

# Catalina MORALES YÁÑEZ

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i Date of birth : October 29, 1990

🔗 <https://cmoralessyanez.github.io>

Currently I am a postdoctoral researcher at the Universidad Católica de la Santísima Concepción, Concepción, Chile, Funded by FONDECYT N° 3220307. Throughout my career, I have gained and developed expertise in various areas of basic sciences regarding geophysics. My area of interest is oriented towards the field of seismology, seismic simulation and disaster risk reduction. I had experience in fieldwork, teaching for a different kind of public and working with multidisciplinary teams.

## EDUCATION

May 2020	<b>Ph. D. in Seismology</b> , IPGS - EOST, Université de Strasbourg, France.
September 2016	PhD thesis : "Earthquake source characterization : accounting for 3D structure".
September 2016	<b>M.S. in Geophysics</b> , Universidad de Chile, Chile.
August 2014	Master thesis : "Inversion of the tensor moment and the source time function, using near-field seismograms."
April 2014	<b>Geophysics</b> , Universidad de Concepción, Chile
March 2009	Geophysics thesis : "Analysis of the site effect between seismological stations using compressional waves from a laboratory experiment on a small scale."
July 2013	<b>B.S. in Geophysics</b> Universidad de Concepción, Chile
March 2009	
July 2013	<b>International Diploma of specialization</b> . Henry Dunant Foundation
May 2013	Human Rights, global risk management and public policies for the disaster and prevention in Latin America and the Caribbean.

## PUBLICATIONS

**C. Morales-Yáñez**, Z. Duputel and L. Rivera. Impact of 3-D Earth structure on W-phase CMT parameters. *Geophysical Journal International*, Volume 223, Issue 2, November 2020, Pages 1432–1445, <https://doi.org/10.1093/gji/ggaa377>.

**C. Morales-Yáñez**, Z. Duputel and L. Rivera, 2022. Exploring the link between large earthquakes and magma transport at the onset of the Mayotte volcano-seismic crisis (2022). *Comptes Rendus Géoscience*, Accepted.

**C. Morales-Yáñez**, L. Bustamante, R. Benavente, C. Sippl and M. Moreno. B-value variations in the Central Chile seismic gap assessed by a Bayesian transdimensional approach. Under review at *Scientific Reports*

S. García-Arias, W. Peñaranda, P. Goyes-Pañafiel and **C. Morales-Yáñez**. Statistical Analysis of earthquake catalog associated with the Bucaramanga Nest in the Period 2000-2020. Under review at *Andean Geology*.

## EXPERIENCE

Nowadays April 2022	<b>Post-doctoral researcher, UNIVERSIDAD CATÓLICA DE LA SANTÍSIMA CONCEPCIÓN, Chile</b> ➤ Post-doctoral researcher of the project Fondecyt N° 3220307.
August 2022 March 2022	<b>Lecture, MASTER OF GEOPHYSICS OF THE UNIVERSIDAD DE CONCEPCION, Chile</b> ➤ Lecturer of seismology modeling course.
April 2022 March 2021	<b>Post-doctoral researcher, UNIVERSIDAD CATÓLICA DE LA SANTÍSIMA CONCEPCIÓN, Chile</b> ➤ Post-doctoral researcher of the project ANILLO PRECURSOR ACT192169.
December 2021 August 2021	<b>Lecture, GEOGRAPHIC ENGINEERING DEPT. OF THE UNIVERSIDAD DE SANTIAGO, Chile</b> ➤ Lecturer of the Geophysics and Gravimetry course.
April 2020 February 2020	<b>Scientific calculation engineer, CNRS, France</b> ➤ Research work focused on the seismic crisis in Mayotte, France.

December 2019 September 2016	IdeX doctoral contract, UNIVERSITÉ DE STRASBOURG, France <ul style="list-style-type: none"> <li>➤ Research work focused on the characterization of the seismic source considering the 3D structure of the Earth.</li> </ul>
January 2015	FONDECYT project 1130071, UNIVERSITY OF CHILE, Chile <ul style="list-style-type: none"> <li>➤ Maintenance of seismological stations, in charge of Dr. Diana Comte</li> </ul>
2014 2011	GPS Campaign in Chile with, GFZ POTSDAM, Germany and FONDECYT 1101034 I actively participated in three GPS Campaign (April 2014, February 2012, November 2011) in north and south of Chile, in charge of Dr. Marcos Moreno, GFZ Potsdam, Germany (actually associate professor in Universidad de Concepción). <ul style="list-style-type: none"> <li>➤ Install GPS receivers in different point of chile</li> </ul>
2014 2013	Technical support for Firefighters and USAR Team, CONCEPCIÓN, Chile Search for missing person (2014), search of missing plain (2013) and volcano evacuation (2013) <ul style="list-style-type: none"> <li>➤ Analysis of risk and coordination team.</li> </ul>

