

Guilherme DePaula

Iowa State University
Department of Economics
518 Farm House Lane
Ames, IA 50011

Phone: (515) 294-5764
Fax: (515) 294-0221
Email: gdepaula@iastate.edu
Homepage: <http://www.gdepaula.com/>

Current Appointments

Iowa State University, *Assistant Professor of Economics*, August 2017-present

Center for Agricultural and Rural Development (CARD), *Affiliate*, August 2017-present

Research Interests

Environmental Economics, Agricultural Economics, Development Economics, Applied Econometrics

Education

Yale University, Ph.D., Environmental Economics, 2017

Yale University, M.Phil., Environmental Economics, 2014

Yale University, M.E.Sc., Environmental Economics, 2011

University of North Carolina Chapel Hill, MBA, Chapel Hill, 2002

Pontifical Catholic University, BS, Electrical Engineering, Rio de Janeiro, Brazil, 1993

Research

Journal Articles

1. Choi, E., **DePaula, G.**, P. Kyveryga, and S Fey, The Trade-off between Yield and Nitrogen Pollution under Excessive Rainfall: Evidence from On-farm Field Experiments in Iowa". Forthcoming at *Land Economics*.
2. **DePaula, G.** and L. Veloso, Comparing Market Instruments for Forest Conservation in Brazil using Farm-level Census Data. Forthcoming at *Environment and Development Economics*.
3. Asheesh K. Singh, Behzad J. Balabaygloo¹, Barituka Bekee, Samuel W. Blair¹, Suzanne Fey, Fateme Fotouhi, Ashish Gupta, Amit Jha, Jorge C. Martinez-Palomares, Kevin Menke, Aaron Prestholt, Vishesh K. Tanwar, Xu Tao, Anusha Vangala, Matthew E. Carroll, Sajal Das, **DePaula, G.**, Peter Kyveryga, Soumik Sarkar, Michelle Segovia, Simone Sylvestri, Corinne Valdivia (2024). Smart Connected Farms and Networked Farmers to Improve Crop Production, Sustainability and Profitability. *Frontiers in Agronomy*, 6, p.1410829.
4. **DePaula, G.** (2023): Bundled Contracts and Technological Diffusion: Evidence from the Brazilian Soybean Boom. *Journal of Development Economics* 165, p.103163.

5. **DePaula, G.** (2020): The distributional effect of climate change on agriculture: Evidence from a Ricardian quantile analysis of Brazilian census data, *Journal of Environmental Economics and Management*, 104, p. 102378.
6. **DePaula, G.**, and R. Mendelsohn (2010): Development and the Impact of Climate Change on Energy Demand: Evidence from Brazil, *Climate Change Economics*, vol. 1, No. 3 187-208

Working Papers

1. Jeddi, B. and **DePaula, G.**, The Economic Value of a Farmer Network: An Application to Pest Management in Iowa. Revise and Resubmit at *Agricultural and Resource Economics Review*.
2. **DePaula, G.**, B. Jeddi and D. Keiser, Adapting to Disasters: Evidence from Drought in Brazil.
3. Jeddi, B. and **DePaula, G.**, Environmental Impacts of Agricultural Intensification: Evidence from Brazil's Soy-Corn Double-Cropping Boom.
4. He, X., **DePaula, G.**, and W. Zhang, "Roads, Trade, and Development: Evidence from the Agricultural Boom in Brazil
5. **DePaula, G.**, Technology Adoption and the Agricultural Supply Response Function
6. **DePaula, G.**, Relational Contracts and Innovation: Evidence from the Double-cropping Boom in Brazil

Chapters

1. **DePaula, G.**, and A. Fortes, The Economics of Large-Scale Climate Adaptation in Brazilian Agriculture. *Handbook on Climate Change Impacts, Mitigation, and Adaptation in Agriculture*. Edited by Dr. Ariel Dinar and Dr. Robert Mendelsohn. Published by Edward Elgar Publishing. Abstract accepted for publication. Forthcoming, 2025.

Selected Work-in-Progress

1. "The Impact of Extreme Weather on Risk Premiums: Evidence from Risk Reversals with Agricultural Commodity Options".
2. "Evaluating Market Barriers and Opportunities for Soybean Growth in the African Savannas" (with Walter Suza)
3. "Climate Adaptation and Innovation in Brazilian Agriculture" (with Ary Fortes)
4. "A Simulated Farm-level Panel Dataset for the 1996, 2006, and 2017 Brazilian Agricultural Census Surveys" (with Leandro Veloso)

Invited Articles

1. **DePaula, G.**, Bundled contracts and technological diffusion caused the Brazilian soybean boom. VoxDev. Published 13.02.24.

