Javier Ojeda

Postdoctoral Researcher • Anillo EASER project • Universidad de Concepción

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Research statement

Geophysicist with experience in applying seismology and geodesy techniques to study crustal deformation processes caused by geological hazards, including earthquakes in subduction zones and active fault systems. My research also bridges into engineering seismology, focusing on the simulation of strong ground motion and seismic hazard assessment. These multidisciplinary interests have allowed me to collaborate with leading researchers in France, Italy, Japan, and the United States, strengthening my network and enriching my research perspective. I have contributed to 11 peer-reviewed articles (h-index 5, WoS citations: 261) and presented at over 30 national and international conferences. Additionally, I have 10 years of teaching experience, including mentoring students, participating in geophysical campaigns, and supporting knowledge sharing through outreach activities.

Education

α=Thesis project in co-tutelle

Ph.D. in Earth and Environmental Sciences, IPGP, Université Paris Cité [α] — *Oct 2021 - Dec 2024*
Ph.D. in Geology, Departamento de Geología, Universidad de Chile [α] — *Mar 2020 - Dec 2024*
M.Sc. in Geophysics, Departamento de Geofísica, Universidad de Chile — *Mar 2017 - Sep 2018*
B.S. in Geophysics, Departamento de Geofísica, Universidad de Chile — *Mar 2011 - Jun 2016*

Complementary certifications in University Teaching Development, Pedagogical Processes in Teaching, Active Methodologies for Learning; Research Ethics; Seismology, Volcanology, Geodesy tools, among others.

Research Work Experience

Postdoctoral Researcher, Anillo EASER project, Universidad de Concepción — *Since January 2025*
Researcher, Programa de Riesgo Sísmico, Universidad de Chile — *Jul 2024 - Dec 2024*
Part-time Research Assistant, Departamento de Geofísica, Universidad de Chile — *Oct 2020 & Jun 2022*
Part-time Research Assistant, Programa de Riesgo Sísmico, Universidad de Chile — *Apr 2016 - Aug 2019*
Technical assistant, Fondecyt programs 1170430, 11130230 Certificate — *2016 & 2018*
Intern, Centro Sismológico Nacional, Universidad de Chile — *Apr 2015*

Research visits

University of California Berkeley, Supervisor: Roland Bürgmann — *Sep 2024 - Oct 2024*
University of California Berkeley, Supervisor: Roland Bürgmann — *Dec 2023 - Mar 2024*
Université Côte d'Azur, Supervisor: Jean-Mathieu Nocquet — *Nov 2022 - Dec 2022*
Istituto Nazionale di Geofisica e Vulcanologia, Supervisor: Aybige Akinci & Elisa Tinti — *Jul 2019 & Dec 2019*
Institute de Physique du Globe de Paris, Supervisor: Fabian Bonilla — *Nov 2017 - Feb 2018*

Awards, Grants, and Funding

ANID: Chilean National Research and Development Agency

Travel grant, SZNet Chile & US Exchange Program; SZ4D; NSF; AccelNet program 2301732 — *2024*
International mobility grant, Service des Études Doctorales de l'IPGP — *2023*
Student travel grant, American Geophysical Union — *2020*
ANID doctoral scholarship & benefits: operating expenses, cotutelle, internship, extensions — *2020 - 2024*
Travel grant for short stay in Japan, JASSO & SEELA — *2018*
Travel grant for short stay in France, Vicerrectoría de Asuntos Académicos, Universidad de Chile — *2017*
Outstanding student award, Facultad de Ciencias Físicas y Matemáticas, Universidad de Chile — *2014 & 2015*
Academic excellence scholarship, Universidad de Chile — *2011 - 2016*
Financial assistance grant, Ministry of Education of Chile — *2011 - 2016*

PEER-REVIEWED PUBLICATIONS

†=EQUAL AUTHORSHIP CONTRIBUTION

[11] Kondo, Y., Obayashi, M., Sugioka, H., Shiobara, H., Ito, A., Shinohara, M., Iwamori, H., Kinoshita, M., Miller, M., Tassara, C., **Ojeda, J.** (2024). **Seismic Image of the Central to Southern Andean Subduction Zone Through Finite-Frequency Tomography**. *J. Geophys. Res.: Solid Earth*, 129(11), e2024JB028844.

