

CURRICULUM VITAE

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Higher Education

Marine Biology (2007), University of Concepción, Chile.

MSc. Biological Science (2012), P. Catholic University, Chile.

Ph.D. (c) Biological Sciences, Molecular Genetics and Microbiology mention.

Research Interests

Microbial ecology, molecular genetics, biogeochemical cycles of nitrogen and carbon in hydrothermal and ocean systems.

Work experience

2006 to 2010

- Laboratory of Oceanographic Processes and climates changes (PROFC), University of Concepcion. *Flow cytometer, isotopic solutions, biogeochemistry and oceanographic data analysis.*
- Expedition and technician support in Oceanographic cruise NICCHEX I y II “Nitrogen and Carbon Chemiosintesis EXperiment”.
- Expedition and technician support in Oceanographic cruise FIP2008-20

2010 to 2011

- Laboratory of microbial ecology and environmental toxicology, P. Catholic University. *Microscopy and cultivation of toxic dinoflagelados.*
- Laboratory of microbial ecology of extreme systems, P. Catholic University. *Cultures of thermal microorganisms, nitrogen fixation assays and molecular techniques.*

2011 to actuality

- Laboratory of microbial ecology and environmental toxicology, P. Catholic University. *Nitrogen fixation, molecular techniques, metagenomic and metatranscriptomic analyses data and physiology of thermal microorganisms.*
- Expedition and investigation of Porcelana hot spring, North Patagonian, Huinay. *Description of thermal microbial mat community composition and its daily activity.*
- Logistic and technic support in the Antarctic expedition. *Nitrogen and carbon incubation in surface sea water.*

Principal subjects-occupational skills covered

Flow cytometry, Isotopic Techniques, Analysis of Oceanography Variables, Nitrogen fixation measurements, Isolate and cultivation of microorganisms, Molecular techniques, DGGE, Microscopy and Processing of metagenomic and metatranscriptomic data.

Presentations in meetings

- X Congress of extremophiles 2014, ISE (Saint Petersburg, Russia). *Oral presentation*
- XXXV Congress of Microbiology 2013, SOMICH (Maitencillo, Chile). *Oral presentation.*
- Thermophiles 2013. 12th International Meeting at the University of Regensburg, Alemania.
Panel presentation
- XXXIV Congress of Microbiology 2012. SOMICH. (Valdivia, Chile). *Panel presentation.*
- XXXIII Congress of Microbiology 2011. SOMICH. (Olmué, Chile). *Panel presentation.*
- XXIX Congress of Marine Science 2009 (Talcahuano, Chile). *Oral presentation*
- XXVIII Congress of Marine Science 2008 (Viña del Mar, Chile) *Oral presentation.*
- Symposium Eastern Boundary Upwelling Ecosystem 2008 (Las Palmas, Gran Canaria, Spain).
Panel presentation.
- Oceanographic Techniques Workshop, Scientific station HUIÑAY, 28-6 Marzo-Abril 2006, X Región de Chile.
- Marine Photobiology and impact of UV radiation on Coastal Systems, Universidad Austral de Chile, Valdivia 4-13 Enero 2006. Programa Mecesup.
- Microalgae Cultivation, Universidad de Valparaíso, Valparaíso 17-21 julio 2006. Programa Mecesup.
- Handling of toxic substances, Department of Oceanography, Universidad de Concepción, Concepción.
- XXVII Congress of Marine Science 2007 (Iquique, Chile). *Oral presentation*
- Workshop of oxygen minimum systems in the ocean: distribution, diversity and dynamics, 2006 (Concepcion, Chile).
- XXIV Congress of Marine Science 2004 (Coquimbo, Chile). *Assistant*

International course

- Advances in bioinformatics tools for the analysis of high-throughput omics data. University of Chile, 23-27 July 2012.
- Marine Genomics, Water and Global Change, Time-Series in Oceanography, Microbial Oceanography. Department of Oceanography & Center for Oceanographic Research in the eastern South-Pacific, FONDAP COPAS, University of Concepcion, 19-20 October 2011.
- Global Biogeochemistry and Molecular Dynamics of Marine Dissolved Organic Matter. Austral Summer Institute (ASI X). Universidad de Concepción, 04-09, January 2010.
- Influence of Organic Loading on Benthic Oxygen Consumption and Nutrient Turnover in Coastal Systems with Implications for Carrying Capacity. Austral Summer Institute (ASI IX). Universidad de Concepción, 14-21 Enero 2009.

Working in international laboratories (Intership)

- Training at CSIC, Laboratory of XX, Granada, Spain. Febrero 2015.
Processing of isotopic microbial mat composition.
- Training at CSIC, Laboratory of bioinformatic, Madrid, Spain. Enero-Marzo 2015.
Course and processing of metagenomic and metatranscriptomic data. Use and training in bioinformatics programs.
- Training at Universidad Pierre Marie Curie, Laboratory Arago, Banyuls sur Mer, Francia.
Isotopic analysis and processing of nitrogen assimilation data.

Educational training

- Assistant instructor in Microbiology course at P. Catholic University. 2012-2014.
- Investigator in the videogame "BacterXtrem". Conicyt, 2014.
- Divuligation of sciences by the Explora program Conicyt. 2008-2009.

Publications

- **M. Estrella Alcamán**, Camila Fernández, Antonio Delgado, Birgitta Bergman, Beatriz Díez. (2015). The cyanobacterium *Mastigocladus* fulfills the nitrogen demand of a terrestrial hot spring microbial mat. ISME (Accepted).
- Laura Farías, Camila Fernández, Juan Faúndez, Marcela Cornejo and **M. Estrella Alcamán**. (2009). Chemolithoautotrophic production mediating the cycling of the greenhouses gases N₂O and CH₄ in an upwelling ecosystem. Biogosciences 6, pp 1-17.
- Fernández, C., Farías, L. & **Alcamán, M. E.** (2009) Primary production and nitrogen regeneration Processes in surface waters of the Peruvian upwelling system. Progress In Oceanography