

## Pedro Ciarlini Junger, MSc.

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### Higher Education

#### 2018-2022 PhD in Ecology and Natural Resources (in progress)

Federal University of São Carlos, UFSCar, São Carlos-SP, Brazil

Dissertation title: "Structuring Processes of Microbial Communities and Ecological Networks in Latitudinal Gradients of the Global Ocean"

Supervisor: Dr. Hugo Sarmento

#### 2020-2021 PhD visiting student (in progress)

Institute of Marine Sciences, ICM-CSIC, Barcelona, Spain

1-year stay in the log[lab] of the Ecology of Marine Microorganisms Research Group

Supervisors: Dr. Ramiro Logares and Dr. Josep M. Gasol

#### 2014-2016 Masters in Ecology

Federal University of Rio de Janeiro, UFRJ, Rio de Janeiro-RJ, Brazil

Dissertation title: "The Ecological Role of Virus in Tropical Coastal Lagoons"

Supervisor: Dr. Vinicius F. Farjalla

#### 2012-2013 Undergraduate visiting student in Physical Geography

University of Bristol, Bristol, UK

Dissertation Title: "Virus-Bacteria Interaction and its Sensibility to Temperature and Nutrient Conditions in Cryoconite Holes"

Supervisor: Dr. Alexandre M. Anesio

#### 2007-2012 Bachelor's in Ecology

Federal University of Rio Grande do Norte, UFRN, Natal-RN, Brazil

Dissertation Title: "Prevalence of Heterotrophy over a Seasonal Scale in Tropical Semi-Arid Reservoirs"

Supervisor: Dr. André M. Amado

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### Publications

- Chaffron, S., Delage, E., Budinich, M., Vintache, D., Henry, N., Nef, C., Ardyna, M., Zayed, A. A., **Junger, P. C.**, Galand, P. E., et al. 2020. Environmental vulnerability of the global ocean plankton community interactome. *bioRxiv*. doi:10.1101/2020.11.09.375295
- Logares, R., Deutschmann, I. M., **Junger, P. C.** et al. 2020. Disentangling the mechanisms shaping the surface ocean microbiota. *Microbiome* 8, 55. doi:10.1186/s40168-020-00827-8
- **Junger, P. C.**, Almeida, R. M., Mendonça, R., et al. 2020. Not all viruses in nature are human enemies: a perspective on aquatic virus ecology in Brazil. *Acta Limnologica Brasiliensia* 32, e105. doi:10.1590/s2179-975x3720
- Almeida, R.M., Hamilton, S.K., Rosi, E.J., Arantes, J.D., Barros, N., Boemer, G., Gripp, A., Huszar, V. L. M., **Junger, P. C.**, et al. 2019. Limnological effects of a large Amazonian run-of-river dam on the main river and drowned tributary valleys. *Scientific Reports* 9, 16846. doi:10.1038/s41598-019-53060-1
- **Junger, P. C.**; Dantas, F. C. C.; Nobre, R. L. G.; Kosten, S.; Venticinque, E. M.; et al. 2019. Effects of Seasonality, Trophic State and Landscape Properties on

CO<sub>2</sub> saturation in Low-Latitude Lakes and Reservoirs. *Science of the Total Environment*. doi:10.1016/j.scitotenv.2019.01.273

- **Junger, P. C.**; Amado, A. M.; Paranhos, R.; Cabral, A. S.; Jacques, S. M.; Farjalla, V. F. 2018. Salinity Drives the Virioplankton Abundance but not Production in Tropical Coastal Lagoons. *Microbial Ecology*. doi:10.1007/s00248-017-1038-3
  - Cabral, A. S.; Lessa, M. M.; **Junger, P. C.**; Thompson F. L. and Paranhos, R. P. R. 2017. Virioplankton Dynamics are Related to Eutrophication Levels in a Tropical Urbanized Bay. *PLoS One*, 12:e0174653. doi:10.1371/journal.pone.0174653
  - Almeida, R. M.; Nóbrega, G. N.; **Junger, P. C.**; Figueiredo, A. V.; et al. 2016. High Primary Production Contrasts with Intense Carbon Emission in a Eutrophic Tropical Reservoir. *Frontiers in Microbiology*, 7:717. doi:10.3389/fmicb.2016.00717
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### **Presentations at conferences**