## CONGRESS (SELECTED)

<b>AGU FALL MEETING 2021, UNITED STATES</b> Talk <ul style="list-style-type: none"> <li>◦ Characterizing variations in b-value by using a Bayesian transdimensional approach</li> </ul>	DECEMBER 2021
<b>4TH COLLOQUIUM ON GEOPHYSICAL SIGNATURES OF EARTHQUAKES AND VOLCANOES</b> Talk <ul style="list-style-type: none"> <li>◦ Uncertainty due to 3D heterogeneities a look of W-phase CMT inversions in South America.</li> </ul>	MAYO 2021
<b>AGU FALL MEETING 2020, UNITED STATES</b> Contribution <ul style="list-style-type: none"> <li>◦ Geolatinas Digital Literacy Toolkit : A Diverse Community Developing Coding Skills for the Open Source World.</li> <li>◦ GeoHackeo, the GeoLatinas hackathon-Testing our Digital Literacy toolkit</li> </ul>	DECEMBER 2020
<b>AGU FALL MEETING, SAN FRANCISCO, UNITED STATES</b> Poster <ul style="list-style-type: none"> <li>◦ Impact of 3D Earth's structures on W-phase CMT parameters</li> <li>◦ 3D CMT Inversion of <math>M_w \geq 5</math> Earthquakes during the Mayotte Seismic Crisis</li> </ul>	DECEMBER 2019
<b>AGU FALL MEETING, WASHINGTON DC, UNITED STATES</b> Contribution poster (second author) <ul style="list-style-type: none"> <li>◦ Inversion of source-time function for earthquakes in northern Chile using different least squares regularization methods</li> </ul>	DECEMBER 2018
<b>CONGRÈS DES DOCTORANTS ED 413, STRASBOURG, FRANCE</b> Talk <ul style="list-style-type: none"> <li>◦ Effects of 3D Earth structure on W-phase CMT parameter.</li> </ul>	NOVEMBER 2018
<b>XV CHILEAN GEOLOGICAL CONGRESS, CONCEPCIÓN, CHILE</b> Contribution poster (second author) <ul style="list-style-type: none"> <li>◦ Simultaneous inversion of the seismic moment tensor and temporal source function for earthquakes in northern Chile, using different least squares regularization methods</li> </ul>	NOVEMBER 2018
<b>ESC GENERAL ASSEMBLY, VALLETA, MALTA</b> Poster <ul style="list-style-type: none"> <li>◦ Effects of different earth's structures on W-phase CMT parameters</li> </ul>	SEPTEMBER 2018
<b>CONGRÈS DES DOCTORANTS ED 413, STRASBOURG, FRANCE</b> Poster <ul style="list-style-type: none"> <li>◦ Effects of 3D Earth structure on W-phase CMT parameter.</li> </ul>	NOVEMBER 2017
<b>EGU GENERAL ASSEMBLY, VIENNA, AUSTRIA</b> Poster <ul style="list-style-type: none"> <li>◦ Retrieving Source-Time Function and Seismic Moment Tensor From Near Field Records</li> <li>◦ Effects of 3D Earth structure on W-phase CMT parameters</li> </ul>	APRIL 2017



## OUTREACH, ORGANIZATION CONFERENCE AND WORKSHOP (SELECTED)

<b>ASOCIACIÓN CHILENA DE INGENIERÍA GEOLÓGICA (ACHIGEO)</b> Talk o La Sismología en la Gestión del Riesgo	2022
<b>MÁS UNIDOS MENOS RIESGO OF CARITAS CHILE</b> Webinar Riesgos de Desastres provocados por Terremotos, Promoviendo la gestión local para la prevención y la resiliencia.	2022
<b>INNOVATIVE SESSIONS AGU FALL MEETING, UNITED STATES</b> Organization o Moving Beyond the Standard : A Transdisciplinary Virtual Event for Early-Career Scientists. o Creating and Sustaining Just, Equitable, Diverse, and Inclusive Spaces as an Early Career Researcher.	2020
<b>GEOCHARLAS T<sup>3</sup> - OUTREACH PROJECT</b> Organization and talk, online o Impacto de las heterogeneidades de la Tierra en las soluciones de los terremotos	2020
<b>IS SCIENCE EQUAL? - CONFERENCE</b> Organization of discussion panel, France	2019
<b>SERIOR (SECURITY-RISK-ORIENTATION) SUMMER SCHOOL "RISK WITHOUT BORDERS" - WORKSHOP</b> Trinational training program : Germany, France and Switzerland Contributes to establishing Eucor-The European Campus and cooperates with the Upper Rhine Cluster for Sustainability Research	2018



## COMPETENCES

<b>Programming</b>	Bash, Python, MatLab
<b>Operating systems</b>	Linux, Mac OS X
<b>Software knowledge</b>	Office, GMT, Latex, SAC, Obspy, ArcGis, Comcot, NewWave, SPECFEM, W-phase algorithm, RJMCMC



## LANGUAGES

Spanish	● ● ● ● ●
English	● ● ● ● ●
French	● ● ● ● ○



## OTHERS

- > Founder scicomm ONG "Fundación Geonautas"
- > Founder of "GeoCharlas T<sup>3</sup>"
- > Active member of "GeoLatinas"
- > Volunteer firefighter, Chile. 2007-2016



## GRANTS AND SCHOLARSHIP

<b>FOUNDING FONDECYT DE POSTDOCTORADO 2022 N° 3220307</b> Chilean national founding for postdoctoral project	2022-2025
<b>SCHOLARSHIP FOR CERTIFICATE COURSE OF CENTRO INTERNACIONAL DE FORMACIÓN DE LA OIT, ITALY</b> Curso certificado en Reducción del Riesgo de Desastres (RRD) y desarrollo local sostenible	2022
<b>DOCTORAL FOUNDING "IDEX", UNIVERSITÉ DE STRASBOURG, FRANCE</b> Founding for projects of excellence	2016-2020
<b>SCHOLARSHIP "MAGISTER NACIONAL", CONICYT, CHILE</b> Support for master students with academic excellent	2014-2016



## REFERENCES

**Luis Rivera**

Professor, UNIVERSITÉ DE STRASBOURG

@ luis.rivera@unistra.fr

**Roberto Benavente**

Professor, UCSC

@ robenavente@gmail.com

**Francisco Ortega**

Assistant Professor, UNIVERSIDAD DE CHILE

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