

## ACADEMIC AND PROFESSIONAL EXPERIENCE

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<b>New Jersey Institute of Technology</b>	
Tenure-track Assistant Professor	2025–current
<b>Technion - Israel Institute of Technology</b>	
Senior Lecturer (tenure-track Assistant Professor)	2023–2024
<b>Columbia University</b>	
Term Assistant Professor in Applied Mathematics and Associate Research Scientist	2019–2023
<b>Yale University</b>	
Visiting Graduate Student	2018–2019
<b>Tel Aviv University</b>	
Junior Lecturer and Teaching Assistant	2016–2018

## EDUCATION

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<b>Tel Aviv University</b>	
Ph.D. in Applied Mathematics	2016–2019
<b>Tel Aviv University</b>	
M.Sc. in Applied Mathematics	2014–2016
<b>Hebrew University of Jerusalem</b>	
B.Sc. in Mathematics and Physics ( “Talpiot” program)	2006–2009

## GRANTS AND AWARDS

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- Binational Science Foundation (BSF) Grant No. 2022254 (\$118,000) “*Floquet Media - a Dynamic and Spectral Approach*,” PI, with M.I. Weinstein  
 2023–2027\*  
 \* since only Israeli PI's are eligible, returned in 10/24 upon moving to NJIT.
- AMS-Simons Travel Grant (\$5,000) 07/21–07/23
- SIAM Early Career Travel Award (CSE25) 03/25
- SIAM Early Career Travel Award (CSE21) 03/21
- SIAM Student Travel Award (CSE19) 02/19
- Israel Ministry of Science and Technology Doctoral Student 11/18
- Tel Aviv University Distinguished Ph.D. Award (School of Mathematics) 06/18
- SIAM Student Travel Award (NWCS18) 06/18
- Tel Aviv University Distinguished M.Sc. Award (School of Mathematics) 05/15
- Dean's List Excellence Award (Hebrew University of Jerusalem) 03/09

1. **A. Sagiv**, Remy Kassem, and Michael I. Weinstein, “Dispersive Decay Estimates for periodic Jacobi operators on the half-line.” *arXiv:2505.14498* (under review).
2. Joseph Kraisler, **A. Sagiv**, and Michael I. Weinstein, “On the Time-decay of solutions arising from periodically forced Dirac Hamiltonians.” **Journal of Differential Equations**, 440, 113449, 2025.
3. **A. Sagiv** and Michael I. Weinstein, “Near invariance of quasi-energy spectrum of Floquet Hamiltonians.” *arXiv:2304.10685* (under review).
4. R. Baptista, B. Hosseini, N.B. Kovachki, Y.M. Marzouk, and **A. Sagiv**, “An Approximation Theory Framework for Measure-Transport Sampling Algorithms.” **Mathematics of Computation**, 94, 1863–1909, 2025.
5. Joseph Kraisler, **A. Sagiv**, and Michael I. Weinstein, “Dispersive decay estimates for Dirac equations with a domain wall.” **SIAM J. on Mathematical Analysis**, 56, 7194–7227, 2024.
6. Q. Du and **A. Sagiv**, “Minimizing optimal transport for functions with fixed-size nodal sets.” **J. of Nonlinear Science**, 33:95, 2023.
7. S.N. Hameedi, **A. Sagiv**, and M.I. Weinstein, “Radiative decay of edge states in Floquet media.” **SIAM Multiscale Modeling and Simulations**, 21, 925–962, 2023.
8. **A. Sagiv**, “Spectral Convergence of Probability Densities for Forward Problems in Uncertainty Quantification.” **Numerische Mathematik** 150, 1165–1185. 2022.
9. **A. Sagiv** and M.I. Weinstein, “Effective Gaps in Continuous Floquet Hamiltonians.” **SIAM J. on Mathematical Analysis**, 54, 986–1021, 2022.
10. O. Lindenbaum, **A. Sagiv**, G. Mishne, and R. Talmon, “Kernel-Based Parameter Estimation of Dynamical Systems with Unknown Observation Functions.” **Chaos: An Interdisciplinary Journal of Nonlinear Science**, 31, 043118, 2021.
11. **A. Sagiv** and S. Steinerberger. “Transport and Interface: an Uncertainty Principle for the Wasserstein Distance.” **SIAM J. on Mathematical Analysis**, 52, 3039–3051, 2020.
12. **A. Sagiv**, A. Ditkowski, R.H. Goodman, and G. Fibich. “Loss of Physical Reversibility in Reversible Systems.” **Physica D**, 410, 132515, 2020.
13. **A. Sagiv**. “The Wasserstein Distances Between Pushed-Forward Measures with Applications to Uncertainty Quantification.” **Communications in Mathematical Sciences**, 18, 707–724, 2020.
14. A. Ditkowski, G. Fibich, and **A. Sagiv**. “Density Estimation in Uncertainty Propagation Problems Using a Surrogate Model.” **SIAM/ASA J. on Uncertainty Quantification**, 8, 261–300, 2020.

