

Curriculum Vitae

Olga Kuryatnikova
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Academic work experience

- Assistant professor**, Erasmus University Rotterdam
Erasmus School of Economics, Department of Econometrics
Oct 2020 – present *Research: solution approaches and approximation algorithms for non-linear problems*
Main applications: optimization for networks and markets, e.g., energy, water
Bachelor's and master's teaching and thesis supervision
- Postdoctoral fellow**, University of Western Ontario
Ivey Business School
Oct 2019 – Oct 2020 *Solution approaches for non-linear problems in energy network optimization*
- Researcher and teacher**, Tilburg University
TiSEM, Department of Econometrics & Operations Research
Sep 2015 – May 2019 *Polynomial optimization, convex and conic optimization*

Industrial work experience

- Intern in the department of finance & control**, Sociale Verzekeringsbank
(institution that implements national insurance schemes in the Netherlands)
Apr 2014 – July 2014 *Built an econometric model of the demand for social assistance for retirees*
- Credit risk analyst in the department of corporate ratings**, Expert RA
(rating agency in Russia)
June 2011 – Aug 2013 *Developed rating methodologies and conducted rating analysis for pension funds, industrial companies and sovereign issuers*

Education

- PhD in Operations Research**, Tilburg University
Sep 2015 – Sep 2019 *Thesis: The many faces of positivity to approximate structured optimization problems*
Supervisors: J.C. Vera, R. Sotirov, L.F. Zuluaga
- MSc in Econometrics and Operations Research**, Tilburg Uni. (cum laude)
Aug 2013 – Aug 2015
- MSc in Economics**, Higher School of Economics
Aug 2010 – May 2012
- BSc in Economics**, Lomonosov Moscow State University (cum laude)
Sep 2006 – June 2010

Research

Publications

- **The maximum k -colorable subgraph problem and related problems**, with R. Sotirov and J. C. Vera. *Inform Journal on Computing*, 34(1): 656–669, 2021.
- **New bounds for truthful scheduling on two unrelated selfish machines**, with J. C. Vera. *Theory of Computing Systems*, 64: 199–226, 2020.

- **Approximating the cone of copositive kernels to estimate the stability number of infinite graphs**, with J. C. Vera. Electronic Notes in Discrete Mathematics, 62: 303–308, 2017. Proceedings of LAGOS’17 – IX Latin and American Algorithms, Graphs and Optimization.

Working papers

- **Adjustable robust two-stage polynomial optimization with application to AC optimal power flow**, with B. Ghaddar and D. K. Molzahn, 2021. The paper is in the second round of revision at the SIAM Journal on Optimization.
- **Reducing non-negativity over general semialgebraic sets to non-negativity over simple sets**, with J. C. Vera and L.F. Zuluaga, 2019. The paper is in the first round of revision after a resubmission.
- **Generalizations of Schoenberg’s theorem on positive definite kernels**, with J. C. Vera, 2019. We are revising this paper before a new submission.
- **Positive semidefinite approximations to the cone of copositive kernels**, with J. C. Vera, 2018. We are revising this paper before a new submission.

I am also working on the following topics, for which no preprints are available yet

- Influence of battery and demand response agents on electricity market emissions under varying market conditions
- Optimal bidding strategies for battery and demand response agents
- Sparse positive semidefinite relaxations for water networks problems
- Positive semidefinite hierarchies for the maximum measurable distance avoiding set problem

Teaching

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| 2021 – present | Optimization under Uncertainty, Erasmus University Rotterdam level: master, role: coordinator and lecturer |
| 2021 – present | Linear Programming, Erasmus University Rotterdam level: bachelor, role: coordinator and lecturer |
| 2017 – 2019 | Optimization, Tilburg University level: master, role: teaching assistant and lecturer |
| 2016 – 2019 | Decision making with Business Analytics, Tilburg University level: master, role: teaching assistant |
| 2016 – 2018 | Statistics, Tilburg University level: bachelor, role: teaching assistant |

Conferences and workshops

- 2022 ICCOPT, International conference on continuous optimization (session organizer)
Spring School in Theoretical Foundations of Electricity Market Design (participant)
- 2021 SIAM Conference on Optimization (OP21) (speaker)
IISE Annual Conference & Expo Presentation (speaker)
- 2020 Data Fest Moscow 2020 (speaker)
Workshop on Smart Cities Optimization (participant)
- 2019 ICCOPT, International conference on continuous optimization (speaker)
- 2018 ISMP, International congress of mathematical optimization (speaker, session organizer)
Oberwolfach Workshop 1744b on Copositivity and Complete Positivity (speaker)
- 2017 LAGOS, IX Algorithms, Graphs and Optimization Symposium (speaker)
IFORS, Conference of the international federation of operational research societies (speaker)
EUROPT Workshop on Advances in Continuous Optimization (speaker)
- 2016 ICCOPT, International conference on continuous optimization (speaker)

Visits

- May – June 2018 Lehigh University; host: Luis F. Zuluaga
- April 2018 Delft University of Technology; host: Fernando M. de Oliveira Filho
- March 2018 Trier University; host: Mirjam Dür

Other

- IT: Regular user of MS Office, L^AT_EX, Matlab, Python. Some experience with Github, Julia, Jupiter Notebook, R, SQL, Stata
- Languages: Russian – native, English – fluent, Dutch – advanced, German – basic
- Refereeing: Journal of Global Optimization, Journal of Optimization Theory and Applications, SN Operations Research Forum
- Operations Research Seminar organizer at Erasmus University Rotterdam, 2020 – present
- Conference session organizer: ISMP 2018, “Copositive and completely positive optimization”, ICCOPT 2022, “Polynomial optimization”