

## **Manoela Romanó de Orte, Ph.D.**

Postdoctoral Research Scientist  
Department of Global Ecology  
Carnegie Institution for Science  
(650) 6210879

[mromano@carnegiescience.edu](mailto:mromano@carnegiescience.edu)

[www.manoeladeorte.com](http://www.manoeladeorte.com)

### **Education**

---

<b>Ph.D. Water and Coastal Management</b> University of Cádiz, Spain	2009-2013
<b>M.S. Water and Coastal Management</b> University of Cádiz, Spain	2007-2009
<b>B.S. Oceanography</b> Federal University of Paraná, Brazil	2002-2006

### **Research and Academic History**

---

Postdoctoral Research Scientist Department of Global Ecology Carnegie Institution for Science Supervisor: Ken Caldeira Keywords: coral reefs, coral metabolism, plastic pollution	2017-present
Postdoctoral Researcher Federal University of São Paulo, Brazil Supervisor: Augusto Cesar Keywords: carbonate chemistry, ocean acidification, ecotoxicology	2014-2017
Ph.D. Researcher University of Cádiz and University of Huelva, Spain Advisors: Aguasanta Sarmiento and Tomás Ángel DelValls Casillas Keywords: sediment contamination, geochemistry, ocean acidification, metal speciation, carbonate chemistry	2009-2013
Master's Researcher University of Cádiz and University of Santiago de Compostela, Spain Advisor: Alejo Carballeira and Tomás Ángel DelValls Casillas Keywords: toxicity tests, antibiotics, disinfectants land-based aquaculture, marine pollution	2007-2009

## **Fellowships, Grants and Awards**

---

### **Postdoctoral fellowship from FAPESP (São Paulo Research Foundation)**

Carnegie institution for Science (2017-2018)

### **Postdoctoral fellowship from FAPESP (São Paulo Research Foundation)**

Federal University of São Paulo (2015-2019)

### **Postdoctoral fellowship from CAPES (Ministry of Education, Brazil)**

Federal University of São Paulo (2014)

### **Full scholarship for LAOCA (Latin-American Ocean Acidification Workshop)**

Dichato, Chile (2014)

“**Cum Laude**” distinction for doctoral thesis- University of Cádiz (2013)

### **Ph.D. fellowship from CAPES (Ministry of Education, Brazil)**

University of Cádiz (2009-2013)

### **Full scholarship for Acidification in Aquatic Environments Workshop**

Tromso, Norway (2012)

### **Master of Science Erasmus Mundus fellowship**

University of Cádiz (2007-2009)

## **Peer Reviewed Articles**

---

- 1) **De Orte MR**, Clowez S, Caldeira K. Response of bleached and symbiotic sea anemones to plastic microfiber exposure. *Environmental Pollution* 249:512-517, 2019.
- 2) Souza LS, Pusceddu FH, Cortez FS, **De Orte MR**, Seabra AA, Cesar A, Ribeiro DA, Del Valls TA, Pereira CDS. Harmful effects of cocaine byproduct in the reproduction of sea urchin in different ocean acidification scenarios. *Chemosphere* 236 124284, 2019.
- 3) Gouveia N, Oliveira CRM, Martins CP, Maranhão LA, Pereira CDS, **De Orte MR**, Harayashiki CAY, Almeida SM, Castro IB. Can shell alterations in limpets be used as alternative biomarkers of coastal contamination? *Chemosphere* 224:9-19, 2019.
- 4) Bautista-Chamizo E, Sendra M, **De Orte MR**, Riba I. Comparative effects of seawater acidification on microalgae: Single and multispecies toxicity tests. *Science of The Total Environment* 649:224-232, 2019.
- 5) Bautista-Chamizo E, Borrero-Santiago A, **de Orte MR**, DelValls A, Riba I. Effects of CO<sub>2</sub> enrichment on two microalgae species: A toxicity approach using consecutive generations. *Chemosphere* 213: 84-91, 2018.
- 6) **De Orte MR**, Bonnail E, Sarmiento AM, Riba I, DelValls A, Nieto JM. Metal fractionation in marine sediments acidified by enrichment of CO<sub>2</sub>: a risk assessment. *Marine Pollution Bulletin* 131:611-619, 2018.
- 7) Bautista-Chamizo E, Sendra M, Dis A, Seoane M, **De Orte MR**, Riba I. Will temperature and salinity changes exacerbate the effects of seawater acidification on the marine microalgae *Phaeodactylum tricornutum*? *Science of the Total Environment* 634:87-94, 2018.