15. G. Patwardhan, X. Gao, **A. Sagiv**, A. Dutt, J. Ginsberg, A. Ditkowski, G. Fibich, and A.L. Gaeta. “Loss of Polarization of Elliptically Polarized Collapsing Beams.” **Physical Review A**, *99*, 033824, 2019.
16. **A. Sagiv**, A. Ditkowski, and G. Fibich. “Loss of Phase and Universality of Stochastic Interactions Between Laser Beams.” **Optics Express**, *25*, 24387–24399, 2017.

## TALKS

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### Invited and Seminar Talks

- *2025*: **UIUC** (PDE seminar), **Rutgers** (applied math), **ADMOS25** (minisymposium on adaptive sampling and surrogate modelling, Barcelona), **SIAM AN25** (minisymposium on analysis and modeling in photonics, Montreal), **SIAM PD25** (minisymposium talk on novel materials + minisymposium talk on Statistical Approaches to PDE Inverse Problems, Pittsburgh), **Auburn** (applied and comp math seminar)
- *2024*: **Early Career Workshop in Mathematical Physics** (at Texas A&M), **AMS Fall Central Sectional** (at UTSA), **Hebrew University of Jerusalem** (analysis), **Tel Aviv University** (applied math), **U of Washington** (applied math), **Texas A&M** (colloquium), **NJIT** (colloquium), **UBC** (colloquium)
- *2023*: **Louisiana State** (math physics, online), **Stony Brook** (analysis), **SIAM NNP Sectional** (at NJIT), **Michigan** (PDE), **Michigan State** (math physics), **UC San Diego** (math of data science), **UC Santa Barbara** (applied math), **Yale** (analysis), **Princeton** (PACM colloquium)
- *2022*: **Maryland** (numerical analysis), **CUNY** (harmonic analysis & PDE), **Minnesota** (applied math), **South Carolina** (applied math, online), **NJIT** (waves seminar), **SIAM Annual Meeting** (at Pittsburgh), **TU Chemnitz** (stochastics seminar, online), **UC Davis** (Center of Quantum Mathematics and Physics, math seminar), **Workshop talk**: Approximation of high-dimensional parametric PDEs in forward UQ workshop (Erwin Schrödinger Institute, online), **U of Washington** (applied math), **SIAM UQ** (at Atlanta), **Ohio State** (analysis, online), **Texas A&M** (colloquium), **Drexel** (colloquium, online), **Northeastern** (colloquium, online), **UNC** (colloquium)
- *2021*: **SUNY Buffalo** (colloquium, online), **Rutgers** (special seminar, online), **Georgia Tech** (applied math, online), **UChicago** (CAM seminar), **UIUC** (PDE seminar), **Northwestern** (applied math), **CU Boulder** (waves seminar, online), **Texas A&M** (math physics), **Yale** (applied math), **MIT** (aerospace computational design seminar), **Workshop on Perturbation of Spectral Bands and Gaps** (TU Dortmund, online), **Hebrew U of Jerusalem** (analysis, online), **Tel Aviv University** (applied math, online), **SIAM MS** (online), **UC San Diego** (applied math, online), **Southern Methodist** (applied math colloquium, online), **Minnesota** (IMA Data Science, online)
- *2020*: **Maryland** (CSCAMM seminar, online), **Caltech** (CMX seminar), **UC Berkeley** (applied math)
- *2019*: **Flatiron** (CCM seminar), **RPI** (colloquium), **NJIT** (waves seminar), **Tel Aviv** (applied math), **Bar Ilan** (applied math), **IMACS11** (at UGA), **Technion** (applied math), **Weizmann Institute** (applied math), **SIAM CSE** (at Spokane), **Columbia** (applied math colloquium), **Stanford** (applied math), **UC Merced** (applied math), **UC Irvine** (applied math), **CU Boulder** (waves seminar), **Yale** (applied math)
- *2018*: **SIAM NWCS** (at Orange County), **Israel Mathematical Union Annual Meeting** (at the Technion),

## Contributed and other Talks

- 2025: NSF Comp Math Meeting (Utah)
- 2023: 87th Midwest PDE Seminar (Notre Dame)
- 2022: Mid-Atlantic Numerical Analysis Day (Temple), Sayas Numerics Day (U of Maryland Baltimore County)
- 2021: SIAM Annual Meeting (online), SIAM CSE (online)
- 2020: Symposium on Machine Learning and Dynamical Systems (Fields Institute, online), Dynamics Days Digital (online), One World Waves (online), Dynamics Days (Hartford)
- 2019: Brown-BU-UMass Dynamics and PDEs workshop (Brown), Young Researchers Workshop (UMD), OASIS 7 (Tel Aviv),
- 2017: Israel Physical Society Annual Meeting (Technion), Frontiers in Optics - OSA 101st Annual Meetings (Washington DC)

