ANTON SAVOSTIANOV

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Education

PhD (doctorate school) 2019 — present
Gran Sasso Science Institute, L'Aquila, Italy
Mathematics in Natural, Social and Life Sciences
Advisors: Francesco Tudisco & Nicola Guglielmi
Thesis: Topological Stability and Preconditioning of Higher-Order Laplacians on Simplicial Complexes

Master's Degree 2017 — 2019
Faculty of Computer Science, HSE, Moscow
Data Analysis in Biology and Medicine
Project: Loop prediction in the 3D-packing of chromatine

Bachelor's Degree 2013 — 2017
Faculty of Computer Science, HSE, Moscow
Applied Mathematics and Informatics
Project: Spatially heterogeneous models in biological populations

Experience

Research Intern Jul 2018 — Nov 2019
Faculty of Computer Science, HSE, Moscow
Laboratory of Complex Systems Modeling and Control
Project: Models of coupled oscillators in solar dynamo

Teacher/Professor Sep 2017 — Nov 2019
Faculty of Computer Science, HSE, Moscow
Courses: Calculus (1-2 BSc years), Advanced Calculus (elective), Mathematics for data analysis (intensive) Probability theory and mathematical statistics (intensive)

Teaching Assitant Sep 2014 — Jul 2018
Faculty of Computer Science, HSE, Moscow
Courses: Calculus (1-2 BSc years)

Chosen Publications

- Quantifying the structural stability of simplicial homology
  N.Guglielmi, **A.S.**, F.Tudisco. *Journal of Scientific Computing, 2023*
- Reconstruction of the coupling between solar proxies: When approaches based on Kuramoto and Van der Pol models agree with each other
  A.S., A.Shapoval, M.Shnirman. *Communications in Nonlinear Science and Numerical Simulation, 2020*
- The inverse problem for the Kuramoto model of two nonlinear coupled oscillators driven by applications to solar activity
  A.S., A.Shapoval, M.Shnirman. *Physica D: Nonlinear Phenomena, 2020*
- Nontrivial stationary points of two-species self-structured communities
  A.S., A.Nikitin. *MSU Computational Mathematics and Cybernetics, 2017*

Chosen Talks

Topological Stability of Simplicial Complexes:
- Network Science Conference 2023, Vienna, Austria
- 25th Conference of ILAS, Madrid, 2023
- SIAM Network Science Workshop, 2022, online

Long-term Variation of the Coupling between Solar Proxies:
- Space Climate 7: The Future of Solar Activity, Orford, Canada, 2019

• Google Scholar • GitHub •
• ResearchGate • Twitter •

Skills

- math: linear algebra, **numerical methods**, analysis, probability theory, game theory
- statistics: mathematical statistics and stochastic processes, data analysis
- CS: theoretical computer science, machine learning
- bioinformatics: structural bioinformatics, comparative genomics, NGS

Programming Languages

- **Julia**, Python, MATLAB, R
- LaTeX, C / C++
- TypeScript, ReactJS

Languages

- english (fluent);
- italian (intermediate);
- russian (native)