- 8) Basallote MD, Rodríguez-Romero A, **De Orte MR**, DelValls A, Riba I. CO<sub>2</sub> leakage simulation: effects of the pH decrease on fertilization and larval development of *Paracentrotus lividus* and sediment metals toxicity. *Chemistry and Ecology* 34:1-21, 2018.
- 9) Goulding TA, **De Orte MR**, Slazaj D, Basallote MD, DelValls TA, CESAR A. Assessment of the environmental impacts of ocean acidification (OA) and carbon capture and storage (CCS) leaks using the amphipod *Hyale youngi*. *Ecotoxicology* 26:521-533, 2017.
- 10) Slazaj D, **De Orte MR**, Goulding T, Medeiros ID, DelValls TA, Cesar A. The effects of Ocean Acidification and a Carbon dioxide Capture and Storage leak on the early life stages of marine mussel *Perna perna* (Linneaus, 1758) and metal bioavailability. *Environmental Science and Pollution Research* 24:765-785, 2017.
- 11) Bautista-Chamizo E, **De Orte MR**, DelValls TA, Riba I. Simulating CO<sub>2</sub> leakages from CCS to determine Zn toxicity using the marine microalgae *Pleurochrysis roscoffensis*. *Chemosphere* 144:955-965, 2016.
- 12) Kerr R, Da Cunha LC, Kukuchi RKP, Horta PA, Ito RG, Muller MN, Orselli IBM, Lencina-Avila JM, **De Orte MR**, Sordo L, Pinheiro BR, Bonou FK, Schubert N, Bergstrom E, Copertino M. The Western South Atlantic Ocean in a high-CO<sub>2</sub> world: Current measurements capabilities and perspectives. *Environmental Management* 57:740-752, 2016.
- 13) Basallote MD, Rodríguez-Romero A, **de Orte MR**, DelValls TA, Riba, I. Evaluation of the threat of marine CO<sub>2</sub> leakage-associated acidification on the toxicity of sediment metals to juvenile bivalves. *Aquatic Toxicology* 166: 63-71, 2015.
- 14) **De Orte MR**, Sarmiento AM, Basallote MD, Rodríguez-Romero A, Riba I, DelValls, TA. Effects on the mobility of metals from acidification caused by possible CO<sub>2</sub> leakage from sub-seabed geological formations. *Science of the Total Environment*, 470-471: 356-363, 2014.
- 15) **De Orte MR**, Sarmiento AM, DelValls TA, Riba I. Simulation of the potential effects of CO<sub>2</sub> leakage from carbon capture and storage activities on the mobilization and speciation of metals. *Marine Pollution Bulletin* 86: 59-67, 2014.
- 16) **De Orte MR**, Lombardi AT, Sarmiento AM, Basallote MD, Rodríguez-Romero A, Riba I, DelValls TA. Metal mobility and toxicity to microalgae associated with acidification of sediments: CO<sub>2</sub> and acid comparison. *Marine Environmental Research*, 96:136-144, 2014.
- 17) Cesar A, Lia LRB, Pereira CDS, Santos AR, Cortez FS, Choueri RB, **De Orte MR**, Rachid BRF. Environmental assessment of dredged sediment in the major Latin American seaport (Santos, São Paulo - Brazil): An integrated approach. *Science of the Total Environment*, 497-498: 679-687, 2014.
- 18) Rodríguez-Romero A, Jiménez-Tenório N, Basallote MD, **De Orte MR**, Blasco J, Riba I. Predicting the impacts of CO<sub>2</sub> leakage from sub-seabed storage: Effects of metal accumulation and toxicity on the model benthic organism *Ruditapes philippinarum*. *Environmental Science and Technology* 48: 2292-301, 2014.

