

# Julián Olaya Restrepo

PROTECTED AREAS · MARINE ECOLOGY · FISHERIES SCIENCE · SOCIOECOLOGICAL SYSTEMS · INVERTEBRATE ECOLOGY

Postdoctoral Scholar - Stanford University

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## Resume

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My research aims to generate information that can be integrated into conservation and management programs. I have developed substantial expertise in marine biology, with a specific focus on fisheries and coral reef ecology. Through my academic endeavors and practical experiences, I have acquired comprehensive knowledge regarding the intricate dynamics within marine ecosystems and their susceptibility to environmental changes. Furthermore, I actively participate in diverse conservation projects, emphasizing social engagement as a critical component for the success of conservation efforts. To address the complexities of socio-ecological systems, I employ analytical techniques from both the natural sciences, such as biostatistics and bioinformatics, and the social sciences, such as network analysis, participatory research, and citizen science. By engaging local communities, stakeholders, and diverse interest groups, I contribute to developing and implementing inclusive conservation strategies that foster a sense of ownership and shared responsibility. Moreover, my research and practical involvement have enabled me to explore various governance models in conservation, evaluating their effectiveness in promoting sustainable practices and ensuring the long-term protection of marine ecosystems.

## Education

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### Federal University of Paraná

Brazil

#### PHD IN ZOOLOGY

2016 - 2020

- Thesis: "Coral reefs conservation in a network of MPAs in Brazil". Advisor: Dr. Marcos S. Barbeitos

### UGent

Belgium

#### EMBC MASTER IN MARINE BIODIVERSITY AND CONSERVATION

2012 - 2014

- Thesis: "Ecology of *Holothuria arguinensis*: Estimation of population parameters and relationship with substrate types". Advisor: Dra. Mercedes González-Wangüemert

### University of Antioquia

Colombia

#### BIOLOGY

2000 - 2006

- Gpa: 4.4/5.0 - Thesis: "Characterization of reef fish communities in the Santa Marta area (Colombian Caribbean)" Advisor: Dra. Catalina Reyes-Nivia

## Publications

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### INDEXED PUBLICATIONS

- 2024 Environmental, social, and management aspects in a hotspot: interaction networks between marine protected areas. Zapelini C, Sampaio de Souza D, Oliveira de Santana R, **Olaya-Restrepo, J**, Schiavetti A. Ocean and Coastal Management, Volume 251, ISSN 0964-5691, <https://doi.org/10.1016/j.ocecoaman.2024.107068> .
- 2022 A multilayered network analysis of social participation in the management of Marine Protected Areas in Brazil. **Olaya-Restrepo, J**, Alexandre Schiavetti, Marcos S. Barbeitos. Marine Policy, 146, 105329. <https://doi.org/10.1016/j.marpol.2022.105329>
- 2017 Estimation of growth parameters for the exploited sea cucumber *Holothuria arguinensis* from South Portugal. **Olaya-Restrepo, J**, Karim Erzini, Mercedes González-Wangüemert. Fish. Bull. 116:1-8, doi: 10.7755/FB.116.1.1
- 2016 Assembly of Reef Fish in the Santa Marta Area and Tayrona National Natural Park. Bul. **Olaya-Restrepo, J**, María Catalina Reyes Nivia, Alberto Rodríguez Ramírez. Invest. Mar. Cost., 37(1): 111-127

### BOOK CHAPTERS

- Dialogue Between Worlds: Integrated Quilombola Knowledge in Mammal Conservation. In: SANTOS, M. P. dos (Org.); CUNHA JUNIOR, H. (Org.). Afro Patrimônio Cultural. Series African and Afro-Brazilian Knowledge 1st Edition. Fortaleza. Editora Via Dourada, 2019. v. 1. 331p. ISBN - 978-65-80609-00-0

Toward the Sustainability of Coastal Marine Ecosystems in Utría Natural Park. Ed. Nancy Bohórquez and JC Troncoso. Medellín (Colombia): Ministry of Environment, Housing, and Territorial Development, Colombian National Natural Parks system, 2010. - 122 p. ISBN: 9789588426341

State of Coral Reefs and Coral Reef Fish Communities in Santa Marta. In: Chapter III. State of Knowledge of Coral Reefs. Report on the State of Coastal and Marine Environments in Colombia: Year 2006

Evaluation and Monitoring of SIMAC in the Santa Marta Zone. In: Chapter II. State of Coral Reefs in Colombia. Report on the State of Marine Environments in Colombia: Year 2005. INVEMAR, Series of Periodic Publications, No. 8, 360p

## Professional Experience

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2023 **Professional consulting**, University of Antioquia. Facilitate engagement sessions for social ownership and assess the extent of social actors' appropriation within the context of applying the GOTA governance model in protected area management, as well as other conservation strategies, environmental governance, and socio-environmental conflict research and management.

2023 **Professional consulting**, University of Antioquia - Professional to conduct technical activities with the goal of establishing foundational data for ecologically significant species groups, including fish, amphibians, and reptiles, within the Katíos National Natural Park (PNN Katíos). This role is integral to the implementation of the research portfolio within the Protected Area (PA).

2022-2023 **Professional consulting**, University of Antioquia - Professional to apply the Environmental Territorial Governance Model (GOTA) to the management of protected areas and other conservation strategies, while also facilitating the systematic documentation of the participatory engagement of social actors in four state-designated protected areas under the jurisdiction of Corantioquia.

