Jorge Jara Gómez

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Seismogeodesy - Earthquake Cycle - Seismic Hazard - Hydrogeodesy

Current Position

2025 **Researcher in Seismotectonics, Climate Change and Seismic Hazard**.
Affiliation : Seismic Hazard and Risk Dynamics Team, GFZ Helmholtz Centre for Geosciences, Potsdam, Germany.
Role : Group Leader and Principal Investigator of SEISCLIM project.

Education

11/2013 - 03/2018 **Ph.D. in Solid Earth**, ISTerre, Université Grenoble Alpes.
Thesis : Transient behavior and role of barriers in the North Chile - South Peru seismic gap.
Advisor : Dr. Anne Socquet

03/2011 - 08/2013 **M.Sc. in Geophysics**, *Summa Cum Laude*, Department of Geophysics, University of Chile.
Thesis : Impact of the slab geometry on the seismic rupture process: Tocopilla Earthquake (Mw 7.7 2007) as study case.
Advisor : Prof. Dr. Eduardo Contreras-Reyes and Dr. Daniel Carrizo

03/2006 - 12/2010 **B.Sc. in Geophysics**, *Cum Laude*, Department of Geophysics, University of Chile.

03/2004 - 12/2005 **Bachelor in Natural Science**, *Cum Laude*, University of Chile.

Research Experience

10/2025 - 10/2030 **Researcher**. Project: "Volkswagen Foundation, Pioneering Research - Exploring the Unknown Unknwon, N°02000087-00, SEISCLIM". At the Seismic Hazard and Risk Dynamics Team, GFZ Helmholtz Centre for Geosciences, Potsdam, Germany.

- Principal investigator developing an interdisciplinary framework to understand how climate change influences seismic hazard assessment, combining observations and numerical modeling.

- Research topics: Seismotectonics, Hydrogeodesy, Earthquake Cycle Modeling, and Seismic Hazard.

- Section group leader responsible for managing the SEISCLIM project and advising/mentoring 1 M.Sc. student, 2 Ph.D. candidates, and 2 postdoctoral researchers.

01/2025 - 09/2025 **Researcher in Seismogeodesy and Seismotectonics**. At the Geomechanics and Scientific Drilling Team, GFZ Helmholtz Centre for Geosciences, Potsdam, Germany.

- Implementing methods to study seasonality in seismic catalogs, focusing on Turkey and Chile.

- Leading a project to study the interplay between seismic/aseismic processes in Turkey.

11/2022 - 12/2024 **Post-Doctoral Researcher**. Project: "MSCA Postdoctoral Fellowship N°101066069, ERASMUS", MSCA Actions, EU Commission. At the Seismic Hazard and Risk Dynamics Team, GFZ German Research Centre for Geosciences, Potsdam, Germany.

- Characterizing high-frequency sources during earthquakes and their link with tectonics.

- SSE detection and characterization methods, with applications to seismic hazard.

04/2018 - 10/2022 **Post-Doctoral Researcher**. Project: "ERC Starting Grant N°758210, Geod4D", EU Commission. At the Laboratoire de Géologie, École Normale Supérieure, Paris, France.

- Designed, installed, and maintained 18 continuous GNSS stations in the Ismetpasa region, Turkey (North Anatolian Fault - Central Segment).

- Characterizing the physical behavior of creep in the central North Anatolian Fault.

- Improving seismogeodetic techniques to detect small transient deformations linked to earthquake nucleation.

- Investigating supershear rupture transitions and their relationship with seismotectonics.

11/2013 - 03/2018 **Research Assistant**. Project: "Transient behavior and role of barriers in the North Chile - South Peru seismic gap". Becas Chile Scholarship N°72140412. CONICYT, Chilean Government. At the Institute of Earth Sciences (ISTerre), Université Grenoble-Alpes, Grenoble, France.

- Processing continuous GNSS data in the South Peru - North Chile subduction zone to analyze seismic cycle stages.

- Developing a multidisciplinary approach to study interseismic deformation and earthquake nucleation.

- Detecting and characterizing small deformation transients in the region.

- Improving kinematic inversion schemes to understand seismotectonic segmentation.

2010 - 2012 **Research Assistant**. Project: "Structural Study of the Pre-And Post Collision Zones Between the Chile Rise and Chile Margin". Fondecyt N°11090009. At the Geophysics Department, University of Chile, Santiago, Chile.

- Processing and analyzing wide-angle seismic data to study seismotectonics in Northern Chile.

- Modeling seismogeodetic data to assess the impact of geometry on the seismic rupture process.

