Egor Lappo

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Please note: in 2022 I have changed my name. Prior to that, I was known as **Egor Alimpiev**.

Education

2022-2026 **PhD in Biology**
Stanford University, Stanford, CA

2018-2022 **Bachelor of Science with Honors in Mathematics**
Stanford University, Stanford, CA
GPA: **3.98/4.0**. Advisor: Ciprian Manolescu. Honors thesis titled *Concordance of spatial graphs*.

Experience

2021 Two Sigma Investments
Quantitative Research Intern
New York, NY

2019, 2020 B-SURP
Undergraduate summer research with Prof. Noah Rosenberg
Stanford, CA

2018 Bioinformatics Institute
Bioinformatics Summer School
Saint-Petersburg, Russia

2017-2018 Biophotonics Laboratory at the Institute of Bioorganic Chemistry
Research assistant with Dr. Natalia Povarova and Prof. Konstantin Lukyanov
Moscow, Russia

Honors, Awards, and Fellowships

2023 **Honorable Mention for the Morgan Prize**
Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student is an annual award given to an undergraduate student in the US, Canada, or Mexico who demonstrates superior mathematics research. The prize has been described as the highest honor given to an undergraduate in mathematics.

2022 **Stanford Graduate Fellowship**
Provides a stipend to outstanding students pursuing doctoral degrees in science and engineering at Stanford.

2022 **Undergraduate Research Award**
Awarded by the Department of Mathematics to one graduating senior for superior work in a senior thesis.

2021 **Excellence in Teaching Award**
Awarded by the Department of Biology to superb teaching assistants.

2017 **Gold Medal at the International Biology Olympiad**
Ranked 11th and top of my national team.

Publications

[1] E. Alimpiev and N. A. Rosenberg. "A compendium of covariances and correlation coefficients of coalescent tree properties." In: *Theoretical Population Biology* 143 (2022), pp. 1–13. ISSN: 0040-5809. DOI: https://doi.org/10.1016/j.tpb.2021.09.008.

[2] E. Lappo. *Concordance of spatial graphs*. 2022. DOI: 10.48550/arxiv.2205.11001.

[3] E. Lappo, K. K. Denton, and M. Feldman. "Conformity and anti-conformity in a finite population." Under review in *Journal of Theoretical Biology*. 2022.

[4] E. Lappo and N. A. Rosenberg. "Approximations to the expectations and variances of ratios of tree properties under the coalescent." In: *G3 Genes|Genomes|Genetics* (Aug. 2022). ISSN: 2160-1836. DOI: 10.1093/g3journal/jkac205.

[5] E. Alimpiev and N. A. Rosenberg. "Enumeration of coalescent histories for caterpillar species trees and p-pseudocaterpillar gene trees." In: *Advances in Applied Mathematics* 131 (2021), p. 102265. ISSN: 0196-8858. DOI: https://doi.org/10.1016/j.aam.2021.102265.

[6] E. Lappo and N. A. Rosenberg. *A lattice structure for ancestral configurations arising from the relationship between gene trees and species trees*. 2021. DOI: 10.48550/arxiv.2111.10456.

Teaching

2021 **BIO 187**: Mathematical Population Biology
Taught by Prof. Noah Rosenberg
Stanford University

2020-2022 Course Grader in the Mathematics Department
Graded classes in general, algebraic, and differential topology, algebra.
Stanford University

Technical skills

- C, Rust, Python, Haskell
- Statistical programming in R and Bayesian computation with Stan
- SageMath and Mathematica

Languages

- *Russian* (Native)
- *English* (Native)
- *Chinese* (Beginner)