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NOGA AHARONY

EDUCATION

In progress **Doctor of Philosophy,** Systems Biology, *Columbia University in the City of New York*
Courses: Intro to Machine Learning, Computational Genomics, Non-Euclidean Embedding in Biology
Advisor: Tal Korem, PhD

2021 **Master of Science,** Biology, *Technion – Israel Institute of Technology* Defense Grade: 95/100
Thesis: Rapid Gene Content Alteration in Recurring Infections CGPA: 94.1/100
Advisor: Roy Kishony, PhD

2019 **Bachelor of Science**, Honours Neuroscience, *McGill University* CGPA: 3.95/4.0
Awards: First Class Honours, Dean's Honours List, Dean's Multidisciplinary Research List

RESEARCH EXPERIENCE

2022 **Mohammed AlQuraishi Lab,** *Columbia University, Program of Mathematical Genomics*
Developing a proteome-wide model for antimicrobial resistance prediction

2022 **Itsik Pe'er Lab,** *Columbia University, Department of Computer Science*
Developed a neural embedding model in hyperbolic spaces to better predict small proteins

2021 **Tal Korem Lab,** *Columbia University, Program of Mathematical Genomics*
Developed an embedding-based method to correlate graph representations of metagenomes from the human microbiome with outcomes

2019-2021 **Roy Kishony Lab,** *Technion – Israel Institute of Technology, Department of Biology*
Constructed a computational pipeline to identify mobile genetic elements in recurring infections
Designed experiments unraveling eco-evolutionary dynamics of microbial communities

2018-2019 **Amine Kamen Lab,** *McGill University, Department of Bioengineering*
Designed and manufactured adeno-associated viruses carrying Cas9 for improved CAR-T cell engineering

2018 **Center for Health Security,** *Johns Hopkins University, School of Public Health*
Informed national guidelines on sequence and customer screening practices among DNA providers
Studied the safety, innovation, and community norms in the DIY Biology community

2017-2018 **Jonathan Kimmelman Lab,** *McGill University, Biomedical Ethics Unit*
Applied machine learning to analyze aspects of clinical trials design that influences forecasts of outcomes
Contributed to a meta-analysis

2017 **Edward Ruthazer Lab,** *McGill University, Montreal Neurological Institute*
Electroporated and imaged tadpoles to study structural plasticity in the developing visual system

2016-2017 **Rafael Najmanovich Lab,** *University of Montreal, Department of Pharmacology and Physiology*
Developed software characterizing protein interfaces based on surrounding force fields
Modelled biophysical features of C. *difficile* germination protease to identify candidate inhibiting ligands

PUBLICATIONS

2022 Liang C, Wagstaff J, Schmit V, **Aharony N**, Manheim D. Managing the Transition to Widespread Metagenomic Monitoring: Policy Considerations for Future Biosurveillance. *Under Review.*

2021 Milman O*, Yelin I*, **Aharony N**, Katz R, Herzel E, Ben-Tov A, Kuint J, Gazit S, Chodick G, Patalon T, Kishony R. Community-level evidence for SARS-CoV-2 vaccine protection of unvaccinated individuals. *Nature Medicine*.

2020 Yelin, I*, **Aharony, N***, Shaer-Tamar, E*, Argoetti, A*, Messer, E, et al. Evaluation of COVID-19 RT-qPCR test in multi-sample pools. *Clinical Infectious Diseases*.

2019 Moço, PD, **Aharony, N**, and Kamen, A. Adeno-Associated Viral Vectors for Homology-Directed Generation of CAR-T cells. *Biotechnology Journal*.

POSTERS

2021 **Aharony N**, Kishony R. Rapid Alteration in Genetic Content Upon Recurring Infection. *EMBL Symposium: New Approaches and Concepts in Microbiology*.

2018 **Aharony N,** G Gronvall. How Secure is the Gene Synthesis Industry? *Biological Weapons Convention: Meeting of Experts.*

AWARDS

2022 **Effective Altruism Funds** PhD Support

2021 **Open Philanthropy** Early-Career Funding

2020 **Miriam and Aaron Gutwirth** Memorial Fellowship for Excellence in Research

2019 **Leonard and Diane Sherman** Interdisciplinary Graduate School Fellowship

2017,2018 **McGill University** Faculty of Science Scholarship

2018 **Open Philanthropy** Early-Career Funding for Global Biological Risks

2017 **CIHR** Undergraduate Research Award in Computational Biology

2016 **NSERC** Undergraduate Student Research Award

2016 **FRQNT** Top-Up to NSERC Undergraduate Student Research Award

2016 **PROTEO** Undergraduate Summer Studentship (Declined)

2014 **Grossman-Klein** Teen Leadership Award

TEACHING EXPERIENCE

Spring 2018 **Molecular Mechanisms of Cell Function (BIOC212)**, *McGill University*
Created problem sets for each class and in preparation for exams

Fall 2017 **Introduction to Neuroscience 1 (NSCI200)**, *McGill University*
Created problem sets and conducted bi-weekly review sessions

Fall 2017 **Molecular Biology (BIOL200)**, *McGill University*
Held office hours to answer student questions about the class

Fall 2017 **Introductory Physics: Mechanics (PHYS101)**, *McGill University*
Circulated the class during the lecture to clarify material and help with problem sets

Spring 2017 **Introductory Physics: Electromagnetism (PHYS102)**, *McGill University*
Circulated the class during the lecture to clarify material and help with problem sets

Fall 2016 **Introductory Physics: Mechanics (PHYS101)**, *McGill University*
Held office hours to answer student questions and help with homework assignments

SKILLS

Programming Experienced with **Python** and **MATLAB**, familiar with **C/C++, R**, **Java**, **PHP**, **Lisp** and **Perl**

Languages Hebrew (native), English (near-native), French (novice)