2022 **Professional consulting**, University of Antioquia - Professional to lead the project focused on verifying the presence, distribution, and management of fish species that trigger critical habitat considerations in the Antioquia Port Viaduct area

2021-2022 **Professional consulting**, University of Antioquia - Professional to oversee project tasks focused on promoting cooperation between the academic and governmental sectors. The primary goal was to empower social actors by enhancing their capacity and influence in territorial environmental management. Additionally, the role includes contributions to the creation and refinement of methodologies for their participation in formulating and updating environmental management plans.

2015-2016 **Research assistant**, University of Antioquia - Biologist to conduct fieldwork and stock assessment as part of the project 'Guidelines for Developing a Fisheries Management Plan in the Gulf of Urabá.' In this role, I was responsible for collecting and analyzing data to estimate the biological and fishing productivity of fishing locations in the Gulf of Urabá.

2009-2012 **Research and Monitoring Professional**, National Natural Parks of Colombia - Construction and implementation of the research plan and monitoring program of the Utría National Natural Park (PNN Utría), identification of information gaps, definition of the battery of indicators (state-pressure-response), and monitoring methodologies to be implemented in the park based on the identified needs, and analysis of the fishing monitoring data to support the environmental zoning of the protected area.

## Relevant Courses

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**GIS Challenge - Biodiversity and Environment.** 2023. Introduction to Niche Modeling and Geoportals; Visual Analysis of Images and Spectral Indices with Google Earth, ArcGIS, QGIS, and R; Exploratory Data Analysis with R. GIS Environmental Institute, Colombia

**Genomics in Ecology and Evolution: An Introduction to RAD-Seq Methodology.** 2018. Oswaldo Cruz Institute FIOCRUZ, Rio de Janeiro.

**Introduction to the Science of Sustainability in Marine and Coastal Spaces.** 2015. University of Magdalena, Colombia.

**Scientific Diving**, Specialty Course. 2014. SSI Scuba School International, Portugal.

**Introduction to Ocean Data Management.** 2013. International Oceanographic Data and Information Exchange (IODE)

Program, Belgium.

**Estuarine Fish Ecology: Sampling Design and Hypothesis Testing.** 2007. National University of Colombia.

**Multivariate Analysis of Biodiversity and Environmental Impact Assessment in Protected Areas.** 2007. Pedagogical and Technological University of Colombia

## Research Experience

2016–2021 Development of New Molecular Markers in Stony Corals (Cnidaria: Scleractinia) and Evaluation of Their Utility for Species Delimitation, Genetic Diversity Characterization, and Connectivity Assessment among Coral Populations along the Brazilian Coast. *Researcher. Funded by Grupo Boticário Foundation*

2015–2016 Priority Guidelines for the Development of the Fisheries Management Plan in the Gulf of Urabá - LOPEGU". *Researcher. Ffunded by the Secretary of Agriculture and Sustainable Development of Antioquia and the University of Antioquia*

2011–2012 Key Areas for the Nursery of the *Sphyrna lewini* Shark in Utria National Park. *Principal Investigator. Project developed between the National Natural Parks System of Colombia and the Malpelo Foundation and Other Marine Ecosystems, and Fund by the National Parks System: "Mono Hernández", USAID, Natural Heritage Fund*

2005-2006 Condition of Reef Fish Communities in the Santa Marta Area: Supporting the Management of Tayrona National Park. *Student Researcher, INVEMAR*

## Awards, Scholarships, and Grants

2016	<b>Professional Development of Personnel in Higher Education - National Council for Scientific and Technological Development</b> , CAPES CNPq, Brazil	\$ 7,000 USD
2012	<b>Credit-Scholarship Program</b> , COLFUTURO, Colombia	\$ 25.760,91 USD
2011	<b>Research Fund of the National Parks System: "Mono Hernández"</b> , USAID, Natural Heritage Fund	\$ 12,441 USD

## Teaching Experience

February to July 2020	<b>Metazoa III (BZO48)</b> , Teaching Assistant	Federal University of Paraná, Brazil
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## Computational Skills

QGIS, MySQL, SAGA, R, Python, Unix, GRASS, Inkscape, JASP, PRIMER, LATEX, WordPress, Adobe software, Microsoft Office

## Linguistic Proficiency

Spanish: Native, English: Fluent, Portuguese Fluent

## Professional References

### Dr. Marcos Soares Barbeitos

Professor, Department of Zoology, Federal University of Paraná  
PhD Advisor  
Telephone: +55 41 3361-1634, Email: msbarbeitos@gmail.com

### Dra. Jenny Leal Florez

Professor, Academic Environmental Corporation  
University of Antioquia

Project Director and Coordinator during Professional Consultancies  
Telephone: +57 4 2198332, Email: jenny.leal@udea.edu.co

**Dr. Alexandre Schiavetti**

Laboratory of Ethnoconservation and Protected Areas  
State University of Santa Cruz  
Academic Advisor during the Doctoral Thesis  
Telephone: (+573) 36805262, Email: aleschi@uesc.br

## Research Affiliations

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Interdisciplinary Research Group on Marine and Coastal Systems - GISMAC, University of Antioquia

Institute of Regional Studies (INER), University of Antioquia

Marine Organism Evolution Laboratory, Federal University of Paraná, Brazil