## STUDENTS SUPERVISED

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- Remy Kassem (Columbia Ph.D. student), “Dispersive dynamics of the SSH model”, 2022-ongoing (with MI Weinstein).
- Ruoxi Li (Columbia Applied Math '22). “Geometric Measure Theory” spring 2022.
- Jerry Qu (Columbia Applied Math '23). “Reproducing kernel Hilbert spaces and kernel PCA,” summer 2021 (with MI Weinstein).
- Sameh N. Hameedi (Columbia Applied Math M.Sc. '21, currently Ph.D. student at Oxford University). “Defect mode decay in Floquet Media,” 2020-2021 (with MI Weinstein).
- Ho Jia Xu Dion (Yale-NUS '21, currently Ph.D. student at Columbia University). “Solitary waves interactions with highly non-integrable nonlinearities,” 2019 (with W Schlag).

## SERVICE AND ORGANIZATION

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- **Workshop organizer** “Mathematics of Condensed Matter Physics” at ETH, Zurich (with GM Graf, J Shapiro, and MI Weinstein) 07/23
- **Referee:** SIAM J Math Anal, SIAM J Appl Math, SIAM J Sci Comp, SIAM J Num Anal, Comm Math Phys, Pure Appl Anal (MSP), Bull London Math Soc, PRL, PRA, PRE, Phys Rev Res, J Math Phys, Ann Henry Poincare, Wave Motion, Int J Uncer Quant, Foundations of Data Science, Data-Centered Eng., Comput Stats Data Anal, JOSA B, J Math Imag Vision.
- **Grant Panel:** Binational Science Foundation (BSF)
- **Doctoral Committee**
  - Wen Ding, Columbia University, 08/22
  - Huaiyu Li, Columbia University, 08/23
  - Zirui Xu, Columbia University, 09/24
  - Edith Zhang, Columbia University, 04/25
- **Service,** Technion Faculty of Mathematics:  
Mathematics Entry and Classification Exam 2023–2024
- **Service,** Columbia’s Department of Applied Physics and Applied Mathematics:

- **Seminar organizer** of the APAM Friday Research Conference      spring 2020, 2021, 2022
- **Secretary of the Faculty**      fall 2019 – fall 2020, spring 2022
- **Qualifying Exams**      Spring 2020, 2021, 2022, 2023
- **Mini-Course** on dynamical systems at “Columbia Summer Undergraduate Research Experiences in Mathematical Modeling”      summer 2021
- **Mini-symposium and special sessions organized:**
  - “Spectra and Dynamics of Complex Materials” for SIAM/CAIMS Annual Meeting, Montreal (with E. Hiltunen)      07/25
  - “Measure Transport - Algorithms and Analysis” for SIAM CSE25, Fort Worth, TX (with C. Moosmueller)      03/25
  - “Computational Measure Transport” for SIAM UQ24, Trieste, Italy (with R. Baptista, A. Hsu, & B. Pandey)      02/24
  - “Optimal transport in uncertainty quantification and learning” for SIAM UQ22, Atlanta, GA (with C. Moosmueller)      04/22
  - “Machine Learning for Scientific Discovery” for SIAM Annual Meeting, online (with O. Lindenbaum)      07/21
  - “Recent Advances in Computational Probability” for SIAM CSE21, online (with B. Hosseini)      03/21
  - “Theory of Optical Waves in Novel Media” for Metamaterials 2020, online (with M.I. Weinstein)      09/20
- **Outreach talk** for undergraduate students at the Technion, “Are all functions (approximately) polynomials?”      11/23
- **Conference referee** for Metamaterials 2020 and Metamaterials 2021
- **Tutoring** for undergraduate students with physical disabilities and for supporting foreign students. Tel Aviv University      2016-2017

## TEACHING EXPERIENCE

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### New Jersey Institute of Technology

- Complex Variables I (graduate, MATH656)      spring 2025

### Technion

- Introduction to Applied Mathematics (undergraduate, 00104192)      spring 2024
- Asymptotic Analysis (graduate, 00198000)      spring 2024

### Columbia University

- Multivariate Calculus for Engineering and Applied Sciences (APAM2000E)      fall 2019, 2020, 2021
- Principles of Applied Mathematics (APMA4001E)      spring 2020
- Applied Mathematics III: Dynamical Systems (APMA4101E)      spring 2021, 2022, 2023

**Tel Aviv University**

- Numerical Analysis for Engineering

spring 2018

**Tel Aviv University - Teaching Assistant**

- Numerical Analysis
- Ordinary Differential Equations
- Calculus I
- Ordinary Differential Equations for Engineering

fall 2017

spring 2017

fall 2017

spring 2016