**Natasha "Tasha" Arvanitis** tasha.arvanitis@gmail.com

## Who I am

The adventure inherent in learning and problem solving has always been one of my greatest joys. I am particularly fascinated by the intersection of modern computational power and applied research, and I am driven to share my love of science with people of all backgrounds.

## Education

**Harvey Mudd College**, Claremont, CA
Graduated: May 2015 Current GPA: 3.9 / 4.0
Major: B.S., Physics Major GPA: 3.9 / 4.0
Departmental Honors in Physics
Graduated with High Distinction
Awarded HMC Physics Department Bell Prize for "outstanding scholarship, creativity, and service."

## Hopefully-Relevant Coursework and Skills

**Computer Science**: Principles and Practice of Computer Science, Data Structures and Program Development, Computability and Logic, Introduction to Algorithms
**Physics**: Intro to Mechanics, Electromagnetic Theory and Optics, Theoretical Mechanics, Quantum Physics, Quantum Mechanics, Intro to Astrophysics (audit), Statistical Mechanics, Electronics, Optics
**Languages**: Python, C++, LaTeX, Dutch (B1)

## Selected Work Experience

**D. E. Shaw Research**: An ambitious and privately-funded research company that strives to use molecular-scale simulations to advance basic biological research and the process of drug discovery.

Scientific Associate 2015-Present

- Generated and analyzed data on intramolecular forces in small molecules, in order to construct extremely accurate molecular models
- Introduced collaborative coding practices to my team, including the use of git and automated testing
- Led the foundation of a working group for diversity and inclusion as well as mentorship programs and other company-wide initiatives

**Harvey Mudd**: Physics grader, tutor 2012-15

- Guided discussions and lead review sessions for all core physics classes
- Provided qualitative and quantitative feedback to Special Relativity students

## Projects

**Swarm Behavior**

- Explore emergence of coordinated behavior from simple rules through simulation of cellular automaton "fireflies"

**3D Printing**

- Designed, prototyped, and printed a full board game (Settlers of Catan) on a Makerbot Replicator 2

## Hobbies

**Ultimate Frisbee**

- Proud member of BENT 2017, with leadership role in mental toughness
- Proud member of Grand Army Ultimate 2016
- Claremont Greenshirts: Captain and Coach 2012-14

**Social Dance**

- English country and contra dancing all around the East Coast
- Volunteer sound mixer and sound lead for live bands

## Selected Publications and Presentations

Female Excellence in Computational and Theoretical Chemistry June 2017
*Extremely accurate force field models for small molecules*
Won the poster prize for poster design and defense from the International Journal of Quantum Chemistry and Journal of Computational Chemistry

Grace Hopper Celebration of Women in Computing Oct. 2016
*Accurate Physics-Based Models for Biomolecular Simulations* on data science of molecular modeling
Attracted nearly 200 attendees

*ArtG4: A generic framework for Geant4 simulations* 2014
T. Arvanitis and A. Lyon, J. Phys. Conf. Ser. **513**, 022023 (2014).