CONTACT Information University of Southern California Department of Mathematics Kaprielian Hall, office 406h

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Website

ostrodmit.github.io

OTHER LINKS:

Google Scholar ● GitHub ● YouTube

#### RESEARCH INTERESTS

#### • Optimization theory:

- minimax & nonconvex problems, acceleration, non-Euclidean geometry.

#### • Learning theory:

- fast rates/low regret in statistical/online learning; model misspecification.

#### • Mathematical statistics:

- high-dimensional & robust estimation, adaptation, testing, nonparametrics.

#### • Signal processing:

- estimation with shift-invariant structure, super-resolution.

## CURRENT

#### Assistant Professor (RTPC) of Mathematics

since 08/2021

Position

University of Southern California, Department of Mathematics

# 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

Efficient and Near-Optimal Online Portfolio Selection

R. Jézéquel, D. Ostrovskii, P. Gaillard. arXiv:2209.13932, 2022.

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

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** 

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, Fall: Introduction to Mathematical Statistics	$15 \times 1, 3 \text{ hrs./wk.}$
2022, Summer: Linear Algebra and Linear Differential Equations	12× <b>i</b> , 6 hrs./wk.
2022, Spring: Elementary Probability and Statistics	34× <b>i</b> , 3 hrs./wk.
2021, Fall: Introduction to Mathematical Statistics	10× <b>i</b> , 3 hrs./wk.
2019–2021: Optimization for Machine Learning (invited lectures)	$10 \times 1$ , 2 hrs./mo.

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

2017, Spring: Calculus for Science and Engineering ("Cours-TD")	$30 \times 1, 3 \text{ hrs./wk.}$
2016, Spring: Calculus for Science and Engineering ("Cours-TD")	30× <b>‡</b> , 3 hrs./wk.
2016, Spring: Statistical Methods for Biology & Medicine ("TP")	28× <b>‡</b> , 3 hrs./wk.

#### $Talks^1$

TBA: Optimization and Statistical Learning workshop, Les Houches	i
TBA: Meeting in Mathematical Statistics, Luminy	i
TBA: INFORMS Annual Meeting, Indianapolis	i
TBA: Georgia Tech, Stochastic Seminar	i

#### 2022

Georgia Tech, ISyE 8813 (guest lecture) Statistical Inference and Convex Optimization (SICO 2022), Grenoble	i,z i,z
University of Southern California, Math Finance Colloquium	1,2
École Polytechnique, Paris	j,z
INFORMS Optimization Society Conference (IOS 2022), Greenville	s
Johns Hopkins University	j,z
University of Cambridge	j,z

<sup>&</sup>lt;sup>1</sup>Legend: i – invited talk, z – via Zoom, p – poster presentation, j – job talk, s – session chaired.

### <u>2021</u>

Honors & Awards

Languages

University of Washington, IFDS seminar Johns Hopkins University, AMS seminar Southern California Probability Symposium Higher School of Economics, Moscow Universitat Pompeu Fabra, Barcelona École Polytechnique Fédérale de Lausanne Weierstrass Institute, Berlin École Polytechnique, Paris (×2)	n (SCPS 2022)	i,z i,z i j,z j,z i,z j,z
<u>2019</u>		
University of Southern California, Epstein S COLT 2019, Phoenix Optimization and Statistical Learning work Toyota Technological Institute, Chicago		p j
<u>2018</u>		
ICML 2018, Stockholm Optimization and Learning workshop, Toul CWI-Inria workshop, Paris ICML 2018, Stockholm CWI seminar, Amsterdam Sierra seminar, Inria, Paris PhD defense, University of Grenoble	ouse	p p
2017 & before		
Optimization Without Borders 2017, Les H NeurIPS 2016, Barcelona Université Grenoble Alpes University of Göttingen IRIT, Toulouse ORFE seminar, Princeton University of Washington, Seattle PGMO Days 2016, Paris COLT 2015, Paris StatLearn 2015, Grenoble	ouches	p j j
NeurIPS 2019 Best Reviewer (awarded to 4 COLT 2019 Travel Award HDSI Postdoctoral Fellowship at UC San EERCIM Alain Bensoussan Postdoctoral FellowVIDIA GPU Grant, 2017 NIPS 2016 Travel Award Abramov-Frolov Fund Scholarship, 2009–20	Diego, 2019–2021 (offered) lowship, 2018–2019	
English	Russian     • mother tongue  German     • B1, needs reactivation	