- **Junger, P. C.**; et al. 2020. "Ecological processes driving picoplankton community assembly across depth layers of the ocean". (Poster presentation at the ISME Virtual Microbial Ecology Summit)
  - **Junger, P. C.**; et al. 2019. "Ecological Processes Structuring Microbial Planktonic Communities in Contrasting Latitudinal Regions of the Global Ocean". (Poster presentation at the 2<sup>nd</sup> Workshop of the Latin American Network in Aquatic Microbial Ecology (μSudaqua), Chascomús, Argentina)
  - **Junger, P. C.**; et al. 2019. "High-level ecological processes driving microbial community structure in distinct depth layers of the global ocean". (Poster presentation at the ISME-LA Conference, Valparaíso, Chile)
  - **Junger, P. C.**; Sarmiento, H.; 2018. "Structuring Processes of Microbial Communities and Ecological Networks in Latitudinal Gradients of the Global Ocean". (Oral presentation at the Ramon Margalef Summer Colloquium, Barcelona, Spain)
  - **Junger, P. C.**; et al. 2017. "Cytometric Signature of Pico- e Nanophytoplankton in Tropical Coastal Lagoons". (Poster presentation - 1<sup>st</sup> workshop of the Collaborative Network in Aquatic Microbial Ecology in Latin America - μSudaqua)
  - **Junger, P. C.**; et al. 2017. "Variação Sazonal de pCO<sub>2</sub> na Coluna d'água de Três Lagos de Várzea Amazônicos (Rio Madeira – RO)". (Poster presentation at the XVI Brazilian Limnology Conference)
  - **Junger, P. C.**; et al. 2015. "Flushing Boosts Heterotrophy in Tropical Eutrophic Semi-Arid Reservoirs". (Oral presentation at the XV Brazilian Limnology Conference)
  - **Junger, P. C.**; et al. 2013. "Virus-Bacteria Interactions in Extreme Aquatic Environments". (Poster presentation at the XIV Brazilian Limnology Conference)
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### **Research Experience**

**2018-now** – Visiting PhD student at LogLab, Ecology of Marine Microorganisms Research Group, Institute of Marine Sciences (ICM-CSIC), Barcelona, Spain.

**2018-now** – PhD candidate at Laboratory of Microbial Processes and Biodiversity, UFSCar, Brazil.

**2017**– Researcher volunteer at Laboratory of Microbial Processes and Biodiversity, UFSCar, Brazil.

**2014-2016** – Master’s student at Laboratory of Limnology, UFRJ, Brazil.

**2012-2013** – Intern at Low Temperature Experimental Facilities – LOWTEX, School of Geographical Sciences, University of Bristol, UK. ([LOWTEX](#))

**2011-2012** – Intern at Laboratory of Limnology, UFRN, Brazil.

**2010-2011** – Intern at Laboratory of Water Resources and Environmental Sanitation, UFRN, Brazil.

**2010** – Intern at Laboratory of Aquatic Microbiology, UFRN, Brazil.

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### **Fieldwork, Laboratory and Technical Skills**

- Fieldwork experience: water and sediment sampling and in-situ environmental measurements in both freshwater and marine ecosystems;
  - Laboratory experience: DNA extraction, PCRs, Agarose gel electrophoresis, Incubation experiments, Bacterial production (leucine and thymidine incorporation) and respiration measurements; Epifluorescence microscopy, Flow cytometry, Spectrophotometric analysis;
  - Data wrangling, analysis and visualization using R language;
  - Intermediate skills using Linux Command Shell
  - Maps and basic georeferencing skills using Q-GIS;
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### **Selected Courses and Meetings**

**2019** – Microbial Diversity Course, Marine Biology Laboratory (MBL), Chicago University, Woods Hole, MA, USA.

**2018** – Ramon Margalef Summer Colloquium: Ecology through the Omic Lens – Institute of Marine Sciences (ICM-CSIC), Barcelona, Spain.