- 19) Rodríguez-Romero A, Basallote MD, **De Orte MR**, DelValls TA, Riba I, Blasco J. Simulation of CO<sub>2</sub> leakages during injection and storage in sub-seabed geological formations: Metal mobilization and biota effects. *Environment International* 68:105-117, 2014.
- 20) Basallote MD, **De Orte MR**, DelValls TA, Riba, I. Studying the effect of CO<sub>2</sub>-induced acidification on sediment toxicity using acute amphipod toxicity test. *Environmental Science & Technology*, 48: 8864-8872, 2014.
- 21) **De Orte MR**, Carballeira C, Viana IG, Carballeira A. Assessing the toxicity of chemical compounds associated with land-based marine fish farms: The use of mini-scale microalgae toxicity test. *Chemistry and Ecology*, 29: 554-563, 2013.
- 22) Garrard SL, Hunter RC, Frommel AY, Lane AC, Phillips JC, Cooper R, • Dineshram R, Cardini U, McCoy SJ, Arnberg M, Rodrigues Alves BG, Annane S, **De Orte MR**, Kumar A, Aguirre-Martínez GV, Maneja RH, Basallote MD, Ape F, Torstensson A, Bjoerk MM. Biological impacts of ocean acidification: a postgraduate perspective on research priorities. *Marine Biology* 160: 1789-1805, 2013.
- 23) Carballeira C, **De Orte MR**, Viana IG, Carballeira A. Implementation of a minimal set of biological tests to assess the ecotoxic effects of effluents from land-based marine fish farms. *Ecotoxicology and Environmental Safety*, 78: 148-161, 2012.
- 24) Carballeira C, **De Orte MR**, Viana IG, DelValls TA, Carballeira A. Assessing the toxicity of chemical compounds associated with land-based marine fish farms: The sea urchin embryo bioassay with *Paracentrotus lividus* and *Arbacia lixula*. *Archives of Environmental Contamination and Toxicology* 63: 249-261, 2012.

### **Selected Talks and Presentations**

---

**De Orte MR**, Koweek DA, Griffin A, Takeshita Y, Wolfe K, Cyronak T, Albright A, Caldeira K. Turf Algae on Dead Corals: Unexpected Daytime Calcification and Nighttime Dissolution. AGU Fall Meeting, 2019, San Fransisco, USA.

**De Orte MR**, The effects of climate change on the calcification of coral reefs. Invited talk to undergraduate/graduate students and faculty of the Federal University of Rio Grande do Norte, 2019, Natal, Brazil.

**De Orte MR**, Wolfe K, Koweek DA, Takeshita Y, Griffin A, Cyronak T, Albright A, Caldeira K. In-situ metabolic measurements reveal complex recovery on a bleached reef. Ocean Visions, 2019, Atlanta, USA.

**De Orte MR**, Balduf KC, Brito BA, Choueri RB, Medeiros ID, Pereira CDS, Cesar A. The use of Ecotoxicological assays to evaluate risk of CO<sub>2</sub> leakages from CCS activities. XVII Brazilian Congress of Ecotoxicology, 2016, Curitiba, Brazil.

**De Orte MR**, DelValls TA, Riba I, Cesar A. The use of multiple lines of evidences to conduct risk assessment in sediments affected by CO<sub>2</sub> acidification. III International Symposium on Effects of Climate Changes on the World's Oceans, 2015, Santos, Brazil.

**De Orte MR**, Slazaj D, Goulding T, DelValls TA, Cesar, A. Using a battery of bioassays as an integrated tool to evaluate the effects of CO<sub>2</sub>-induced acidification on metal toxicity. XVI Latin-American Congress of Ocean Science (COLACMAR), 2015, Santa Marta, Colombia.

**De Orte MR**, Sarmiento AM, Basallote MD, Riba I, DelValls A. Distribution of heavy metals in marine sediments acidified by CO<sub>2</sub> leaks during carbon capture and storage activities. XIII Brazilian congress of Ecotoxicology, 2014, Guarapari, Brazil.

