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. This difference is 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 positively selects 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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