

# FELIX MUÑOZ-GARCIA

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## EDUCATION

Ph.D. in Economics. University of Pittsburgh, PA. August 2008.

M.Sc. in Economics (with Honors). University of Barcelona, Spain. June 2002.

B.A. in Economics. University of Barcelona, Spain. June 2000.

## RESEARCH INTERESTS

**Primary:** Industrial Organization and Game Theory.

**Secondary:** Public and Behavioral Economics.

## APPOINTMENTS

- Graduate Studies Chair - School of Economics Sciences, Washington State University, July 2015-July 2016, and July 2017-present.
- Associate Director - School of Economics Sciences, Washington State University, 2015-2016.
- Associate Professor - School of Economics Sciences, Washington State University, August 2014-present.
- Visiting Professor - University of Barcelona, School of Economics, January–May 2017.
- Assistant Professor - School of Economics Sciences, Washington State University, 2008-2014.
- Instructor - University of Pittsburgh, Department of Economics. 2006-2007.
- Teaching Assistant - Katz Graduate School of Business, University of Pittsburgh. 2006-2007.
- Teaching Assistant - Department of Economics. University of Pittsburgh. 2004-2006.
- Research Fellow - University of Barcelona, and Barcelona Institute of Economics, 2001-2003.

## PUBLICATIONS

1. “Transboundary Natural Resources, Externalities, and Firm Preferences for Regulation,” with Sherzod Akhundjanov. Forthcoming in *Environmental and Resource Economics*.
2. “International Coordination of Environmental Policies: Is it Always Worth the Effort?” with Ana Espinola-Arredondo and Jude Bayham. Forthcoming in *Environment and Development Economics*.
3. “Strategic Emission Fees: Using Green Technology to Deter Entry” with Ana Espinola-Arredondo and Boying Liu. Forthcoming in *Journal of Industry, Competition, and Trade*.
4. “Conservation Procurement Auctions with Bidirectional Externalities,” with Pak-Sing Choi and Ana Espinola-Arredondo. *Journal of Environmental Economics and Management*, 2018, 92, pp. 559-579.
5. “Explaining Hypothetical Bias Variations using Income Elasticity of Demand” with Tongzhe Li. *Journal of Behavioral and Institutional Economics*, 2018, 35(3), pp. 207-224.
6. “Regulation, Free-Riding Incentives, and R&D Investment with Spillovers” with John Strandholm and Ana Espinola-Arredondo. *Resource and Energy Economics*, 2018, 53, pp. 133-146.
7. “Can Banning Spatial Price Discrimination Improve Social Welfare?” with Ziyang Yang. *Journal of Industry, Competition, and Trade*, 2018, 18(2), pp. 223–243.