[10] Vigny, C., Klein, E., **Ojeda, J.** (2024). **In search for the lost truth about the 1922 & 1918 Atacama earthquakes in Chile**. *J. South Am. Earth Sci.*, 143, 104983.

[9] Flores, C., **Ojeda, J.**, Otarola, C., Arriola, S., Ruiz, S. (2023). **Stochastic strong ground motion simulation in the Santiago Metropolitan region considering an Mw 7.8 intraplate intermediate-depth earthquake**. *J. South Am. Earth Sci.*, 130, 104501.

[8] Ito, A., Shiobara, H., Miller, M., Sugioka, H., **Ojeda, J.**, Tassara, C., Shinohara, M., Kinoshita, M., Iwamori, H. (2023). **Long-term Array Observation by Ocean Bottom Seismometers at the Chile Triple Junction**. *J. South Am. Earth Sci.*, 124, 104285.

[7] **Ojeda, J.**, Morales-Yáñez, C., Ducret, G., Ruiz, S., Grandin, R., Doin, M.-P., Vigny, C., Nocquet, J.-M. (2023). **Seismic and aseismic slip during the 2006 Copiapó swarm in North-Central Chile**. *J. South Am. Earth Sci.*, 123, 104198.

[6] Tissandier, R., Nocquet, J.-M., Klein, E., Vigny, C., **Ojeda, J.**, Ruiz, S. (2023). **Afterslip of the Mw8.3 2015 Illapel earthquake imaged through a time-dependent inversion of continuous and survey GNSS data**. *J. Geophys. Res.: Solid Earth*, 128(2), e2022JB024778.

[5] **Ojeda, J.**, Akinci, A., Tinti, E., Arriola, S., Ruiz, S. (2021). **Hybrid Broadband Strong-Motion Simulation to investigate the near-source Characteristics of the M6.5, 30 October 2016 Norcia, Italy Earthquake**. *Soil Dyn. Earthq. Eng.*, 149, 106866.

[4] **Ojeda, J.**, Ruiz, S. (2021). **Seismic noise variability as an indicator of urban mobility during the COVID-19 pandemic in the Santiago metropolitan region, Chile**. *Solid Earth*, 12, pp. 1075-1085.

[3] Lecocq, T., et al., including **Ojeda, J.** (2020). **Global quieting of high-frequency seismic noise due to COVID-19 pandemic lockdown measures**. *Science*, 369(6509), 1338-1343.

[2] **Ojeda, J.**, Ruiz, S., del Campo, F., Carvajal, M. (2020). **The 1960 May 21 Mw 8.1 Concepción earthquake: A deep megathrust foreshock that started the 1960 central-south Chilean seismic sequence**. *Seismol. Res. Lett.*, 91(3), 1617-1627.

[1] Ruiz, S.†, **Ojeda, J.**†, Otarola, C., Pastén, C., Silva, R. (2018). **Stochastic strong motion simulation in borehole and on surface for the Mw 9.0 Tohoku-Oki 2011 mega-earthquake considering P, SV and SH amplification transfer functions**. *Bull. Seismol. Soc. Am.*, 108(5A), 2333–2346.

SEMINARS AND CONFERENCES (SELECTED)

FULL LIST: 54 PRESENTATIONS, S=SEMINARS, C=CONFERENCES

[S.2] Exploring the spatial distribution of transient deformation in continuous GPS data. **Reuniones Geocientíficas, DGEO, Universidad de Concepción**, 31 May 2024.

