Jorge Jara Gómez

Seismic Hazard and Risk Dynamics Team
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Seismogeodesy - Earthquake Cycle - Aseismic Slip - Hydrogeodesy

Current Position

2022 - 2024 **Marie-Curie Post-Doctoral Fellow**, Project: "ERASMUS: Earthquake Energy Radiation Across Spectrum: a multidisciplinary study".
Seismic Hazard and Risk Dynamics Team, Helmholtz Centre Potsdam, GFZ German Research Centre For Geosciences, Potsdam, Germany.
Mentor: Prof. Ph.D. Fabrice Cotton.

Education

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

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

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

2004 - 2005 **Bachelor in Natural Science**, Graduated Cum Laude, University of Chile.

Research Experience

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

- Spatio-temporal characterization of high-frequency sources during earthquakes and its link with tectonics.

- Implementation of a Bayesian kinematic source inversion in the frequency domain, assessing uncertainties in the estimated parameters.

- Studying the relation between high-frequency generation and subduction/supershear earthquakes.

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

- Design, installation, and maintenance of 18 continuous GNSS network in Turkey (North Anatolian Fault - Central Segment - Ismetpasa region).

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

- Improving seismogeodetic techniques to detect small transient deformation and its relationship with the earthquake nucleation.

- Understanding of supershear ruptures transition and its relationship with seismotectonics.

2013 - 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 in the South Peru - North Chile subduction zone to understand different seismic cycle stages in the area.

- Develop a multidisciplinary approach to understand the interseismic deformation and the earthquake nucleation phase.

- Detection and characterization of small transients of deformation in the region.

- Improvement of kinematic inversion schemes for a better comprehension of the earthquake 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 analysis of wide-angle seismic data to understand the seismotectonics in Northern Chile.

- Analysis and modeling of geodetic and strong motion data for understanding the geometry impact 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.

- Installation and maintenance of GNSS Network, together with gravimetric measures to define the Caldera structure.

- Local tectonic study.

Teaching Experience

2021 - 2023 **Ph.D. Student Advising** Alpay Ozdemir, Ph.D Student and Research Assistant at Yildiz Technical University, Istanbul, Turkey. Main Advisors: Ph.D. Ugur Doğan.

2019 **Teaching Assistant** Solid Mechanics. Teaching 16 hours to L3 students. Laboratoire de Geologie, at ENS.

2019 **Student Advising** Roxane Ferry, L3 student at Laboratoire de Geologie at ENS. Main advisor: Ph.D. H.S. Bhat.

2010 - 2013 **Teaching Assistant**: Introduction to Seismology and Geodynamics of the Chilean Margin. 120 hours per year for undergraduate, master and Ph.D. students, teaching, preparing and correcting exams. 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, teaching, preparing, and correcting exams. Department of Mathematics, Faculty of Exact Sciences at Universidad Andrés Bello.

Fieldwork Experience

2024 Project: "Programmed-oriented funding GFZ". 14 days. P.I.: Ph.D. Jorge Jara. March, Turkey.
Work: *GNSS installation (2 stations), and network maintenance (GNSS and Seismological).*

2023 Project: "Programmed-oriented funding GFZ". 10 days. P.I.: Ph.D. Jorge Jara. August, Turkey.
Work: *GNSS and Seismological network maintenance.*

2022 Project: "ERC Starting Grant: Geod4D". 10 days. Scientific Chief: Ph.D. Romain Jolivet. November, Turkey.
Work: *GNSS maintenance and Seismological network installation.*

2022 Project: "ERC Starting Grant: Geod4D". 14 days. Scientific Chief: Ph.D. Romain Jolivet. June, Turkey.
Work: *GNSS instalation and network maintenance.*

2021 Project: "ERC Starting Grant: Geod4D". 14 days. Scientific Chief: Ph.D. Romain Jolivet. December, Turkey.
Work: *GNSS network maintenance.*

