Carolyn G. Volpert

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EDUCATION

University of Chicago, Chicago, IL — *BA in Physics, Specialization in Astrophysics*
September 2013 - June 2017

Awards: Deans List, Astrophysics Department Student Fellowship, Bridge Builder Award Nominee, Metcalf Internship, Astronomy and Astrophysics Undergraduate Committee Student Representative

University of Maryland, College Park, MD – Astronomy PhD Program
August 2018 - Present

EXPERIENCE

NASA Goddard Spaceflight Center, Greenbelt, MD
Graduate researcher on EXCLAIM mission
January 2019 – Present

- **Graduate researcher** working to characterize and create NEP models for new Ti-Nb MKID detectors
- EXCLAIM will be a **high altitude sub-mm wavelength** large aperture intensity mapping mission to test the viability of new μ-Spec technology for tracing gas emission at high redshifts

University of Chicago Dept. of Astrophysics, Chicago, IL
Research Assistant on NASA project HAWC
January 2015 – June 2018

- **Participated in the fine-tuning** of the data pipeline used to process data from the HAWC detector on NASA's project SOFIA, and worked on flights to implement new pipeline procedures
- **Contributed to the instrumental characterization and calibration** of a first generation scientific detector
- **Assisted in problem-shooting** instrumental design flaws and sources of data error under Professor Al Harper

Yerkes Observatory, Williams Bay, WI
Research Assistant
June 2015 - September 2015, June 2016 - September 2016

- **Designed and wrote operation manual** for NASA periscope apparatus
- **Analyzed science data** from previous HAWC test flights (imaging data)

Eastern University Observatory, Radnor, PA
Student Research Assistant
September 2012 - March 2013

- **Designed and produced** models for light curve analysis of previously unstudied binary star systems

PROJECTS

High-resolution Airborne Wideband Camera (HAWC), a detector on NASA's airborne observatory SOFIA – one of a small number of undergraduates working with senior scientists and engineers from NASA and other academic institutions to design and operate a first generation detector built for far-infrared polarimetry.

The Yerkes Astrophysics Workshop Initiative, a series of hands-on workshops for undergraduate STEM students – founded, organized, coordinated, and wrote the curriculum for an annual series of workshops meant to expose STEM undergraduate students to hands-on astrophysical research.

SKILLS

Python, Matlab, hardware, cryogenics, familiar with CAD programs, data pipeline design, digital signal processing, CCD operation, telescopes, optics and detector hardware operation and design

LEADERSHIP

Ryerson Astronomical Society (RAS) Presiding President, former VP, former Secretary
Kitchen Sink Arts organization, Co-Founder