

Alice Tianbo Zhang

Curriculum Vitae

December, 2023

International Monetary Fund
Strategy, Policy, and Review Department
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Washington, DC 20431

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Appointments and Affiliations

International Monetary Fund

Economist, December 2022 -

Visiting Scholar, August - December 2022

Washington and Lee University

Affiliate Faculty of Environmental Studies, 2021 - 2023

Assistant Professor of Economics, 2020 - 2023

Federal Reserve Bank of Minneapolis, Summer Economics Fellow, 2022

Princeton University, Postdoctoral Research Associate, 2019 - 2020

Columbia University

Research Affiliate, Earth Institute, 2019 -

Fellow, Center for Development Economics and Policy, 2018 -

Graduate Research Fellow, 2017-2018

Teaching Fellow, 2014-2017

Graduate Research Assistant, Center on Global Energy Policy, 2014

Other Professional Experience

City of Berkeley, Council Member Gordon Wozniak's Office, Public Policy Intern, 2012-2013

General Electric, Global Growth and Operations, Financial Management Program Intern, 2012

University of California, Berkeley, Undergraduate Research Apprentice, 2011

California Public Interest Research Group, Campaign Coordinator, 2010

Bank of China, Corporate Banking Intern, 2010

Education

Ph.D. Sustainable Development, Columbia University, 2019

Dissertation: "When Nature Meets Human Nature: Essays on the Social Impacts of Energy Infrastructure and Environmental Policy" [\[Link\]](#) (Advisors: Rodrigo R. Soares, Wolfram Schlenker, Geoffrey M. Heal)

M.A. Sustainable Development, Columbia University, 2016

Thesis: "Nonlinear Impact of Temperature on Mortality: Evidence from Monthly Weather Variations in France" (Advisor: Matthew Neidell)

Training: Summer Workshop in Climate Change Economics, UC Berkeley, 2015

Alliance Summer School in Science and Policy, Paris, 2014

B.A. Economics, Statistics, Public Policy Minor, *Cum Laude*, University of California, Berkeley, 2013

Research & Teaching Interests

Environmental and Energy Economics | Development Economics | Political Economy

Climate Change Impact, Mitigation, Adaptation | Natural Hazards | Migration | Social Justice

Research

[Google Scholar](#) | [ORCID](#) | * lead author * equal contribution

Peer-Reviewed Publications

(author names in alphabetical order, unless otherwise noted)

1. Zhang, Alice Tianbo*, and Vincent Xinyi Gu. 2023. "Global Dam Tracker: A Database of More than 35,000 Dams with Location, Catchment, and Attribute Information." **Scientific Data** 10 (1): 1–19.
[\[Paper\]](#) [\[Data\]](#) [\[Code\]](#) [\[Nature Portfolio Blogpost\]](#)
2. Carleton, Tamma, Amir Jina, Michael Delgado, Michael Greenstone, Trevor Houser, Solomon Hsiang, Andrew Hultgren, Robert Kopp, Kelly McCusker, Ishan Nath, James Rising, Ashwin Rode, Hee Kwon Seo, Arvid Viaene, Jiacan Yuan, Alice Tianbo Zhang. 2022. "Valuing the Global Mortality Consequences of Climate Change Accounting for Adaptation Costs and Benefits." **The Quarterly Journal of Economics** 137 (4): 2037–2105.
[\[Paper\]](#) [\[NBER Working Paper 27599\]](#)
3. Gould, Carlos F., Shaily Jha, Sasmita Patnaik, Shalu Agrawal, Alice Tianbo Zhang, Sonakshi Saluja, Vagisha Nandan, Sunil Mani, and Johannes Urpelainen. 2022. "Variability in the Household Use of Cooking Fuels: The Importance of Dishes Cooked, Non-Cooking End Uses, and Seasonality in Understanding Fuel Stacking in Rural and Urban Slum Communities in Six North Indian States." **World Development** 159 (November): 106051.
[\[Paper\]](#)
4. Zhang, Alice Tianbo*, Sasmita Patnaik, Shaily Jha, Shalu Agrawal, Carlos Gould, Johannes Urpelainen. 2022. "Evidence of Multidimensional Gender Inequality in Energy Services from a Large-Scale Household Survey in India." **Nature Energy** 7, 698-707.
[\[Paper\]](#) [\[Data\]](#) [\[Code\]](#) [\[Nature Portfolio Blogpost\]](#)
5. Urpelainen, Johannes* and Alice Tianbo Zhang*. 2022. "Electoral Backlash or Positive Reinforcement? Wind Power and Congressional Elections in the United States." **The Journal of Politics**. 84 (3): 1306-21.
[\[Paper\]](#) [\[Appendix\]](#) [\[Data & Code\]](#) [\[JOP Blogpost\]](#)
6. Guo, Dong*, Anyi Wang*, and Alice Tianbo Zhang*. 2020. "Pollution Exposure and Willingness to Pay for Clean Air in Urban China." **Journal of Environmental Management** 261 (May): 110174.
[\[Paper\]](#)