2019 Project: "ERC Starting Grant: Geod4D". 1 week. Scientific Chief: Ph.D. Romain Jolivet. October, Turkey.
Work: *GNSS network maintenance.*

2019 Project: "ERC Starting Grant: Geod4D". 1 month. Scientific Chief: Ph.D. Romain Jolivet. June, Turkey.
Work: *Field to install 18 GNSS, Ismetpasa region in Turkey.*

2018 Project: "ERC Starting Grant: Geod4D". 5 days. Scientific Chief: Ph.D. Romain Jolivet. November, Turkey.
Work: *Field to install geodetic radoms to 5 GNSS, Ismetpasa region in Turkey.*

2018 Project: "ERC Starting Grant: Geod4D". 10 days. Scientific Chief: Ph.D. Romain Jolivet. July, Turkey.
Work: *Field exploration for installation of 14 cGNSS, Ismetpasa region in Turkey.*

2015 Project: "GNSS Alpes". 1 week. Scientific Chief: Ph.D. Andrea Walpersdorf. July, FranceProject
Work: *Re-measurement of GNSS Campaign Network in the Alpes.*

2015 Project: "GNSS interseismic deformation in South Peru and North Chile Seismic Gap". 3 weeks. Scientific Chief: Ph.D. Jean-Bernard de Chabalier. October - November, Chile.
Work: *Remeasurement of GNSS Campaign Network in northern Chile.*

2014 Project:"Iquique earthquake postseismic intervention". 2-weeks. Scientific Chief: Ph.D. Francisco Ortega and Ph.D. Daniel Carrizo. April, Chile.
Work: *Remeasurement of GNSS Campaign Network in northern Chile after Iquique Earthquake 2014.*

2010 - 2012 Project: "Deformation Study of the Maule Caldera". 12 weeks in total. Scientific Chief: Ph.D. Andrés Pavez. Talca, Chile.
Work: *Installation, maintenance, and remeasurement of temporal GNSS Network. Gravimetric measurements.*

2012 Project: "Large Subduction Earthquakes in Chile and Associated Seismic Risk". 2-week. Scientific Chief: Ph.D. Anne Socquet. April 2012, Chile.
Work: *Remeasurement of GNSS Campaign Network in northern Chile.*

2011 Project: "SAGA". 3-week. Scientific Chief: Ph.D. Marcos Moreno. November 2011, Chile. **Work**: *Remeasurement of GNSS Campaign Network in northern Chile.*

2010 Cruise FS SONNE Fahrtbericht SO212, "TACO Project". 1 week. Scientific Chief: Phd. Ernst R. Flüh. Talcahuano - Valparaíso, December, 2010, Chile.
Work: *OBS station recovery that measured the Maule aftershock sequence between Valparaiso - Concepcion regions.*

Publications ISI Journal Articles

Articles submitted, under review or preparation

Jara, J., Jolivet, R., Socquet, A., Comte, D. & Norabuena, E. Detection of slow slip events along the south Peru - north Chile subduction zone *Minor revision Seismica.*

Özdemir, A., **Jara, J.**, Doğan, U., Jolivet, R., Çakir, Z., Ergintav, S., & Bilham, R. G. Episodic aseismic slip events along the Central Section of the North Anatolian Fault. *Under review in GRL.*
Work: *Conceptualization and Ph.D. advising. GNSS Processing, analysis of time series and slip inversion.*

Jara, J. & Cotton, F. A Bayesian Kinematic Source Model in the Frequency Domain: towards understanding sources of high-frequency radiation. *To be submitted to GJI.*
Work: *Conceptualization, Investigation and Method Implementation.*

Jara, J., Gupta, A., & Bhat, H.S. Earthquakes and unexpected seasonal loads. *To be submitted to GRL.*
Work: *Conceptualization, Investigation and Method Implementation.*