2010 - 2012 **Research Assistant**. Project: "Deformation Study in the Laguna del Maule Caldera". Department of Geophysics, University of Chile. At the Geophysics Department, University of Chile, Santiago, Chile.

- Installing and maintaining a GNSS network and conducting gravimetric measurements to define the caldera structure.

- Conducting a local tectonic study.

Teaching and Advising Experiences

Throughout my career, I have taught at **undergraduate, master's, and doctoral levels** in **Spanish, English, and French**, covering topics in **mathematics, physics, seismology, active tectonics, geodynamics, and seismic hazards**. I have also advised and mentored **1 undergraduate student**, **2 MSc. student**, **5 Ph.D. candidates**, and **2 postdoctoral researchers**.

Teaching

2024-2026 **Lecturer and Teaching Assistant**. Probabilistic Seismic Hazard Assessment. Teaching 30 hours per semester to Bachelor and Master Students. Potsdam University, Potsdam, Germany.

2019 **Teaching Assistant**. Solid Mechanics. Teaching 16 hours to L3 students. LG-ENS, PSL University.

2010 - 2013 **Teaching Assistant**. Introduction to Seismology and Geodynamics of the Chilean Margin. 120 hours per year for undergraduate, master and Ph.D. students. Department of Geophysics, Faculty of Physical and Mathematical Sciences, University of Chile.

2006 - 2011 **Teaching Assistant**. Calculus I, Algebra I, Linear Algebra and Differential Equations. 90 hours per year for undergraduate students. Department of Mathematics, Faculty of Exact Sciences at Andrés Bello University.

Advising

2026 - 2028 **Postdoctoral mentoring**. Dr. Pablo Iturrieta. GFZ, Potsdam, Germany.

2026 **MSc. Advising**. J. Simons. GFZ, Potsdam, Germany.

2025 - 2028 **Ph.D. Advising**. A. Marck. Collab. with Prof. Dr. P. Martínez-Garzón. GFZ, Potsdam, Germany.

2024 - 2027 **Ph.D. Advising**. M. Arroyo. Collab. with Prof. Dr. F. Cotton. GFZ, Potsdam, Germany.

2025 - 2026 **MSc. Advising**. D. Cortés. U Nac. Colombia. Collab. with Prof. Dr. C. Vargas. Bogota, Colombia.

2025 - 2026 **MSc. Advising**. B. Beytut. Collab. with Prof. Dr. U. Doğan. YTU, Istanbul, Turkey.

2024 - 2026 **Postdoctoral mentoring**. Dr. A. Gupta. Collab. with Dr. H.S. Bhat. ENS, Paris, France.

2021 - 2023 **Ph.D. Advising**. A. Ozdemir. Collab. with Prof. Dr. U. Doğan. YTU, Istanbul, Turkey.

2019 **Undergraduate Advising**. Roxane Ferry. Collab. with Dr. H.S. Bhat. ENS, Paris, France.

2019 - 2022 **Ph.D. Advising**. E. Caballero. Collab. with Dr. Z. Duputel. ITES, Strasbourg, France.

2018 - 2020 **Ph.D. Advising**. N. Bontemps. Collab. with Dr. P. Lacroix. ISTerre, Grenoble, France.

Fieldwork Experience

I have **over a year of field experience** with **GNSS**, **seismological**, **gravimetric**, and **marine geophysics** instruments. Below is a summary of this experience.

GNSS In 2018, I designed, installed, and maintained 18 continuous GNSS stations along the central North Anatolian Fault. This ongoing work includes data processing and is complemented by field measurements in northern Chile within the Franco-German IPOC project and by volcanology field campaigns in Chile.

Seismology I have experience as Principal Investigator (PI) in installing seismological stations along the central section of the North Anatolian Fault for a PoF-GFZ project. This work is complemented by marine and terrestrial campaigns in Chile following earthquakes.

2025 - 2026 **Project**: "Program-oriented funding GFZ". P.I. Dr. J. Jara.
Two weeks of fieldwork, twice a year in Turkey.
Work: *Installation, and maintenance of GNSS and seismological stations, including management and processing of observations.*

2023 - 2024 **Project**: "Program-oriented funding GFZ". P.I. Dr. J. Jara and Prof. Dr. P. Martínez-Garzón.
Two weeks of fieldwork, twice a year in Turkey.
Work: *Design, installation, and maintenance of GNSS and seismological stations, including management and processing of observations.*

