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

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 a poster construction and defense prize 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).