ORFE seminar, Princeton   j
University of Washington, Seattle
PGMO Days 2016, Paris
COLT 2015, Paris
StatLearn 2015, Grenoble

HONORS & AWARDS	NeurIPS 2019 Best Reviewer (awarded to 400 reviewers out of 4500+)
	COLT 2019 Travel Award
	HDSI Postdoctoral Fellowship at UC San Diego, 2019–2021 (offered)
	ERCIM Alain Bensoussan Postdoctoral Fellowship, 2018–2019
	NVIDIA GPU Grant, 2017
	NIPS 2016 Travel Award
	Increased State Academic Scholarship of the Russian Government, 2012–2014
	Abramov-Frolov Fund Scholarship, 2009–2011

SCIENTIFIC SCHOOLS	Structural Inference 2016, Brodten
	GPU for Signal and Image Processing 2015, Grenoble
	Machine Learning Summer School 2015, Kyoto
	Khronos-Persyvact Spring School 2015, Grenoble
	Microsoft School on Algorithms for Massive Data 2013, Moscow

LANGUAGES

English
  - quasi-native level, 113/120 ToEFL

Russian
  - native tongue

French
  - fluent, 5 years of living in France

German
  - B1, needs reactivation