Becker, D., **Jara, J.**, Martínez-Garzón, P., Çakir, Z., Jolivet, R. & Ergintav, S. Seismic signatures in a partially creeping fault: the Ismetpasa segment of the NAFZ *To be submitted to JGR.*
Work: *Conceptualization, Investigation and Method Implementation.*

Delgado, F., **Jara, J.**, Raimbault, B. & Jolivet, R. Revisiting the Liquiñe Ofqui Fault Zone seismotectonics: evidence for phantom earthquakes during the 2007 Aysén swarm with InSAR and teleseismic data. *To be submitted to GJI.*
Work: *InSAR modeling and focal mechanism estimation. Discussion/interpretation of results and writing.*

Jara, J., Delgado, F., Raimbault, B., Jolivet, R. & Vigny, C. The 2007 Aysén earthquakes in southern Chile, a seismogeodetic approach. *To be submitted to GRL.*
Work: *GNSS processing, slip model and earthquake rupture speed estimation*

Valenzuela, R., **Jara, J.** & Garreaud, R. Water vapor variability in the western South America Altiplano associated with rainfall events *To be submitted to JGR.*
Work: *Conceptualization, Investigation (GNSS tropospheric water vapor estimation and analysis), discussion and interpretation.*

Contador, G., Quiñiñao, C., Valenzuela, R. & **Jara, J.** An expectation-maximization algorithm for estimating diffusion parameters using incomplete observations. *To be submitted to Advances in Applied Probability.*
Work: *Investigation and GNSS tropospheric water vapor analysis, discussion and interpretation.*

Published Articles

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: *GNSS Processing, interseismic velocity estimation, and modeling. Discussion/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: *Seismicity catalog processing, analysis, completeness magnitude, and declustering. Writing, discussion/interpretation of results.*

2023 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: *Seismicity catalog processing, analysis, completeness magnitude, and declustering. Discussion/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: *Seismicity catalog processing, analysis, completeness magnitude, and declustering. Discussion/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: *Seismicity catalog processing, analysis, completeness magnitude, and declustering. Discussion/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: *Seismicity catalog processing, analysis, completeness magnitude, and declustering. Discussion/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: *Teaching and advising a Ph.D. student in GNSS data processing, and analysis/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: *Geometry definition, code implementation, geodetic data analysis, and interpretation/discussion.*

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: *Teaching and advising a Ph.D. student in GNSS data processing, and analysis/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: *Seismicity catalog processing, analysis, completeness magnitude, and declustering. Discussion/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: *Teaching and advising a Ph.D. student and a Master Student in code implementation, GNSS velocity estimation/variation, and discussing/interpreting 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: *Implementing code 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: *Analysis and processing of wide-angle seismic data. Seismicity catalog processing and interpretation. Discussion and interpretation of results.*

Conferences and Seminar

Selected Conferences Talks and Posters. (: Advised Student, **: Collaboration)*

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. April 2023, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 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. May 2022, EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-9541, **DOI**.

2021 Bhat, H.S., **Jara, J.**, Bruhat, L., Thomas, M.Y., Antoine, S., Okubo, K., Rougier, E., Rosakis, A.J., Sammis, C, Klinger, Y. & Jolivet, R. Signature of transition to supershear rupture speed in coseismic off-fault damage zone. Oral Invited Presentation. December 2021, AGU Fall Meeting, New Orleans, USA, **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, EGU General Assembly 2021, online, 19–30 Apr 2021, EGU21-7824, **DOI**.

2021 Özdemir, A.*, Doğan, U., **Jara, J.**, Jolivet, R., Ergintav, S., Çakir, Z., Özarpacı, S. & Bilham, R. Detecting Transient Creep Events on the Ismetpasa Segment of the North Anatolian Fault with Continuous GNSS Time Series, EGU General Assembly 2021, online, 19–30 Apr 2021, EGU21-11185, **DOI**.

