Bryan T. Weinstein

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Education

- **Harvard University** — Cambridge, MA
  PhD in Applied Physics — *Expected May 2018*
  - Working Thesis Title: *Experimental Microbial Evolutionary Dynamics and Transport*
- **Harvard University** — Cambridge, MA
  PhD Secondary Field: Computational Science and Engineering (CSE) — *Expected May 2018*
  - Completed four advanced applied math and scientific computing courses
  - Learned state-of-the-art computational methods used in scientific research and data science
  - **Capstone:** OpenCL GPU-powered Lattice Boltzmann fluid mechanics simulation utilizing OpenGL for real-time visualization.
- **Harvard University** — Cambridge, MA
  S.M. in Applied Physics — *November 2014*
  - Completed 12 courses: 4 physics core courses, 4 CSE courses, and 4 soft-matter/biophysics electives
  - GPA: 3.95/4.00
- **Case Western Reserve University** — Cleveland, OH
  Bachelor of Science in Engineering, Engineering Physics — *May 2012*
  - GPA: 4.00/4.00, Summa Cum Laude, Valedictorian
  - Engineering Concentration: Aerospace Engineering
  - Senior Project: Simulating Interactions between Confined Spins and Ferromagnetic Vortices

Fellowships and Awards

- **Institute for Applied Computational Science Scholarship** — Cambridge, MA
  Graduate Student — *September 2016 - September 2017*
  - Wrote proposal and won a $25,000 student scholarship from Harvard's Institute for Applied Computational Science (IACS)
  - Used funds to develop a GPU-powered Lattice Boltzmann fluid mechanics simulation
- **Department of Energy Office of Science Graduate Fellowship** — Washington, D.C.
  Graduate Student — *September 2012 - September 2015*
  - Wrote proposal to win competitive fellowship supporting students pursuing training in areas relevant to Department of Energy (DOE)
  - Selected out of 1,300 applicants; 50 fellowships awarded
  - Attended yearly conferences at National Laboratories; presented posters on my active research, networked with other DOE fellows and government officials
- **Harvard University Pierce Fellow** — Cambridge, MA
  Graduate Student — *September 2012 - September 2015*
  - Won fellowship awarded to the highest caliber PhD students accepted into Harvard's School of Engineering and Applied Sciences (SEAS)
  - Selected out of 150 students; 8 fellowships awarded

Publications

Conferences and Invited Presentations

Specialized Skills

- **Computational**
  - Significant experience optimizing programs to run on multiple processors, graphics processing units, and supercomputers
  - Knowledge of stochastic and probabilistic methods to solve high-dimensional problems
  - Languages for General Scientific Computing:
    - Python, Cython, OpenCL, CUDA, C, C++, Java, Matlab, Mathematica
  - Fluid Mechanics Simulations:
    - Lattice Boltzmann Method (custom-built code), OpenFOAM, SALOME, gmsh
  - Image Analysis Tools:
    - ImageJ, Python, OpenCL, OMERO
- **Analytical**
  - Expert knowledge of Applied Mathematics, especially partial differential equations and stochastic methods
  - Equilibrium and nonequilibrium statistical physics techniques
- **Laboratory**
  - 4 years of research in an experimental biology laboratory; experienced at designing and conducting experiments
  - Significant experience using microscopy to image microbes

Certifications

- **Engineer in Training (EIT)** Ohio
  Active *September 2012*
  - Successfully passed Fundamentals of Engineering Exam, the first step towards becoming a licensed engineer

Professional Organizations

- Tau Beta Pi Engineering Honor Society
- American Physical Society