Working Paper

7. Fueling Change: Macroeconomic Vulnerability of Fossil Fuel Exporters to the Clean Energy Transition (with IMF colleagues)
8. Staff Climate Note: Key Challenges Faced by Fossil Fuel Exporters during the Energy Transition (with IMF colleagues)
9. Anticipation or Adaptation: Household Response to Extreme Events in the United States (with T. Bearpark and M. Oppenheimer)

Selected Work in Progress

Hurricane Harvey and Business Recovery (with E. Kalhor, S. Lackner and M. Oppenheimer)

Natural Disasters and Homeowner Mobility in the United States

Dynamic Incentives for Pollution Abatement

Estimating Hurricane Damages using Satellite Data and Machine Learning

Other Publications

1. Zhang, Alice Tianbo, and Xinyi Gu. 2023. "A New Global Dam Database Sheds Light on the Social Cost of Energy Infrastructure." Research Data at Springer Nature. [\[Link\]](#)
2. Zhang, Alice Tianbo, Sasmita Patnaik, and Shaily Jha. 2022. "How Does Gender Equality (SDG 5) Relate to Sustainable Energy Policy (SDG 7)?" Behavioural and Social Sciences at Nature Portfolio. [\[Link\]](#)
3. Zhang, Alice Tianbo. 2022. "Not in My Backyard? Wind Power Benefits Pro-Renewables Democrats in Congress." The Journal of Politics Blog. [\[Link\]](#)
4. Zhang, Alice Tianbo. 2019. "Development and Displacement." Phenomenal World, Blog of the Jain Family Institute. [\[Link\]](#)
5. Zhang, Alice Tianbo, Johannes Urpelainen, and Wolfram Schlenker. 2018. "Power of the River: Introducing the Global Dam Tracker (GDAT)." Faculty Grant Program Research Report. Center on Global Energy Policy. [\[Link\]](#)
6. Lu, Yao, and Alice Tianbo Zhang. 2016. "The Link between Migration and Health." In Handbook on Migration and Health, edited by Felicity Thomas. Edward Elgar Publishing. [\[Link\]](#)

Selected Media Coverage

The New York Times: "A Climate Warning from the Cradle of Civilization", 2023. [\[Link\]](#)

The Rockbridge Report: "Proposed Solar Projects Stir Heated Debate in Rockbridge County", 2023. [\[Link\]](#)

Washington Monthly: "Why Liberals Should Embrace Permitting Reform", 2022. [\[Link\]](#)

Nature Energy News & Views: "Energy Access and Women's Empowerment", 2022. [\[Link\]](#)

The News-Gazette: "Rockbridge Conservation Honors Area Residents, Foundation", 2022. [\[Link\]](#)

