**Ernesto Rivera Mora** 

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# **UNIVERSITY OF ARIZONA**

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# **Office Contact Information**

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150 S Eastbourne Ave Tucson, AZ, 85716 Phone number: 480-787-7122

Personal Information: September 2<sup>nd</sup> 1989, Mexican, US permanent resident

#### **Undergraduate Studies**:

B.Sc., Mathematics, University of Guanajuato, Mexico, 2014

### **<u>Graduate Studies</u>**:

University of Arizona, 2019-present Ph.D. Candidate in Economics Expected Completion Date: May 2023

Arizona State University, 2019 M.Sc. Economics

Centro de Investigación y Docencia Económicas (CIDE), 2016 M.Sc. Economics

# **Teaching and Research Fields**:

Primary Fields: Microeconomic Theory Secondary Fields: Industrial Organization, Dynamics, Behavioral Economics

#### **References**:

Professor Amanda Friedenberg (Chair) amfriede [at] umich.edu

Professor Inga Deimen ideimen [at] arizona.edu

Professor John Z. Drabicki (Teaching Reference) drabicki [at] arizona.edu Professor Andreas Blume ablume [at] arizona.edu

Professor Stanley Reynolds sreynold [at] arizona.edu

# **Teaching Experience:**

Fall 2022	Climate Science and Economics (Undergraduate), University of Arizona, TA
Spring 2021-2022	Game Theory (First-Year PhD), University of Arizona, TA
Winter 2021	Microeconomic Analysis for Business Decisions, University of Arizona, Sole
	Instructor
Fall 2019-2021	Microeconomic Theory (First-Year PhD), University of Arizona, TA
Fall 2021	Game Theory (Undergraduate), University of Arizona, TA
Fall 2020	Microeconomic Principles (Undergraduate), University of Arizona, TA
Spring 2020	Intermediate Microeconomic (Undergraduate), University of Arizona, TA
Spring 2020	Dynamic Optimization (First-Year PhD), University of Arizona, TA
Fall 2019	Experimental Economics (Undergraduate), University of Arizona, TA
Summer 2019	Microeconomic Principles, Arizona State University, Sole Instructor
Spring 2019	Macroeconomic Theory (First-Year PhD), Arizona State University, TA
Fall 2017	Mathematics for Economics (First-Year PhD), Arizona State University, TA
Summer, 2015	Mathematics for Economics (Graduate Masters), CIDE, TA
Fall 2014	Analysis (Undergraduate), University of Guanajuato, TA
Fall 2012	Calculus (Undergraduate), University of Guanajuato, TA
Fall 2010	Linear Algebra (Undergraduate), University of Guanajuato, TA
Spring 2009	Mathematics Olympiad, Official State Team of Guanajuato, Trainer

# **Research Experience:**

2021-2022	University of Arizona, Research Assistant for Inga Deimen
2018	Arizona State University, Research Assistant for Alejandro Manelli
2015	CIDE, Research Assistant for David Strauss

# **Professional Activities:**

Fall 2021	IBE Theory Brown Bag Seminar, University of Arizona, Speaker
Spring 2021	Arizona Think Tank for Behavioral Decision Making, Speaker
Fall 2020	IBE Theory Brown Bag Seminar, University of Arizona, Speaker
Fall 2019	International Journal of Game Theory, Referee
Fall 2019	IBE Theory Brown Bag Seminar, University of Arizona, Speaker

# Honors, Scholarships, and Fellowships:

Spring 2022	G. Coleman Award for Strong Academic Performance, University of Arizona
Fall 2021	Ed Zajac Award for Best Third Year Paper, University of Arizona
Fall 2020	Steve Manos Award for Best Second Year Paper, University of Arizona
Fall 2018	Best Third Year Paper Award, Arizona State University
Fall 2017	Best Qualifier Exam in Microeconomics, Arizona State University
Spring 2014-2015	Honors scholarship for top GPA for the semester of the M.Sc. program, CIDE
2014-2016	Full scholarship for the M.Sc. program, granted by the Mexican National
	Science and Technology Council (CONACYT), Mexico
2008-2014	Full scholarship for the bachelor program, granted by the Mexican National
	Science and Technology Council (CONACYT), Mexico
2009	Finalist, Pierre Fermat National Mathematics Contest, Mexico
2007	Silver Medal, National Mexican Mathematics Olympiad