2018 - 2022 **Project**: "ERC Starting Grant: Geod4D." P.I.: Dr. R. Jolivet. Field P.I.: Dr. J. Jara
Several campaigns in Turkey, lasting 10 to 35 days, organized one to two times per year.
Work: *Design, installation, and maintenance of GNSS stations (18 stations), management and processing of observations.*

2015 **Project**: "GNSS Alpes." P.I.: Dr. A. Walpersdorf
One week, July, France.
Work: *Re-measurement of the GNSS campaign network in the Alps.*

2014 **Project**: "Post-seismic after the Iquique earthquake." P.I.: Dr. F. Ortega and Dr. D. Carrizo.
Two weeks, April, Chile.
Work: *Re-measurement of the GNSS campaign network in northern Chile.*

2010 - 2012 **Project**: "Study of deformation in the Maule Caldera." P.I.: Dr. A. Pavez.
12 weeks in total, Talca, Chile.
Work: *Installation, and re-measurement of a sGNSS network. Conducted gravimetric measurements.*

2012 **Project**: "Large subduction earthquakes in Chile and associated seismic risk." P.I.: Dr. A. Socquet. Two weeks, April 2012, Chile.
Work: *Re-measurement of the GNSS campaign network in northern Chile.*

2011 **Project**: "SAGA." P.I.: Dr. Marcos Moreno.
Three weeks, November 2011, Chile.
Work: *Re-measurement of the GNSS campaign network in northern Chile.*

2010 **Project**: FS SONNE Cruise Report SO212, "TACO Project." P.I.: Dr. Ernst R. Flüh.
One week, December 2010, Talcahuano - Valparaíso, Chile.
Work: *Recovery of OBS from the Maule EQ aftershock zone.*

Scientific Service

I have experience in organizing and moderating international scientific sessions on seismic and aseismic deformation, including general assemblies, colloquia, and workshops (12 events). I have also contributed as a reviewer for renowned scientific journals and managed research seminars.

2020 - 2026 EGU General Assembly. Convener for six sessions on seismic and aseismic deformation. **2026-URL**. **2025-URL**. **2024-URL**. **2023-URL**. **2023-2-URL**. **2022-URL**. **2021-URL**. **2020-URL**.

2024 General Assembly of the European Seismological Commission (ESC). Co-convener. Session: "Preparatory Processes of Earthquakes, from Laboratory Experiments to Large Earthquakes." **URL**.

2023 "V Colloquium on Geophysical Signatures of Earthquakes and Volcanoes." Convener. May 2023. Santiago, Chile. **URL**.

2023 Workshop: "Earthquakes: from Observations to Dynamic Rupture Simulations." Convener. May 2023. Santiago, Chile. **URL**.

2018 - 2020 Convener for sessions on seismic and aseismic deformation. **2020-URL**. **2018-URL**.

2015 - 2017 Organizer of seminars for the "Seismic Cycle and Transient Deformations" team, ISTerre, Grenoble, France.

Reviewer for Nature Scientific Reports, Geophysical Research Letters (GRL), Earth and Planetary Science Letters (EPSL), Tectonics, Seismological Research Letters (SRL), Turkish Journal of Earth Sciences (TJES), Frontiers in Earth Science, Journal of Geodesy, BSGF Earth Science Bulletin, Nature Communications.

Memberships American Geophysical Union, European Geophysical Union.

Grants and Awards

Secured competitive funding as **P.I. (7)** and **Co-P.I. (2)** for projects in **seismology**, **geophysics**, and **interseismic deformation**, including postdoctoral fellowships (1), research projects (5), and doctoral studies support (1).

2025-2030 **Volkswagen Foundation, Pioneering Research - Exploring the Unknown Unknwon**. P.I. Seismotectonics and Climate: challenges in bridging scales. GFZ. Budget: €1,3M.

2025-2026 **Program-Oriented Funding, GFZ**. P.I. Seismogeodesy along the North Anatolian Fault. GFZ. Budget: €16k.

2023-2024 **Program-Oriented Funding, GFZ**. P.I. Seismogeodesy along the North Anatolian Fault. GFZ. Budget: €22k.

2022-2024 **MSCA Postdoctoral Fellowship**. P.I. MSCA Actions. European Commission. Budget: €175k.

2023-2026 **"Fondecyt Iniciación"**. "Atmospheric water vapor and precipitation processes in central and southern Chile." Co-P.I. National Agency for Research and Development, Chile. Budget: €100k.

2013-2017 **Becas Chile Ph.D. Fellowship**. Chilean Government. Budget: €90k.

2014 **Labex OSUG@2020 Grant**. Study of asperities in the southern Peru-northern Chile subduction zone, under the supervision of Mark Simons, Caltech, USA. Budget: €2,7k.

