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 (Air Force Research Laboratory)

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. Blackwood, J. Duan, M. 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.

[2] J. Duan, M. M. Malakhov, J. J. Pellett, I. S. Phadke, J. Barber, and J. C. Blackwood, "Management efficacy in a spatially dynamic model of white-nose syndrome," *In revision*, 2020.

[3] M. M. Malakhov, B. Fitzpatrick, R. A. Lopez, and A. Shivkumar, "Attractor reconstruction and empirical parameter inference for hydrogen-oxygen chemistry," AFRL Technical Report, AFRL-RQ-ED-TR-2020-0012, Aug. 2019.