

## Curriculum Vitae Consuelo Martínez Fontaine

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I am a geologist from University of Chile, currently a PhD candidate at École doctorale SMEMAG from Université Paris-Saclay. My main goal is to contribute to the understanding and adaptability of climate change, from an empirical and applied perspective. My soft skills characterize me as a creative, proactive, responsible person, and eager to work in interdisciplinary teams.

### I. Personal information

Nationality: Chilean/Spanish

Chilean ID: 17315142-k

Date of birth: 22 February 1990

### II. Education

**2009 – 2014** University of Chile, Santiago, Chile. Degree in Geology

**2014 – 2016** University of Chile, Santiago, Chile. Professional qualification with distinction in Geology. Dissertation: “Radiocarbon activity variations on water masses of the South East Pacific during the last 20,000 years”. *Supervised by the Prof. Dr. Ricardo De Pol Holz, Prof. Dr. Claudio Latorre and Prof. Dr. Gabriel Vargas.*

**11/2015 and 08/2016** Keck Carbon Cycle Accelerator Mass Spectrometer, University of California Irvine, USA. Internship in joint Milenio core in Paleoclimate of the Southern Hemisphere project (NC120066). Laboratory training in radiocarbon analysis. *Supervised by Dr. John Southon, Prof. Dr. Ricardo De Pol-Holz and Dr. Silvana Collado.*

**11/2017** PhD Candidate at Université Paris-Saclay under the tutoring of Giuseppe Siani, Université de Paris-Sud, Laboratoire des Interactions et Dynamique des Environnements de Surface and Elisabeth Michel, Laboratoire des Sciences du Climat et de l’Environnement (LSCE).

### III. Teaching activities

**06-12/2014** Faculty of Physical and Mathematical Sciences, University of Chile, Santiago, Chile. Teaching assistant of the undergraduate course “Climate System”. *Supervised by Prof. Dr. Roberto Rondanelli.* Subject dedicated to the understanding Climate System components and its variations in both geological and human scales using different models to understand the interactions between its components.

**2011 – 2012** Faculty of Physical and Mathematical Sciences, University of Chile, Santiago, Chile. Teaching assistant of the undergraduate course “Differential and Integral Calculus” and “Advance Applied Calculus”.

### IV. Research experience

#### Laboratory activities and participation in projects

**2015** Undergraduate student of Milenio core in Paleoclimate of the Southern Hemisphere, project (NC120066). Supervised by Prof. Dr. Ricardo De Pol-Holz and Dra. Maisa Rojas (Director).

<http://www.paleoclima.cl/laboratorio-paleoclima/>

**09 – 11/2015** Laboratory training in processing organic samples at the laboratory of paleoclimate, University of Magallanes/University of Concepcion, for radiocarbon as a part of FONDECYT project N°1140536: “Southern hemisphere latitudinal gradients in atmospheric radiocarbon during the past 1000 years”. *Supervised by Dr. Ricardo De Pol-Holz and Dr. Silvana Collado.*

**06 – 12/2016** Associate researcher of Milenio core in Paleoclimate of the Southern Hemisphere (NC120066). Development of a research on radiocarbon activity variations on water masses of the South East Pacific during the last 20,000 years aiming to the publication of a paper (in preparation).

**05 – 06/2017** Laboratory assistant at Keck Carbon Cycle Accelerator Mass Spectrometer, University of California Irvine, USA. Processing of organic samples as part of FONDECYT project N°1140536: “Southern hemisphere latitudinal gradients in atmospheric radiocarbon during the past 1000 years”, supervised by Chanda Bertrand and John Southon.

## V. Congress presentation

**10/2015** Martínez Fontaine, C., De Pol-Holz, R.; Southon, J., Reyes-Macaya, D.; Mahyar Mohtadi; H., Dierk. Changes in the radiocarbon activity in water masses of the South East Pacific during the last 20,000 years. Oral presentation form, XIV Chilean Geological Congress, AT3 symposium “Geology of the Quaternary and Climate Change”.