The Guardian: "Rising Temperatures Will Cause More Deaths Than All Infectious Diseases", 2020. [\[Link\]](#)

Bloomberg: "Life and Death in Our Hot Future Will Be Shaped by Today's Income Inequality", 2020. [\[Link\]](#)

People.cn: "Launch of the 2019 Henan Urban Sustainability Ranking Report", 2020. [\[Link\]](#)

Phys.org: "Working Toward Green Growth in Urban China", 2018. [\[Link\]](#)

Original Data

Global Dam Tracker (GDAT)

Description: Global dam database (n = 35,140) with validated geo-coordinates and attributes.

Status: Data available on Zenodo [\[Link\]](#)

The Gender Perception Survey for Energy Access and Use

Description: Survey with 2,312 rural and urban slum households (n = 4,624) across 6 Indian states.

Status: Data available on Harvard Dataverse [\[Link\]](#)

Henan Urban Sustainability Survey (HUSS)

Description: Survey with 3,020 respondents across 3 Chinese cities in Henan province.

Status: Data available upon request

Awards, Honors, and Grants

Class of 1956 Provost's Faculty Development Endowment Grant, Washington and Lee University, 2023
 NAREA Scholar, Northeast Agricultural and Resource Economics Association, 2022
 CSWEP Summer Economics Fellowship, American Economic Association, 2022
 Nominated by Dean and Provost, ACS Summer Teaching and Learning Workshop, 2022
 Summer Research Scholar Program Grant, Washington and Lee University, 2021, 2022, 2023
 Lenfest Summer Fellowship Award, Washington and Lee University, 2020, 2021, 2022
 CSWEP CeMENT Workshop Mentee, American Economic Association, 2021
 Winter Research Scholar Program Grant, Washington and Lee University, 2020-2021
 Data-Driven Social Science Initiative Large-Scale Grant, Princeton University, 2020-
 Keynote Speaker, "2019 Henan Urban Sustainability Ranking Report" Press Conference, 2020
 Zhongyuan Development Research Innovation Award, 2020
 Dissertation Fellowship, Columbia University, 2018-2019
 National Academy of Sciences, Sackler Colloquium Travel Award, 2018
 Research Grant for "A Global Database of Dams," Columbia University, 2017-2018
 Student Fellow, Initiative for Sustainable Energy Policy, Johns Hopkins University, 2017-2019
 Dean's Fellowship, Columbia University, 2013-2018
 Omicron Delta Epsilon, UC Berkeley Chapter, 2011-2013
 Dean's Honors List, University of California, Berkeley, 2011-2013

Teaching

Washington and Lee University

Econ 402 Directed Independent Study, Instructor: Fall 2022
 Econ 395 Climate and Society, Instructor: Winter 2022
 Econ 202 Statistics for Economics, Instructor: Fall 2020, 2021, 2022
 Econ 100 Introduction to Economics, Instructor: Winter 2021, 2022, Fall 2022

Columbia University

Microeconomics and Public Policy (Graduate, Public Policy), Tutor: Fall 2017
 Microeconomics and Policy Analysis (Graduate, Public Policy), TA: Fall 2016
 Introductory Statistics (Graduate, Public Policy), TA: Summer 2016
 Introduction to Development Economics (Undergraduate, Economics), Grader: Spring 2016
 Gender and Applied Economics (Undergraduate, Economics), TA: Spring 2016, 2017
 Research Methods in Public Management & Policy (Graduate, Public Policy), TA: Fall 2015
 Challenges of Sustainable Development (Undergraduate, Sustainable Development), TA: Spring 2015
 Science for Sustainable Development (Undergraduate, Sustainable Development), TA: Fall 2014

Advising and Mentoring

Student Placement (as letter writer or main advisor)

Georgia Institute of Technology School of Public Policy (PhD; MS)

Duke University School of Law (JD)

University of Virginia School of Law (JD)