8. "Information Transmission During the Trial: The Role of Punitive Damages and Legal Costs," with Ana Espinola-Arredondo and Pitchayaporn Tantihkarnchana. *Journal of Public Economic Theory*, 2018, 20(2), pp. 136-155.
9. "Non-profit Product Differentiation," with Robert Rosenman. *Economics Bulletin*, 2017, 37(3), pp. 1415-1420.
10. "Firm Preferences for Environmental Policy: Industry Uniform or Firm Specific?" with Sherzod Akhundjanov. *Strategic Behavior and the Environment*, 2016, 6(1-2), pp. 135-180.
11. "Can Polluting Firms Favor Regulation?" with Sherzod Akhundjanov. *The B.E. Journal of Economic Analysis and Policy*, 2016, 16(4), pp. 1-23.
12. "Profit-Enhancing Environmental Policy: *Uninformed Regulation in an Entry-Deterrence Model*," with Ana Espinola-Arredondo. *Journal of Regulatory Economics*, 2016, 50(2), pp. 146-163.
13. "An Excessive Development of Green Products?" with Ana Espinola-Arredondo. *Economics of Governance*, 2016, 17(2), pp. 101-129.
14. "Can Poorly Informed Regulators Hinder Competition?" with Ana Espinola-Arredondo. *Environmental and Resource Economics*, 2015, 61(3), pp. 433-461.
15. "Why do Firms Oppose Entry-Detering Policies? Environmental Regulation and Entry Deterrence" with Ana Espinola-Arredondo. *Environment and Development Economics*, 2015, 20(2), pp. 141-160.
16. "Cooperation and Signaling with Uncertain Social Preferences," with John Duffy. *Theory and Decision*, 2015, 78(1), pp. 45-75.
17. "The Signaling Role of Subsidies," with Ana Espinola-Arredondo. *The B.E. Journal of Economic Analysis and Policy*, 2015, 15(1), pp. 157-178.
18. "The Entry-Detering Effects of Inflexible Regulation," with Ana Espinola-Arredondo and Jude Bayham. *Canadian Journal of Economics*, 2014, 47(1), pp. 298-324.
19. "Asymmetric Information may Protect the Commons: The Welfare Benefits of Uninformed Regulators," with Ana Espinola-Arredondo. *Economics Letters*, 2013, 121 (3), pp. 463-67.
20. "Capacity Constrained Firms and Expansion Subsidies: Should Governments Avoid Generous Subsidies?" with Gulia Zaynutdinova. *Journal of Industry, Competition and Trade*, 2013, 13(4), pp. 563-97.
21. "Don't Forget to Protect Abundant Resources," with Ana Espinola-Arredondo. *Strategic Behavior and the Environment*, 2013, 3(4), pp. 251-278.
22. "When does Environmental Regulation Facilitate Entry-Detering Practices?" with Ana Espinola-Arredondo. *Journal of Environmental Economics and Management*. 2013, 65(1), pp. 133-152.
23. "Uncovering Entry Deterrence in the Presence of Learning-by-Doing," with Ana Espinola-Arredondo. *Journal of Industry, Competition and Trade*, 2013, 13(3), pp. 319-338.
24. "When do Firms Support Environmental Agreements?" with Ana Espinola-Arredondo. *Journal of Regulatory Economics*, 2012, 41(3), pp. 380-401.
25. "Patience or Fairness? Analyzing Social Preferences in Repeated Games," with John Duffy. *Games*, 2012, 3, pp. 56-77.
26. "When Should a Firm Expand its Business? The Signaling Implications of Business Expansions" with Esther Gal-Or and Ana Espinola-Arredondo. *International Journal of Industrial Organization*, 2011, 29, pp. 729-45.
27. "Can Incomplete Information Lead to Underexploitation in the Commons?" with Ana Espinola-Arredondo. *Journal of Environmental Economics and Management*, 2011, 62, pp. 402-13.
28. "Risk Aversion in Auctions with Asymmetrically Informed Bidders: a 'Desensitizer' from Uncertainty," with Sandra Orozco-Aleman. *Economics Letters*, 2011, pp. 38-41.
29. "Competition for Status Acquisition in Public Good Games." *Oxford Economic Papers*, March, 2011, pp. 1-19.
30. "Free-riding in International Environmental Agreements: A Signaling Approach to Non-Enforceable Treaties," with Ana Espinola-Arredondo. *Journal of Theoretical Politics*, 2011, 23(1), pp. 111-34.

#### **OTHER (PEER-REVIEWED) PUBLICATIONS**

31. "Firm Preferences for Environmental Policy," with Sherzod Akhundjanov, *Review of Environment, Energy and Economics*, November 2014.
32. "A Systematic Presentation of Equilibrium Bidding Strategies to Undergraduate Students". Forthcoming in *Journal of Economics and Economic Education Research*.
33. "The Entry-Detering Effects of Environmental Policy," with Ana Espinola-Arredondo. *Review of Environment, Energy and Economics*, January 2013.
34. "A Systematic Procedure for Finding Perfect Bayesian Equilibria in Incomplete Information Games," *The B.E. Journal of Industrial Organization Education*, vol. 6(1), article 8, 2012.
35. "The Intuitive and Divinity Criterion: Interpretation and Step-by-Step examples," with Ana Espinola-Arredondo. *The B.E. Journal of Industrial Organization Education*, vol. 5(1), article 7, 2010.
36. "Last-Chance Sales: What Makes them Credible?" with Heriberto Gonzalez. *Ensayos Revista de Economía*, vol. 28(1), 2009.

## BOOKS

1. *Intermediate Microeconomic Theory: Tools and Step-by-Step Examples*, Ana Espinola-Arredondo and Felix Munoz-Garcia, The MIT Press, Spring 2020 (expected).
2. *Practice Exercises for "Intermediate Microeconomic Theory: Tools and Step-by-Step Examples"*, Eric Dunaway, John Strandholm, Ana Espinola-Arredondo and Felix Munoz-Garcia, The MIT Press, Spring 2020 (expected).
3. *Solutions Manual to accompany "Intermediate Microeconomic Theory: Tools and Step-by-Step Examples"*, Eric Dunaway, John Strandholm, Ana Espinola-Arredondo and Felix Munoz-Garcia, The MIT Press, Spring 2020 (expected).
4. *Advanced Microeconomic Theory: An Intuitive Approach with Examples*, Felix Munoz-Garcia, The MIT Press, August 2017.
5. *Practice Exercises for "Advanced Microeconomic Theory"*, Felix Munoz-Garcia, The MIT Press, August 2017.
6. *Solutions Manual to accompany "Advanced Microeconomic Theory: An Intuitive Approach with Examples"* (only available to instructors), Felix Munoz-Garcia, The MIT Press, August 2017.
7. *Strategy and Game Theory - Practice Exercises with Answers*, Felix Munoz-Garcia and Daniel Toro, Springer-Verlag, August 2016. (Second edition expected in 2019.)
8. *Game Theory Applications to Environmental Economics*, Ana Espinola-Arredondo and Felix Munoz-Garcia (editors), World Scientific Publishers, October 2016.