2012 **Geophysics Department Grant**. Geophysics Department, University of Chile. Budget: €5k.

Articles Published in ISI-Indexed Journals

Articles in review or advanced state of preparation (: Student Advising)*

Jara, J., Soret, M., Jolivet, R., Cubas, N., Maksymowicz, A., & Cotton, F. Metamorphic dehydration reactions trigger slow slip events in subduction zones. **DOI**. *Under review at Science Advances.*

Arroyo-Solórzano, M.*, Crisosto, L., **Jara, J.**, González, Á., & Cotton, F. Subduction Parameters Controlling the Occurrence of Shallow and Deep Slow-Slip Events (SSEs) Revealed by Machine Learning. **DOI**. *Under review at JGR. Second author is also a Ph.D. student; therefore, I am the third author.*
Work : *Conceptualization, Ph.D. supervision, manuscript writing, and interpretation of results.*

Becker, D., Martínez-Garzón, P., **Jara, J.**, Çakir, Z.& Jolivet R. Anatomy of damaged fault zone by aseismically driven seismicity. *Under review at Nature Geosciences.*
Work : *Conceptualization, funding acquisition, fieldwork, manuscript writing, and discussion.*

Buenrostro, A.M.*, Cotton, F., **Jara, J.**, Crempien, J., & Jünemann, R. Capturing the Epistemic Uncertainty in Subduction Earthquake Rupture Parameters. *Under review at Bulletin of the Seismological Society of America.*
Work : *Conceptualization, Ph.D. supervision, manuscript writing, and interpretation of results.*

Oryan, B., Gabriel, A.-A., et al. The Coupling Cloud: A community database of megathrust kinematic coupling models. *Collaborative work to be submitted to Seismica, Software Reports..*

Jara, J., Bhat, H.S., Martínez-Garzón, P., Bindi, D., & Cotton, F. Rupture velocity and damage zones: factors controlling high-frequency shaking during earthquake propagation. *To be submitted at JGR in the following weeks.*

Published Articles (: Student Advising)*

22 Tier-A Publications (including 1 Science, 1 in Nature Geoscience, 1 in Nature Communications, and 7 in Geophysical Research Letters). A brief description of the work conducted is included for each co-authored article.

2025 Martínez-Garzón, P., Chen, X., Becker, D., Núñez-Jara, S., Kartal, R. F., Türker, E., Dresen, G., Ben-Zion, Y., **Jara, J.**, Cotton, F., Kadirioglu, F. T., Kiliç, T., & Bohnhoff, M. Progressive eastward rupture of the Main Marmara fault toward Istanbul. Science, 0072, 1–11. **DOI**.
Work : *Visualization, background seismicity and b-value analysis, manuscript writing, and discussion of results.*

2025 Valenzuela, R., **Jara, J.**, & Martinez-Villalobos, C. (2025). Atmospheric Water Vapor and Precipitation Coupling in Southwestern South America. Geophysical Research Letters, 52(24). **DOI**.
Work : *Conceptualization, GNSS-PWV processing and analysis, statistical characterization of PWV precipitation coupling, manuscript writing, and interpretation of results.*

2025 Arroyo-Solórzano, M.*, **Jara, J.**, Weatherill, G., González, Á., Hidalgo-Leiva, D. A., & Cotton, F. Impact of geodetic information, subduction zone segmentation, and slow-slip events in probabilistic seismic hazard: A case study for Costa Rica. Geophysical Journal International. **DOI**.
Work : *Ph.D. supervision, PSHA framework development and integration of geodetic information, manuscript writing, and interpretation of results.*

2025 Özdemir, A.*, **Jara, J.**, Doğan, U., Jolivet, R., Çakir, Z., Nocquet, J.-M., Ergintav, S., & Bilham, R. Detecting Millimetric Slow Slip Events Along the North Anatolian Fault With GNSS. Geophysical Research Letters, 52(10). **DOI**.
Work : *Ph.D. supervision, funding acquisition, GNSS data processing, time series analysis, manuscript writing, and interpretation of results.*

2024 **Jara, J.**, Jolivet, R., Socquet, A., Comte, D. & Norabuena, E. Detection of slow slip events along the south Peru - north Chile subduction zone. Seismica, 3(1). **DOI**.

