

Dr Mari-Carmen Pineda

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PERSONAL SUMMARY

PhD level **marine environmental scientist** with a proven track record of delivering high quality, scientific results. Multidisciplinary skill set, including fieldwork, data analysis, project management, student supervision, manuscript/report preparation, reporting for stakeholders, as well as experimental, physiological and molecular techniques. Committed to applying scientific and analytical skills to assist in **environmental management and conservation**.

EDUCATION

2020 Gr.Cert.Sc. (Specialized in **Environmental Management**), JCU (*In Progress*)

2012 **Ph.D. in Biology** (*Excellent Cum Laude*), University of Barcelona

PhD Thesis: A global wanderer: Biology, phylogeography and resilience of the introduced ascidian Styela plicata. 2012. 182 pp.

2008 **M.Sc. in Marine Science**, University of Barcelona

Master Thesis: Population dynamics and life cycle of the introduced ascidian Microcosmus squamiger in the Mediterranean Sea. 2008. 21 pp.

2007 **B.Sc. in Biology**, University of Barcelona

PROFESSIONAL EXPERIENCE

Research Officer. C₂O Consulting (Coasts Climate Oceans) 2020-present

To contribute to projects aimed at improving marine and coastal resource management, and providing scientific advice for water quality, climate change and marine conservation decisions.

Experimental Scientist. Australian Institute of Marine Science 2018-2019

Study of the effects of sediments from dredging on corals and sponges (NESP Risk Assessing Dredging Project).

Responsibilities & Achievements

- To plan and manage field trips and experiments.
- To conduct research at various levels: experimental, data analysis, student training and report and manuscript preparation.
- To provide skilled support for dredging related research to the Ecosystems Pressures team.
- Successfully completed 3 multiday field trips to the GBR (1 as cruise leader).
- Contributed to 2 main experiments at the National Sea Simulator (1 as lead researcher).
- Completed all laboratory analysis allowing reporting on time to stakeholders.

Experimental Scientist. Australian Institute of Marine Science 2013-2016

Study of the effects of dredge-pressures on sponges (WAMSI Dredging Science Node).

- To plan and manage field trips and experiments.
- To conduct research at various levels: experimental, data analysis, student training and report and manuscript preparation.
- To contribute to the preparation of materials for partners and stakeholders and to facilitate translation of results for management strategies.
- Successfully completed 7 multiday field trips to the GBR (2 as cruise leader).
- Designed and conducted 5 main experiments at the National Sea Simulator (as lead researcher).
- Completed all laboratory analysis allowing reporting on time to stakeholders.

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- Published 5 manuscripts as 1st author and contributed to a wider body of research (see publications).
- Presented results in 5 international conferences and multiple internal meetings and seminars.

Assistant Scientist and Curator of the Animal Collection. University of Barcelona 2013

- Responsible for all animal collections, including preparation of materials for the practical subjects of Zoology and Biology of Marine Invertebrates.
- Management of facilities and scientific equipment.
- Contributed to the successful delivery of practical subjects by the Department of Animal Biology.

Pre-Doctoral Researcher. University of Barcelona 2008-2012

Study of the introduced species *Styela plicata*, to acquire an in-depth knowledge of its biology, phylogeography and resilience to anthropogenic and natural perturbations.

- To conduct research: experimental and sampling design, laboratory and data analysis, results interpretation and communication and manuscript preparation.
- To learn PhD-level 'soft' skills (e.g. project management, teaching and supervision of students, science communication, scientific writing, team work).
- PhD Thesis: A global wanderer: Biology, phylogeography and resilience of the introduced ascidian *Styela plicata*. 2012. 182 pp
- 10 articles published in peer-reviewed journals (6 as 1st author).
- 3 Research stays in international institutions: University of North Carolina (USA), Rhodes University (South Africa) and Australian Institute of Marine Science (Australia).
- Presented results in 7 national and international conferences.
- Ca. 200 hours of teaching in marine science subjects.

Research Assistant. Centre for Advanced Studies of Blanes (CSIC) 2008

- Molecular study of ascidian samples from the Bahamas.
- Field work related to the study of marine reserves in the Mediterranean Sea.

Research Assistant. University of Barcelona 2007-2008

Study the life cycle of the ascidian *Microcosmus squamiger*.

- Participate in field trips within the Catalan coast.
- Process samples and perform histology studies.
- Contribute to the analysis and interpretations of results.
- Co-authored 1 research article.
- Presented results in an international conference

Research Assistant. University of the Mediterranean (Marseille, France) 2007

Study the population's dynamic of the sponge *Crambe crambe*.

- Analyse series of images to understand the dynamics of the sponge *Crambe crambe* on the NW Mediterranean.
- Contribute to the analysis and interpretations of results
- Master Thesis: Analyse de séries photographiques à long terme en Méditerranée Nord-Occidentale: étude des traits de vie de l'éponge *Crambe crambe* (Schmidt 1862) (Porifera: Poecilosclerida). 2007. 37pp.
- Co-authored 1 research article

Undergraduate Research Assistant. University of Barcelona 2003-2006

- Collaborate with the Centre of Resources of Animal Biodiversity on the conservation and computerization of the animal collections.