## BOOK CHAPTERS

- "Environmental Negotiations under Uncertainty," with Ana Espinola-Arredondo. *Analyzing Global Environmental Issues: Theoretical and Experimental Applications and their Policy Implications*, Ariel Dinar and Amnon Rapoport, eds. Routledge Publishers, February 2013.
- "The Role of Information in the Tragedy of the Commons," with Ana Espinola-Arredondo. *Analyzing Global Environmental Issues: Theoretical and Experimental Applications and their Policy Implications*, Ariel Dinar and Amnon Rapoport, eds. Routledge Publishers, February 2013.

## MANUSCRIPTS UNDER REVIEW

1. "Campaign contributions and policy convergence: Asymmetric agents and donation constraints," with Eric Dunaway.
2. "A Less Fuel-Efficient Fleet: Unintended Consequences of Beijing's Vehicle Lottery System," with Ziyang Yang.

## WORKING PAPERS

1. "Abolishing Environmental Regulation: Strategic Effects and Welfare Implications," with Ana Espinola-Arredondo.

2. "Nonlinear Pricing with Costly Information Acquisition," with Brett R. Devine.
3. "Common Pool Resources with Endogenous Equity Shares," with Kiriti Kanjilal.
4. "The Anticipatory Effects of Taxation in the Commons: When do they work, and when do they fail?" with Ana Espinola-Arredondo and Isaac Duah.
5. "Can Mandatory Certification Promote Greenwashing? A Signaling Approach," with Ana Espinola-Arredondo and Dolores Garrido.
6. "Organic Mergers: When Are They Welfare Improving?" with Ana Espinola-Arredondo and AeRin Jung.
7. "Endogenous Equity Shares in Cournot Competition: Welfare Analysis and Policy," with Kiriti Kanjilal.
8. "Rationalizing Time Inconsistent Behavior: The Case of Late Payments," with Kiriti Kanjilal and Robert Rosenman.
9. "Mergers between Green and Brown Firms: Output shifts, merging incentives, and welfare effects," with Ana Espinola-Arredondo and Pak-Sing Choi.
10. "Endogenous Cartel Formation with Free Market Entry and Firm Heterogeneity" with Xin Zhao and Stephen Devadoss.
11. "Pollution Abatement with Disruptive R&D Investment" with John Strandholm and Ana Espinola-Arredondo.
12. "Regulators and Environmental Activist Groups: Substitutes or Complements?" with Eleni Stathopoulou and Ana Espinola-Arredondo.

#### **AWARDS AND FELLOWSHIPS**

- Research Fellowship, Junta de Andalucía, Spain. 2009.
- Prize in Economic Research for the paper "Last-Chance Sales: What Makes them Credible?" with Heriberto Gonzalez. Ensayos Revista de Economía and Universidad Autónoma de Nuevo León, México, 2009.
- Reuben E. Schlesinger Best 2nd year paper Award. University of Pittsburgh. Department of Economics, 2006.
- Research Fellowship. University of Pittsburgh, 2006-2008.
- Excellence in Teaching Award. University of Pittsburgh/Theta-Phi-Alpha Sorority. Intermediate Microeconomics. 2006.

#### **TEACHING PROGRAM**

INSTRUCTOR. *Washington State University, Pullman, WA.*

- EconS 501, Advanced Microeconomic Theory - I (Ph.D. program) 2008-2013, 2016.
- EconS 503, Advanced Microeconomic Theory - II (Ph.D. program) 2014-present.
- EconS 424, Strategy and Game Theory (Masters and undergrad). 2009-present.
- EconS 301, Intermediate Microeconomics with Calculus (undergrad). 2010-2017.
- EconS 101, Introduction to Microeconomics (undergrad). Fall 2009.

INSTRUCTOR. *University of Wyoming.*

Environmental Regulation, Incomplete information, and Game Theory (Masters and Ph.D. students). October 2018.

INSTRUCTOR. *University of Granada, Spain.*

- Game Theory (Ph.D. students). Summer 2008.