2024 Michel, S., Duverger, C., Bollinger, L., **Jara, J.** & Jolivet, R. Update of the Seismogenic Potential of the Upper Rhine Graben Southern Region. *Natural Hazards and Earth System Sciences*. **DOI**.
Work : *Processing and analysis of seismicity catalogs, calculation of magnitude of completeness, and declustering. Discussion and interpretation of results.*

2023 Jolivet, R., **Jara, J.**, Dalaison, M., Rouet-Leduc, B., Özdemir, A., Doğan, U., Çakir, Z. & Ergintav, S. Daily to centennial behavior of aseismic slip along the central section of the North Anatolian Fault. Journal of Geophysical Research: Solid Earth, 128(7), 1-35. **DOI**.
Work : *Design and installation of GNSS networks, data processing, estimation of interseismic velocities, and modeling. Discussion and interpretation of results.*

2023 Martínez-Garzón, P., Becker, D., **Jara, J.**, Chen, X., Kwiatek, G., & Bohnhoff, M.. The 2022 M W 6.0 Gölyaka-Düzce earthquake: an example of a medium-sized earthquake in a fault zone early in its seismic cycle. Solid Earth, 14(10), 1103-1121. **DOI**.
Work : *Processing and analysis of seismicity catalogs, calculation of magnitude of completeness, and declustering. Writing, discussion, and interpretation of results.*

2023 Michel, S., Jolivet, R., **Jara, J.** & Rollins, C. Seismogenic potential of northern Chile subduction zone. Bulletin of the Seismological Society of America, 113(3), 1013-1024. **DOI**. ***Work*** : *Processing and analysis of seismicity catalogs, calculation of magnitude of completeness, and declustering. Discussion and interpretation of results.*

2023 Bouchon, M., Guillot, S., Marsan, D., Socquet, A., **Jara, J.**, & Renard, F. Observation of a Synchronicity between Shallow and Deep Seismic Activities during the Foreshock Crisis Preceding the Iquique Megathrust Earthquake. Seismica, 2(2). **DOI**.
Work : *Processing and analysis of seismicity catalogs, calculation of magnitude of completeness, and declustering. Discussion and interpretation of results.*

2021 **Jara, J.**, Bruhat, L., Thomas, M. Y., Antoine, S. L., Okubo, K., Rougier, E., Rosakis, A.J., Sammis, C., Klinger, Y., Jolivet, R. & Bhat, H. S. (2021). Signature of transition to supershear rupture speed in the coseismic off-fault damage zone. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 477, (2255). **DOI**.

2021 Michel, S., Jolivet, R., Rollins, C., **Jara, J.** & Dal Zilio, L. (2021). Seismogenic Potential of the Main Himalayan Thrust Constrained by Coupling Segmentation and Earthquake Scaling. Geophysical Research Letters, 48(13), 1-10. **DOI**.
Work : *Processing and analysis of seismicity catalogs, calculation of magnitude of completeness, and declustering. Discussion and interpretation of results.*

2021 Caballero, E.*, Chounet, A., Duputel, Z., **Jara, J.**, Twardzik, C. & Jolivet, R. (2021). Seismic and Aseismic Fault Slip During the Initiation Phase of the 2017 M W = 6.9 Valparaíso Earthquake. Geophysical Research Letters, 48(6), 1-11. **DOI**.
Work : *Supervised a doctoral student on GNSS data processing, time series analysis, and interpretation of results.*

2021 van Rijsingen, E. M., Calais, E., Jolivet, R., de Chabalier, J.-B., **Jara, J.**, Symithe, S., Robertson, R. & Ryan, G. A. (2021). Inferring Interseismic Coupling Along the Lesser Antilles Arc: A Bayesian Approach. Journal of Geophysical Research: Solid Earth, 126(2), 1-21. **DOI**
Work : *Defined geometry, implemented code, analyzed geodetic data, and interpreted results.*

2020 Bontemps, N.*, Lacroix, P., Larose, E., **Jara, J.** & Taipe, E. (2020). Rain and small earthquakes maintain a slow-moving landslide in a persistent critical state. Nature Communications, 11(1), 1-10. **DOI**.
Work : *Advise a Ph.D. student on GNSS processing, time series analysis, and interpretation of results.*

2018 **Jara, J.**, Sánchez-Reyes, H., Socquet, A., Cotton, F., Virieux, J., Maksymowicz, A., Díaz-Mojica, J., Walpersdorf, A., Ruiz, J., Cotte, N. & Norabuena, E. (2018). Kinematic study of Iquique 2014 M 8.1 earthquake: Understanding the segmentation of the seismogenic zone. Earth and Planetary Science Letters, 503, 131-143. **DOI**.

