

# 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

<b>Rosenstiel School of Marine, Atmospheric, and Earth Science &amp; Miami Herbert Business School, University of Miami</b> <i>Assistant Professor in Environmental and Resource Economics</i>	August 2018 - Present Miami, FL, USA
<b>CESifo</b> <i>Research Network Affiliate</i>	April 2024 - Present Munich, Germany
<b>Abess Center for Ecosystem Science &amp; Policy, University of Miami</b> <i>Abess Center Faculty Scholar</i>	May 2019 - Present Miami, FL, USA
<b>Facultad de Recursos Naturales, PUCV</b> <i>Visiting Scholar</i>	April 2018 - Present Valparaíso, Chile
<b>Sustainable Fisheries Group, UC Santa Barbara</b> <i>Project Researcher</i>	October 2013 - June 2018 Santa Barbara, CA, USA
<b>Facultad de Recursos Naturales, PUCV</b> <i>Lecturer</i>	March 2010 - August 2016 Valparaíso, Chile
<b>Bren School, UC Santa Barbara</b> <i>Graduate Research Assistant</i>	November 2012 - August 2013 Santa Barbara, CA, USA
<b>School of Marine Science, PUCV</b> <i>Research Assistant</i>	July 2007 - December 2009 Valparaíso, Chile
<b>Private Consultant</b> <i>Freelance Industrial Operations Modeler</i>	July 2007 - December 2009 Valparaíso, Chile

## EDUCATION

<b>University of California, Santa Barbara</b> Doctor of Philosophy in Economics	2018
<b>University of California, Santa Barbara</b> Master of Arts in Economics	2015
<b>University of California, Santa Barbara</b> Master of Environmental Science and Management	2013
<b>Pontificia Universidad Católica de Valparaíso</b> Professional Degree of Aquaculture Engineering	2010
<b>Pontificia Universidad Católica de Valparaíso</b> 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 - *Graduate*

2019 - To date  
University of Miami, USA

### **Applied Environmental Economics**

Instructor - *Graduate*

2019 - 2020  
University of Miami, USA

### **Economics of Fisheries Management**

Instructor - *Graduate and Government Officials*

2017 - 2018  
UC Santa Barbara, USA

### **Economics of Environmental Management**

Teaching Assistant - *Graduate*

2017  
UC Santa Barbara, USA

### **Intermediate Macroeconomic Theory**

Teaching Assistant - *Undergraduate*

2016  
UC Santa Barbara, USA

### **Operations Research**

Instructor - *Undergraduate*

2010 - 2011  
PUCV, Chile

### **Production and Operations Management**

Instructor - *Undergraduate*

2010 - 2011  
PUCV, Chile

### **Operations Research**

Teaching Assistant - *Undergraduate*

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

[R&R at Marine Policy]

(with C. Dario and D. Kelly)

The Economic Impact of Modern Piracy on Global Shipping

[Under review]

(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** 2023  
*Property and Environment Research Center*  
Received funding to undertake research that advances our understanding of the role of markets, public policy, property rights, and governance in affecting environmental resources.
- Early-Career Research Fellowship** 2022  
*Gulf Research Program, National Academy of Sciences, Engineering, and Medicine*  
Recognized for emerging scientific leadership related to work on coastal resilience in the Gulf of Mexico.
- Provost Research Award** 2021  
*University of Miami, Miami*  
Received financial support to perform independent research.
- Provost Research Award** 2019  
*University of Miami, Miami*  
Received financial support to perform independent research.
- White Family Fellowship** 2017  
*University of California, Santa Barbara*  
Recognized for outstanding academic achievement in the Department of Economics.
- Lindau Nobel Laureate Meetings Fellowship** 2017  
*Lindau Nobel Laureate Meetings Foundation*  
Nominated and selected to attend the 6th Lindau Meeting on Economic Sciences at Lindau, Germany.
- Honorable Mention** 2017  
*North American Association of Fisheries Economists*  
Runner-up for Best Student Paper in the 2017 NAAFE forum held in La Paz, Mexico.
- Ronald Coase Fellowship** 2017  
*Ronald Coase Institute*  
Received financial support to attend to the Ronald Coase Workshop on institutional analysis in Xiamen, China.
- Graduate Student Fellowship** 2016  
*Property and Environment Research Center*  
Received financial support to conduct research on the performance of property rights for common pool resources under natural disasters.
- H. William Kuni Bren Fellowship** 2016  
*University of California, Santa Barbara*

Received financial support to conduct interdisciplinary research on the future development of aquaculture when contrasted with environmental, economic and human health guidelines.

**Becas Chile** 2014  
*Chilean Government*

Received full funding for a four-year Ph.D. in Economics program.

**Latin American Fisheries Fellowship** 2011  
*University of California, Santa Barbara / Walton Foundation*

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**

University of California, Santa Cruz (virtual); 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, Asheville, 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.