

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

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

Bauer, A. M., S. Hallegatte, F. Mclsaac. *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. Mclsaac, 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**

The World Bank Group Climate Change Learning Series

October 2024
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)