

Morgan Rivers

Education

Massachusetts Institute of Technology

Spring 2019 - Spring 2020

Graduate studies in physics department through the MIT Advanced Study Program.

- GPA: 4.5.

Tufts University

Fall 2013 - Spring 2017

BS in Engineering Physics with a concentration in computer science.

- GPA: 3.53, Magna Cum Laude.

Publications

Vincent Maurice, Zachary L. Newman, Susannah Dickerson, Morgan Rivers, James Hsiao, Phillip Greene, Mark Mescher, John Kitching, Matthew T. Hummon, and Cort Johnson (August, 2020).

[*Miniaturized optical frequency reference for next-generation portable optical clocks*](#). Opt. Express 28, 24708-24720.

- Team awarded [*OSA's 2020 Paul F. Forman Team Engineering Excellence Award*](#). Awarded to the team for the development of an optical atomic clock architecture that leverages microfabricated photonic components, leading to a vast reduction in size, weight, and power for next generation applications in timing, navigation, and communication.

Wilson, J. R., Krause, E., Scheutz, M., & Rivers, D. M. (2016, May). [*Analogical Generalization of Actions from Single Exemplars in a Robotic Architecture*](#). In *Proc. of the 2016 Int.nat. Conf. on Autonomous Agents & Multiagent Systems* (pp. 1015-1023).

- Presented results at 2015 Out in Science, Technology, Engineering, and Mathematics (oSTEM) Conference, Pittsburgh, November 2015.

Work Experience

The Charles Stark Draper Laboratory

Electro/Atom-Optic Development Engineer, MTS II

January 2020-Present

Quantum Technologies and Photonics group

- Aid in development of electronic simulation software for predicting noise and performance characteristics of electro-optic devices in Matlab.
- Aided in research to investigate potential of various new (confidential) technologies for the lab

Electro/Atom-Optic Development Engineer, MTS I

September 2017-January 2020

Electro-optics and Instruments Group

- Key staff responsible for the lab development of new versions of ring-resonator based optical atomic clocks.
- Developed custom lab software in Matlab for the modeling of chip based ring-resonators using the Lugiato Lefever equation

Tufts Human Robot Interaction Lab

June-August 2015

Artificial Intelligence Research Intern

Volunteer Experience

Alliance to Feed the Earth in Disasters

September 2020

NanoEngineering Group, MIT

Spring 2020

Volunteered in the Chen Lab at MIT, working on discovering promising thermo-electric materials

Skills

Research

Avid and capable researcher

Programming

Experienced with languages such as Matlab, Mathematica, Labview, Python, Java, C/C++, Arduino.

Laboratory

Experienced with oscilloscopes, lockin amplifiers, polarimeters, function generators, laser diode controllers and temperature controllers. Comfortable with laser alignment, fusion splicing, optical fiber handling, surface mount soldering and 3D printing.

CAD

Fluent in SolidWorks modeling and CAD drawing