Curriculum Vitae
Miriam (Mira) Gordin

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Education

Brown University — Providence, RI
Sc.B. Candidate, Applied Mathematics, 4.0 GPA — 2016 – 2020

Princeton Summer School in Geometric Analysis — Princeton, NJ
Three-week intensive program — June 2019

University of Connecticut — Storrs, CT
Non-Degree as a high school student, 4.0 GPA — 2013 – 2016

Edwin O. Smith High School — Storrs, CT
4.0 GPA — 2012 – 2016

Research Positions

Undergraduate Teaching and Research Award (UTRA) — Summer 2019
Advised by: Prof. Kavita Ramanan — Brown University

Investigated discrete-time stochastic interacting particle systems on large sparse random graphs through theoretical work and computational simulation. Characterized marginal dynamics for opinion models on complete, cycle, and Erdos-Renyi random graphs.

SMALL REU Program — Williams College
Advised by: Prof. Mihai Stoiciu — Summer 2018

Collaborated with a group of undergraduate students on four projects in the field of random matrix theory, in particular non-Hermitian Anderson operators and their spectral properties, as well as matrix models for the circular β ensemble.

Nerreti Lab — Brown University
Advised by: Prof. Nicola Neretti — Summer 2017

Computationally assessed methylation age of bisulfite-sequenced cell free DNA (cfDNA) using an elastic net regression model on CpG site methylation state.

Center for Biotechnology (CeBiTec) — University of Bielefeld, Germany
Advised by: Bart Verwaaijen — Summer 2016

Investigated the activity of the plant pathogenic fungus *R. solani* as research member of Genome Research of Industrial Microorganisms group. Gene annotation for lettuce genome resulted in publication.

Plant Biochemistry and Physiology Research Group — University of Bielefeld, Germany
Advised by: Prof. Karl-Josef Dietz — Summer 2015

Characterized the effect of salinity stress on sugar beets, including secondary metabolites, RNA sequences, and proteins.

Teaching

Fall 2016 – present	LaTeX Workshop Leader, Brown Science Center
Fall 2018	Teaching Assistant, Accelerated Introduction to Computer Science
Fall 2017	Teaching Assistant, Ordinary Differential Equations
Fall 2017	Volunteer Teaching Assistant, Data-Centric Introduction to Programming *Course for students from University of Puerto Rico displaced by Hurricane Maria.*

Publications

2018 Bart Verwaaijen, Daniel Wibberg, Johanna Nelkner, Miriam Gordin, Oliver Rupp, Anika Winkler, Andreas Bremges, Jochen Blom, Rita Grosch, Alfred Pühler, Andreas Schlüter, Assembly of the *Lactuca sativa*, *L.* cv. *Tizian* draft genome sequence reveals differences within major resistance complex 1 as compared to the cv. *Salinas* reference genome, *Journal of Biotechnology*, Volume 267, 10 February 2018, Pages 12-18, ISSN 0168-1656. [link]

2017 Miriam Gordin. Gray Matter and Oxytocin: What Separates Men and Women. *The Triple Helix* (Brown), Fall 2017. [link]

Awards & Honors

2019 Karen T. Romer Undergraduate Teaching and Research Award
2019 Phi Beta Kappa (inducted junior year as top 5% of graduating class)
2018 Brown Mathematical Contest for Modeling (2nd Place)
2018 MAA Outstanding Student Paper Session Presentation Award
2018 MAA Student Travel Grant
2016 Hartshorn-Hypatia Examination for Excellence in Preparatory Mathematics (1st prize)
2015 AP Scholar with Distinction Award
2015 United States Biology Olympiad Semifinalist
2015 National Latin Exam (*summa cum laude* gold medal)

Presentations

Talks

January 2019 Joint Mathematics Meetings
Non-Hermitian Anderson Operators and their Spectral Properties, AMS Contributed Paper Session on Probability Theory and Stochastic Processes, Baltimore, MD.

November 2018 Ramanan Research Group Seminar
Matrix Models for the Circular β Ensemble and Non-Hermitian Anderson Operators, Brown University, Providence, RI.

August 2018 MAA Mathfest
Non-Hermitian Anderson Operators and their Spectral Properties, MAA Undergraduate Student Paper Session, Mathfest, Denver, CO.

