

Renato Molina

Assistant Professor in Environmental and Resource Economics

Rosenstiel School & Business School · University of Miami

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EMPLOYMENT, ACADEMIC POSITIONS AND AFFILIATIONS

**Rosenstiel School of Marine, Atmospheric, and Earth Science &
Miami Herbert Business School, University of Miami**

Assistant Professor in Environmental and Resource Economics

August 2018 - Present
Miami, FL, USA

Abess Center for Ecosystem Science & Policy, University of Miami

Abess Center Faculty Scholar

May 2019 - Present
Miami, FL, USA

Facultad de Recursos Naturales, PUCV

Visiting Scholar

April 2018 - Present
Valparaíso, Chile

Sustainable Fisheries Group, UC Santa Barbara

Project Researcher

October 2013 - June 2018
Santa Barbara, CA, USA

Facultad de Recursos Naturales, PUCV

Lecturer

March 2010 - August 2016
Valparaíso, Chile

Bren School, UC Santa Barbara

Graduate Research Assistant

November 2012 - August 2013
Santa Barbara, CA, USA

School of Marine Science, PUCV

Research Assistant

July 2007 - December 2009
Valparaíso, Chile

Private Consultant

Freelance Industrial Operations Modeler

July 2007 - December 2009
Valparaíso, Chile

EDUCATION

University of California, Santa Barbara

Doctor of Philosophy in Economics

2018

University of California, Santa Barbara

Master of Arts in Economics

2015

University of California, Santa Barbara

Master of Environmental Science and Management

2013

Pontificia Universidad Católica de Valparaíso

Professional Degree of Aquaculture Engineering

2010

Pontificia Universidad Católica de Valparaíso

Bachelor of Sciences in Fisheries Science

2009

TEACHING

Economics and Politics of the Environment

Instructor - *Undergraduate-Graduate*

2021 - To date
University of Miami, USA

Data Analysis for Environmental Science and Policy Instructor - <i>Graduate</i>	2019 - To date University of Miami, USA
Applied Environmental Economics Instructor - <i>Graduate</i>	2019 - 2020 University of Miami, USA
Economics of Fisheries Management Instructor - <i>Graduate and Government Officials</i>	2017 - 2018 UC Santa Barbara, USA
Economics of Environmental Management Teaching Assistant - <i>Graduate</i>	2017 UC Santa Barbara, USA
Intermediate Macroeconomic Theory Teaching Assistant - <i>Undergraduate</i>	2016 UC Santa Barbara, USA
Operations Research Instructor - <i>Undergraduate</i>	2010 - 2011 PUCV, Chile
Production and Operations Management Instructor - <i>Undergraduate</i>	2010 - 2011 PUCV, Chile
Operations Research Teaching Assistant - <i>Undergraduate</i>	2007 - 2009 PUCV, Chile

RESEARCH

Working papers

The impact of proximity to urban areas on the success of fishing cooperatives: evidence from Mexico

[Under review]

(with E. Wintergalen)

The Social Value of Predicting Hurricanes

[Under review]

(with I. Rudik)

Trans-sector livelihood resilience in an urban small-scale fishery

[Under review]

(with E. Wintergalen and S. Fulton)

Public Preferences for Hard and Nature-based Measures in Miami-Dade County

[Under review]

(with C. Dario and D. Kelly)

The Economic Impact of Modern Piracy on Global Shipping

(with G. McDermott, G. McDonald, and J.C. Villaseñor-Derbez)

Peer-reviewed

Molina, R., Costello, C. and Kaffine, D., 2024. Sharing and expanding the co-benefits of conservation. *Ecological Economics*, 218(2024), 108113.

Ovando, D., Liu, O., **Molina, R.**, Parma, A. and Szuwalski, C., 2023. Global effects of marine protected areas on food security are unknown. *Nature*, 621(7979), E34-E36.

Kelly, D. and **Molina, R.**, 2023. Adaptation Infrastructure and its Effects in Property Values in the Face of Climate Impacts. *Journal of the Association of Environmental and Resource Economists* 10(6), p1405-1438.

