

ANASTASIA LYULINA

✉ alyulina@stanford.edu

EDUCATION

- 2020 – present Stanford University
Ph.D. Student in Ecology and Evolution
Stanford, CA, United States
- 2013 – 2017 Saint Petersburg Polytechnic University
B.Sc. in Physics
Saint Petersburg, Russia
- 2016 Technical University of Munich
Munich, Germany

RESEARCH EXPERIENCE

- Sep 2020 – present Stanford University
Graduate Student
Biology Department • **Supervisor: Dmitri A. Petrov**
As a rotation student, I am working on inferring mean fitness from lineage tracking experiments in barcoded yeast populations.
Stanford, CA, United States
- 2017 – 2020 Institute of Science and Technology Austria
Research Assistant
Evolutionary Genomics Group • **Supervisor: Fyodor A. Kondrashov**
I studied how changes in genotype affect phenotypes, and how genetic interactions shape evolutionary trajectories. My main project investigated the genetic variation in a nearly extinct bird species. I used mathematical modelling, machine learning, and extensive data analysis.
Klosterneuburg, Austria
- Feb – Jul 2019 Harvard University
Visiting Postgraduate Research Fellow
Department of Systems Biology • **Supervisor: Johan Paulsson**
I worked on improving fluorescent proteins by designing and screening mutant libraries.
I did cloning, mutagenesis, and microfluidics.
Cambridge, MA, United States
- Jul – Aug 2017 University of Calgary
Visiting Undergraduate Student
Centre for Molecular Simulation • **Supervisor: D. Peter Tieleman**
I studied how P-glycoprotein interacts with lipids and transports drug molecules across cell membrane with coarse-grained molecular dynamics simulations.
Calgary, AB, Canada
- 2016 – 2017,
2012 – 2014 Institute of Macromolecular Compounds of the Russian Academy of Sciences
Undergraduate Student
Laboratory of Theory and Simulation of Polymer Systems • **Supervisor: Andrey A. Gurtovenko**
I performed atomic-scale molecular dynamics simulations of polymer systems.
Saint Petersburg, Russia

TEACHING EXPERIENCE

- Aug 2018,
Aug 2016,
Aug 2015,
Aug 2014
- School of Molecular and Theoretical Biology
Supervised selected high school students working on research projects in biological physics, molecular evolution, and evolutionary genomics.
In 2018, developed and taught a two-week long course on data visualization (in English).
Adam Mickiewicz University, Poznań, Poland
Centre for Genomic Regulation, Barcelona, Spain
Institute of Protein Research, Pushchino, Russia
- 2016 – 2017
- Private math and physics tutor to high school students
Worked one-on-one with students interested in out-of-school mathematics and physics.
Saint Petersburg, Russia
- Jul – Aug 2015,
Jul – Aug 2014,
Jul – Aug 2013
- Physics Olympiad Summer Training Program
Assisted with and later taught three-week-long courses in classical mechanics and calculus for a selected group of high school students (in Russian).
Leningrad Region, Russia
Sochi, Russia

GRANTS AND FELLOWSHIPS

- 2020
- Gruber Science Fellowship at Yale (declined)
- 2017
- Zimin Foundation Summer Research Fellowship
- 2015 – 2017
- Saint Petersburg Polytechnic University Academic Stipend
- 2015
- Russian Academic Excellence Project Travel Grant
- 2012 – 2013
- Siemens Academic Stipend

PUBLICATIONS

- 2014
- Gurtovenko A. A., Lyulina A. S. *Electroporation of asymmetric phospholipid membranes. Journal of Physical Chemistry B* 118 (33): 9909–9918, 2014. doi: 10.1021/jp5028355.

SELECTED PRESENTATIONS AND INVITED TALKS

- 2019
- EvoVienna Meeting
Population Genetics of the Spoon-billed Sandpiper
Nov 26, Vienna, Austria
- Harvard Quantitative Biology Symposium
Population Genetics of the Spoon-billed Sandpiper
May 23, Cambridge, MA, USA
- 2018
- The Graduate University for Advanced Studies
Predicting Effects of Amino Acid Substitutions
July 17, Hayama, Japan
- 2017
- Centre for Molecular Simulation at the University of Calgary
P-gp Drug-Uptake: A Coarse-Grained Molecular Dynamics Study
August 16, Calgary, AB, Canada
- 2014
- 8th International IUPAC Symposium Molecular Mobility and Order in Polymer Systems
Electroporation of Asymmetric Phospholipid Membranes: Insight from Atomic-Scale Molecular Dynamics Simulations. Gurtovenko A.A., Lyulina A.S. ISBN 978-5-98340-329-1
June 4–6, Saint Petersburg, Russia

PROFESSIONAL SERVICE

- 2018, 2019 Reviewer for the *Journal of Theoretical Biology*
- 2015 – 2017 Board Member of the School of Molecular and Theoretical Biology Alumni Association
 Participated in writing a constitution for the Alumni Association;
 mentored younger students through the Alumni Association mentoring program;
 organized talks and lectures for members of the Alumni Association located in Saint Petersburg
 and run a biweekly journal club.

ADDITIONAL COURSES

- Jul – Aug 2018 Okinawa Institute of Science and Technology Computational Neuroscience Course
 Okinawa, Japan

HOBBIES

I do street photography, yoga, love hiking and occasionally playing music.

- 2013 – 2015 Saint Petersburg Union of Journalists Photography School
 Professional Diploma in Photojournalism
 Saint Petersburg, Russia

REFEREES

Fyodor Kondrashov

Institute of Science and Technology Austria
 Am Campus 1,
 3400 Klosterneuburg, Austria
 fyodor.kondrashov@ist.ac.at

Andrey Gurtovenko

Institute of Macromolecular Compounds
 Russian Academy of Sciences
 31 Bolshoi Prospekt VO,
 199004 Saint Petersburg, Russia
 a.gurtovenko@spbu.ru

Johan Paulsson

Harvard Medical School
 200 Longwood Avenue,
 02115 Boston, MA, United States
 johan_paulsson@hms.harvard.edu

Peter Tieleman

University of Calgary
 2500 University Drive NW,
 T2N1N4 Calgary, AB, Canada
 tieleman@ucalgary.ca