**2018** – Ecology and Diversity of Marine Microorganisms (ECODIM X) – Universidad de Concepción, Chile; Organized by Kurt Hanselmann (ETH Zürich, Switzerland), Rodrigo de la Iglesia (Pontificia Universidad Católica de Chile) and Osvaldo Ulloa (Universidad de Concepción, Chile)

**2017** – 1er Taller de la Red Colaborativa en Ecología Microbiana Acuática en América Latina ( $\mu$ SudAqua) – Centro Universitario del Este (CURE), Rocha, Uruguay

**2015** – Data analysis and sharing using R and Github – Federal University of Rio de Janeiro, UFRJ, Brazil; Conducted by Andrew MacDonald (British Columbia University, Canada)

**2015** – New Generation Methods in Microbial Ecology – Federal University of São Carlos, UFSCar, Brazil; Conducted by Hugo Sarmiento (UFSCar), Josep M. Gasol (ICM, Spain) and Fernando Unrein (IIB, Argentina)

**2011** – Biogeochemistry of Aquatic Ecosystems – Federal University of Rio Grande do Norte; Conducted by James Cotner (Minnesota University, USA)

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### **Teaching Experience**

**2019** – Organizer and instructor

**Federal University of São Carlos, UFSCar, Brazil**

Organized and taught the summer course ‘Biological data wrangling and visualization

using R language' for a group of 14 students

#### **2015 – Tutor**

##### **Federal University of Rio de Janeiro, UFRJ, Brazil**

Delivering practical sessions on methods in aquatic microbial ecology for courses in Aquatic Ecology for groups of up to 10 undergraduate students

#### **2009 – Undergraduate teaching assistant**

##### **Federal University of Rio Grande do Norte, UFRN, Brazil**

Undergraduate teaching assistant helping students in a Biochemistry course

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### **Outreach and Scientific Communication**

#### **2017-2018 – Science educator**

##### **Federal University of São Carlos, UFSCar, Brazil**

Visiting public high schools to give speeches and interactive activities aimed at biological oceanography literacy, mainly focused on planktonic life.

#### **2014-2016 – Blogger**

##### **Federal University of Rio de Janeiro, UFRJ, Brazil**

Writing scientific outreach texts on microbial ecology for the general public in the Limnology Laboratory blogspot (<https://limnonews.wordpress.com/author/pcjunger/>)

#### **2015 – Blogger**

##### **Federal University of Rio de Janeiro, UFRJ, Brazil**

Worked in an scientific exposition on aquatic sciences for children and teenagers.

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### **Grants and funding**

FAPESP <sup>1</sup> Research Abroad Scholarship	(November 2020 – October 2021)
FAPESP <sup>1</sup> PhD's Scholarship	(April 2018 – March 2022)
CNPQ <sup>2</sup> Master's Scholarship	(March 2014 – February 2016)
CNPQ Science without Borders Scholarship	(August 2012 – July 2013)
CNPQ Scientific Initiation Scholarship	(August 2009 – October 2010)

1- FAPESP – São Paulo Research Foundation

2- CNPQ – Brazilian National Council for Scientific and Technological Development

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### **Additional Professional Experience**

**Environmental Consultant** at *Ecology and Environment do Brasil* – Environmental consultancy company (from September 2016 to September 2017). Work monitoring aquatic ecosystems and writing environmental impact reports. Statistical, fieldwork and laboratory skills were required.

**President and Co-founder** at *ECOSIN – Soluções Ambientais* (2011 – 2012). Environmental Consultancy Junior Start-up Company founded in the Federal University of Rio Grande do Norte (UFRN), Brazil. Teamworking, management and leadership skills were required.

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### **Languages**

Portuguese – Native Language

English – Speak fluently and read/write with high proficiency:

- IELTS proficiency test;
- 5 week Pre-sessional Course in English for Academic Purposes – Centre for English Language and Foundation Studies, University of Bristol, UK;
- Year Abroad at University of Bristol, UK

Spanish – Speak fluently and read/write with high proficiency

French – Basic reading, listening, speaking and writing