

PAN CHEN

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University of Colorado-Boulder
Department of Economics
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Education	University of Colorado-Boulder Ph.D. Economics, 2021 to 2026 (expected) University of Colorado-Boulder M.A. Economics, 2021 to 2023 Huazhong University of Science & Technology, Wuhan, China M.A. Economics, 2015 to 2018 Huazhong Agricultural University, Wuhan, China B.A. Economics (with distinction), 2011 to 2015
Fields	Primary: Environment, Development Secondary: Economic History, Technical Change, Political Economy
Job Market Paper	Powering the Future: The Long-Term Human Capital Effects of Rural Electrification <i>Abstract:</i> In low- and middle-income countries, electricity often suffers from coexisting affordability, reliability, and stability challenges, yet empirical work jointly examining these dimensions remains limited. This paper studies the long-run human capital effects of a rural electrification program implemented in China in the late 1990s that simultaneously improved all three dimensions. Using a cohort difference-in-differences design with treatment intensity measured by county-level electricity price reductions, I find that exposure during middle childhood (ages 6--11) leads to substantial long-run gains in human capital. In contrast, exposure only after middle childhood yields negative and statistically insignificant effects. Analysis of mechanisms shows that improved agricultural productivity is an important channel and that increased public investment in education may also play a role. Extended study hours due to improved lighting, however, are unlikely to be relevant. China's experience offers insights for current rural electrification efforts in developing countries.
Publication	Industrialization and Pollution: The Long-Term Impact of Early-Life Exposure on Human Capital Formation, January 2025, <i>Journal of Public Economics</i>
Working Paper	Deciding to Participate: The Impact of Air Pollution on Civic Engagement in China
Selected Works in Progress	Text to Data: A Machine Learning Approach to Historical Chinese Documents (with Wolfgang Keller, Carol Shiue, and Sen Yan) Environmental Regulation and Within-Firm Adjustments in Multi-Process Manufacturing (with Feitao Jiang and Yingjun Su)
Honors & Awards	Graduate School Travel Grant, University of Colorado-Boulder, 2025 Graduate School Summer Fellowship, University of Colorado-Boulder, 2025 Third Year Paper Prize, University of Colorado-Boulder, 2024

Graduate Award for Public Policy Research, University of Colorado-Boulder, 2023

Teaching

Instructor of Record

Intermediate Macroeconomic Theory, University of Colorado-Boulder, spring 2024

Teaching Assistant

Natural Resource Economics, University of Colorado-Boulder, fall 2025

Environmental Economics University of Colorado-Boulder, fall 2025

Principles of Microeconomics, University of Colorado-Boulder, fall 2021 to fall 2023, fall 2024

Principles of Macroeconomics, University of Colorado-Boulder, spring 2025

Employment

WISDRI Engineering & Research Incorporation Limited, China, economic analyst – iron and steel industry, 2018 to 2021

Research

Research Assistant, reporting to Professor Carol Shiue, University of Colorado-Boulder, summer 2022 & 2024

Presentations

ASSA/AEA Annual Meeting, Philadelphia, 2026

Colorado State University, 2025

20th Economics Graduate Student Conference, Washington University in Saint Louis, 2025

Southeastern Workshop on Energy & Environmental Economics & Policy (SWEEEP), Georgia Institute of Technology, 2025

Association of Environmental and Resource Economists (AERE) Summer Conference, Santa Ana Pueblo, 2025

14th Annual Front Range Energy and Environmental Economics Camp, Boulder, 2025

25th Annual CU Environmental and Resource Economics Workshop, Vail, 2024

24th Annual CU Environmental and Resource Economics Workshop, Vail, 2023

Chinese Economists Society (CES) Annual China Conference, Hefei, China, 2018

National Graduate Students in Economics Annual Conference, Wuhan, China, 2018

Referee Service

Canadian Journal of Economics, Journal of Development Economics (x2), Journal of Environmental Economics and Management (x2)

Skills & Languages

Software: Stata, MATLAB, Python, ArcGIS, Google Earth Engine

Languages: English (fluent), Chinese (native)

Citizenship

Chinese

References

Advisor

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