INSTRUCTOR. *University of Pittsburgh, Pittsburgh, PA.*

- Game Theory (undergrad). Summer 2007 and Summer 2006.
- Intermediate Microeconomics (undergrad). Spring 2006.

## PROFESSIONAL SERVICE

### *School of Economic Sciences, Washington State University:*

- Associate Director, 2015-2016.
- Chair, Graduate Studies Committee, 2015-2016, 2017-present.
- Chair, MS in Applied Economics Development Committee, 2014-present.
- Member, Undergraduate Studies Awards Committee, 2012-2017.
- Member, Faculty Job Search Committee, 2012-2014.
- Member, Graduate Student Placement Seminar. 2008-present.
- Member, Ph.D. Qualifying Examinations Committee. 2008-present.
- Member, Director Advisory Committee, 2011-2012.
- Economics Club Advisor. 2009-2014.

### *Referee Service:*

European Economic Review, Journal of Economics and Management Strategy, Journal of Economic Behavior and Organization, Mathematics of Operations Research, Economic Inquiry, Journal of Environmental Economics and Management, International Game Theory Review, B.E. Journal of Economic Analysis and Policy, Environmental and Resource Economics, Environment and Development Economics, Resource and Energy Economics, Journal of Agricultural and Resource Economics, Environmental Modeling and Assessment, Oxford Economic Papers, PLoS One, Ecological Economics, Journal of Public Economic Theory, Scandinavian Journal of Economics, Bulletin of Economic Research, Journal of Institutional and Theoretical Economics, Defense and Peace Economics, Latin American Research Review, Ensayos Revista de Economía (also member of its editorial board), and Economía y Región (also member of its editorial board).

*Editorial Board:* Ensayos Revista de Economía (México), and Economía y Región (Colombia).

### *Book Reviews:*

- *Microeconomic Theory*. Andreu Mas-Colell, Michael D. Whinston and Jerry R. Green, 2<sup>nd</sup> edition. Oxford University Press;
- *Games, Strategies, and Decision Making*. Joseph E. Harrington. 2<sup>nd</sup> edition. Worth Publishers;
- *Game Theory and Behavior*, Jeffrey Carpenter and Andrea Robbett, Cambridge University Press.
- *Microeconomics*, Jeffrey Perloff, 7<sup>th</sup> edition, Addison Wesley-Pearson;
- *Microeconomics*, Austan Goolsbee, Steven Levitt and Chad Syverson, 1<sup>st</sup> edition, Worth Publishers; and
- Intermediate Microeconomics course (Econ201, online course) for the Saylor Foundation.

### *Students Advised:*

- Ph.D. Students:
  - *Ph.D. Chair:*
    - Ziyang Yang (July 2017, Assistant Professor at Southwestern University of Finance and Economics, China),
    - Eric Dunaway (April 2018, Assistant Professor at Wabash College), and
    - Kiriti Kanjilal (April 2018, Assistant Professor at IIT, Delhi);
  - *Ph.D. Co-Chair:*
    - Sherzod Akhundjanov (2016, Assistant Professor at Utah State University),
    - Brett Devine (August 2018, Instructor at Washington State University);
    - Pak-Sing Choi (December 2018, Instructor at Washington State University).
  - *Ph.D. Committee:*
    - Jukwan Lee (expected, May 2019).

- Jude Bayham (2013, Post-Doc at Yale University, now Assistant Professor at Colorado State University),
  - Tongzhe Li (2015, Assistant Professor at the University of Windsor, Canada),
  - Lyliana Gayoso (2016, Senior Economist at the Ministry of Economic Planning-Paraguay),
  - Yongwon Cho (Korea Institute for Industrial Economics and Trade),
  - John Strandholm (2017, Assistant Professor at University of South Carolina-Upstate),
  - Bing Han (2015, Post-Doc at WSU),
  - Georgina Mitchell (Economist, Coeur d'Alene Tribe),
  - Jiehong Qiu (April 2018, Co-founder of Bayes Data Intelligence),
  - Xinlong Tan (April 2018, Chief Data Officer, Bayes Data Intelligence Technology Service Inc., China),
  - Casey Bolt (expected December 2018),
  - Aerin Jung (expected December 2018),
  - Austin Miller (July 2018, Assistant Professor at Hamline University)
  - Jukwan Lee (expected May 2019).
  - Josh Tibbits (expected May 2020).
  - Dolores Garrido (expected May 2020).
- M.Sc. Students:
    - *M.Sc. Chair:* Michael Gillman, Gulnara Zaynutdinova (now Assistant Professor at the University of West Virginia) and Andrew Erickson,
    - *M.Sc. Committee:* Xin Wang, Kevin Graham, Trang Tran, Ailun Li.
  - Undergraduate Students: Nicholas Colby (as Chair, Honors program).

