

Mykhaylo M Malakhov

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EDUCATION

UNIVERSITY OF MINNESOTA

PHD IN BIOSTATISTICS

Expected 2025 | Minneapolis, MN

ANDREWS UNIVERSITY

BS IN MATHEMATICS

May 2020 | Berrien Springs, MI

Minor in Computing

BUDAPEST SEMESTERS IN MATHEMATICS

STUDY ABROAD

Fall 2019 | Budapest, Hungary

LINKS

ORCID:// 0000-0002-6856-3913

Google Scholar:// e5Q7sMQAAAAJ&hl

GitHub:// mykmal

LinkedIn:// mykmal

Facebook:// mykhaylo.malakhov

Instagram:// myk_mal

CAMPUS LEADERSHIP

PI MU EPSILON | PRESIDENT

2018 – 2020

◦ Organized π day, game nights, etc.

ENGINEERS WITHOUT BORDERS | VP AND TREASURER

2017 – 2019

◦ Oversaw initial phases of solar energy project for Madagascar school

◦ Raised about \$20,000

EIGEN* | MATHEMATICS PRESIDENT

2017 – 2018

◦ Planned math-related colloquia, events

◦ Organized first AU Putnam Competition

CODESHACK | FOUNDER

2016 – 2017

◦ Co-founded computer science education program at the local elementary school

◦ Obtained Google igniteCS funding

SKILLS

PROGRAMMING

Proficient:

MATLAB • \LaTeX • Python

Learning:

Java • R • C++

HUMAN LANGUAGES

Russian • English • Spanish

EXPERIENCE

IPAM | RESEARCHER & PROJECT MANAGER

Summer 2019 | Los Angeles, CA

- Interned for the **Air Force Research Laboratory** through Research in Industrial Projects for Students at the Institute for Pure and Applied Mathematics (IPAM)
- Coordinated a team of four students
- Successfully inferred combustion reaction coefficients from incomplete data, thereby **computationally solving an experimentally infeasible problem**
- Methods used: optimal transport, information theory, dynamical systems
- Mentors: Robert Martin and Daniel Eckhardt (Edwards Air Force Base)

WILLIAMS COLLEGE | RESEARCH INTERN

Summer 2018 | Williamstown, MA

- Participated in the **SMALL REU** at the Department of Mathematics and Statistics
- Project 1: demonstrated how to improve management outcomes for **white-nose syndrome** in bats by considering metapopulation dynamics
- Project 2: established guidelines for **transboundary infectious disease management** when multiple administrative jurisdictions set different objectives
- Methods used: differential equation models, high performance computing
- Mentors: Julie C. Blackwood (Williams) and Katriona Shea (Penn State)

ANDREWS UNIVERSITY | UNDERGRADUATE RESEARCH FELLOW

Summer 2017 | Berrien Springs, MI

- Worked for the Seabird Ecology Team at the Department of Mathematics
- Collaborated with three students to study the **effects of climate change** on seabird populations
- Proved that egg cannibalism and egg-laying synchrony can yield backward bifurcations, which **allow gull colonies to survive** at higher sea temperatures
- Methods used: periodic matrix models, bifurcation theory, stability analysis
- Mentors: Shandelle M. Henson (Andrews) and J. M. Cushing (Arizona)

SELECTED AWARDS

National

2018 Barry M. Goldwater Scholarship (\$15,000)

University of Minnesota School of Public Health

2020 Dean's PhD Scholars Award (\$5,000)

2020 Jean Roberts Biostatistics Fellowship (\$13,255)

Andrews University

2018 Harold T. Jones Scholarship for highest mathematical excellence (\$2,250)

2018 Louis Ulloth Scholarship for most significant leadership (\$2,250)

2016 Full tuition ACT/SAT Scholarship (\$145,000)

SELECTED PUBLICATIONS

- [1] J. Duan, M. M. Malakhov, J. J. Pellett, I. S. Phadke, J. Barber, and J. C. Blackwood, "Management efficacy in a metapopulation model of white-nose syndrome," *In revision*, 2020.
- [2] J. Blackwood, J. Duan, M. Malakhov, J. Pellett, I. Phadke, S. Lenhart, C. Sims, and K. Shea, "Governance structure affects transboundary disease management under alternative objectives," *Under review*, 2020.
- [3] M. M. Malakhov, B. R. Fitzpatrick, R. A. Lopez, and A. Shivkumar, "Attractor reconstruction and empirical parameter inference for hydrogen-oxygen chemistry," Air Force Research Laboratory, Technical Report AD1098889, 2020.