— Adam Michael Bauer —

adammb4@illinois.edu | ambauer.com | github.com/adam-bauer-34 | Champaign, IL | Citizenship: USA

Education

University of Illinois Urbana-Champaign — **Urbana, Illinois**

Ph. D. in Physics | GPA: 4.000/4.000 — *August 2020 — November 2024 (Expected)*

Doctoral Thesis: *The Physics, Economics, and Political Economy of Climate Risk*

Committee: Ryan Sriver (Chair), Charles Gammie, Cristian Proistosescu (Advisor), Gernot Wagner (Advisor), Kelvin Droegemeier

University of Arizona — **Tucson, Arizona**

B.S. in Physics (with honors); B.S. in Mathematics | GPA: 3.972/4.000 — *August 2016 — May 2020*

Honors Thesis: *On the behavior of null rays in spherically symmetric spacetimes*

Academic Positions

University of Illinois Urbana-Champaign — **Urbana, Illinois**

National Science Foundation Graduate Research Fellow — *August 2022 — Present*

Graduate Research Assistant — *January 2021 — July 2022*

Graduate Teaching Assistant — *August 2020 — December 2020*

Columbia Business School — **New York, New York**

Staff Associate II in the Faculty of Business — *September 2022 — December 2022*

University of Arizona — **Tucson, Arizona**

National Science Foundation Research Experience for Undergraduates Intern — *May 2019 — August 2019*

NASA Space Grant Research Intern — *September 2018 — May 2019*

Consulting

The World Bank Group, Climate Change Division — **Washington, D.C.**

Short-term Consultant — *May 2023 — Present*

Tamer Center for Social Enterprise & Columbia Business School — **New York, New York**

Research Consultant — *April 2022 — June 2022*

Teaching

University of Illinois Urbana-Champaign — **Urbana, Illinois**

Guest Lecturer (ATMS 140 — Climate and Global Change) — *November 2023*

Graduate Teaching Assistant (PHYS 102 — College Physics: E&M and Modern) — *January 2021 — July 2022*

- Made the *List of Teachers Ranked as Excellent by Their Students*

University of Arizona — **Tucson, Arizona**

Undergraduate Teaching Assistant (PHYS 331 — Electricity and Magnetism I) — *January 2020 — May 2020*

Undergraduate Teaching Assistant (PHYS 103 — Introductory Physics II) — *August 2019 — December 2019*

Publications

(implies I directly advised the student.)*

PEER-REVIEWED RESEARCH ARTICLES

McDonnell, A.*, **A. M. Bauer**, C. Proistosescu. *To what extent does discounting 'hot' climate models improve the predictive skill of climate model ensembles?* Earth's Future, 12(10), 2024.

Bauer, A. M., C. Proistosescu, G. Wagner. *Carbon Dioxide as a Risky Asset*. Climatic Change, 177(72), 2024.

In press:

- *New York Times*
- *Jerusalem Post*
- *UIUC Physics Research Highlight*
- *Yale Climate Connections*
- *Green Central Banking*
- *Semafor Net-Zero Newsletter*

Pascale, M., B. L. Frye, L. Dai, N. Foo, Y. Qin, R. Leimbach, **A. M. Bauer**, *et al*. *Possible ongoing merger discovered by photometry and spectroscopy in the field of the galaxy cluster G165.7+67.0*. The Astrophysical Journal, 932(85), 2022.

Bauer, A. M., A. Cárdenas-Avendaño, C. F. Gammie, N. Yunes. *Spherical accretion in alternative theories of gravity*. The Astrophysical Journal, 925(2), 2022.

Bauer, A. and P. Carter. *Existence of transonic solutions in the stellar wind problem with viscosity and heat conduction*. SIAM Journal on Applied Dynamical Systems, 20(1), 2021.

Frye, B. L., M. Pascale, Y. Qin, A. Zitrin, J. Diego, G. Walth, H. Yan, C. J. Conselice, M. Alpaslan, **A. Bauer**, *et al. PLCK G165.0+67.0: Analysis of a massive lensing cluster in a Hubble Space Telescope census of sub-millimeter giant arcs selected using Planck/Hershel.* The Astrophysical Journal, 871(51), 2019.

WORKING PAPERS, POLICY BRIEFS, COMMENTARY, AND OTHER ACADEMIC WRITINGS

Bauer, A. M., S. Hallegatte, F. McIsaac. *The Timing versus Allocation Trade-off in Politically Constrained Climate Policies*. World Bank Policy Research Working Paper No. 10971, The World Bank, Washington DC, 2024.

Bauer, A. M., F. McIsaac, S. Hallegatte. *How Delayed Learning about Climate Uncertainty Impacts Decarbonization Investment Strategies*. World Bank Policy Research Working Paper No. 10473, The World Bank, Washington DC, 2024.

Bauer, A. M., D. C. Lafferty, K. Schwarzwald, C. Proistosescu, G. Wagner. *Comments on "Principles for Climate-Related Financial Risk Management for Large Financial Institutions"*. Docket No. OP—1793, The Federal Reserve, 2023.

