CURRICULUM VITAE FOR ALAN N. AMIN

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EDUCATION

Sept 2023-Aug 2025	**Faculty Fellow at Courant Institute, NYU** Hosted by Andrew Gordon Wilson
June 2023-Aug 2023	**Postdoc at Jura Bioscience**
Aug 2019-May 2023	**PhD at Harvard University** Thesis: **Nonparametric Methods for Building and Evaluating Models of Biological Sequences** Advised by Professor Debbie Marks Systems Biology Program Supported by NSERC Postgraduate Scholarships – Doctoral program: $21,000 CAD per year for three years, starting July 2022
Sept 2015- Apr 2019	**Bachelor of Science at the University of Toronto** Specialist in **Biochemistry** and Major in **Mathematics** Course work: molecular genetics, biochemical methods, measure theory, bounded operator theory, abstract algebra and algebraic geometry GPA 3.98

PUBLICATIONS

Amin A N, Wilson A G. Scalable and Flexible Causal Discovery with an Efficient Test for Adjacency. *ICML,* 2024

Glaser P, Paul S, Hummer A M, Deane C M, Marks D S, **Amin A N.** Kernel-Based Evaluation of Conditional Biological Sequence Models. *ICML*, 2024

Amin A N, Weinstein E N*, Marks D S* (*Equal contribution). A Kernelized Stein Discrepancy for Biological Sequences. *ICML,* 2023

Amin A N, Weinstein E N*, Marks D S* (*Equal contribution). Kernels with Guaranteed Flexibility for Reliable Machine Learning on Biological Sequences. *Preprint,* 2023, https://arxiv.org/abs/2304.03775

Weinstein E N*, **Amin A N***, Frazer J, Marks D S (*Equal contribution). Non-identifiability and the blessings of misspecification in models of molecular fitness and phylogeny. *NeurIPS,* 2022 (Oral)

Weinstein E N, **Amin A N**, Grathwohl W, Kassler D, Disset J, Marks D S. Optimal design of stochastic DNA synthesis protocols based on generative sequence models, *AISTATS,* 2022

Amin A N*, Weinstein E N*, Marks D S (*Equal contribution). A generative nonparametric Bayesian model for whole genomes, *NeurIPS*, 2021.

Amin A N, Lin Y-H, Das S, Chan H S. “Theory for a Sequence-Specific "Fuzzy" Binding Mechanism Between a Pair of Intrinsically Disordered Proteins”, *J Phys Chem B,* 2020

Das S, **Amin A N**, Lin Y-H, Chan H S. "Coarse-grained residue-based models of disordered protein condensates: utility and limitations of simple charge pattern parameters." *Phys. Chem. Chem. Phys.* 2018

Delplace V, Ortin-Martinex A, Tsai E L S, **Amin A N**, Wallace V and Shoichet M S. "Controlled Release Strategy Designed for Intravitreal Protein Delivery to the Retina." *J. Control. Release* 2018**.**

RECENT PRESENTATIONS

June 2024	NYU AI school; **1h talk**
February 2024	NYU centre for data science seminar; **1h talk**
October 2023	New York Genome Center meeting; **1h talk**
October 2023	CSHL SCQB seminar series invited speaker; **1h talk**
May 2023	Gatsby Machine Learning seminar; **1h talk**
May 2023	Harvard QBio group meeting; **20min talk**
May 2023	Harvard Systems Biology department Pizza talk; **1h talk**
April 2023	MIT Readstat Statistics reading group; **1.5h talk**
March 2023	Harvard Systems biology program mini symposium; **15 min talk**
March 2023	Stat 300 Seminar series at the Harvard Statistics Department; **30 min talk**
Dec 2022	NeurIPs, Learning Meaningful Representations of Life Workshop; **poster**
Dec 2021	NeurIPs, Learning Meaningful Representations of Life Workshop; **15 min talk**
May 2021	CSHL, Probabilistic Modeling in Genomics; **poster**
May 2021	Broad institute, Models, Inference and Algorithms Talks; **primer (1h talk)**
Dec 2020	NeurIPs, Learning Meaningful Representations of Life Workshop; **poster**

TEACHING EXPERIENCE

Sole Instructor:

Jan 2024 – May 2024	CSC102 **Data Structures** at NYU

Teaching assistant:

Sept 2023 – Dec 2024	CSC102 **Data Structures** at NYU
Sept 2021 – Jan 2022	BCMP230 **Principles and practice of drug development** at Harvard University
Sept 2018 – Jan 2019	MAT224 **Linear Algebra** at the UofT
Sept 2017 – Apr 2018	MAT135 & MAT136 **Calculus** at the UofT
Sept 2016 – Apr 2017	MAT137 **Calculus!** at the UofT

SERVICE

April 2024	**Reviewer** at eLife
March 2024	**Reviewer** at ICML 2024
Dec 2023	**Reviewer** at Neurips 2023
June 2023	**Reviewer** at ICML 2023
Dec 2022	**Top reviewer** at Neurips 2022 - **moderated** deep-dive session 5A
Dec 2022	**Area-chair** at Learning Meaningful Representations of Life workshop at NeurIPS
June 2023	**Top 10% of reviewers** at ICML 2022 - invited to **chair** a session
Dec 2021	**Reviewer** at Learning Meaningful Representations of Life workshop at NeurIPS

Dec 2020 **Reviewer** at Learning Meaningful Representations of Life workshop at NeurIPS

PREVIOUS RESEARCH EXPERIENCE

Sept 2017 – Aug 2019 Undergrad researcher
Advisor: **Dr. Hue Sun Chan**. University of Toronto
Predicting interactions from sequences of disordered proteins using physics models.

June 2018 – Aug 2018 Undergrad researcher
Advisor: **Dr. Clifford Brangwynne**. Princeton University
Measuring mechanics of nuclear membrane-less organelles investigated using microfluidics.

May 2017 - Aug 2017 Undergrad researcher
Advisor: **Dr. Molly Shoichet**. University of Toronto
Designing new hydrogels with desired mechanical properties for drug delivery.

July 2016 – Apr 2017 Undergrad researcher
Advisor: **Dr. Ronald Kluger**. University of Toronto
Designing method of loading tRNAs with alternative amino acids for synthetic biology.

ACADEMIC AWARDS

July 2022	NSERC Postgraduate Scholarships Doctoral program (**National**)	$21,000 (1/3 years)
Sept 2019	Ross S. Lang Scholarship (**Institutional**)	$602
Nov 2018	Innis College Exceptional Achievement (**Institutional**)	$740
Nov 2018	The Daniel Wilson Scholarship in Science (**Institutional**)	$82
June 2018	Later Life Learning Scholarship (**Institutional**)	$744
May 2018	Princeton International Internship (**International**)	$Lodging
May 2017	NSERC Undergraduate Student Research Award (**National**)	$4500
Nov 2016	Later Life Learning Scholarship (**Institution**)	$722
Oct 2015	President's Entrance Scholarship (**Institution**)	$2000

ORGANIZING

Sept 2020 – May 2023	Harvard Graduate Student Union steward (orientation, education, recruitment)
Jul 2020 – Jan 2021	Equitable mentorship equity working group in Systems biology department
Jul 2020	Systems biology program petition for equity group (writing petition, recruitment)