**11/2016** Martínez Fontaine, C.; De Pol-Holz, R.; Southon, J.; Reyes-Macaya, D.; Mahyar Mohtadi; H., Dierk. Radiocarbon activity changes in the South East Pacific since the Last Glacial Maximum. Poster presentation form, Southern Hemisphere Assessment of PalaeoEnvironments (SHAPE), INQUA International Focus Group (IFG) Workshop.

**04/2017** Reyes-Macaya, D., Hebbeln, D., Hoogakker, B., Martínez-Méndez, G., Bartels, M., Schmiedl, G., Mohtadi, M., Lückge, A., Vergara, M., Henning, K., Martínez-Fontaine, C., De Pol-Holz, R., Ingle, J., Marchant, M. Regional calibration of stable isotopes, I/Ca and benthic foraminifera transfer functions for reconstructing the variability of the SE Pacific Oxygen Minimum Zone - preliminary results. Oral presentation in PhD Days in Marum.

**06/2017** Martínez-Méndez, G., Reyes-Macaya, D., Awaluddin, M.Y., Holstein, M., Martínez-Fontaine, C., Mohtadi, M., De Pol-Holz, R., Southon, J., Steinke, S., Hebbeln, D. Planktic and Benthic  $\delta^{13}\text{C}$  last deglacial records from the Southeast and Western Equatorial Pacific. Oral presentation in Ocean Circulation and Carbon Cycling (OC3) Meeting.

**08/2017** Reyes-Macaya, D., Hebbeln, D., Hoogakker, B., Martínez- Méndez, G., Mohtadi, M., Kuhnert, H., Zunli, Lu, Bartels, M., Schmiedl, G., Ingle, J., Martínez-Fontaine, C., De Pol-Holz, R., Lückge, A., Farias, L. Geochemical proxies in benthic foraminifera for reconstruct the variability of the SE Pacific Oxygen Minimum Zone. Goldschmidt 2017.

**10/2017** Martínez Fontaine, C., Ricardo De Pol-Holz, Elisabeth Michel, Giuseppe Siani, Dharma Reyes-Macaya, Gema Martínez-Méndez, Tim DeVries, Lowell Stott John Southon, Mahyar Mohtadi and Dierk Hebbeln. Radiocarbon apparent ventilation age evolution of intermediate-to-deep water masses in the South East Pacific during the Last Glacial Maximum and Termination. State of the art of the Oceanography in the SE-Pacific and the Southern Ocean.

**10/2018** Martínez Fontaine, C., Siani, G., Michel, E., Marmo, C. Tephrochronology for robust

chronologies in the South East Pacific. XV Chilean Geological Congress.

**11/2020** Martínez Fontaine, C., Ricardo De Pol-Holz, Elisabeth Michel, Giuseppe Siani, Dharma Reyes-Macaya, Gema Martínez-Méndez, Tim DeVries, Lowell Stott John Southon, Mahyar Mohtadi and Dierk Hebbeln. Ventilation of the Deep Ocean Carbon Reservoir During the Last Deglaciation: Results From the Southeast Pacific. QUIGS-IFG virtual meeting on Glacial terminations.

## **VI. Scientific Publications**

Martínez Fontaine, C., De Pol-Holz, R., Michel, E., Siani, G., Reyes-Macaya, D., Martínez-Méndez, G., DeVries, T., Stott, L., Southon, J., Mohtadi, M., Hebbeln, D., 2019. Ventilation of the Deep Ocean Carbon Reservoir During the Last Deglaciation: Results From the Southeast Pacific. *Paleoceanogr. Paleoclimatology* 34, 2080–2097. <https://doi.org/10.1029/2019PA003613>

## **VII. Scholarships**

**2015 – 2016** Undergraduate thesis fellowship, Chilean Milenio core in Paleoclimate of the Southern Hemisphere. (NC120066).

**2017 – 2020** PhD Scholarship in a foreign country BECAS CHILE from CONICYT (National Commission of Scientific and Technologic Research), Chile.