

Kyle D. Neumann

Astronomy and Astrophysics Graduate Student - PSU

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525 Davey Laboratory

University Park, PA 16802

Education

Penn State University (PSU), State College, Pennsylvania

August 2023 - Present

Current Graduate Student in Astronomy and Astrophysics

The Ohio State University (OSU), Columbus, Ohio

Graduation: May 2022

Bachelor of Science in Astronomy/Astrophysics and Physics

Magna Cum Laude with honors in Arts and Sciences

1st Major GPA (Astronomy): 3.87/4.00 2nd Major GPA (Physics): 3.86/4.00

Cumulative GPA: 3.89/4.00

Research Experience

Graduate Research Assistant

April 2024 - Present

Department of Astronomy & Astrophysics at Penn State University

Dr. Abe Falcone and Dr. Steve Kerby

Group Website: <https://sites.psu.edu/headilab/>

- Data analyst working with high-energy data from The Neil Gehrels Swift Observatory and The Fermi Gamma-ray Space Telescope

ASAS-SN Data Analyst

June 2022 - August 2023

Department of Astronomy at The Ohio State University

Dr. Krzysztof Stanek, Dr. Christopher Kochanek, and Dr. Michael Tucker

Group Website: <https://www.astronomy.ohio-state.edu/asassn/>

- Data analyst working for the All-Sky Automated Survey for SuperNovae full-time
- Responsible for analyzing daily photometric data taken by twenty 14 cm telescopes located in the northern and southern hemispheres
- Responsible for daily analyses of potential transient sources continuing into naming and publishing transient candidates including cataclysmic variable stars and supernovae

Astronomy Undergraduate Research

August 2020 - June 2022

Department of Astronomy at The Ohio State University

Dr. Christopher Kochanek and Dr. Wayne Schlingman

- Research Assistant working for the All-Sky Automated Survey for SuperNovae
- Responsible for analyzing daily photometric data taken by twenty 14 cm telescopes located in the northern and southern hemispheres
- Process and collect data from numerous sources for use in the ASAS-SN 2018-2020 Bright Supernova Catalog
- Continued during Summer of 2021 with the Summer Undergraduate Research Program

Publications

Neumann, K. D., et al. "Echo Location: Distances to Galactic Supernovae From ASAS-SN Light Echoes and 3D Dust Maps", 2024, arXiv e-prints, p. arXiv:2407.14584

Neumann, K. D., et al. "The ASAS-SN Bright Supernova Catalog – V. 2018-2020.", 2023, MNRAS, 520, 4356

Coauthored Publications

Necker, Jannis, et al. "ASAS-SN follow-up of IceCube high-energy neutrino alerts." Monthly Notices of the Royal Astronomical Society 516.2 (2022): 2455-2469.

Teaching Experience

Undergraduate Astronomy Instructional Assistant

Department of Astronomy at The Ohio State University

Dr. Krzysztof Stanek

Spring 2022

Astronomy 1144

- Undergraduate IA for introduction astronomy course: Stars, Galaxies, and the Universe
- Responsible for writing and distributing daily quizzes
- Responsible for taking attendance for in class and online students
- Responsible for grading writing assignments

Dr. Smita Mathur

Fall 2021

Astronomy 1102

- Undergraduate IA for introduction astronomy course: From Planets to Cosmos
- Help prepare homework or answers for the homework assignments
- Responsible for grading homework assignments

Undergraduate Physics Teaching Assistant

Fall 2020 - Spring 2021

Department of Physics at The Ohio State University

Dr. Gregory Kilcup

Physics 2300/2301

- Undergraduate TA for Physics 2300 and 2301, Sophomore level Intermediate Mechanics
- Class of over 100 students
- Responsible for grading and commenting on weekly homework assignments
- Responsible for working with several groups of students on weekly group assignments
- Responsible for tutoring students on past and current assignments

Honors and Awards

Zaccheus Daniel Fellowships

August 2024

Fellowship to "promote the study of the science of astronomy in Pennsylvania." Research/travel grant from the Department of Astronomy and Astrophysics at Penn State University.

Dr. Robert H. Hasek Graduate Fellowship

August 2023

Fellowship in honor of outstanding academic performance and the strong recommendation of the Department of Astronomy and Astrophysics at Penn State University.

