**AUBREY H. LAITY**

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**EDUCATION**

Millersville University of Pennsylvania

B.A. Physics, Minor Mathematics, Concentration Astrophysics

Overall GPA: 3.30

Major GPA: 3.66

**RESEARCH EXPERIENCE**

Undergraduate Student Research

Franklin & Marshall College

Advisor: Dr. Fronenfield Crawford III

Title: Search for Fast Radio Bursts in Archival Pulsar Survey Data

NANOStars Research Student

Franklin & Marshall College

Using pulsar timing to detect gravitational waves

2018-2021

2020-2021

2019-2021

**RESEARCH**

My research focused on using new software programs on old raw survey data from the Parkes telescope and looking for pulsars or fast radio bursts that were undiscovered during the initial processing. The Parkes Observatory is located in New South Wales, Australia, and the Parkes 70cm survey was collected from the telescope as it looked across the southern sky for pulsars. This research process required going through the output data, identifying and filtering out any signals from known pulsars, and scanning the leftover data for additional pulses or radio bursts. Although the data had been scanned before for pulsars with older software, this research project is the first to analyze the survey for fast radio bursts and use newer software.

**RESEARCH INTERESTS**

Areas of physics research that interest me the most are within astrophysics, cosmology, gravity, and high energy particle physics. More specifically, I am interested in the theoretical research on the presence of dark matter, the connection between string theory and QCD, and gravitational wave and their effect phenomena.

**RELEVANT COURSES**

Modern Theory Wave/Particles

Electronics

Mechanics 1

Electromagnetic Fields 1

Macro Phenomena/Thermodynamics

Intermediate Lab 1

Techniques of Mathematical Physics

Introduction to Astrophysics

Stellar Astrophysics

Experimental Methods of Astrophysics

**OUTREACH, MENTORING & COMMUNITY SERVICE**

PA Central Region Science Olympiad – Millersville University

-Aided coordinator, Dr. Kathryn Allen, in running the event

Physics Tutor - Millersville University

-Instructed small groups of students in introductory physics courses

**EMPLOYMENT**

Adamstown Area Library

STEM Program Coordinator

Millersville University

Grant Program Assistant

Keperling Preservation Services

Historical Research Assistant

**EXTRACIRRUCULAR ACTIVITIES**

Society of Physics Students | Member

Society of Physics Students | Treasurer

Alliance for Diversity in Science and Engineering | Member

**HONORS, GRANTS & AWARDS**

Class of 1948 Endowment | $537.00

David G. Engle Scholarship Endowment | $150.00

Board of Governor’s Scholarship | $15,000

**MEMBERSHIPS**

Association for Women in Mathematics (AWM)

American Physical Society (APS)

American Astronomical Society (AAS)

2020

2019

2021-Present

2021-Present

2019-2020

2018-2021

2020-2021

2020-2021

2020-2021

2020-2021

2018-2021

2019-Present

2018-Present

2018-Present