

— Adam Michael Bauer —

ambauer@uchicago.edu | ambauer.com | github.com/adam-bauer-34 | Chicago, 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 Chicago, Institute for Climate and Sustainable Growth & Climate Systems Engineering Initiative

Postdoctoral Research Scholar

Chicago, Illinois

July 2025 — Present

University of Illinois Urbana-Champaign, Department of Physics

National Science Foundation Graduate Research Fellow

Graduate Research Assistant

Graduate Teaching Assistant

Urbana, Illinois

August 2022 — June 2025

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

Professional Experience

The World Bank Group, Climate Change Division

Short-term Consultant

Washington, D.C.

May 2023 — June 2025

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 (PLSC 441 — Politics of Climate Change in Developing States)

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

April 2025

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.)

WORKING PAPERS

Bauer, A. M., V. Sapkota, I. Baxter, T. A. Shaw, B. B. Cael. *Changes in Global and Regional Extreme Temperatures Over Land: An Extreme Value Theory Perspective*. Submitted to *Geophysical Research Letters*, 2026.

Bauer, A. M., C. Proistosescu, K. K. Droegemeier. *Learning Climate Sensitivity from Future Observations, Fast and Slow*. R&R at *Journal of Climate*. arXiv preprint, arXiv:2507.15767, 2025.

PEER-REVIEWED RESEARCH ARTICLES

Bauer, A. M., L. R. Vargas Zeppetello, C. Proistosescu. *An Analytical Model for the Influence of Soil Moisture on Temperature Extremes in the Midlatitudes*. *Journal of Climate*, 38(24), 2025.

Bauer, A. M., S. Hallegatte, F. Mclsaac. *Optimal Allocation of Abatement Effort Under Political Constraints: The Economic Cost of Delaying Sectoral and Economy-wide Climate Policies*. *Environmental and Resource Economics*, 2025.

Bauer, A. M., F. Mclsaac, S. Hallegatte. *Decarbonization Investment Strategies in an Uncertain Climate*. *Earth's Future*, 13(5), 2025.

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 the 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.

POLICY BRIEFS, COMMENTARY, AND OTHER ACADEMIC WRITING

Bauer, A. M., S. Hallegatte, F. Mclsaac. *When the Best is the Enemy of the Good: Minimizing the Impact of Political Constraints on Climate Policy Costs*. E-Axes Forum Policy Brief, 2025.

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. 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. *The AI Revolution Mirrors the Green Transition*. Project Syndicate, June 2026.

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.)

Learning Climate Sensitivity from Future Observations, Fast and Slow ECS and Cloud Feedback Virtual Symposium	February, 2026 Virtual Webinar
Toward Adaptive Stratospheric Aerosol Injection Strategies Under Uncertainty American Geophysical Union Fall Meeting	December 2025 New Orleans, LA
Learning Climate Sensitivity from Future Observations, Fast and Slow University of Illinois Urbana-Champaign Department of Climate, Meteorology and Atmospheric Sciences Departmental Seminar	April 2025 Urbana, Illinois
*The Timing Versus Allocation Trade-off In Politically Constrained Climate Policies E-Axis Forum Young Scholars Webinar on Climate Finance and Economics	January 2025 Virtual Webinar
How Delayed Learning about Climate Uncertainty Impacts Decarbonization Investment Strategies American Geophysical Union Fall Meeting	December 2024 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*
- *Earth's Future*
- *Journal of Climate*
- *npj Climate Action*
- *Environmental and Resource Economics*
- *Humanities and Social Sciences Communications*

Founder, Climate Engineering Reading Group
University of Chicago Climate Systems Engineering Initiative

June 2026 — Present

Graduate Peer Mentor
University of Illinois Urbana-Champaign Department of Climate, Meteorology, and Atmospheric Sciences

September 2024 — May 2025

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

July 2024

Undergraduate — Graduate Peer Mentor
University of Illinois Urbana-Champaign Department of Climate, Meteorology, and Atmospheric Sciences

September 2022 — May 2024

Graduate Peer Mentor
University of Illinois Urbana-Champaign Department of Physics

September 2021 — May 2023

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, TeX

- *Beginner:* Julia, SQL

Human Languages:

- *Native:* English

- *Intermediate:* Italian (B1 Level)