University of Oxford (study abroad)

University of St Andrews (study abroad)

Analysis Group (Analyst)

2022-2023

Elias Dakhoul '26, Summer Research Scholar

Sam Moore '25, Summer Research Scholar

Economics honor thesis advisees (×2)

Independent research students (×2)

Economics major advisees (×6)

Non-major advisees (×9)

2021-2022

Oskar von Mandelsloh '24, Summer Research Scholar, John McKenzie Gunn Scholarship

Ben McClure '24, Summer Research Scholar

Independent research students (×3)

Non-major advisees (×5)

Economics major advisees (×10)

Economics honors thesis reader (×1)

Environmental Studies senior capstone (×1)

2020-2021

Abbey Pinkerton '22, Winter & Summer Research Scholar, John McKenzie Gunn Scholarship

Carrie Morrison '22, Summer Research Scholar

Environmental Studies senior capstone (×1)

Service

Profession

Board Member: Rockbridge Area Conservation Council, 2022-2023

Mentor: Association for Mentoring and Inclusion in Economics (AMIE), 2022-2023

Organizer: Presidential Sessions (× 2), Southern Economic Association Conference, 2022

Moderator: W&L School of Law Journal of Civil Rights & Social Justice Symposium, 2022

Reviewer: AERE@ Southern Economic Association Conference, 2020

Washington and Lee University

University

Public Functions Committee, 2022-2023

Advisory Board, The Roger Mudd Center for Ethics, 2021-2023

University Sustainability Committee, 2021-2023

Department

CSWEP Liaison, Economics Department, 2022

Econ 202 Peer Mentor Coordinator, Economics Department, 2022

Faculty Hiring Committee, Environmental Studies Program, 2022

Econ-DeLaney Proposal Development Committee, Economics Department, 2021

Econ 202 Review Task Force, Economics Department, 2021

Faculty Hiring Committee, Economics Department, 2020-2021

Columbia University

Student Committee, Sustainable Development Ph.D. Program, 2017-2018

Co-organizer, Sustainable Development Colloquium, 2015-2016

Student Representative, Earth Institute Faculty Meetings, 2015-2016

Co-organizer, Interdisciplinary Workshop in Sustainable Development, 2015

Co-organizer, Alliance Summer School in Science and Policy, Columbia – Sciences Po, 2014

Presentations

International Monetary Fund (2022, 2023); Princeton University (2019, 2020, 2022, 2023); New York State Department of Financial Services (2022); Seminar on Planetary Management (2022); Columbia University CEEP/SusDeveR Conference (2022); Southern Economic Association Annual Meeting (2020, 2022); Columbia Women in Economics Conference (2021); American Geophysical Union (2016, 2020); Princeton Research Day (2020); Central China Development Research Institute (2020); Henan University (2020); Johns Hopkins University, Initiative on Sustainable Energy Policy Workshop (2019); New York University, Institute for Policy Integrity (2019); Center for Global Development (2019); Wheaton College (2019); Washington and Lee University (2019); U.C. Santa Barbara Occasional Workshop (2018); Columbia University Development Seminar (2018); Columbia University Sustainable Development Seminar (2014, 2018); Sustainable Development Research Symposium (2016, 2018); National Academy of Science Sackler Colloquium on Economics, Environment and Sustainable Development (2018); University of Illinois, Urbana-Champaign, Heartland Environmental and Resource Economics Workshop (2017); Columbia University Development Colloquium (2017), Interdisciplinary Ph.D. Workshop in Sustainable Development (2016), Columbia University Sustainable Development Colloquium (2015, 2016, 2017)

Miscellaneous

Citizenship: China (United States Permanent Resident)

Computing: Stata, R, Python, ArcGIS, QGIS, ENVI, Google Earth Engine, L^AT_EX, GitHub, Adobe Illustrator

Language: Chinese and English (bilingual); French (beginner); Spanish (beginner)