Pearson, H.C., Savoca, M.S., Costa, D.P., Lomas, M.W., **Molina, R.**, Pershing, A.J., Smith, C.R., Villaseñor-Derbez, J.C., Wing, S.R. and Roman, J., 2022. Whales in the carbon cycle: can recovery remove carbon dioxide?. *Trends in Ecology & Evolution* 38(3), p238-249.

Wintergalen, E.W., Oyanedel, R., Villaseñor-Derbez, J.C., Fulton, S. and **Molina, R.**, 2022. Opportunities and challenges for livelihood resilience in urban and rural Mexican small-scale fisheries. *Ecology and Society*, 27(3), p.46.

Molina, R., 2022. The lack of property rights can make natural disasters worse: The case of small-scale fisheries in Chile. *Ecological Economics*, 200, p.107540.

Liu, O.R. and **Molina, R.**, 2021. The persistent transboundary problem in marine natural resource management. *Frontiers in Marine Science*, p.1292.

Molina, R., Letson, D., McNoldy, B., Mozumder, P. and Varkony, M., 2021. Striving for Improvement: The Perceived Value of Improving Hurricane Forecast Accuracy. *Bulletin of the American Meteorological Society*, 102(7), p.E1408-E1423.

Ovando, D., Liu, O., **Molina, R.** and Szuwalski, C., 2021. Models of marine protected areas must explicitly address spatial dynamics. *Proceedings of the National Academy of Sciences*, 118(23), p.e2025958118.

Costello, C. and **Molina, R.**, 2021. Transboundary marine protected areas. *Resource and Energy Economics*, 65, p.101239.

Palacios-Abrantes, J., Herrera-Correal, J., Rodríguez, S., Brunkow, J. and **Molina, R.**, 2018. Evaluating the bio-economic performance of a Callo de hacha (*Atrina maura*, *Atrina tuberculosa* & *Pinna rugosa*) fishery restoration plan in La Paz, Mexico. *PloS one*, 13(12), p.e0209431.

Liu, O.R., **Molina, R.**, Wilson, M. and Halpern, B.S., 2018. Global opportunities for mariculture development to promote human nutrition. *PeerJ*, 6, p.e4733.

Molina, R., Cerda, R., González, E. and Hurtado, F., 2012. Simulation model of the scallop (*Argopecten purpuratus*) farming in northern Chile: some applications in the decision making process. *Latin American Journal of Aquatic Research*, 40(3), p.679-693.

Book chapters

Norambuena, R., González, E., **Molina, R.** & Gomez, A. 2017. Impacts of Climate Change on Marine Fisheries and Aquaculture in Chile (Chapter 10 - Aquaculture). In: Phillips, B. & Pérez, M. (eds) *The Impacts of Climate Change on Fisheries and Aquaculture*. John Wiley & Sons, Inc., Hoboken, NJ, USA.

González, E., Norambuena, R., **Molina, R.** & Thomas, F. 2013. Evaluación de Potenciales Impactos y Reducción de la Vulnerabilidad de la Acuicultura al Cambio Climático en Chile [Potential Impacts and Reduction of the Aquaculture Vulnerability to Climate Change in Chile]. In: *Cambio climático, pesca y acuicultura en América Latina: Potenciales impactos y desafíos para la adaptación*. Taller FAO/Centro de investigación Oceanográfica en el Pacífico Sur Oriental (CO-PAS), Universidad de Concepción, Concepción, Chile. FAO Actas de Pesca y Acuicultura. No. 29. Roma, FAO, 275-335p.

