Robert Baluja

Department of Economics, University of Arizona

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Research Fields

Environmental Economics, Industrial Organization, Labor Economics

Education

University of Arizona — Tucson, AZ
Ph.D. (M.A. en route) - Economics — *Expected 2025*

Columbia University — New York, NY
PER-IO Graduate Student Visitor, Department of Economics — *2023*

University of California, San Diego — La Jolla, CA
B.S. - Mathematics & Economics; Summa Cum Laude — *2020*

MiraCosta Community College — Oceanside, CA
A.S. - Business Administration — *2018*

Working Papers

Escape the Heat: The Dynamics of Migration as Adaptation to Climate Change

Climate change will continue to cause large-scale changes to global weather patterns and extreme events. Migration has the potential to be a powerful limiting force against the damages of such changes to the climate. Indeed, I find that predicted warming under a business-as-usual climate scenario will lead to an increase in the value placed on the ability to migrate domestically within Mexico of 70% across a single generation. Our ability to appropriately and dynamically adapt to the damages of climate change relies on our ability to correctly anticipate future warming. The fraction of the population that I estimate as forming naive expectations of the climate system stands to gain an increase of 5% to their lifetime value of domestic migration from becoming fully informed on the climate transition. Given that much of the welfare losses to this population come through a reduced propensity to migrate, one way to reduce these losses is to subsidize migration. I find that reasonable subsidies reduce the welfare losses of the climate-naive by 8–18% of the subsidy value, depending on the dynamic structure of the policy. The difference in the effectiveness of different policy options is partly driven by the value placed on the ability to move in the future at a reduced cost. This option value is positive for dynamically-available policies; is increasing in warming for the fully-informed, but not the climate-naive; and causes dynamically-available policies to positively select from the portion of the population marginal to a static reduction of moving costs. To provide answers to my research questions, I specify and estimate a dynamic lifecycle model of migration within Mexico. I combine this with a non-stationary and spatially-varying model of the climate, in which I allow for both fully-informed and naive expectations of the future progression of climate change. Estimation of the climate model uses daily-level historical weather data and output from high-quality climate simulations. Estimation of the lifecycle model uses a sample of life histories, covering the years 1950–2019, and follows a nested full solution pseudo-maximum likelihood routine.

PFAS-Contaminated Drinking Water Harms Infants

with Bo Guo, Wesley Howden, Ashley Langer, and Derek Lemoine

In revision for *Science*

There is evidence of widespread human exposure to per- and polyfluoroalkyl substances (PFAS) but limited evidence of human health impacts. Using data on all New Hampshire births from 2010–2019, we show that receiving water that has flowed beneath a PFAS-contaminated site increases first-year infant mortality by 161% [95% CI: 70–251%], the chance of a birth before 28 weeks of gestational age by 120% [95% CI: 30–210%], and the chance of birthweight below 1,000 g by 152% [95% CI: 48–257%]. Extrapolating to the contiguous U.S., PFAS contamination imposes annual social costs of approximately $8 billion. These health costs are substantially larger than the cost of removing PFAS from the public water supply.

Presentations

2024: AERE Summer Conference, University of Arizona Econometrics Lunch
2023: AERE@OSWEET, AERE@WEAI, AZ ENREE Workshop, Columbia University IO Colloquium, Sacramento Economics Roundtable, 2nd Summer School on the Economics of Migration
2022: CU Environmental & Resource Economics Workshop
2019: UCSD Faculty Mentor Program Symposium, UCSD Undergraduate Research Conference

Grants and Awards

2024: Dror Research Excellence Award, AERE Travel Scholarship, GPSC Travel Grant
2023: AEA Mentoring Program Travel Grant
2022: Steve Manos Prize for Best Second-Year Paper, GPSC Travel Grant
2020: Phi Beta Kappa

Research Experience

Research Assistant — University of Arizona
Prof. Ashley Langer — *Spring 2022 - Present*

Research Assistant — University of Arizona
Prof. Derek Lemoine — *Spring 2022 - Fall 2023*

Research Assistant — University of California, San Diego
Prof. Philip Roeder — *Spring 2019*

Teaching

Instructor of Record

Microeconomic Analysis for Business Decisions - Spring 2025 (Online)

Macroeconomic and Global Institutions and Policy - Summer 2024 (Online)

Basic Economic Issues - Summer 2023 (In-Person)

Teaching Assistant

Environmental Economics - Spring 2024

Economics of Sports - Spring 2023

Mathematical Economics (PhD) - Fall 2021, Fall 2022

Math Camp (PhD) - Summer 2022

Economics of Strategy - Fall 2020, Spring 2021

Climate Science & Economics: How Should Policy Control Warming? - Fall 2021

Basic Economic Issues - Fall 2020

Skills Summary

Programming Languages: Julia, Python, R

(Non-Programming) Languages: English (Native), Spanish (Conversational)

References

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