Egor Lappo

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github.com/egorlappo
twitter.com/egor_lappo

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*.

Publications

[1] E. Lappo and N. Rosenberg. "A lattice structure for ancestral configurations arising from the relationship between gene trees and species trees." In: *Discrete Applied Mathematics* 343 (2024), pp. 65–81. DOI: 10.1016/j.dam.2023.09.033.

[2] N. R. Egor Lappo and M. Feldman. "Cultural transmission of move choice in chess." In: *Proceedings of the Royal Society B* 290 (2023), p. 20231634. DOI: 10.1098/rspb.2023.1634.

[3] E. Lappo. "Concordance of spatial graphs." In: *Canadian Mathematical Bulletin* 66 (4 2023), pp. 1091–1108. DOI: 10.4153/S000843952300019X.

[4] E. Lappo, K. Denton, and M. Feldman. "Conformity and anti-conformity in a finite population." In: *Journal of Theoretical Biology* 563 (2023), p. 111429. DOI: 10.1016/j.jtbi.2023.111429.

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

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

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

Conference presentations

2024   JOINT MATHEMATICS MEETINGS
Enumeration of rankings for a certain class of rankable TCNs.

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.

2020   HUMANITIES RESEARCH INTENSIVE FELLOWSHIP
Support for individual research projects and access to grants.

2017   GOLD MEDAL AT THE INTERNATIONAL BIOLOGY OLYMPIAD
Ranked 11th and top of my national team.

Teaching

2023   **BIO 82**: GENETICS
Held weekly sections, office hours.
Stanford University.

2021   **BIO 187**: MATHEMATICAL POPULATION BIOLOGY
Taught by Prof. Noah Rosenberg. Gave lectures, assisted students with final projects.
Stanford University

2020-2022   COURSE GRADER IN THE MATHEMATICS DEPARTMENT
Graded classes in general, algebraic, and differential topology, algebra.
Stanford University

Service

2022   STANFORD BIOLOGY PHD PREVIEW PROGRAM MENTOR
Worked with prospective applicants from historically excluded groups on their application
materials (CV, statement of purpose), held interview prep sessions.
Stanford University

Technical skills

- C, Nix, Rust, Python, Haskell

- Statistical programming in R and Bayesian computation with Stan

- SageMath and Mathematica

Languages

- *Russian* (Native)

- *English* (Native)

- *Chinese* (Beginner)