Curriculum Vitae

Name: Maria Veretennikova
Date of birth: 29/05/1988
E-mail: maria.veretennikova <at> warwick.ac.uk
Current status: Postdoctoral Research Fellow

Academic and Industrial positions

01/09/2020 - present: Postdoctoral Research Fellow, University of Warwick, Coventry, United Kingdom, supervisor - David Rand

01/09/2016 - 31/08/2020: Assistant Professor, National Research University Higher School of Economics, Moscow, Russia

08/06/2020 - 31/07/2020: Lead Research Engineer, Artificial Intelligence team, Theory Lab, Huawei, Moscow, Russia

16/08/2015 - 15/05/2016: Visiting Assistant Professor, Statistics and Probability Department, Michigan State University, East Lansing, Michigan, USA

Education

01/10/2011–21/12/2014: Ph.D. in Mathematics and Statistics, Controlled Continuous Time Random Walks and their position-dependent extensions, Mathematics and Statistics Doctoral Training Centre MASDOC, University of Warwick, UK, fully funded by EPSRC, supervisors: Prof. V. Kolokoltsov, Dr. D. Spano. Thesis defended on 21/11/2014

2010-2014: Warwick Postgraduate Interdisciplinary Science Transferable skills course

2010-2011: MASDOC MSc in Mathematics and Statistics with distinction, University of Warwick, UK

2006-2010: Honours First Class, Master of Mathematics degree, University of Leeds, UK

Research interests: Machine learning applications to biology and medicine, optimal control and reinforcement learning, fractional calculus, Markov processes

Grants

2017-2019: Russian Science Foundation, Some topical problems of the applied stochastic analysis, project leader: S. A. Molchanov at UNC Charlotte, USA, grant number 17-11-01098

Awards

Best Lecturer 2020 and **Best Lecturer 2019** - at the National Research University Higher School of Economics, Department of Statistics and Data Analysis, Moscow, Russia

Honorable Presentation - Summer School on Information, control and optimization at Voronovo, Moscow, Russia, 2018

Best Poster - Modern Problems in Theoretical and Applied Probability conference, Sobolev Institute, Novosibirsk, Russia, 2016

Teaching

National Research University Higher School of Economics

Selected lectures in machine learning: 3rd year BSc, spring 2020, 2019, 2018
Research Seminar, 2nd year MSc, autumn 2019, 2018, winter 2020, 2019, 2018

Data Mining, 2nd year MSc, autumn 2019, 2018, 2017
Data Mining, 4th year BSc, autumn 2019, 2018, 2017, 2016

Michigan State University

Statistical Methods STT200, Fall 2015
Probability STT441, Fall 2015, Spring 2016
Statistical Analysis STT442, Spring 2016

University of Warwick
Term 1, 2012: Discrete mathematics group supervisions, University of Warwick
Term 1, 2011: Co-leading the support class for ST403 Brownian Motion

Student project and thesis supervisions at the Higher School of Economics

2019-2020: MSc 2nd year - 3 students, BSc 4th year - 2 students

2018-2019: MSc 2nd year - 3 students, MSc 1st year - 2 students, BSc 4th year - 1 student, BSc 3rd year - 1 student

2017-2018: MSc 2nd year - 1 student, BSc 4th year - 2 students, BSc 3rd year - 1 student, BSc 2nd year - 1 student. BSc group project supervision - 2 groups - 3 students each

2016-2017: BSc 3rd year - 1 student, BSc 2nd year - 1 student

Talks at conferences, seminars and schools:

- Planned: October, 2020: NRU HSE, Machine learning for medicine, lecture for doctors
- 2020, January: Mathematical Institute, National Academy of Sciences of Belarus, invited by I. V. Bernik. Special Probability Theory Seminar, Probability theory for deep learning: variational autoencoders and more, Minsk, Belarus
- 2018, August: Stochastic Processes and their applications workshop, Bielefeld, Germany, invited by M. Roekner
- 2018, June: IPU and HSE summer school on information, control and optimization, Voronovo, Moscow, Russia, prized presentation
- 2017, December: Steklov Institute, Russian Academy of Sciences, Laboratory of Statistical Methods, conference on Probability Theory and Mathematical Physics, Saint Petersburg
- 2017, November: Data Driven Autumn, MNIL "Discrete and computational geometry", Delonay Centre, open lectures 1 and 2 (2 days), Yaroslavl, Russia
- 2017, March: IITP, Structural Learning Theory Seminar, Moscow, Russia
- 2017, October: RUDN and MSU conference: Analytical and Computational Methods in Probability Theory and its applications, Moscow, Russia

- 2016, December: Stochastic Analysis Laboratory Meeting, HSE, Snegiri, Moscow, Russia

- 2016, August: Modern Problems in Theoretical and Applied Probability, conference, Sobolev Institute, Novosibirsk, Russia

- 2015, June-July: Modern Trends in controlled stochastic processes: theory and applications, workshop, Liverpool, UK

Other talks:

2014, November: Bilbao, Spain, BCAM FCPNLO workshop - fractional calculus
2013, November: Bilbao, Spain, BCAM FCPNLO workshop - fractional calculus
2013: Rennes, France, PDMP school - Markov Decision Processes
2012: Cambridge, UK, CCA-MASDOC
2012: Dijon, France, MODE SMAI - optimal control conference

