

— Adam Michael Bauer —

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

Education

University of Illinois Urbana-Champaign

Ph. D. in Physics | GPA: 4.000/4.000

Urbana, Illinois

August 2020 — November 2024

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

B.S. in Physics (with honors); B.S. in Mathematics | GPA: 3.972/4.000

Tucson, Arizona

August 2016 — May 2020

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

Academic Positions

University of Illinois Urbana-Champaign

National Science Foundation Graduate Research Fellow
Graduate Research Assistant
Graduate Teaching Assistant

Urbana, Illinois

August 2022 — Present

January 2021 — July 2022

August 2020 — December 2020

Columbia Business School

Staff Associate II in the Faculty of Business

New York, New York

September 2022 — December 2022

University of Arizona

National Science Foundation Research Experience for Undergraduates Intern
NASA Space Grant Research Intern

Tucson, Arizona

May 2019 — August 2019

September 2018 — May 2019

Consulting

The World Bank Group, Climate Change Division

Short-term Consultant

Washington, D.C.

May 2023 — Present

Tamer Center for Social Enterprise & Columbia Business School

Research Consultant

New York, New York

April 2022 — June 2022

Teaching

University of Illinois Urbana-Champaign

Guest Lecturer (ATMS 140 — Climate and Global Change)
Graduate Teaching Assistant (PHYS 102 — College Physics: E&M and Modern)
- Made the *List of Teachers Ranked as Excellent by Their Students*

Urbana, Illinois

November 2023

January 2021 — July 2022

University of Arizona

Undergraduate Teaching Assistant (PHYS 331 — Electricity and Magnetism I)
Undergraduate Teaching Assistant (PHYS 103 — Introductory Physics II)

Tucson, Arizona

January 2020 — May 2020

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, 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**

E-Axis Forum Young Researcher's Seminar

January 2025

Virtual

How Delayed Learning about Climate Uncertainty Impacts Decarbonization Investment Strategies December 2024

American Geophysical Union Fall Meeting	Washington DC
Learning Climate Sensitivity from Future Observations, Fast and Slow American Geophysical Union Fall Meeting	December 2024 Washington DC
*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 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*
- *Journal of Climate*
- *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)