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VOLUNTEER WORK

Grant Officer and Committee Member. Townsville Toy Library 2018-2019

In charge of researching and applying for grants in order to obtain funds for the Townsville Toy Library (TTL). Contributed to the TTL management.

Successful applications: 1.Telstra Kids (\$1,200), 2.CQU (\$500), 3.QRIDA (\$5,000), 4.Stockland Care (\$1,000), 5.RACQ (\$50,000)

CERTIFICATIONS & ADDITIONAL TRAINING

- **GIS** For Biologists (2020)
- Introduction to **Project Management** (2019). Univ California, Irvine
- Fiji/**Image J** (2018). Monash Univ.
- Applied **First Aid** and Advanced Resuscitation (2013-2018). Coral Sea Training
- **Think On Your Feet®** (2016). Australian Institute of Management
- **Emotional Intelligence** (2016). Learning partnerships & Breathe Australia
- Marine **Microbial Ecology** (2015). UNSW
- **Chemical Spill Response** (2015). Spill Station
- PAM **Fluorometry** (2015). UTS
- **QIIME** (Quantitative Insight into Molecular Ecology) (2015) UCSD
- **Transcriptomics** and Small Genome Assembly Workshop (2014). JCU
- **Flow Cytometry** Operator Training (2014) BD
- **Scientific Writing** (2014). Thinkwell®
- QLD Recreational **Marine Driver License** (RMDL) (2014). Maritime Safety QLD
- Marine **Radio Operator's** VHF Certificate of Proficiency (MROVCP) (2013). Australian Maritime College
- **Rescue Diver** (2010). ACUC (American Canadian Underwater Certifications)
- **DNA Phylogenies** and Genealogies (2010). University of Barcelona
- Programing in **R** (2009). University of Barcelona
- Biology and Taxonomy of **Tunicates** (2009). Smithsonian Tropical Research Institute
- Certificate of **Teaching** (2009). University of Barcelona
- Recreational **Boats Driving License** (PER) (2008). Spanish Gov.
- **Manual Car Driving License** (2005). Spanish Gov.

AWARDS

- Superior Performance Cash Rewards (2015 and 2016). AIMS
- 'CMB Summer Course in Marine Microbial Ecology' Registration Waiver Scholarship (2015). LEICA
- PhD Extraordinary Award (2013). University of Barcelona
- Visiting Research Assistantship Awards (2009-2011). University of Barcelona
- Pre-Doctoral Fellowship (2009-2012). University of Barcelona
- Grant for Official Master Degree (2007-2008). Spanish Gov.
- Erasmus Mundus Scholarship (2007). European Union
- Undergraduate Scholarships (2002-2007). Spanish Gov.

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TEACHING EXPERIENCE

Teaching Assistant. University of Barcelona 2009-2011

Invertebrates (field, 30 hours)
Zoology II (laboratory and field, 45 hours)
Biology of Populations (laboratory, 26 hours)
Biology of Marine Invertebrates (field, 30 hours)
Biology II (laboratory, 14 h)

PUBLICATIONS (21 in total. 10 most relevant listed here. Complete list upon request)

10. Pineda MC, Strehlow B, Kamp J, Duckworth A, Jones R, Webster NS. Effects of combined dredging-related stressors on sponges (2017) *Scientific Reports* 7:5155
9. Pineda MC, Strehlow B, Sternel M, Duckworth A, den Haan J, Jones R, Webster NS. Effects of sediment smothering on the sponge holobiont with implications for dredging management (2017) *Scientific Reports* 7:5156
8. Pineda MC, Strehlow B, Sternel M, Duckworth A, Jones R, Webster NS (2017) Effects of suspended sediments on the sponge holobiont with implications for dredging management. *Scientific Reports* 7:4925
7. Pineda MC, Strehlow B, Duckworth A, Doyle J, Jones R, Webster NS (2016) Effects of light attenuation on the sponge holobiont – implications for dredging management. *Scientific Reports* 6:39038
6. Pineda MC, Turon X, Pérez-Portela R, López-Legendil S (2016) Stable populations in unstable habitats: temporal genetic structure of the introduced ascidian *Styela plicata* in North Carolina. *Marine Biology* 163:59
5. Erwin P, Pineda MC, Webster N, Turon X, López-Legendil S (2014) Down under the tunic: Bacterial biodiversity hotspots and widespread ammonia-oxidizing archaea in coral reef ascidians. *The ISME Journal*, 8:575-588
4. Pineda MC, López-Legendil S, Turon X (2013) Year-round reproduction in a seasonal sea: biological cycle of the introduced ascidian *Styela plicata* in the Western Mediterranean. *Marine Biology*, 160: 221-230
3. Pineda MC, McQuaid CD, Turon X, López-Legendil S, Ordóñez V, Rius M (2012) Tough adults, frail babies: an analysis of stress sensitivity across early life-history stages of widely introduced marine invertebrates, *PLoS ONE* 7(10): e46672
2. Pineda MC, Turon X, López-Legendil S (2012) Stress levels over time in the introduced ascidian *Styela plicata*: The effects of temperature and salinity variations on hsp70 gene expression, *Cell Stress and Chaperones* 17:435-444
1. Pineda MC, López-Legendil S, Turon X (2011) The whereabouts of an ancient wanderer: global phylogeography of the solitary ascidian *Styela plicata*. *PLoS ONE* 6(9): e25495