Bauer, A. M., L. R. Vargas Zeppetello, C. Proistosescu. *Soil Moisture Modulation of Midlatitude Heat Waves*. Earth ArXiv, 2023.

Bauer, A. and B. Frye. THELI Reduction Software: A write up for inexperienced data reducers. Posted to THELI Forums and Cloudynights, 2019.

POPULAR PRESS

Bauer, A. M. and G. Wagner. *Use financial logic to price carbon emissions*. Green Central Banking, May 2024.

Bauer, A. M. *Merging Physics and Economics for Climate Policy.* University of Illinois Department of Physics Research Highlight, 2023.

Talks and Presentations

(implies an invited talk.)*

*__The Timing Versus Allocation Trade-off in Politically Constrained Climate Policies__ — *October 2024*
The World Bank Group Climate Change Learning Series — *Washington DC*

*__Carbon Dioxide as a Risky Asset__ — *October 2023*

Midwestern Student Conference on Atmospheric Research — *Urbana, Illinois*

Financial Modeling of Climate Risk Supports Stringent Mitigation Action — *June 2023*
European Association of Environmental and Resource Economists Summer Meeting — *Limassol, Cyprus*

Financial Modeling of Climate Risk Supports Stringent Mitigation Action — *May 2023*
Association of Environmental and Resource Economists Summer Meeting — *Portland, Maine*

*__Carbon Dioxide as a Risky Asset__ — *December 2022*
Center for Social and Environmental Futures — *Boulder, Colorado*

Financial Modeling of Climate Risk Supports Stringent Mitigation Action — *December 2022*
American Geophysical Union Fall Meeting — *Chicago, Illinois*

The Role of Local Thermodynamics in Midlatitude Heat Waves — *December 2022*
American Geophysical Union Fall Meeting — *Chicago, Illinois*

*__Financial Modeling of Climate Risk Supports Stringent Mitigation Action__ — *November 2022*
Columbia University Sustainable Development Seminar — *New York, New York*

*__Exploring the Controls on Temperature Extremes in the Midlatitudes__ — *May 2022*
UC San Diego Climate Journal Club — *San Diego, California*

Characterization and Analysis of Massive Space Telescopes — *April 2019*
NASA Arizona Space Grant Symposium — *Tempe, Arizona*

Measuring the Dynamical Masses of Sub-millimeter Selected Gravitational Lenses — *September 2018*
Steward Observatory Internal Symposium — *Tucson, Arizona*

Honors, Scholarships, and Achievements

NSF Graduate Research Fellowship Program — *August 2022*
National Science Foundation

List of Teachers Ranked as Excellent by Their Students — *December 2020*
University of Illinois Urbana-Champaign Department of Physics

The Excellence in Undergraduate Research Award — *May 2020*
University of Arizona College of Science & University of Arizona Department of Physics

Glenn C. Purviance Scholarship — *August 2019 —May 2020*
University of Arizona Department of Mathematics

Grogan Scholarship & Gregson Award — *August 2019 —May 2020*
University of Arizona Department of Physics

Galileo Circle Scholar — *May 2018 & May 2019*
University of Arizona Department of Astronomy (2018) & Department of Physics (2019)

Phi Beta Kappa Society — *September 2018*
Alpha of Arizona Chapter

NASA Space Grant Awardee — *September 2018 — May 2019*
University of Arizona and NASA Space Grant Consortium

Douglass Scholarship & Langadas Scholarship — *August 2018 — May 2019*
University of Arizona Department of Physics; University of Arizona Department of Astronomy

Weaver Research Award *August 2017 — May 2018*
University of Arizona Department of Physics

Service and Extra Curricular

Journal Referee

- *The Review of Economic Studies*
- *Earth's Future*

Graduate Peer Mentor *September 2024 — Present*
University of Illinois Urbana-Champaign Department of Climate, Meteorology, and Atmospheric Sciences

ESE Summer Camp for Girls Volunteer *July 2024*
University of Illinois Urbana-Champaign

Undergraduate — Graduate Peer Mentor *September 2022 — May 2024*
University of Illinois Urbana-Champaign Department of Climate, Meteorology, and Atmospheric Sciences

Graduate Peer Mentor *September 2021 — May 2023*
University of Illinois Urbana-Champaign Department of Physics

Grad On-Call *September 2020 — May 2021*
University of Illinois Urbana-Champaign Department of Physics

Undergraduate Peer Mentor *September 2018 — May 2020*
University of Arizona Department of Astronomy

Physics Discovery Project Developer and Team Member *August 2019 — May 2020*
University of Arizona Department of Physics

Technical Strengths and Other Information

Coding Languages:

- *Strong:* Python, Mathematica, Jupyter Notebooks, LaTeX
- *Beginner:* Julia

Human Languages:

- *Native:* English
- *Intermediate:* Italian (B1 Level)