AWARDS

Lone Mountain Fellowship <i>Property and Environment Research Center</i> Received funding to undertake research that advances our understanding of the role of markets, public policy, property rights, and governance in affecting environmental resources.	2023
Early-Career Research Fellowship <i>Gulf Research Program, National Academy of Sciences, Engineering, and Medicine</i> Recognized for emerging scientific leadership related to work on coastal resilience in the Gulf of Mexico.	2022
Provost Research Award <i>University of Miami, Miami</i> Received financial support to perform independent research.	2021
Provost Research Award <i>University of Miami, Miami</i> Received financial support to perform independent research.	2019
White Family Fellowship <i>University of California, Santa Barbara</i> Recognized for outstanding academic achievement in the Department of Economics.	2017
Lindau Nobel Laureate Meetings Fellowship <i>Lindau Nobel Laureate Meetings Foundation</i> Nominated and selected to attend the 6th Lindau Meeting on Economic Sciences at Lindau, Germany.	2017
Honorable Mention <i>North American Association of Fisheries Economists</i> Runner-up for Best Student Paper in the 2017 NAAFE forum held in La Paz, Mexico.	2017
Ronald Coase Fellowship <i>Ronald Coase Institute</i> Received financial support to attend to the Ronald Coase Workshop on institutional analysis in Xiamen, China.	2017
Graduate Student Fellowship <i>Property and Environment Research Center</i> Received financial support to conduct research on the performance of property rights for common pool resources under natural disasters.	2016
H. William Kuni Bren Fellowship <i>University of California, Santa Barbara</i> Received financial support to conduct interdisciplinary research on the future development of aquaculture when contrasted with environmental, economic and human health guidelines.	2016
Becas Chile <i>Chilean Government</i> Received full funding for a four-year Ph.D. in Economics program.	2014
Latin American Fisheries Fellowship <i>University of California, Santa Barbara / Walton Foundation</i>	2011

Received full-funding for a two-year Master in Environmental Science and Management program.

Becas Chile

2011

Chilean Government

Received supplemental funding for a two-year Master in Environmental Science and Management program.

Best Graduate

2010

Pontificia Universidad Católica de Valparaíso

Recognized for the best academic performance of the 2010 Aquaculture Engineering graduation class.

APROPECH Best Thesis Award

2010

Pontificia Universidad Católica de Valparaíso

Recognized for the best thesis project of the 2010 Aquaculture Engineering graduation class.

Best Academic Performance

2009

Pontificia Universidad Católica de Valparaíso

Ranked 1st in academic performance for the overall 2009 Aquaculture Engineering class.

GRANTS

National Oceanic and Atmospheric Administration, Florida - USA, 2023. Quantifying the Socio-Economic Benefits of Augmented Hurricane Observations.

(\$500,000 - PI)

National Academy of Sciences, Engineering, and Medicine - USA, 2022. Early-Career Research Fellowship of the Gulf Research Program.

(\$76,000 - PI)

University of Miami, Florida - USA, 2021. U-LINK (Phase I). Developing resiliency tools and metrics and co-designing an expert and stakeholder coalition to sustain predictions on the health of South Florida's Biome through a human, urban, and environmental transect.

(\$86,000 - Co-PI)

University of Miami, Florida - USA, 2021. Provost Research Award. Climate Resilience Infrastructure and Gentrification.

(\$10,500 - PI)

National Oceanic and Atmospheric Administration, Florida - USA, 2020. The Social Value of Hurricane Forecasts.

(\$400,000 - PI)

University of Miami, Florida - USA, 2020. U-LINK (Phase II - Year 2). Next Generation of Coastal Structures: Incorporating Ecology, Engineering, Economics, and Aesthetics for a Changing Ocean.

(\$150,000 - Co-PI)

University of Miami, Florida - USA, 2019. U-LINK (Phase II - Year 1). Next Generation of Coastal Structures: Incorporating Ecology, Engineering, Economics, and Aesthetics for a Changing Ocean.

(\$150,000 - Co-PI)

University of Miami, Florida - USA, 2019. Provost Research Award. The Impact of Piracy on Global Shipping.

(\$17,000 - PI)

University of Miami, Florida - USA, 2018. U-LINK (Phase I). Next Generation of Coastal Structures: Incorporating Ecology, Engineering, Economics, and Aesthetic for a Changing Ocean.
(\$75,000 - Co-PI)

National Oceanic and Atmospheric Administration, Florida - USA, 2018. A Web-based Survey to Estimate the Economic Value of Improved Hurricane Forecasts.
(\$400,000 - PI)

The Nature Conservancy, Mexico - Peru, 2017. Technical Training in the Economics of Fisheries Management for Decision Makers
(\$47,000 - PI)

The Nature Conservancy, Peru 2017 Technical Training in the Economics of Fisheries Management for Decision Makers.
(\$35,000 - PI)