2021 Jolivet, R., Rouet-Leduc, B., **Jara, J.**, Dalaison, M., Hulbert, C., Michel, S., Johnson, P. A., Çakir, Z., Ergintav, S., Özdemir, A. & Doğan, U. Slow slip events along the North Anatolian Fault, EGU General Assembly 2021, online, 19–30 Apr 2021, EGU21-4494, **DOI**.

2020 **Jara, J.**, Ozdemir, 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. Poster Presentation. December 2020, AGU Fall Meeting, online. **DOI**.

2020 van Rijsingen, E. M. **, Calais, E., Jolivet, R., de Chabalier, J.-B., **Jara, J.**, Symithe, S., Robertson, R. & Ryan, G. A. Low Interseismic Coupling of the Lesser Antilles Subduction Zone Inferred from Geodetic Observations. Oral Invited Presentation. December 2020, AGU Fall Meeting, online. **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, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-18112, **DOI**.

2020 Bhat, H., **Jara, J.**, Bruhat, L., Antoine, S., Okubo, K., Thomas, M., Rougier, E., Rosakis, A., Sammis, C., Klinger, Y. & Jolivet, R. Signature of supershear transition seen in damage and aftershock pattern, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-7109, **DOI**.

2020 Özdemir, A., Doğan, U., **Jara, J.**, Çakır, Z., Jolivet, R., Ergintav, S., Özarpacı, S. & Benoit, A. Detecting Transient Creep Events on the Ismetpasa Segment of the North Anatolian Fault with Continous GNSS Time Series, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-11174, **DOI**.

2020 Bontemps, N.*, Larose, E., Lacroix, P., **Jara, J.** & Taipe, E. Rain and small earthquakes maintain a slow-moving landslide in a persistent critical state, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-4464, **DOI**.

2020 Kazachkina, E.*, Radiguet, M., Cotte, N., **Jara, J.**, Walpersdorf, A. & Kostoglodov, V. 2017-2019 SSE sequence and its interaction with large earthquakes in Mexico, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-232, **DOI**.

2019 **Jara, J.**, Socquet, A., Jolivet, R., Pina-Valdes, J., Cotton, F., Walsperdorf, 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. **Oral Invited 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 Caballero, E.*, Chounet, A., Duputel, Z., **Jara, J.** & Jolivet, R. The pre-seismic phase of the 2017 Valparaiso Mw 6.9 earthquake: assessment of aseismic to seismic partitioning with reliable uncertainty estimates. Poster 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**. ATAG 23, October 2019. Istanbul, Turkey. **DOI**.

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

2019 Bontemps, N.*, Larose, E., Lacroix, P., **Jara, J.** & Taipe, E. Combined effect of precipitations and earthquakes on slow moving landslide kinematic, a case study with in-situ measurements in the Colca Valley, Peru. Oral Presentation. April 2019, EGU General Assembly, Vienna, Austria. **DOI**.

2018 **Jara, J.**, Socquet, A., Rousset, B., Walsperdorf, 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 Radiguet, M.**, **Jara, J.**, Kazachkina, E., Maubant, L., Cotte N. & Kostoglodov, V. Seismicity Changes Preceding the September 2017 Intraplate Earthquakes Along the Mexican Subduction Zone. Poster Presentation, December 2018, AGU Fall Meeting, Washington D.C., USA. **DOI**.

2018 Kazachkina, E. *, Cotte, N. **Jara. J.**, Kostoglodov, V., Radiguet, M. & Walpersdorf, A. 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, Cargese, 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, Cargese, 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, 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, Postdam, Germany.

Invited Seminars

2023 **Jara., J.** Seismo-Geodesy: Challenges in Bridging Scales. Oral Invited Seminar, GET, Toulouse, France

2023 **Jara., J.** Seismo-Geodesy: Challenges in Bridging Scales. Oral Invited Seminar, IPGP, Geodesy Team, Paris

2023 **Jara., J.**, Bruhat, L., Thomas, M.Y., Antoine, S., Okubo, K., Rougier, E., Rosakis, A.J., Sammis, C., Klinger Y., Jolivet, R. & Bhat, H.S. Signature of transition of supershear rupture speed in the co-seismic off-fault damage zone. Oral Invited Seminar, GFZ, Potsdam

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. November. Seismomechanics Seminar GFZ, Potsdam, Germany.

