

— 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

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

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

June 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

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/Herschel*. The Astrophysical Journal, 871(51), 2019.

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

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

*Carbon Dioxide as a Risky Asset

Midwestern Student Conference on Atmospheric Research

October 2023

Urbana, Illinois

Financial Modeling of Climate Risk Supports Stringent Mitigation Action

European Association of Environmental and Resource Economists Summer Meeting

June 2023

Limassol, Cyprus

Financial Modeling of Climate Risk Supports Stringent Mitigation Action Association of Environmental and Resource Economists Summer Meeting	May 2023 Portland, Maine
*Carbon Dioxide as a Risky Asset Center for Social and Environmental Futures	December 2022 Boulder, Colorado
Financial Modeling of Climate Risk Supports Stringent Mitigation Action American Geophysical Union Fall Meeting	December 2022 Chicago, Illinois
The Role of Local Thermodynamics in Midlatitude Heat Waves American Geophysical Union Fall Meeting	December 2022 Chicago, Illinois
*Financial Modeling of Climate Risk Supports Stringent Mitigation Action Columbia University Sustainable Development Seminar	November 2022 New York, New York
*Exploring the Controls on Temperature Extremes in the Midlatitudes UC San Diego Climate Journal Club	May 2022 San Diego, California
Characterization and Analysis of Massive Space Telescopes NASA Arizona Space Grant Symposium	April 2019 Tempe, Arizona
Measuring the Dynamical Masses of Sub-millimeter Selected Gravitational Lenses Steward Observatory Internal Symposium	September 2018 Tucson, Arizona

Honors, Scholarships, and Achievements

NSF Graduate Research Fellowship Program National Science Foundation	August 2022
List of Teachers Ranked as Excellent by Their Students University of Illinois Urbana-Champaign Department of Physics	December 2020
The Excellence in Undergraduate Research Award University of Arizona College of Science & University of Arizona Department of Physics	May 2020
Glenn C. Purviance Scholarship University of Arizona Department of Mathematics	August 2019 — May 2020
Grogan Scholarship & Gregson Award University of Arizona Department of Physics	August 2019 — May 2020
Galileo Circle Scholar University of Arizona Department of Astronomy (2018) & Department of Physics (2019)	May 2018 & May 2019
Phi Beta Kappa Society Alpha of Arizona Chapter	September 2018
NASA Space Grant Awardee University of Arizona and NASA Space Grant Consortium	September 2018 — May 2019
Douglass Scholarship & Langadas Scholarship University of Arizona Department of Physics; University of Arizona Department of Astronomy	August 2018 — May 2019
Weaver Research Award University of Arizona Department of Physics	August 2017 — May 2018

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)