# BRIAN A. CLARK

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## OBJECTIVE

Leverage my 5+ years of experience building, simulating, and analyzing data from radio-frequency based scientific instruments to solve critical electrophysics problems in aerospace applications.

## EDUCATION

**Ph.D in Physics, The Ohio State University**, Columbus, OH          2019 (Expected)

**M.S. in Physics, The Ohio State University**, Columbus, OH          2016

**B.A. in Physics, *cum laude*, Washington University**, St. Louis, MO          2014

## SKILLS and AWARDS

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|---|---|
| Programming/Software | C++/C, Python, Bash/Shell, R, Matlab |
| Mechanical/Electrical | Surface mount soldering, power distribution, RF signal conditioning |
| Technical | Grant Writing, Statistics, Calculus, Linear Algebra, Electromagnetism |

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| National Science Foundation Graduate Research Fellowship | 2016-2019 |
| OSU Graduate Enrichment Fellowship | 2014-2015 |

## EXPERIENCE

**Ph.D. Research Fellow, The Ohio State University**, Columbus, OH          **Aug 2014 - present**
*Research Focus: Ultra-High Energy Neutrino Astrophysics with Radio-Based Detectors*

- **Developed novel frequency and time-series analysis techniques for MHz RF data** and applied those techniques in analyses of radio emission from solar flares (published in 2018).

- **Implemented filtering and phasing techniques to remove human-made noise from RF data**, and applied those techniques in a low-SNR search for neutrinos in an large 80TB data set.

- **Lead the mechanical and electrical systems integration** of three neutrino detecting stations, including **managing the budget and equipment acquisition**, and supervising a three person team of junior students.

- Deployed to Antarctica for five weeks to lead the commissioning and calibration of five neutrino detecting stations; performed rapid on site assessment of instrument performance.

- **Created and managed automated quality control software** for a large Monte Carlo simulation package, supporting a team of several dozen international scientists.

**Teaching Assistant, The Ohio State University**, Columbus, OH          **Aug 2015 - Aug 2016**

- Aug 2016: Facilitated two-day "introduction to teaching and learning" workshop for 30 first-time Teaching Assistants; guided development of teaching identities and planning for classroom success.

- Spring 2016: Served as teaching assistant for 80 student introductory survey course; designed evaluation instruments and moderated online student forum.

- Fall 2015: Guided student learning in the recitation and laboratory context; facilitated quantitative laboratory experiments including team-based problem solving exercises.