[S.1] Seismic and aseismic slip during the 2006 Copiapó swarm in Atacama, North-Central Chile. **Mardi Séismes, Géoazur, Université Côte d'Azur**, 29 November 2022.

[C.2] Tracking the Aseismic Slip History Along the Chilean Subduction Zone (18°S-40°S): GPS Observations from 2006 to 2024. *Slow-to-Fast Earthquake Workshop 2025*.

[C.1] Global search of short-term transient in cGPS time series. *AGU Annual Meeting 2023*. **[Invited Talk]**

FIELD WORK EXPERIENCE

Geodesy, Atacama Chile, Project: S5 project ANR-19-CE31-0003 — *Nov 2023*
Ocean Floor Seismology, Chile Triple Junction, EPIC & JAMSTEC project — *Feb 2021*
Exploration Geophysics, Antofagasta Chile, INSUD project ACT172002, PIA-Anillo, Chile — *Oct 2018*
Seismology, Tarapacá Chile, PICTURES project MGL1610, NSF — *Nov 2016*

Outreach Experience

Fundación Geonautas, Co-founder of non-profit organization	*Since July 2021*
Rocadictos Radio Show, Member of the editorial committee and panelist	*Dec 2021 - Apr 2024*
Explora ANID, Scientific advisor, collaborator and coordinator	*2016 - 2024*
Tatemblando Podcast, Co-creator of podcast on seismology	*2020 - 2023*
Geociencias para Terrícolas, Member in project of social network dissemination	*2019 - 2021*
Geociencias para Políticas Públicas, Member in project of vinculation with territorial issues	*2016 - 2018*

University Teaching & Mentoring Experience

Details in Certificate

Since August 2014, I have served as a teaching assistant in 24 courses for undergraduate students (Seismology, Applied Seismology, Ordinary Differential Equations, and Introduction to Meteorology and Oceanography) and graduate students (Theoretical Seismology and Earthquakes in Chile, as well as GNSS applications in earthquake research). Additionally, I served as a teaching assistant for the Postgraduate Diploma in Seismology at the Universidad de Chile for five years. Finally, I created, designed, and taught a new course for graduate students, focusing on improving their skills in disseminating scientific research and learning how to organize scientific events (Geophysics Postgraduate Workshop). More information in Certificate.

I co-guided an undergraduate student in Civil Engineering at Universidad de Chile in developing her project: Generation of Artificial Accelerograms for Moderate-Magnitude Earthquakes. I mentored three school projects related to Earth Sciences, specifically Seismology, Water Resources management, and Earthquake Engineering.

Scientific Service and Professional Activities

I currently serve as Director of Seismology at the Colegio de Geofísicas y Geofísicos de Chile A.G. (since May 2025), Executive Committee Member of SZ4Grads Andes Sur (since June 2023), and Secretary of Fundación Geonautas (since July 2021). Previously, I was an Early Career Scientist co-representative for the EGU Seismology Division from September 2020 to May 2022, where I contributed to strengthening the global geoscience community. I have also served as a convener at international conferences, organizing the "Seismology 101" short courses at EGU21 and EGU22, with a focus on promoting seismological science to other disciplines.

Additionally, I have coordinated numerous scientific conferences, seminars, and webinars for various institutions. These include the SZ4Grads Andes Sur events and a broader talk series in 2024, scientific meetings for AndesNet in 2023, and postgraduate events such as the V Jornada de Postgrado en Geofísica at the Universidad de Chile. Earlier activities include coordinating the Congrès Des Doctorant.es at École Doctorale 560 IPGP in 2022, GeoCharlas T3 in 2020, and several colloquia and postgraduate events at the Universidad de Chile since 2016.

Professional Memberships

Colegio de Geofísicas y Geofísicos de Chile A.G.	*Since 2024*
Seismological Society of America ID: 510-525-5474	*Since 2024*
American Geophysical Union ID: 793445	*Since 2018*
European Geosciences Union ID: 569323	*2021 - 2022*