ⓘ ZACHARY BALDWIN

✉ zbaldwin@andrew.cmu.edu

EDUCATION

Carnegie Mellon University | *Pittsburgh, Pennsylvania*   *Present*
Ph.D. in Nuclear & Particle Physics

Carnegie Mellon University | *Pittsburgh, Pennsylvania*   *December 2022*
M.S. Physics

The College of William & Mary | *Williamsburg, Virginia*   *May 2019*
B.S. Physics & Mathematics

RESEARCH EXPERIENCE

Carnegie Mellon University | *Pittsburgh, Pennsylvania*   *June 2019 - Present*
- *Graduate Research Associate*

The University of Glasgow | *Glasgow, Scotland*   *May 2018 - August 2018*
- *Visiting Student Researcher*

PUBLICATIONS

An Upper Limit on the Photoproduction Cross Section of the Spin-Exotic $\pi_1(1600)$

[*arXiv*]   *July 2024*

Measurement of spin-density matrix elements in $\rho(770)$ production with a linearly polarized photon beam at $E_\gamma = 8.2 - 8.8\ GeV$

*DOI: Phys. Rev. C **108**, 055204*   [*Physical Review C* | *arXiv*]   *October 2023*

Ambiguities in partial wave analysis of two spinless meson photoproduction

*DOI: Phys. Rev. D **108**, 076001*   [*Physical Review D* | *arXiv*]   *August 2023*

Measurement of the J/ψ photoproduction cross section over the full near-threshold kinematic region

*DOI: Phys. Rev. C **108**, 025201*   [*Physical Review C* | *arXiv*]   *June 2023*

Search for photoproduction of axion-like particles at GlueX

*DOI: Phys. Rev. D **105**, 052007*   [*Physical Review D* | *arXiv*]   *March 2022*

Measurement of Spin Density Matrix Elements in $\Lambda(1520)$ Photoproduction at $8.2 - 8.8\ GeV$

*DOI: Phys. Rev. C **105**, 035201*   [*Physical Review C* | *arXiv*]   *March 2022*

Measurement of beam asymmetry for $\pi^-\Delta^{++}$ photoproduction on the proton at $E_\gamma = 8.5\ GeV$

*DOI: Phys. Rev. C **103**, L022201*   [*Physical Review C* | *arXiv*]   *February 2021*

PROCEEDINGS

A multidimensional, event-by-event, statistical weighting procedure for signal to background separation
Accepted to the EPJ Web of Conferences   *Feburary 2024*

Exploring Photoproduced $\eta^{(')}\pi$ Systems in the Search for Exotic Hadrons at GlueX
Submitted to Proceedings of Science   *October 2024*

HONORS & AWARDS

Computational and Data Science Training for High Energy Physics | *Princeton, New Jersey*   *July 2024*

Jefferson Science Associates Junior Scientist Travel Support Program Grant   *July 2024*

Mellon College of Science Graduate Conference Travel Award   *July 2024*

Graduate Student Assembly/Provost Conference Funds Award   *July 2024*

The CFNS-CTEQ School on the Physics of the Electron-Ion Collider | *Stony Brook, New York*   *June 2023*

The Open Science Grid User School | *Madison, Wisconsin*   *July 2022*

The International HPC School on Challenges in Computational Sciences | *Athens, Greece*   *June 2022*

Division of Nuclear Physics Travel Grant *(Unclaimed due to COVID-19)*   *February 2020*

SCHOLARSHIPS & FELLOWSHIPS

The Office of Science Graduate Student Research (SCGSR) Program Fellowship   *August 2024 - May 2025*

The William & Mary Honors Fellowship   *April 2018 - May 2019*

Howard Hughes Medical Institute Summer Research Fellowship   *March 2017 - August 2017*

Howard Hughes Medical Institute Summer STEM Course Scholarship   *March 2016 - August 2016*

The Wren Scholarship   *August 2015 - May 2019*

INVITED SEMINARS & COLLOQUIA

Physics Colloquium – *Union College*: "Enhancing Scientific Research Utilizing High-Performance & High-Throughput Computing: An Overview With Uses In Nuclear & Particle Physics"   *October 2022*

CONFERENCE & WORKSHOP PRESENTATIONS

10th International Conference on Quarks and Nuclear Physics | *Barcelona, Spain*   *July 2024*

26th International Conference on Computing in High Energy Physics | *Norfolk, Virginia*   *May 2023*

APS Division of Nuclear Physics (Virtual due to COVID-19) | *Boston, Massachusetts*   *October 2021*

Topical Group on Hadronic Physics (Virtual due to COVID-19) | *Sacramento, California*   *April 2021*

APS Division of Nuclear Physics (Virtual due to COVID-19) | *New Orleans, Louisiana*   *October 2020*

American Physics Society (Virtual due to COVID-19) | *Washington, D.C.*   *April 2020*

APS Division of Nuclear Physics Fall Joint Meeting | *Island of Hawai'i, Hawaii*   *October 2018*

Zone 4 SPS Meeting | *College Park, Maryland*   *April 2018*

American Physics Society | *Columbus, Ohio*   *April 2018*

OUTREACH

Pittsburgh Regional Science and Engineering Fair – *Presentation*   *March 2022*