

# CV

**NAME:** Alexander Vladimirovich Sirotkin

**BORN:** April 18, 1983 Leningrad, Russia

## **EDUCATION:**

2013-2014 Post Doc at Yale School of Public Health, Yale University, New Haven, USA  
2011 Ph.D. from St.-Petersburg State University, St.-Petersburg, Russia  
2005–2008 Ph.D. student  
Computer Science (Applied Math)  
St. Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences, St. Petersburg, Russia  
2000–2005 Mathematics  
Mathematics and Mechanics Department of St. Petersburg State University, St. Petersburg, Russia

## **CAREER:**

2014 – present Associate Professor  
National Research University Higher School of Economics - St. Petersburg Campus, St. Petersburg, Russia  
2014 – 2016 Senior Researcher  
International laboratory for Applied Network Research  
National Research University Higher School of Economics, Moscow, Russia  
2012 – 2014 Associate Professor  
St. Petersburg State University, St. Petersburg, Russia  
2011 – 2012 Researcher  
Algorithmic Biology Lab, Academic University, St. Petersburg, Russia  
2008 – present Senior Researcher  
Theoretical and Interdisciplinary Computer Science Lab,  
St. Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences, St. Petersburg, Russia  
2005 – 2010 Research engineer, MEP, St. Petersburg, Russia  
2003 – 2005 Software Engineer, Passazhirtranstechservice, St. Petersburg, Russia

## **ADDITIONAL OBLIGATIONS:**

2016 – present Head of Master Program Big Data Analysis in Business, Economy, and Society  
2015 – present Head of Minor Program Data Science  
2017 – present Head of Machine Learning and Social Computing Research Group mlsoc.io

## **RESEARCH INTERESTS:**

Probabilistic graphical models, machine learning, soft computing, Bioinformatics

## **SELECTED PUBLICATIONS:**

1. A. L. Tulupyev, S. I. Nikolenko, A. V. Sirotkin. Bayesian Networks: A Probabilistic Logic Approach. St.-Petersburg, Nauka, 2006. 608 p (in Russian)
2. A. L. Tulupyev, A. V. Sirotkin, S. I. Nikolenko Bayesian belief networks: probabilistic logic inference in acyclic directed graphs. St.-Petersburg, St.-Petersburg state university press, 2009. 400 p. (in Russian)
3. A. V Sirotkin. Models, Algorithms and Computational Complexity for Concerted Truth Estimation Synthesis in Algebraic Bayesian Networks // Information-measuring and Control Systems 2009. №11. C. 32–37. (in Russian)

