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

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

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-GHz RF data, and applied those techniques in analyses of radio emission from solar flares (published in 2018 [arXiv:1807.03335])
- 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 the power and signal conditioning subsystems of three neutrino detecting stations, including the management of a three person team of junior students. Resulted in a 80% reduction to the subsystem cost.
- 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.