Non-Peer Reviewed Publications

1. Xi He, **Guilherme DePaula**, and Wendong Zhang (2021) Brazil's Transportation Infrastructure and Competitiveness in the Soybean Market, *Agricultural Policy Review*, Iowa State University, Fall 2021 Edition
2. **DePaula, G.** and Ary Fortes (2019) The Adaptation of Soy-corn Double-cropping to the Brazilian Savanna, *Agricultural Policy Review*, Iowa State University, Spring 2019 Edition
3. **DePaula, G.** (2018) Relational Contracts and the Diffusion of Agricultural Technologies in Brazil, *Agricultural Policy Review*, Iowa State University, Winter 2018 Edition
4. **DePaula, G.** and L. Justino (2018) Using Markets to Balance Agricultural Expansion and Forest Conservation, *Agricultural Policy Review*, Iowa State University, Fall 2018 Edition
5. **DePaula, G.** (2011) Distribution of Climate Change Impacts on Household Electricity Consumption in Brazil, *Tropical Resources*, Volume 30. Tropical Resources Institute, Yale School of Forestry and Environmental Studies

Grants and Contracts

Funded

Senior Personnel. "SIRAC – Smart Integrated Farm Rural Network" with Asheesh Singh (ISU), Soumik Sarkar (ISU), Das Sajal (Missouri University of Science and Technology), Peter Kyveryga (ISA), Corinne Valdivia (UM Columbia), and Michelle Segovia (UM Columbia). National Science Foundation. USD 1,499,830.

Unfunded

Co-Principal Investigator. "Dissemination of climate-smart cowpea for food and nutrition security among small-holder farmers in selected communities in Ghana" with Walter P. Suza (ISU), Matthew Blair (Tennessee State University), Theophilus Kwabla Tengey (Savanna Agricultural Research Institute (SARI)), Sylvester N. T. T. Addy (CSIR-Crops Research Institute (CRI)), Richard Akromah (Kwame Nkrumah University of Science and Technology (KNUST)), Stephen Amoah (CSIR-Crops Research Institute), Feed the Future Innovation Lab for Legume Systems Research, U.S. Agency for International Development (USAID). USD \$774,803.

Principal Investigator. "Adapting Nitrogen Fertilizer Management to Extreme Rainfall " (2021) with Peter Kyveryga (Iowa Soybeans Association), and Sotirios Archontoulis (ISU). USDA-NIFA-AFRI. USD 649,969

Principal Investigator. "Optimal Contracting for Large-scale Commercialization of Identity-preserved Soybeans" (2019) with Asheesh Singh (ISU), Keri Jacobs (ISU), and Chad Hart (ISU). United Soybean Board (USB). USD 199,758.

Co-Principal Investigator. "Mung Bean: Sustainable and Economically Viable Alternative Specialty Crop for US Farmer " (2018) with Arti Singh (ISU), Asheesh Singh (ISU), Donna Winham (ISU), Priyanka Jayashankar (ISU), Ajay Nair (ISU), Soumik Sarkar (ISU), Andy Lenssen (ISU), Baskar Ganapathysubramanian (ISU), Daren Mueller (ISU), Gary Strickland (OK SU), Josh Lofton (OK SU), and Sangmesh Angadi (NMSU). USDA - NIFA. USD 3,200,000.

Co-Principal Investigator. "Harnessing Technology to Save Soil" with Peter Scharf (University of Missouri - UM), Derek Anderson (UM), Gui DeSouza (UM), Mary Hendrickson (UM), Kelly Nelson (UM), Jianfeng Zhou (UM), Charles Ellis (UM), John Lory (UM), Rick Cruse (ISU), Brian Gelder (ISU), Bradley Miller (ISU), Andrea Basche (University of Nebraska), Peter Kyveryga (ISA), Scott Nelson (ISA), Dennis Flanagan (USDA), Ken Sudduth (USDA), Jo Handelsman (University of Wisconsin – UW), Colby Moorber (Kansas State University - KSU), Matt Sanderson (KSU), Shalin Hai-Jew (KSU), Chris Boomsma (Soil Science Society of America), and Daryl Herzmann (Iowa Environment Mesonet). USDA - NIFA. USD 9,983,121.

Awards

Faculty Early Achievement in Teaching Award. Iowa State University. College of Agriculture and Life Sciences. March 2024.