CONFERENCES (Oral communications only. Complete list upon request)

9. Pressure-response relationships of sponges to dredge pressures – a laboratory approach (2017). 10th World Sponge Conference. Galway (Ireland) –oral comm.
8. Deriving pressure-response relationships of sponges to dredge pressures –a laboratory approach (2015). 2015 WAMSI Research Conference, Perth (Australia)
7. Appearance matters: The effects of simulated dredging-related pressures on different sponge species and morphologies (2014). 2nd International Symposium on Sponge Microbiology, Baltimore (United States)
6. Sponge responses to dredging-related pressures (2014). XVIII Simposio Ibérico de Estudios de Biología Marina, Gijón (Spain)
5. A threat around the corner? Assessing the invasive potential and biogeographic boundaries of an introduced ascidian (2011). 7th International Conference on Marine Bioinvasions, Barcelona (Spain)

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4. Crossing the thin line between introduced and invasive species: factors shaping the distribution and invasive potential of the solitary ascidian *Styela plicata* (2011). 6th International Tunicate Meeting, Montréal (Canada)
3. Introducciones y expansiones: diferenciación genética y patrones filogeográficos en la ascidia solitaria *Styela alicata* (2010). XVI SIEBM, Alicante (Spain)
2. Global phylogeography of the solitary ascidian *Styela plicata* (2010). International Invasive Sea Squirt Conference III, Woods Hole MA (United States)
1. Population dynamics and life cycle of the introduced ascidian *Microcosmus squamiger* in the Mediterranean Sea (2008). XV SIEBM, Funchal (Portugal)

LANGUAGE SKILLS

Spanish & Catalan: Native languages

English: Fully operational command of the language (IELTS: 8, 2016)

French: Correctly read, written and spoken (A2 level)

KEY SKILLS

- Project management: Experiment planning, budget and schedule managing, preparation of technical reports for stakeholders.
- Data analysis: Stats (R, SigmaStats, Primer), Bioinformatics.
- Fieldwork in remote locations: SCUBA diving, boat driving, cruise leader.
- Scientific writing and science communication.
- Environmental Impact Assessment and Environmental Policy.
- Animal identification and handling experience.
- Experiments in aquaria with different marine inv. taxa (ascidians, sponges, corals).
- Animal physiology: PAM fluorometry, respirations, pigment and lipid analysis, histology, coral tissue blasting, symbiont quantification.
- Molecular laboratory: DNA & RNA Extractions, PCR, qPCR, DGGE, RNASeq, Microsatellite genotyping, Cloning, NGS.
- Reproductive biology: artificial fertilization and larvae culture.
- Image analysis and Microscopy.
- Student training and supervision.
- Organized, independent and work well with others.

MEMBERSHIPS

- Environmental Institute of Australia and New Zealand (Student Member, 2020-present)

BROADER IMPACT

- Manuscript Review: Aquatic Invasions, Coral Reefs, Management of Biological Invasions, Marine Biology, Marine Ecology, Molecular Phylogenetics and Evolution, Marine Pollution Bulletin, Zoologica Scripta
- Training and mentoring of students: Annabel Smith-Moorhouse (University of Plymouth, UK), Jennifer Gilmour (Gettysburg College, USA), Jasmine Kamp (James Cook University), Miriam Sternel (University of Bremen, Germany), Brian Strehlow (University of Western Australia), Clara Casado (University of Barcelona), Alba Muntadas (University of Barcelona), Roger Espluga (University of Barcelona).
- AIMS Open Day 2015: Acting at the educational play 'Coralsville'
- Contribution at blogs and newsletters:

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WAMSI newsletter (<http://www.wamsi.org.au/news/sponges-show-varying-levels-tolerance-and-resilience-sediment-stress>, <http://www.wamsi.org.au/news/sponges-choose-enigma-over-charisma>)

Challengen Blog (<http://challengenproject.blogspot.com.au/2016/03/temporal-genetic-structure-in.html#.VwpApHrmOGK>)

AIMS-Waypoint (http://www.aims.gov.au/waypoint/autumn-2015/-/asset_publisher/BznqkTBb4Fzp/content/researcher-q-and-a)

REFEREES

1. Dr Nicole Webster (Research Scientist, Australian Institute of Marine Science)
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2. Dr Amy Diedrich (Senior Lecturer, James Cook University)
amy.diedrich@jcu.edu.au; +61 7 4781 4627