**De Orte MR**, Lombardi AT, Basallote M D, Rodriguez-Romero A, DelValls A, Riba I, Sarmiento A. Studying the impacts of metal mobility and seawater acidification caused by CO<sub>2</sub> leakage from geological storage sites on marine microalgae. XVII PRIMO-Pollutant Responses in Marine Organisms, 2013, Faro, Portugal.

**De Orte MR**, Basallote M D, Rodriguez-Romero A, DelValls A, Riba I, Sarmiento A. The effects of CO<sub>2</sub> leakages from marine stable geological formations on the mobility and availability of metals. Society of Environmental Toxicology and Chemistry (SETAC) 6th World Congress, 2012, Berlin, Germany.

### Patents

---

**De Orte MR**, Basallote MD, Rodriguez-RomeroA, DelValls TA, Riba I, Blaco J. *CO<sub>2</sub> Injection system for ecotoxicological studies*. Spanish Patent 201200753, 13/07/2012.

### Journal Peer-Review Service

---

*Science of the Total Environment, Scientific Reports, Marine Pollution Bulletin, Ecotoxicology and Environmental Contamination, Environmental Pollution, Journal of Hazardous Materials, Biogeoscience, Ecotoxicology and Environmental Safety, Regional Studies in Marine Science, Chemosphere, Journal of the Brazilian Chemical Society, Brazilian Journal of Oceanography, International Journal of Fisheries and Aquaculture*

### Teaching and Mentoring

---

#### Lectures

**Federal University of São Paulo** 2014-2017

Lecture: *Techniques of Underwater Sampling*

Lecture: *Marine Pollution and Integrated Assessment Methods*

Lecture: *Marine Ecotoxicology*

Developed, lectured and evaluated

**University of Cádiz** 2010-2013

*Integrative tools for the assessment of the quality of aquatic ecosystems*

Developed and taught classes in the laboratory

#### Mentorship

Co-adviser (undergraduate)

*Giam Luca Altafim (2016), Julia Rysevas Silveira (2016), Victor Samhan Archangelo (2016), Leticia Fernanda da Silva (2015), Priscila dos Santos Sepúlveda (2015)*

Adviser (Master's program)

*Thomas Goulding (2015), Dorota Slazaj (2015), Esther Bautista Chamizo (2014)*

Co-Adviser (Master's program)

*Bruna Alves de Brito (2016), Karin Cristine Baldauf (2016)*

Adviser (Ph.D. program)

*Esther Bautista Chamizo (2015-2018)*

### **Service and Leadership**

---

Carnegie Institution Postdoctoral Association at Stanford	2019-present
Seminar committee. Department of Global Ecology	2018-present
Ph.D. Thesis committee. Ph.D. Ana Borrero Santiago	2016
University of Cádiz	
Master Thesis committee. Ms.C. Tierry Val de Medeiros	2016
Federal University of São Paulo	
Master's Project committee for the Postgraduate Program in Coastal and Oceanic Systems of the Center for Marine Studies. Federal University of Paraná.	2016

### **Relevant Professional Development Training**

---

**Teaching Approaches.** Stanford University, Stanford-CA, USA. 2018.

**Scientific Communication (FAMELAB).** São Paulo-SP, Brazil. 2016.

**Ecotoxicological Approaches for Environmental Assessment and Monitoring.** São Paulo State University, Santos, Brazil. 2014.

**Latin-American Workshop on Ocean Acidification (LAOCA).** University of Concepción, Dichato, Chile. 2014.

**Acidification in Aquatic Environments.** Marine Research institute, Tromsø, Norway. 2011.

**Methodologies for Evaluating Metal Speciation.** University of Huelva, Huelva, Spain. 2010.

**Scientific Diving.** University of Cádiz, Cádiz, Spain. 2008.

### **Languages**

---

English (fluent reading, writing, and speaking)

Spanish (fluent reading, writing, and speaking)

Portuguese (native reading, writing, and speaking)