Fellowships and Honors

Iowa State Foreign Travel Grant. 2019

Yale-Embrapa Research Grant. 2012-2017

Yale MacMillan Center Grant. 2012 and 2016

Yale Latin American and Iberian Studies Travel Awards. 2015 and 2016

Yale Institute of Biospheric Studies Fellowship. 2014 and 2015

IIASA Young Scientist Summer Program. 2014

Teresa Heinz Environmental Scholarship. 2010

Rosemary Ripley Family Fund Grant. 2010

Tropical Resources Institute Fellowships. 2010 and 2012

Beta Gamma Sigma Honorary - University of North Carolina, Chapel Hill. 2002

Tropical Resources Institute Fellowships. 2010 and 2012

Teaching

Iowa State University - Course Description

1. **ECON235: Introduction to Agricultural Markets.** Credits: 3. Contact Hours: Lecture 3. Prerequisite: ECON 101. Basic concepts and economics principles related to markets for agricultural inputs and products. Overview of current marketing problems faced by farms and agribusinesses, farm and retail price behavior, structure of markets, food marketing channels, food quality and food safety, and the role of agriculture in the general economy. The implications of consumer preferences at the farm level. Introduction to hedging, futures, and other risk management tools.
2. **ECON371: Introductory Econometrics.** Credits: 4. Contact Hours: Lecture 4. Prerequisites: ECON 301, ECON 302 OR ECON 353, STAT 326. Introduction to the models and methods used to estimate relationships and test hypotheses pertaining to economic variables. Among the topics covered in the course are: Single and multiple regression analysis; functional forms; omitted variable analysis; multicollinearity; heteroskedasticity; autocorrelation; simultaneous equations; and dynamic models.

3. **ECON437: Commodity Marketing and Risk Management.** Credits: 3. Contact Hours: Lecture 3. Prerequisites: ECON 235, ECON 301, STAT 326. The purpose and performance of commodity markets. How commodity marketing institutions function. Merchandising arrangements. Distinguishing features of agricultural commodities. Hedging, arbitrage, and speculation in commodity spot, forward, futures, and options markets. Valuation theory.
4. **ECON 4800: Intermediate Environmental and Resource Economics.** (Dual-listed with ECON 5800). Credits: 3. Contact Hours: Lecture 3. Prerequisites: ECON 301. Theories of natural resource utilization and allocation. Externalities, public goods, and environmental quality. Renewable energy, biofuels, land use change and life cycle analysis of carbon, and sustainability and resource conservation. Methodologies for analyzing natural resource and environmental problems and evaluating resource policies.
5. **ECON 5810: Advanced Environmental Economics.** Credits: 3. Contact Hours: Lecture 3. Interrelationships of natural resource use and the environment. Applied welfare and benefit-cost analyses. Externalities and pollution abatement. Nonmarket valuation of resources. Property rights. Legal and social constraints. Policy approaches.

Iowa State University - Course Sessions

2023-2024: Advanced Environmental Economics (ECON581 - Graduate), Commodity Marketing and Risk Management (ECON437 - Undergraduate), Introduction to Econometrics (ECON371 - Undergraduate)

2022-2023: Commodity Marketing and Risk Management (ECON437 - Undergraduate), Introduction to Econometrics (ECON371 - Undergraduate)

2021-2022: Advanced Environmental Economics (ECON581 - Graduate, half-semester. Joint with W. Zhang), Commodity Marketing and Risk Management (ECON437 - Undergraduate), Introduction to Agricultural Markets (ECON235 - Undergraduate)

2020-2021: Advanced Environmental Economics (ECON581 - Graduate, half-semester. Joint with W. Zhang), Introduction to Econometrics (ECON371 - Undergraduate), Intermediate Environmental and Resource Economics (ECON481 - Undergraduate, half-semester), Commodity Marketing and Risk Management (ECON235 - Undergraduate)

2019-2020: Introduction to Agricultural Markets (two sections) (ECON235 - Undergraduate)

2018-2019: Introduction to Econometrics (ECON371 - Undergraduate), Commodity Marketing and Risk Management (ECON437 - Undergraduate)

2017-2018: Introduction to Econometrics (ECON371 - Undergraduate), Introduction to Agricultural Markets (ECON235 - Undergraduate)

Yale University (Teaching Assistant) - Course Sessions

Economic Strategies for Developing Countries (MBA). Dr. Mushfiq Mobarak, 2016

Multivariate Statistics for Social Sciences (Masters). Dr. Reuning-Scherer, 2016

Economics of Energy and Climate Change (undergraduate). Dr. William Nordhaus, 2014

Energy Technology Innovation (Masters). Dr. Arnulf Grubler, 2014

Economics of the Environment (undergraduate). Dr. Robert Mendelsohn, 2014

Energy Systems Analysis (Masters). Dr. Arnulf Grubler, 2010 and 2012

Advising

Major Advisor

Leandro Veloso (UFRJ PhD Computer Science, 3rd Year)