Dean's List

Fall 2018 - Spring 2022

Sigma Pi Sigma National Physics Honor Society Member

Spring 2020 - Spring 2022

L. Earl Slusher Scholarship

December 2021

The scholarship is awarded to an outstanding junior or senior Astronomy major who has shown exceptional promise for going on to graduate work in Astronomy

<https://astronomy.osu.edu/undergraduates/awards-scholarships/slusher-scholarship>

Edward G. Mayers Scholarship

March 2021

Scholarship for merit in natural and mathematical sciences

2019 Helen Cowan Book Award

April 2019

Awarded for high achievement among freshman-level undergraduate physics majors

<https://physics.osu.edu/ug-undergraduate-award-winners>

Indoor Archery Ohio State Tournament 3rd Place

February 2019

3rd place in Indoor Archery Ohio State Tournament for Collegiate Male Barebow

Talks

August Guest Speaker for State College Astro on Tap August 2024
Presentation on transient phenomena and their relationship with light echoes at a public outreach event

AstroCoffee at OSU July 2024
Presentation of “Echo Location: Distances to Galactic Supernovae From ASAS-SN Light Echoes and 3D Dust Maps” to the Department of Astronomy at The Ohio State University

Guest Lecturer to ASTRO 530: Stellar Atmospheres April 2024
Taught a lecture on “Photospheres of Gamma-Ray Burst Jets” to the graduate course of ASTRO 530: Stellar Atmospheres

Astronomy Lunch Talk at PSU February 2024
Presentation of “Distances to Galactic Supernovae with Light Echoes and 3D Dust Maps” to the Department of Astronomy & Astrophysics at Penn State University

AstroPh Talk at UH October 2022
Presentation of “The ASAS-SN Bright Supernova Catalog – V. 2018-2020” to the Institute of Astronomy at the University of Hawaii

AstroCoffee at MSU October 2022
Presentation of “The ASAS-SN Bright Supernova Catalog – V. 2018-2020” to the Department of Physics and Astronomy at Michigan State University

AstroCoffee at OSU October 2022
Presentation of “The ASAS-SN Bright Supernova Catalog – V. 2018-2020” to the Department of Astronomy at The Ohio State University

Summer Undergraduate Research Symposium July 2021
Presentation of summer research with ASAS-SN focusing on photometry of supernova and host galaxy data acquisition for supernova catalog

Skills

Programming Language Experience
C++, Python, Julia, LaTeX, HTML, and Wolfram (Mathematica)

Operating System Experience
Apple (macOS, iOS), Linux, and Microsoft (Windows)

Application Experience
Microsoft Office and their Google counterparts, HEASOFT, FTOOLS

Public Speaking
Presentation of research papers to students, staff, and faculty and informal talks to the public

Work Experience

Office Assistant The Ohio State University October 2019 - October 2020

- Front desk staff member at a university residential dorm
- Assist students and other staff members daily
- Manage dorm postal services including mail and packages
- Train future office assistants at the beginning of the hiring season

Leadership and Activities

Astro Graduate Program Committee September 2024 - present

- Attend committee meetings with faculty regarding the astronomy graduate program
- Act as a voice for the graduate student population

Penn State Astro Colloquium Lunch Committee September 2024 - present

- Organize lunch between visiting astronomy speakers and graduate students
- Manage PSU finances for lunches of 10 - 20 people

Penn State Astronomy Outreach Volunteer and Coordinator August 2024 - present

- Assist in running and organizing astronomy outreach events held in the astronomy department
- These outreach events primarily involve public stargazing events

Penn State Eberly College of Science's popular AstroFest July 10 - 13, 2024

- Large-scale astronomy outreach event that has a nightly attendance of ~500 people
- Volunteered with solar observing (day), star gazing (night), and astronomy activities

State College Astro on Tap September 2023 - Present

- Leadership role in running the State College branch of the outreach group Astro on Tap
- Roles have involved planning, setting up, and presenting

Friends of Ohio State Astronomy and Astrophysics Volunteer October 2022

- Assist in running a planetarium show and public lecture
- Greet and inform attendees about the format and organization of the event

OSU Archery Team Officer (Website Manager) Fall 2019 - Spring 2022

- Collegiate archery team member starting in Fall 2018
- Manage and keep the Archery Club's website up to date
- Aid in the organization and operation of the 2020 Ohio State Indoor Archery Tournament
- Help run weekly practices

The Astronomical Society at The Ohio State University Fall 2018 - Spring 2022

Society of Physics Students and Sigma Pi Sigma Fall 2018 - Spring 2022

Public Stargazing Parties 5x 2018 - 2020

- Present information on visible moons, planets, and stars while operating telescopes during The Astronomical Society's public stargazing parties at OSU

Charter School of Wilmington's Ultimate Frisbee Club and Team Fall 2017 - Spring 2018

- Create club and team sport at my high school with another student
- Manage weekly club sessions with 30 - 150 students
- Help manage after-school practices and games with other schools for the team

References

Dr. Abe Falcone - Research Advisor

Associate Professor

adf15@psu.edu

Dr. Christopher Kochanek - Former Research Advisor

Professor, Ohio Eminent Scholar

kochanek.1@osu.edu

Dr. Krzysztof Stanek - Former Research Advisor

Professor, University Distinguished Scholar

stanek.32@osu.edu

Dr. Wayne Schlingman - Former Undergraduate Astronomy Mentor

Director, Arne Slettebak OSU Planetarium, Director of Undergraduate Studies

schlingman.4@osu.edu