

David M. Jacobs, Ph.D.

Department of Physics
Arizona State University
Tempe, Arizona 85287-1504

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| PROFESSIONAL EXPERIENCE | Assistant Teaching Professor of Physics 2023 – |
| | Arizona State University, Tempe, AZ |
| | <ul style="list-style-type: none">• Teaching a variety of undergraduate physics courses |
| | Adjunct Assistant Professor of Physics 2021 – |
| | Case Western Reserve University, Cleveland, OH |
| | Assistant Professor of Physics 2020 – 2023 |
| | Norwich University, Northfield, VT |
| <ul style="list-style-type: none">• Taught including introductory (algebra- and calculus-based) physics 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 | |
| <ul style="list-style-type: none">• Taught introductory (algebra-based) physics and corresponding laboratory sections• Taught an advanced course on cosmological physics• Supervised two undergraduate research projects | |
| AP Physics and Chemistry Teacher 2017 – 2019 | |
| Chagrin Falls High School, Chagrin Falls, Ohio | |
| <ul style="list-style-type: none">• Taught AP Physics 1 & 2 (algebra-based), Academic Physics, & Honors Chemistry• Designed labs to correspond with AP Physics courses• Coached the Science Olympiad Team & Ultimate Frisbee Club | |
| AP Physics Teacher 2016 – 2017 | |
| Brecksville-Broadview Heights High School, Brecksville, Ohio | |
| <ul style="list-style-type: none">• 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 | |
| <ul style="list-style-type: none">• Conducted analytical and numerical research on various topics in theoretical cosmology, astro-particle physics, and quantum mechanics, publishing 4 articles• Supervised collaborative research projects for three undergraduate students | |
| EDUCATION | Ph.D., Physics May 2014 |
| | Case Western Reserve University, Cleveland, Ohio |
| <ul style="list-style-type: none">• Co-authored 3 publications on theoretical cosmology, gravitational, and high-energy physics• Recipient, Graduate Dean's Instructional Excellence Award | |
| B.S., Physics; Minor, Applied Mathematics May 2007 | |
| Kent State University, Kent, Ohio | |
| <ul style="list-style-type: none">• Recipient, Center for Nuclear Research Award | |

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| PROFESSIONAL HONORS AND MEMBERSHIPS | Visiting Scholar , Kavli Institute for Theoretical Physics (UCSB) Member , American Physical Society | 2021 – 2023 2020 – |
| SERVICE | Member , Faculty Development Committee, Norwich University Member , Academic Integrity Committee, Norwich University Referee , Journal of Cosmology and Astroparticle Physics Coach , Science Olympiad, Chagrin Falls HS Volunteer Coordinator , Learning and Doing Science , Kenyon College Seminar Organizer , Cosmology Group (UCT) Conference Organizer , Dark Side of the Universe President , Physics Graduate Student Association Judge , Research ShowCASE Conference Organizer , Case Western Gravity Workshop Volunteer , USA Science/Engineering Festival Senator , Graduate Student Senate | 2021 – 2023 2021 – 2023 2020 – 2017 – 2019 2016 2015 – 2016 Nov. 2014 2010 – 2012 April 2014 May 2011 Oct. 2010 2008 - 2010 |
| SELECTION OF RECENT 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 Astronomy Seminar , South African Astronomical Observatory Cosmology Seminar , University of KwaZulu-Natal ISCAP Seminar , Columbia University Cosmology Seminar , Arizona State University Experimental Seminar , Stanford (SLAC) Physics Seminar , University of Michigan Physics Seminar , University of the Western Cape High Energy Seminar , Syracuse University Physics Seminar , Oberlin College Invisibles Webinar , University of Madrid (UAM) VIA Webinar , Astroparticle & Cosmology Lab (APC) | June 2023 March 2023 Feb. 2023 Oct. 2022 Oct. 2022 Sept. 2022 Oct. 2021 Jan. 2020 March 2019 March 2016 Oct. 2015 Sept. 2015 Sept. 2015 Sept. 2015 Sept. 2015 May 2015 April 2015 March 2015 Dec. 2014 Nov. 2014 |
| ADDITIONAL PROFESSIONAL EXPERIENCE | 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 Attendee , Modelpalooza 2017, New Albany High School Attendee , Postdoctoral Supervision Retreat, UCT | Feb. 2021 July 2020 Oct. 2019 July 2017 June 2017 Jan. 2017 July 2015 |

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