Seunghyun Han (ISU PhD Economics, 6th Year)

Behzad Jeddi Balabaygloo (ISU PhD Economics, 7th Year)

James Gbeda (ISU Master Economics)

Paige Dvorak (ISU Master Agricultural Economics)

Committee Member

Sanjukta Mitra (ISU Phd 4th), Mahendra Kumar Singh (ISU PhD 5th Year), Min Kyong Kim (ISU PhD 6th Year), Kyunghoon Ban (Graduated PhD - Assistant Professor. Department of Finance and Accounting. Saunders College of Business), Eseul Choi (Graduated PhD - Economist - Bank of Korea), Timothy "Jake" Smith (Graduated PhD - Post Doctoral Student at ISU), Seung Jin Cho (Graduated PhD - Associate Research Fellow at the Korea Institute for International Economic Policy), Wendiam Sawadg (Graduated PhD - Assistant Professor at Auburn University), Brian Jackson (Graduated Master)

Presentations

2024 Association of Environmental Resources Economics Annual Summer Conference (scheduled May 2024); Southern Economics Association Annual Meeting (scheduled November 2024); Eastern Economic Association Annual meeting; Association of Environmental Resources Economics Section; Midwest Economics Association Annual Meeting; Association of Environmental Resources Economics Section.

2023 Western Economic Association International Annual Meeting; Association of Environmental Resources Economics Section.

2022 The Heartland Environmental and Resource Economics Workshop at the University of Illinois Urbana-Champaign; Association of Environmental Resources Economics Annual Summer Conference;

2021: Association of Environmental Resources Economics Annual Summer Conference (*); Agricultural and Applied Economics Association Annual Meeting (*); International Agricultural Trade Research Consortium Annual Meeting (*); Missouri Valley Economic Association Annual Meeting (*); Association of Environmental Resources Economics Section - Midwest Economics Association Annual Meeting (*)

2020: Association of Environmental Resources Economics Annual Summer Conference; Agricultural and Applied Economics Association Annual Meeting; UCLA Climate Adaptation Symposium; Western Economic Association International Conference (*); Association of Environmental Resources Economics Section - Midwest Economics Association Annual Meeting (*)

2019: Midwest Economics Association Annual Meeting; Association of Environmental Resources Economics Section - Southern Economics Association Annual Meeting

2018: Agricultural and Applied Economics Association Annual Meeting; Midwest Economics Association Annual Meeting; Eastern Economics Association - Agricultural and Environmental Economics Session

2016: Association of Environmental Resources Economics Annual Summer Conference; 4th Canadian PhD and Early Career Workshop in Environmental Economics - University of Ottawa; Yale Environmental Economics Seminar; Yale-Embrapa Workshop on Climate Change, Brasilia, Brazil

(*) presented by coauthor advisee

Professional Service

Referee Service

National Science Foundation

Journal of Environmental Economics and Management

Journal of the Association of Environmental and Resource Economists

Journal of Economic Behavior and Organization

European Review of Agricultural Economics

Agricultural Economics

Food Policy

Climate Change Economics

Annals of the Brazilian Academy of Science

PLOS One

Structural Change and Economic Dynamics

Sustainability

Agriculture

Journal of the Agricultural and Applied Economics Association

Environmental Research Letters

Review Service

Association of Environmental Resources Economics Annual Meeting

Agricultural and Applied Economics Association Annual Meeting

Southern Economics Association Annual Meeting

University Service

Peer Evaluation of Teaching (2023)

Economics Computer Committee (2017, 2018, 2019, 2020 (Chair), 2021 (Chair), 2022 (Chair), 2023 (Chair), 2024 (Chair))

Economics Department Microeconomics Theory Search Committee (2018-2019)

Economics Department Econometrics Theory Search Committee (2017-2018)

Professional Affiliations

American Economic Association, Association of Environmental and Resource Economists, Agricultural and Applied Economics Association

Previous Research and Professional Experience

Yale University

Researcher - Yale-Embrapa Project on Climate Change Impacts and Adaptation in Brazil, 2012-2017

Research Assistant - Dr. Arnulf Grubler, 2013

Progress Energy

Region Engineering Manager, Ocala, Florida, 2007-2009

Region Service Manager, Ocala, Florida, 2005-2007

Energy Delivery Analyst, Raleigh, North Carolina, 2002-2005

PricewaterhouseCoopers

Principal Consultant, Rio de Janeiro, Brazil, 1998-2000

Consultant, Rio de Janeiro, Brazil, 1994-1998

Personal Information

Married to Fabiana DePaula, two children: Carolina and Thomas

Brazilian Citizen, U.S. Permanent Resident

Languages: Portuguese and English