The Nature Conservancy, Peru, 2016. Improving the Management of Peru's Anchoveta Fishery: Understanding the Socio-Economic Impacts of Management Strategies.
(\$55,000 - Co-PI)

Undersecretariat for Fisheries and Aquaculture, Chile, 2009. Methodology for the Calculation of User Fees in the Chilean Territorial User Fishery Rights System (TURF) for Benthic Fisheries.
(\$50,000 - Co-PI)

Asia-Pacific Economic Cooperation, Chile, 2009. Development of an APEC Strategy on Sustainable Aquaculture.
(\$30,000 - Co-PI)

Fund for Fisheries Research, Chile, 2008. Technical basis for the Fisheries Management Plan in the Southern Chilean Groundfish Fishery.
(\$200,000 - Co-PI)

PRESENTATIONS

2024

CESifo Area Conference on Energy and Climate Economics, Munich, Germany; Annual Meeting of the Allied Social Science Association, San Antonio, Texas; Japan-Tokyo Resource and Environmental Economics (J-TREE) Seminar Series, Tokyo, Japan; Network for Engineering With Nature (N-EWN) National Policy Forum on Nature-based Solutions, National Academies of Sciences, Engineering, and Medicine, Washington D.C.; Gulf of Mexico Conference, Tampa, Florida.

2023

Pontificia Universidad Catolica de Valparaiso, Valparaiso, Chile; Occasional Workshop in Environmental and Resource Economics, Santa Barbara, California; Alaska's 21st Century Economy, University of Alaska, Anchorage, Alaska. University of Hawaii (virtual); Property and Environment Research Center, Bozeman, Montana; University of California, San Diego, California; National Oceanic and Atmospheric Administration (virtual); International Whaling Commission, Convention on Migratory Species Workshop, United Nations, Bonn, Germany; American Geophysical Union Annual Meeting, San Francisco, California.

2022

Heartland Workshop in Environmental and Resource Economics, University of Illinois, Urbana-Champaign; AERE Summer Conference, Miami, Florida; Pontificia Universidad Catolica de Valparaiso, Valparaiso, Chile; International Atmospheric Rivers Conference, Santiago, Chile; University of California, San Diego, California.

2021

AERE Summer Conference, Miami, Florida (Virtual); National Oceanic and Atmospheric Administration Seminar, Miami, Florida.

2020 - Virtual

Workshop in Environmental Economics and Data Science, University of Oregon; Triangle Resource and Environmental Economics Seminar, Duke University, North Carolina State University, RTI International; Climate Adaptation Research Symposium, University of California, Los Angeles; National Oceanic and Atmospheric Administration Seminar.

2019

Southern Economic Association Annual Meetings, Fort Lauderdale, Florida; Occasional Workshop in Environmental and Resource Economics, Santa Barbara, California; Camp Resources, North Carolina State University, Ashville, North Carolina; AERE Summer Conference, Tahoe, California; Workshop in Environmental Economics and Data Science, University of Oregon, Portland, Oregon.

2018

Occasional Workshop in Environmental and Resource Economics, University of California, Santa Barbara, California; University of California, Berkeley, California; University of Miami, Miami, Florida; Resources for the Future, Washington D.C.

2017

North American Association of Fisheries Economists, La Paz, Mexico; Ministry of Production, Lima, Peru.

2015

World Bank, Latin American Regional Office, Lima, Peru; Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile.

2014

International Conference of the International Institute of Fisheries Economics & Trade, Brisbane, Australia; Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile; The Nature Conservancy, Valdivia, Chile.

SKILLS & INTERESTS

Languages

Spanish (native) - English (fluent).

Peer-review

American Journal of Agricultural Economics - Advances in Econometrics - Conservation Biology - Energy and Resource Economics - Environment and Resource Economics - Journal of Environmental Economics and Management - Journal of the Association of Environmental and Resource

Economists - Journal of Political Economy - Land Economics - Natural Hazards - Nature - Nature Climate Change - Nature Sustainability - Real Estate Economics.

Research Interests

Environmental and Resource Economics - Dynamic Optimization - Game Theory - Political Economy.

Miscellaneous Interests

Music - Photography - Aviation.