

# BRIAN A. CLARK

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## OBJECTIVE

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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

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<b>Ph.D in Physics, The Ohio State University</b> , Columbus, OH	2019 (Expected)
<b>M.S. in Physics, The Ohio State University</b> , Columbus, OH	2016
<b>B.A. in Physics, <i>cum laude</i>, Washington University</b> , 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
National Science Foundation Graduate Research Fellowship	2016-2019
OSU Graduate Enrichment Fellowship	2014-2015

## EXPERIENCE

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**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.