### Job Market Paper:

### "Neutral Mechanisms: On the Feasibility of Information Sharing"

The paper analyzes information sharing in neutral mechanisms when an informed party will face future interactions with an uninformed party. Neutral mechanisms are mechanisms that do not rely on (1) the provision of evidence, (2) conducting experiments, (3) verifying the state, or (4) changing the after-game (i.e., the available choices and payoffs of future interactions). They include cheap talk, long cheap talk, noisy communication, mediation, money burning, and transfer schemes, among other mechanisms. To address this question, the paper develops a reduced-form approach that characterizes the agents' payoffs in terms of belief-based utilities. This effectively induces a psychological game, where the psychological preferences summarize information-sharing incentives. The first main result states that if an expert's reduced form (i.e., belief-based utility) satisfies a weak supermodularity condition between the state and hierarchies of beliefs, then there is a neutral mechanism that induces complete revelation of the state. Moreover, it identifies a mechanism that is easy to implement. The second main result states that if the expert's reduced-form representation (i.e., set of belief-based utilities) satisfies a strict submodularity condition between the state and the hierarchies of beliefs, neutral mechanisms are futile for any (relevant) information sharing. This implies a limit in the ability to use neutral mechanisms for information sharing. The paper goes on to show how the approach is useful in applications related to political economy and industrial organization.

# **Working Papers:**

### "Mechanism Design with Belief-Based Preferences" (R&R at Journal of Economic Theory)

This paper studies mechanism design when agents have psychological preferences, in that utilities depend on the agents' ex-post beliefs about types. For instance, agents may be subject to curiosity, image concerns, or privacy concerns. In this setting, the textbook revelation principle does not hold, since mechanisms can provide agents with information that affects ex-post beliefs. This paper uses a psychological game framework suited for mechanism design and provides a novel version of the revelation principle for beliefbased preferences. The new revelation principle makes use of extended direct mechanisms that map each reported type into material outcomes and private suggestions of what ex-post beliefs the agents should have. The paper shows that it suffices to use extended direct mechanisms that satisfy three conditions: Bayesian incentive compatibility, individual rationality, and a new condition called credibility. The new revelation principle provides an alternate tool---distinct from Myerson's communication revelation principle---to study mechanism design with after-games.

# "Deterministic Mechanism Design"

This paper studies mechanism design in environments where a designer can only commit to deterministic mechanisms. If there is one agent, stochastic mechanisms may strictly dominate deterministic mechanisms. The main theorem shows an equivalence between stochastic and deterministic mechanisms, whenever there are two or more agents. The equivalence is achieved through an indirect deterministic mechanism. The paper goes on to show a deterministic revelation principle: Under ex-post implementation, direct deterministic mechanisms suffice, provided the set of outcomes is binary.

# "Information Markets in Games"

Markets for information are ubiquitous in modern society. Understanding how information providers choose to sell information is important for designing policies that improve efficiency. This paper studies markets for information when two uninformed agents play a quadratic game and characterizes the revenue maximizing information-selling schemes. The optimal way to sell information depends on the degree to which agents' actions are strategic substitutes or complements. In the case of strategic complements, it is always optimal to sell perfect information to both agents. However, in the case of strategic substitutes, there is a trade-off; revealing more information increases the correlation between the agents' actions, which in turn decreases the value of information. If the degree of strategic substitutability is sufficiently high, it

is optimal for the seller to obfuscate information. Depending on the degree of substitutability, it is either optimal to sell perfect information to exactly one agent, or to sell a noisy signal to both.

# Work in Progress

- 1. "Exchangeable Robust Mechanisms"
- 2. "Selling Information under Prior Disagreement" (with Nicolas Rodriguez)