Uri Dickman

PhD Student
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Education

Sept 2025 - Present	**University of California, Santa Barbara** Doctor of Philosophy, Mechanical Engineering Fields: Computational Science and Engineering; Solid Mechanics, Structures, and Materials
May 2024	**Brown University** Bachelor of Science, Physics with Honors

Research

Sept 2025 - Present	**Graduate Student Researcher** *Computational Applied Science Laboratory* Department of Mechanical Engineering, UC Santa Barbara Santa Barbara, CA, USA 93106 Project: Learning Constitutive Laws for Flows in Porous Media with Time-Dependent Pore Size Advisor: Frederic Gibou
July 2024 - Aug 2025	**Project Analyst** *Computational Biomathematics Laboratory* Department of Applied Mathematics, Case Western Reserve University Cleveland, OH, USA 44106 Project: Fast, flexible, Python-integrated simulation of biophysical neural networks with complex plastic synapses Supervisor: Peter Thomas
Jan 2023 - May 2024	**Undergraduate Research Assistant** *Solid State Nanofluidics and Nanoionics Group* Department of Physics, Brown University Providence, RI, USA 02106 Project: The Specific Heat of Nano-confined Fluids Advisor: Matthias Kuehne

Teaching

Sep 2021 - Aug 2024   **College of Engineering, UC Santa Barbara**
Santa Barbara, CA, USA 93106
Graduate Teaching Assistant, Mathematics of Engineering (ME 17)

Dept of Physics & Dept of Mathematics, Brown University
Providence, RI, USA 02106
Undergraduate Teaching Assistant, Basic Physics A (PHYS 30)
Undergraduate Teaching Assistant, Basic Physics B (PHYS 40)
Undergraduate Teaching Assistant, Analytical Mechanics (PHYS 70)
Head Teaching Assistant, Calculus I (MATH 90)
Undergraduate Teaching Assistant, Calculus III (MATH 200)

Awards and Fellowships

May 2023   **Undergradute Teaching and Research Award**
SPRINT, Brown University
Providence, RI, USA 02106

Sept 2022   **Mathematics Teaching Fellow**
Department of Mathematics, Brown University
Providence, RI, USA 02106

Presentations

November 19, 2025   **Society for Neuroscience**
Title: *NEURONpyxl: Fast,flexible, Python-integrated simulation of biophysical neural networks with complex plastic synapses*
San Diego, CA USA 92101

April 30, 2024   **Senior Thesis Oral Defense**
Title: *The Specific Heat of Nano-confined Fluids*
Department of Physics, Brown University
Providence, RI, USA 02106

August 6, 2023   **Undergraduate Research Award Poster Symposium**
Title: *The Specific Heat of Nano-confined Fluids*
Brown University
Providence, RI, USA 02106

Professional Memberships

June 2025 - Present	**Society for Neuroscience** Graduate Student Member
May 2024 - May 2025	**Sigma Xi Honor Society** Associate Member

Technical Skills

Programming languages
Python, C++, MATLAB, Julia, Java

Scientific tools
Slurm, Linux, MPI, Git, SUNDIALS, PETSc, NEURON, LAMMPS, Zotero

Skills
Scientific & high-performance computing, research, science education

Selected Projects

Raspberry Pi High-performance Computing Cluster

- Includes 9 Raspberry Pi compute nodes and 1 NVIDIA GPU node
- Slurm used for resource allocation
- Tunneling technology used to enable remote SSH login
- Advanced system administration for account and file management

Publications

Dickman, U., Thomas, P. J., Chiel, H. J., Byrne, J. H., and Neveu, C. L. (2025). Neuronpyxl: Fast, flexible, Python-integrated simulation of biophysical neural networks with complex plastic synapses. *Frontiers in Computational Neuroscience.* Submitted

Peng, C., Ginzberg, J., Dickman, U., Bair, J., and Kuehne, M. (2025). 3ω thermal characterization of suspended fine wires across continuum to free-molecular gas regimes. *Physical Review Applied.* Submitted