Posters

August 2019 Undergraduate Summer Research Symposium, Brown University
Approximations of Marginal Dynamics for Voter Models on (Possibly Random) Graphs

November 2018 Undergraduate Research Poster Session, Brown University
Non-Hermitian Anderson Operators and their Spectral Properties

August 2018 Summer Science Poster Presentation, Williams College
Non-Hermitian Anderson Operators and their Spectral Properties

Panels

April 2019	AWM Graduate School Panel (Moderator)	Brown University
February 2019	Women in Computer Science Summer Opportunities Panel	Brown University
November 2018	AWM Undergraduate Research Panel	Brown University
September 2018	Women in Computer Science Introductory Courses Panel	Brown University
July 2018	Math Camp for High School Students	Williams College

Leadership & Outreach

Fall 2016 – present Brown Student Chapter of the Association for Women in Mathematics
Undergraduate President

January 2019 Joint Mathematics Meetings, Baltimore, MD
AMS Contributed Session on Probability Theory and Stochastic Processes
Session Chair

Fall 2018 – present Brown Applied Mathematics Peer Advising
Advisor

Summer 2018 Williams College SMALL REU Program
Social Chair

Fall 2017 – Spring 2018 New Scientist Collective
Mentor

Fall 2016 – Spring 2017 The Triple Helix at Brown University
Staff Writer

Fall 2016 – present Brown Student Compost Initiative (SCRAP)

Skills

Languages	English, German, Russian (fluent spoken and written)
	Latin (proficient reading and translation)
Technical	Mathematica, MATLAB, Bash, R, Java, C, Perl, HTML, CSS, LaTeX.
	Object-oriented and functional programming, dynamic programming methods.
Bioinformatic	Proficient in working with BAM, FASTQ, R Bioconductor.

Relevant Coursework

Mathematics, Statistics, and Computer Science

Spring 2020	Theory of Probability II (APMA / MATH 2640, grad. level)	Brown
Spring 2020	Introduction to Pattern Theory (APMA 1941)	Brown
Spring 2020	Independent Study - Honors Thesis (APMA 1970)	Brown
Fall 2019	Theory of Probability (APMA / MATH 2630, grad. level)	Brown
Fall 2019	Independent Study - Honors Thesis (APMA 1971)	Brown
Spring 2019	Hilbert Spaces / Real Function Theory (APMA 2120 / MATH 2220, grad. level)	Brown
Spring 2019	Abstract Algebra (MATH 1530)	Brown
Spring 2019	Partial Differential Equations (MATH 1120)	Brown
Fall 2018	Real Analysis (APMA 2110 / MATH 2210, grad. level)	Brown
Fall 2018	Information Theory (APMA 1710)	Brown
Fall 2018	Complex Analysis (MATH 1260)	Brown
Spring 2018	Recent Applications of Probability and Statistics (APMA 1740)	Brown
Spring 2018	Analysis: Functions of One Variable (MATH 1010)	Brown
Spring 2018	Operations Research: Probabilistic Models (APMA 1200)	Brown
Fall 2017	Accelerated Introduction to Computer Science (CSCI 0190)	Brown
Fall 2017	Computational Probability and Statistics (APMA 1690)	Brown
Spring 2017	Applied Ordinary Differential Equations (APMA 0350)	Brown
Spring 2017	Statistical Inference I (APMA 1650)	Brown
Fall 2016	Honors Linear Algebra (MATH 0540, proof-based)	Brown
Spring 2016	Analysis I (MATH3150)	UConn
2015-2016	Elementary Concepts of Statistics (STAT1100Q)	UConn*
Fall 2015	Transition to Advanced Mathematics (MATH2710)	UConn
Spring 2015	Elementary Differential Equations (MATH2410Q)	UConn
Fall 2014	Multivariable Calculus (MATH2110Q)	UConn
2013-2014	Advanced Calculus (MATH1131Q-1132Q)	UConn*

Biological & Physical Sciences

Fall 2017	Genetics (BIOL 0470)	Brown
Fall 2016	Equilibrium, Rate, Structure (CHEM 0330)	Brown
Spring 2016	Cell Biology of the Mammalian Secretory Apparatus (MCB5200, grad. level)	UConn
Fall 2015	Honors Cell Biology (MCB2210)	UConn
2014-2015	Principles of Biology I & II (BIOL1107-1108)	UConn*
2014-2015	General Physics (PHYS1201Q-1202Q)	UConn*

*course credit for equivalent course taught at high school