

David M. Jacobs

Department of Physics

Arizona State University

email: david.m.jacobs@asu.edu

(C.V. current as of September 19, 2025)

PROFESSIONAL EXPERIENCE

Assistant Teaching Professor of Physics

2023 –

Arizona State University, Tempe, AZ

- Supervisor of one undergraduate research project (for credit as PHY495)
- Supervisor of 6 Barrett Honors Enrichment projects
- Teaching or have taught a variety of undergraduate physics courses, including
 - PHY101 (Introduction to Physics)
 - PHY113 (General Physics Lab I – online)
 - PHY114 (General Physics Lab II – online)
 - PHY121 (University Physics I – Tempe & online)
 - PHY122 (University Physics Lab I)
 - PHY241 (University Physics III)
 - PHY310 (Classical Particles, Fields and Matter I – online)
 - PHY412 (Classical Particles, Fields and Matter III)

Assistant Professor of Physics

2020 – 2023

Norwich University, Northfield, VT

- Taught introductory physics courses (algebra- and calculus-based) with corresponding labs and an advanced (junior/senior) physics lab course
- Supervised two undergraduate research projects

Visiting Assistant Professor of Physics

2019 – 2020

Hamilton College, Clinton, NY

- Taught an introductory algebra-based physics course and its corresponding laboratory
- Taught an introductory course on cosmological physics
- Supervised two undergraduate research projects

AP Physics and Chemistry Teacher

2017 – 2019

Chagrin Falls High School, Chagrin Falls, Ohio

- Taught AP Physics 1 & 2 (algebra-based), Academic Physics, & Honors Chemistry
- Designed labs to correspond with AP Physics courses

AP Physics Teacher

2016 – 2017

Brecksville-Broadview Heights High School, Brecksville, Ohio

- Taught AP Physics C: Mechanics and E&M (calculus-based) & Academic Physics

Claude Leon Foundation Postdoctoral Fellow

2014 – 2016

University of Cape Town, South Africa

EDUCATION

Ph.D., Physics

May 2014

Case Western Reserve University, Cleveland, Ohio

- Recipient, Graduate Dean's Instructional Excellence Award

B.S., Physics; Minor, Applied Mathematics

May 2007

Kent State University, Kent, Ohio

PROFESSIONAL HONORS AND MEMBERSHIPS	Visiting Scholar , Kavli Institute for Theoretical Physics, UCSB Member , American Physical Society	2021 – 2023 2020 –
SERVICE	Chair , General Studies Committee, ASU Member , PIRT AP Hiring Committee, ASU Member , Online Committee, ASU Member , General Studies Committee, ASU Member , Faculty Development Committee, Norwich University Member , Academic Integrity Committee, Norwich University Coach , Science Olympiad, Chagrin Falls HS Volunteer Coordinator , Learning and Doing Science, Kenyon College Referee for Journal of Cosmology and Astroparticle Physics	2025 – Summer 2025 2025 – 2023 – 2021 – 2023 2021 – 2023 2017 – 2019 2016
ADDITIONAL PROFESSIONAL EXPERIENCE	Attendee , AP Physics Symposium, Cleveland, OH (<i>upcoming</i>) Attendee , AAPT/APS/AAS Faculty Teaching Institute, College Park, MD Attendee , ICAP Education Workshop, ASU Attendee , AZ AAPT Spring Meeting, ASU Attendee , Supporting Black Students' Academic Success (APS Webinar) Attendee , REMOTE: The Connected Faculty Summit (ASU Webinar) Attendee , Diversity in STEM Workshop, Hamilton College Attendee , Intensive Pedagogical Training Institute, http://ipti.osu.edu/ Attendee , Bellevue AP Institute, Interlake High School, Bellevue, WA	Oct. 2025 June 2025 Sept. 2024 March 2024 Feb. 2021 July 2020 Oct. 2019 July 2017 June 2017
SELECTION OF RESEARCH TALKS	Talk , APS DAMOP Meeting 2023, Spokane, WA Plenary Seminar , APS Northeast Section Meeting, Amherst College Physics Seminar , Franklin & Marshall College Physics Seminar , University of Windsor Physics Colloquium , York University Physics Seminar , Colorado State University Particle-Astrophysics Seminar , Case Western Reserve University Physics Seminar , Marietta College Physics Seminar , Oberlin College	June 2023 March 2023 Feb. 2023 Oct. 2022 Oct. 2022 Sept. 2022 Oct. 2021 Jan. 2020 March 2019

PUBLICATIONS

Jacobs, D.M. and Horbatsch, M., *Fitting for the energy levels of hydrogen*, J. Phys. B: At. Mol. Opt. Phys. 56 185002 (2023)

Jacobs, D.M., *Relativistic Ritz approach to hydrogen-like atoms: theoretical considerations*, Phys. Rev. A 106, 062810 (2022), arXiv:2206.02494.

Jacobs, D.M., *Defect theory of positronium and non-trivial QED relations*, Phys. Rev. A 104, 032808 (2021), arXiv:2107.05505

Jacobs, D.M., *Jankowski, M., *Non-relativistic effective quantum mechanics of the coulomb interaction*, arXiv:2102.00349, J. Phys. Commun. 5 115007 (2021)

Jacobs, D.M., *Perturbative method for resolving contact interactions in quantum mechanics*, Phys. Rev. A 100, 062122 (2019), arXiv:1909.13407.

Jacobs, D.M., *Allwright, G., *Mafune, M., *Manikumar, S., Weltman, A., *Primordial helium-4 constraints on inelastic macro dark matter revisited*, Phys. Rev. D 94, 103516 (2016)

Jacobs, D.M., *An artificial boundary approach for short-ranged interactions*, J. Phys. A, 49 295203 (2016), arXiv:1511.03954.

Jacobs, D.M., Starkman, G.D., and Weltman, A., *Resonant bar constraints on macro dark matter*, Phys. Rev. D 91, 115023 (2015), arXiv:1504.02779.

Jacobs, D.M., Starkman, G.D., and Lynn, B.W., *Macro dark matter*, Monthly Notices of the Royal Astronomical Society, 450, 3418 (2015), arXiv:1410.2236.

Jacobs, D.M., Starkman, G.D., Tolley, A.J., *Brane stabilization and regionality of extra dimensions*, Phys. Rev. D 87, 046007 (2013), arXiv:1210.2755.

Jacobs, D.M., Starkman, G.D., Tolley, A.J., *Brane Localization and stabilization via regional physics*, Journal of High Energy Physics, 1303:116 (2013), arXiv:1205.1528.

Chu, Y. , Jacobs, D.M., Ng, Y., Starkman, G.D., *It's hard to learn how gravity and electromagnetism couple*, Phys. Rev. D 82, 064022 (2010), arXiv:1007.3992.

* indicates undergraduate collaborators

REFERENCES

Available upon request