4. Musabirov I., Bulygin D., Paul Okopny, Sirotkin A. Deconstructing Cosmetic Virtual Goods Experiences in Dota 2, in: CHI '17: Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems. NY : ACM, 2017. P. 2054-2058. doi
5. Eugster P., Kogan K., Nikolenko S. I., Alevander V. Sirotkin. Heterogeneous packet processing in shared memory buffers // Journal of Parallel and Distributed Computing. 2017. Vol. 99. P. 1-13
6. Article Kogan K., Lopez-Ortiz A., Nikolenko S. I., Alexander V. Sirotkin. Online Scheduling FIFO Policies with Admission and Push-Out // Theory of Computing Systems. 2016. Vol. 58. No. 2. P. 322-344
7. Chapter Sirotkin A., Musabirov I., Okopny P., Bulygin D., Ivanov V. Topic modeling for answers detection in online game chats, in: Supplementary Proceedings of the 5th International Conference on Analysis of Images, Social Networks and Texts (AIST-SUP 2016), Yekaterinburg, Russia, April 7-9, 2016. / Ed. by D. I. Ignatov. Vol. 1710. Aachen : CEUR Workshop Proceedings, 2016.
8. Sergey I. Nikolenko, Alexander Sirotkin Extensions of the Trueskill™ Rating System // Proceedings of Ninth International Conference on Application of Fuzzy Systems and Soft Computing, Prague, Czech Republic August 26-27, 2010, pp. 156-165.
9. S.I. Nikolenko, A.V. Sirotkin. A New Bayesian Rating System for Team Competitions. Proceedings of the 28th International Conference on Machine Learning (ICML 2011), 2011, pp. 601–608.
10. K. Kogan, A. Lòpez-Ortiz, S.I. Nikolenko, A.V. Sirotkin, D. Tugaryov. FIFO Queueing Policies for Packets with Heterogeneous Processing, Accepted to the 1st Mediterranean Conference on Algorithms (MedAlg 2012), LNCS vol. 7659, pp. 248--260, 2012
11. A. Bankevich, S. Nurk, D. Antipov, A.A. Gurevich, M. Dvorkin, A.S. Kulikov, V.M. Lesin, S.I. Nikolenko, S. Pham, A.D. Prjibelski, A.V. Pyshkin, A.V. Sirotkin, N. Vyahhi, G. Tesler, M.A. Alekseyev, and P.A. Pevzner. SPAdes: A New Genome Assembly Algorithm and Its Applications to Single-Cell Sequencing. Journal of Computational Biology, May 2012, vol. 19, no. 5, pp. 455–477
12. S Pham, D Antipov, A Sirotkin, G Tesler, P Pevzner, M Alekseyev Pathset Graphs: A Novel Approach for Comprehensive Utilization of Paired Reads in Genome Assembly // Research in Computational Molecular Biology, Lecture Notes in Computer Science, 2012, Volume 7262/2012, 200-212 pp. 63–72
13. A. L., Tulupyev, A. V. Sirotkin Matrix-Vector Equations for Local Probabilistic Logic Inference in Algebraic Bayesian Networks // Vestnik St.Petersburg University. Ser. 1. 2012. Issue 3. P. 79–90. (in Russian)
14. Sergey Nurk, Anton Bankevich, Dmitry Antipov, Alexey A. Gurevich, Anton Korobeynikov, Alla Lapidus, Andrey D. Prjibelski, Alex Pyshkin, Alexander Sirotkin, Yakov Sirotkin, Ramunas Stepanauskas, Scott R. Clingenpeel, Tanja Woyke, Jeffrey S. McLean, Roger Lasken, Glenn Tesler, Max A. Alekseyev, Pavel A. Pevzner: Assembling Single-Cell Genomes and Mini-Metagenomes From Chimeric MDA Products. Journal of Computational Biology 20(10): 714-737 (2013)
15. K. Kogan, A. Lòpez-Ortiz, S.I. Nikolenko, A.V. Sirotkin. Multi-Queued Network Processors for Packets with Heterogeneous Processing Requirements. Proc. 5th International Conference on Communication Systems and Networks (COMSNETS 2013), 2013, pp. 1–10.

## GRANTS AND PROJECT:

2 Federal Agency of Science and Innovation projects, contracts 02.442.11.7289, 02.442.11.7489

Russian Fund for Basic Research (RFBR) grants

06-01-14108, Publication of the Monography of "Bayesian Networks: a Probabilistic Logic Approach"

09-01-06809-мо6\_г, Organization of conference for junior scientists.

09-01-00861, A Methodology for Design of Decision-Making Intelligent Systems Built on Knowledge Pattern Bases with Probabilistic Uncertainty

10-01-00640, Intelligent models and methods of the analysis of security of information systems against socio-engineering attacks (trees of attacks)

12-01-00450 Bayesian methods and models in ranking problems, computational biology, and mining musical data

12-01-00945 A Development of the Theory of Algebraic Bayesian Networks and Other Probabilistic-Logic Graphical Models for Systems of Uncertain Knowledge

14-01-00580-a «Hybrid methods, models and algorithms for analysis and synthesis of parameters estimation of latent processes in complex social systems under information deficiency »

15-01-09001-A «Combined Probabilistic-Logic Graphical Approach to Representation and Processing of Uncertain Knowledge Systems: Algebraical Bayesian Networks and Related Models »

The Foundation for Assistance to Small Innovative Enterprises, contest «The participant of youth science innovation contest»:

Project U-2007-3/5-1 2007-2008

Project U-2008-5/6, 2008–2009.

2006 graduate student personal grant by the Competitive Center of Fundamental Science, St.-Petersburg, Russia

2008 PhD student personal grant “Best PHd students of Russian academy of science” Russian Science Support Foundation

**EXTRACURRICULAR:**

Organizer of the International Seminar for junior scientists, Kolomna, Russia. May 2009