2018 Bouchon, M., Marsan, D., **Jara, J.**, Socquet, A., Campillo, M., & Perfettini, H. (2018). Suspected Deep Interaction and Triggering Between Giant Earthquakes in the Chilean Subduction Zone. Geophysical

Research Letters, 45(11), 5454-5460. **DOI**.
Work : *Processing and analysis of seismicity catalogs, calculation of magnitude of completeness, and declustering. Discussion and interpretation of results.*

2018 Gardonio, B., Marsan, D., Socquet, A., Bouchon, M., **Jara, J.**, Sun, Q., Cotte, N. & Campillo, M. (2018). Revisiting Slow Slip Events Occurrence in Boso Peninsula, Japan, Combining GPS Data and Repeating Earthquakes Analysis. Journal of Geophysical Research: Solid Earth, 123(2), 1502-1515. **DOI**.
Work : *Taught and supervised a MSc. student on code implementation, GNSS velocity estimation, and interpretation of results.*

2017 **Jara, J.**, Socquet, A., Marsan, D. & Bouchon, M. (2017). Long-Term Interactions Between Intermediate Depth and Shallow Seismicity in North Chile Subduction Zone. Geophysical Research Letters, 44(18), 9283-9292. **DOI**.

2017 Socquet, A., Valdes, J. P., **Jara, J.**, Cotton, F., Walpersdorf, A., Cotte, N., Specht, S., Ortega-Culaciati, F., Carrizo, D. & Norabuena, E. (2017). An 8-month slow slip event triggers progressive nucleation of the 2014 Chile megathrust. Geophysical Research Letters, 44(9), 4046-4053. **DOI**.
Work: *GNSS processing, code implementation, velocity variation estimation, earthquake slip modeling.*

2013 Contreras-Reyes, E., **Jara, J.**, Maksymowicz, A., & Weinrebe, W. (2013). Sediment loading at the southern Chilean trench and its tectonic implications. Journal of Geodynamics, 66, 134-145. **DOI**.
Work : *Code implementation and flexural modeling. Discussion and interpretation of results.*

2012 Contreras-Reyes, E., **Jara, J.**, Grevemeyer, I., Ruiz, S., & Carrizo, D. (2012). Abrupt change in the dip of the subducting plate beneath north Chile. Nature Geoscience, 5(5), 342-345. **DOI**.
Work : *Processing and analysis of wide-angle seismic data, analysis and interpretation of seismicity catalogs. Discussion and interpretation of results.*

Conferences, Seminars, and Societal Contributions

Conferences: Oral Presentations and Posters

I have delivered a total of **21 presentations** (1 keynote, 2 invited oral, 11 oral presentations, and 7 posters) at various conferences around the world.

2025 **Jara, J.**, Soret, M., Cubas, N., Jolivet, R. & Cotton, F. Metamorphic dehydration reactions trigger slow slip events in subduction zones. **Oral invited presentation**. Workshop FrenSZ 2025. June 30th - July 04th 2025, Workshop FrenSZ 2025, Sampeyre, Italy. **URL**.

2025 **Jara, J.**, Soret, M., Cubas, N., Jolivet, R. & Cotton, F. Metamorphic dehydration reactions trigger slow slip events in subduction zones. **Oral presentation**. April 2025. EGU General Assembly 2025, Vienna, Austria, **DOI**.

2024 **Jara, J.**, Soret, M., Cubas, N., Jolivet, R. & Cotton, F. Metamorphic dehydration reactions trigger slow slip events in subduction zones. **Oral presentation**. Workshop ISTerre - GFZ. 17-18 December, 2024. Potsdam, Germany.

2024 **Jara, J.**, Jolivet, R., Socquet, A., Comte, D. & E. Norabuena. Detection of slow slip events along the southern Peru and northern Chile subduction zone. **Oral presentation**. April 2024, EGU General Assembly 2024, Vienna, Austria, 14–19 April 2024, EGU24-9782. **DOI**.

2023 **Jara, J.**, Jolivet, R., Socquet, A., Comte, D. & E. Norabuena. Detection of slow slip events along the southern Peru and northern Chile subduction zone. 5th Colloquium on Geophysical Signatures of Earthquakes and Volcanoes, **Keynote Lecture**, Santiago, Chile, 22–23 May 2023.

2023 **Jara, J.**, Jolivet, R., Ozdemir, A., Doğan, U., Çakir, Z. & Ergintav, S. Aseismic slip behavior along the central section of the North Anatolian Fault: insights from geodetic observations. **Oral presentation**. April 2023, EGU General Assembly 2023, Vienna, Austria, 24–28 April 2023, EGU23-8915, **DOI**.