## PRESENTATIONS

- World Congress of Environmental and Resource Economists. Gothenburg, Sweden. June 25<sup>th</sup>-29<sup>th</sup>, 2018.
- 16<sup>th</sup> International Industrial Organization Conference, Indianapolis, Indiana, April 20-22, 2018.
- Southern Economic Association, 87<sup>th</sup> Annual Meetings, Tampa, Florida, November 17-19, 2017.
- Workshop in Environmental and Resource Economics in Memory of Pierre Lasserre, Université du Québec à Montréal (UQAM), Montréal, Canada, October 2017.
- 2017 AAEA Annual Meeting in Chicago, IL July 30-August 1, 2017
- First Catalan Economic Society Conference (CESC). Barcelona, Spain. May 26 – 27, 2017.
- University of Barcelona, Spain. Department of Economics seminar, April 7<sup>th</sup>, 2017.
- The 91<sup>st</sup> annual Western Economic Association International conference, Association of Environmental and Resource Economists session. Portland, OR. June 29-July 3, 2016.
- 13<sup>th</sup> International Industrial Organization Conference, Boston, MA, April 24-26, 2015.
- 5<sup>th</sup> Workshop on Game Theory in Energy, Resources and Environment. HEC Montréal, Canada. May 26-27, 2014.
- Western Economic Association, 88<sup>th</sup> Annual Conference, Seattle, June-July 2013.
- ASSA Annual Meeting, San Diego. January, 2013.
- 4<sup>th</sup> Workshop on Game Theory in Energy, Resources and Environment. HEC Montréal, Canada. November 29-30, 2012.
- Washington State University, School of Economic Sciences seminars, 2009-2012.
- 10<sup>th</sup> International Industrial Organization Conference, George Mason University, Arlington, VA, March 16-18, 2012.
- 5<sup>th</sup> Conference on the Political Economy of International Organizations, Villanova University, June, 26-28, 2012.
- 8<sup>th</sup> Game Theory Practice Meeting at University of California, Riverside, July, 2011.

- 86th Annual Conference of the Western Economic Association International, San Diego, June 29-July 3, 2011.
- Universidad de Concepción, Chile, Department of Economics seminar, May 2011.
- 9<sup>th</sup> International Industrial Organization Conference, Boston, April 7-9, 2011.
- Summer Meeting of the Association of Environmental and Resource Economists (AERE), Seattle, June 9-10, 2011.
- Universidad Católica de Chile, Department of Economics seminar, Chile, May 2011.
- World Congress of Environmental and Resource Economists. Montréal, Canada. June 28<sup>th</sup>-July 2<sup>nd</sup>, 2010.
- ASSA Annual Meeting, Denver. January 8, 2011.
- Third Workshop on Game Theory in Energy, Resources and Environment. HEC Montréal, Canada. December 10-11, 2009.
- 17<sup>th</sup> Annual Conference of the European Association of Environmental and Resource Economics (EAERE), Amsterdam, The Netherlands, June 24-27, 2009.
- Universidad de Chile, Centro de Economía Aplicada (CEA). School of Industrial Engineering, Santiago, Chile, December 2008.
- Second Workshop on Game Theory in Energy, Resources and the Environment. HEC Montréal, Canada. November 20-21<sup>st</sup>, 2008.
- SING5 Conference on Game Theory and Applications, Amsterdam, The Netherlands, July 1-3, 2009.
- 8<sup>th</sup> International Industrial Organization Conference, Boston, April 3-5, 2009.
- Invited seminars at: Penn-State University, Washington State University, University of Pittsburgh, University of Alicante, University of Navarra, University of Granada, University of the Basque Country, IESE Business School, and University of the Balearic Islands, 2007.
- Meeting of the Spanish Economic Association, Granada, Spain. December 2007.
- SING3 Conference on Game Theory and Applications, Madrid, Spain, July 2007.
- Economic Science Association World Meeting, Rome, Italy, June 2007.
- Midwest Economics Association. 71<sup>st</sup> Annual Meeting, Minnesota. March, 2007.
- University of Barcelona-Barcelona Institute of Economics, Department seminar, July 2007.
- 17<sup>th</sup> Stony Brook Conference on Game Theory. New York, July 2006.

#### **PROFESSIONAL MEMBERSHIP**

- American Economic Association, Industrial Organization Society, European Economic Association, Southern Economic Association, and Association of Environmental and Resource Economists.