Other attended events

2020, August: Deep Learning Reinforcement learning summer School, CIFAR, Canada, virtual
2019, November: Generative Models conference, Yandex, Moscow, Russia
2019, August: Data Study Groups collaborative hackathon - Challenge: Applying AI and machine learning to reveal the molecular basis of heart disease, Bristol and Alan Turing Institute, Bristol, United Kingdom
2019, July: International summer School "DeepLearn2019", Warsaw, Poland
2019, June: International summer School "Probabilistic AI", Trondheim, Norway
2019, January: International winter school "BigDat2019", Cambridge, UK
2018, January: NRU HSE Qualification advancement program: Modern machine learning and methodology of teaching data analysis, HSE Voronovo, Moscow, Russia
2017, September: Big Data conference, Moscow, Russia
2017, July: The 6th International Conference on Analysis of Images, Social Networks and Texts (AIST), Moscow, Russia
2017, spring: regular machine learning seminars, Yandex, Moscow, Russia
2016, autumn: regular machine learning seminars, Moscow State University, Department of Computational Mathematics and Combinatorics, Moscow, Russia
2016, November: Intensive winter school on active and passive methods of the brain mapping, HSE, Moscow, Russia
2016, March: EEG/Epilepsy Brainstorm workshop, Pittsburgh, USA

Posters presented:

2019: Probabilistic AI summer school, Trondheim, Norway
2018: HSE Voronovo summer school, Moscow, Russia
2018: Stochastic Processes and their Applications, Bielefeld, Germany
2016: Probability Theory and Applications, conference, **best poster award**
2014: Dynamic games and optimization workshop, University of Warwick, UK
2014: LMS, London, UK
2013: PDE summer school, Milan, Italy
2013: CCA-MASDOC Cambridge, UK

Other summer schools and research activities

April 2011: A short course: Introduction into stochastic processes , University of Leeds, UK
June 2010 Summer school- Problems in hydrodynamics, Cergy-Pontoise University, France
July 2009 Summer school- Contemporary Mathematics, Dubna, Russia

Research study groups: Geophysical Data Assimilation with Prof. A. Stuart 2010, Brain Imaging with Prof. J. Aston 2011, Modeling cloaking with Prof. J. Ockendon, 2012, Oxford OCCAM Maths in Chemistry, 2013.

Teamwork:
2019- now: collaboration with I. A. Kaftanov, NRU HSE, Moscow, Russia
2018 - now: collaboration with A. Veretennikov, University of Leeds, UK
2016 - 2020: supervising MSc and BSc projects and theses, NRU HSE¡ Moscow, Russia
2015 - 2018: collaboration with A. Sikorskii, Michigan State University, University of Arizona, USA
2012-2013 SIAM University of Warwick Student Chapter secretary; research study groups listed above; mentoring MASDOC students

Programming : MATLAB, R, Python

Languages: English (fluent), Russian (fluent), French (advanced, certified), Spanish (beginner).

References are available upon request from:

1. Prof. V. N. Kolokoltsov, v.kolokoltsov <at> warwick.ac.uk, former PhD supervisor, UK

2. Prof. Vladimir Mkhitarian, vmkhitarian <at> hse.ru, former supervisor at NRU HSE

3. Prof. A. Sikorskii, sikorska <at> msu.edu, former collaborator at MSU, USA

List of publications

1. Veretennikov. A., Veretennikova M., On convergence rate for homogenous Markov chains, Doklady Journal of the Russian Academy of Sciences, Mathematics, 2020, Vol. 490:1. pp. 1–5.

2. Extended preprint: Veretennikov A., Veretennikova M., On convergence rate for homogenous Markov chains, Cornell University Press. Series "Working papers by Cornell University", 2019

3. Veretennikova M., Sikorskii A, Boivin M. J., Parameters of stochastic models for electroencephalogram data as biomarkers for child's neurodevelopment after cerebral malaria, Journal of Statistical Distributions and Applications, USA, 2018, Vol. 5:8, pp. 1–12.

4. Veretennikova M., Sikorskii A., Boivin M. J., Data mining in predicting neuro-developmental scores from EEG data in coma due to cerebral malaria, Proceedings of the International Scientific Conference "Analytical and numeric methods in probability theory and its applications", 2017, RUDN, pp. 380–383.

5. Veretennikova M., Kolokoltsov, V., A fractional Hamilton-Jacobi-Bellman equation, Journal of Applied and Nonlinear Dynamics, 2017, Vol. 6, No. 1, pp. 45–56.

6. Veretennikova M., Kolokoltsov, V., A fractional Hamilton Jacobi Bellman equation for scaled limits of controlled Continuous Time Random Walks, SIMAI CAIM, Special issue for BCAM FCPNLO 2013 workshop proceedings; 2015, Vol. 6, No. 1, pp 1–18.

7. Veretennikova M., Kolokoltsov, V., Well-posedness and regularity of the Cauchy problem for nonlinear fractional in time and space equations, Fractional Differential Calculus (FDC) Journal, 2014, Vol. 4, No. 1, pp 1–30.