2022 **Jara, J.**, Ozdemir, A., Doğan, U., Jolivet, R., Çakir, Z. & Ergintav, S. Slow slip events captured by GNSS along the Central Section of the North Anatolian Fault. **Oral presentation**. May 2022, EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-9541, **DOI**.

2021 **Jara, J.**, Jolivet, R., Ozdemir, A., Doğan, U., Çakir, Z. & Ergintav, S. Seismic coupling and aseismic slip along the central section of the North Anatolian Fault. **Oral presentation**. April 2021, EGU General Assembly 2021, online, EGU21-7824, **DOI**.

2020 **Jara, J.**, Özdemir, A., Benoit, A., Jolivet, R., Çakir, Z., Ergintav, S. & Doğan, U. A geodetic exploration of the behavior of aseismic slip along the central section of the North Anatolian Fault. **Oral presentation**. May 2020, EGU General Assembly 2020, online, EGU2020-18112, **DOI**.

2019 **Jara, J.**, Socquet, A., Jolivet, R., Pina-Valdes, J., Cotton, F., Walpersdorf, A., Cotte, N., Marsan, D. & Bouchon, M. From intraplate to interplate earthquakes, a complex mixing of slip processes: Iquique Mw 8.1 Northern Chile 2014 as a study case. **Invited oral presentation**. December 2019, AGU Fall Meeting, San Francisco, USA. **DOI**.

2019 **Jara, J.**, Bruhat, L., Antoine, S., Okubo, K., Thomas, M.Y., Rougier, E., Rosakis, A.J., Sammis, C., Klinger, Y., Jolivet, R. & Bhat, H.S. Signature of supershear transition seen in damage and aftershock pattern. **Oral presentation**. December 2019, AGU Fall Meeting, San Francisco, USA. **DOI**.

2019 **Jara. J.**, Bruhat, L., Antoine, S., Okubo, K., Thomas, M.Y., Rougier, E., Rosakis, A.J., Sammis, C., Klinger, Y., Jolivet, R. & Bhat, H.S. Can supershear transition be seen in damage and aftershock pattern? Part two: Observational evidence. **Oral presentation**. October 2019, ATAG 23, Istanbul, Turkey. **DOI**.

2019 **Jara, J.**, Socquet, A., Rousset, B., Walpersdorf, A. & Cotte, N. Interseismic transient deformations along southern Peru and northern Chile subduction zone. **Oral presentation**. April 2019, EGU General Assembly, Vienna, Austria. **DOI**.

2018 **Jara, J.**, Socquet, A., Rousset, B., Walpersdorf, A. & Cotte, N. Interseismic transient deformations along southern Peru and northern Chile subduction zone. **Poster presentation**. December 2018, AGU Fall Meeting, Washington D.C., USA. **DOI**.

2018 **Jara, J.**, Sanchez-Reyes, H., Socquet, A., Cotton, F., Maksymowicz, A., Walpersdorf, A., Ruiz, J. & Diaz-Mojica, J. Kinematic Study of Iquique 2014 Mw 8.1 earthquake: understanding the segmentation of the seismogenic zone. **Poster presentation**. July 2018, International School of Physics "Enrico Fermi", Mechanics of Earthquake Faulting, Varenna, Italy.

2017 **Jara, J.**, Socquet, A., Marsan, D. & Bouchon, M. Long-term interactions between intermediate depth and shallow seismicity in North Chile subduction zone. **Poster presentation**. October 2017, EARTHQUAKES: nucleation, triggering, rupture, and relationships to aseismic, Cargèse, France.

2017 **Jara, J.**, Sanchez-Reyes, H., Socquet, A., Cotton, F., Maksymowicz, A., Walpersdorf, A., Ruiz, J. & Diaz-Mojica, J. Kinematic Study of Iquique 2014 Mw 8.1 earthquake: understanding the segmentation of the seismogenic zone. **Poster presentation**. October 2017, EARTHQUAKES: nucleation, triggering, rupture, and relationships to aseismic, Cargèse, France.

2016 **Jara, J.**, Socquet, A., Marsan, D., Walpersdorf, A. & Rousset, B. Long and short term GPS velocity change in South Peru and North Chile seismic gap: towards the small SSE detection. **Oral presentation**. December 2016, AGU Fall Meeting, San Francisco, USA. **DOI**.

2015 **Jara, J.**, Pina-Valdes, J., Socquet, A., Cotton, F., Ruiz, J., Walpersdorf, A. & Cotte, N. Kinematic Study of Pisagua Earthquake 2014 - Northern Chile: Analysis of the Frequency Content and its Impact on the Understanding of the Seismogenic Zone. **Poster presentation**. June 2015, 9th International Workshop on Statistical Seismology, Potsdam, Germany.

2014 **Jara, J.**, Pina-Valdes, J., Socquet, A., Cotton, F., Ruiz, J., Walpersdorf, A. & Cotte, N. Kinematic Study of Pisagua Earthquake 2014 - Northern Chile: Analysis of the Frequency Content and its Impact on the Understanding of the Seismogenic Zone. **Poster presentation**. December 2014, AGU Fall Meeting, San Francisco, USA. **DOI**.

2014 **Jara, J.**, Contreras-Reyes, E., Carrizo, D., Socquet, A. Impact of Subduction Slab Geometry on the Seismic Rupture Process: Tocopilla Earthquake 2007 (Mw 7.7) a Case Study. **Poster presentation**. June 2014, IPOC / MARISCOS Workshop: Chilean Subduction Zone, Potsdam, Germany.

Invited Seminars

I have been invited to deliver **13 seminars** at various European institutions.

2024 Seismo-Geodesy: Challenges in Bridging Scales. ISTEP, Sorbonne Université, Paris, France.

2024 Seismo-Geodesy: Challenges in Bridging Scales. GEC, CY Cergy Université, Paris, France.

2023 Seismo-Geodesy: Challenges in Bridging Scales. GET, Toulouse, France.

2023 Seismo-Geodesy: Challenges in Bridging Scales. IPGP, Paris, France.

2023 Signature of transition of supershear rupture speed in the co-seismic off-fault damage zone. GFZ, Potsdam, Germany.

2022 Slow slip events captured by GNSS along the Central Section of the North Anatolian Fault. Séminaire de sismomécanique, GFZ, Potsdam, Germany.

2021 From the quiet interseismic period to the sudden earthquake rupture: radiating elastic energy at all scales. Café des risques naturels, November, IPGP, Paris, France.

2021 From the quiet interseismic period to the sudden earthquake rupture: radiating elastic energy at all scales. ENS, Paris, France.

2021 Why, where and how earthquake ruptures become supershear: a multidisciplinary approach. ISTEP, Sorbonne Université, Paris, France.

2020 From the calm of the interseismic to the earthquake mainshock: a large mix of rupture speeds. EOST, Strasbourg, France.

2020 Signature of supershear transition seen in damage and aftershock pattern. IPGP, Paris, France.

2019 Transient behavior and role of barriers in South Peru - North Chile Seismic Gap. Équipe Risques Sismiques, GFZ, Potsdam, Germany.

2019 Transient behavior and role of barriers in South Peru - North Chile Seismic Gap. June 2019, ITU, Istanbul, Turkey.

Societal Contributions

I have been actively involved in public outreach and education, focusing on earthquake science through radio programs, podcasts, articles, and training sessions.

2023 Lessons from Earthquakes in Turkey and Their Relation to Chile. Rocadictos, radio program, University of Chile. In Spanish. **URL**. **Public outreach**.

2021 Earthquakes Cannot (Yet) Be Predicted! Podcast Ta' Temblando. In Spanish. **URL**. **Public outreach**.

2020 The Nucleation Phase of Earthquakes and Its Prediction: Myth or Reality? Geocharlas T3. In Spanish. **URL**. **Public outreach**.

2020 What Is the Nucleation Phase of Earthquakes? Rocadictos, radio program, University of Chile. In Spanish. **URL**. **Public outreach**.

2014 "Seismology, an Esoteric Science (?) for Enlightened Minds." Article on the blog Conexión Causal, **URL**, detailing various paths to study seismology in Chile and worldwide. In Spanish. **Public outreach**.

2012 What Is an Earthquake and How Does It Work? 3-hour training for high school teachers in Chile (12 sessions total). Department of Geophysics, University of Chile. **Training**.

2010 - 2012 Visits to the National Seismological Center as part of the "Science and Engineering Festival," University of Chile. **Public outreach**.

Languages

Spanish (Mother tongue), English (fluent, working language), French (French citizen).

Computer Skills

OS Linux, Mac, and Windows

Languages Python, C Shell, Fortran

Software Packages LaTeX, LibreOffice, Illustrator, Microsoft Office, Jupyter Notebook, GAMIT/GLOBK, GROOPS, Ginan, PRIDE

Miscellaneous Activities

Interests Reading, politics and sociology, running, and cycling.

Music Member of a Latin American music group (2003 - 2013). Instruments: classical and electric guitar, bass. Member of a French music group (2019 - present). Instruments: bass and guitar.

Organization President of the Student Council at the Geophysics Department (2012-2013).