2021 **Jara, J.**, Jolivet, R., Socquet, A., Cotton, F., Sanchez-Reyes, H., Virieux, J., Walpersdorf, A., Cotte, N., Marsan, D., Bouchon, M., Özdemir, A., Çakir, Z., Ergintav, S. & Doğan, U. From the quiet interseismic period to the sudden earthquake rupture: radiating elastic energy at all scales. Oral Invited Seminar. Natural Hazard Coffee. November, IPGP, Paris, France.

2021 **Jara, J.**, Jolivet, R., Socquet, A., Cotton, F., Sanchez-Reyes, H., Virieux, J., Walpersdorf, A., Cotte, N., Marsan, D., Bouchon, M., Özdemir, A., Çakir, Z., Ergintav, S. & Doğan, U. From the quiet interseismic period to the sudden earthquake rupture: radiating elastic energy at all scales. Oral Invited Seminar. September, ENS, PSL University, Paris, France.

2021 **Jara., J.**, Bruhat, L., Thomas, M.Y., Antoine, S., Okubo, K., Rougier, E., Rosakis, A.J., Sammis, C., Klinger Y., Jolivet, R., Bhat, H.S. Why, where and how earthquake ruptures become supershear: a multidisciplinary approach. Oral Invited Seminar. June, ISTEP, Sorbonne University, Paris, France.

2020 **Jara, J.**, Socquet, A., Jolivet, R., Bhat, H.S., Bruhat, L., Pina-Valdes, J., Cotton, F., Antoine, S., Okubo, K., et al. From the calm of the interseismic to the earthquake mainshock: a large mix of rupture speeds. Oral Invited Seminar. November, EOST, Strasbourg, France.

2020 **Jara, J.**. Earthquake nucleation phase and prediction, Myth or reality? May, Geocharlas T3 (Tectonics, Earthquakes and Tsunamis). Online earth sciences group for Spanish speakers community.

2020 **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 Invited Seminar. February, IPGP Tectonics Team, Paris, France.

2019 **Jara, J.**, Socquet, A., Pina-Valdes, J., Cotton, F., Rousset, B., Walpersdorf, A., Cotte, N., Marsan, D. and Bouchon, M. Oral Invited Seminar. November, GFZ Seismic Risk Team, GFZ, Potsdam, Germany.

2019 **Jara, J.**, Socquet, A., Marsan, D., Bouchon, M., Sanchez-Reyes, H., Cotton, F., Virieux, J., Maksymowicz, A., Diaz, J., Walpersdorf, A., Ruiz, J. and Cotte, N. Transient behavior and role of barriers in South Peru - North Chile Seismic Gap. June 2019. Oral Invited Seminar. ITU, Istanbul, Turkey.

Fellowships and Awards

2024-2025 **Programmed-oriented funding**. P.I. Seismogeodesy along North Anatolian Fault. GFZ. Budget: €8.000 per year

2022 - 2024 **MSCA Postdoctoral Fellowship**. P.I. MSCA Actions. EU Commission. Budget: €175.000

2023-2024 **Programmed-oriented funding**. P.I. Seismogeodesy along North Anatolian Fault. GFZ. Budget: €15.000 per year

2022-2025 **Fondecyt Iniciación**. Earthquakes in strike-slip plate boundaries: a study of interseismic strain accumulation and aseismic deformation at the Magallanes-Fagnano fault zone. Co-P.I. Agencia Nacional de Investigación y Desarollo. Chile. €100.000

2023-2026 **Fondecyt Iniciación**. Atmospheric water vapor and precipitation processes in central and southern Chile. Co-P.I. Agencia Nacional de Investigación y Desarollo. Chile. €100.000

2013 - 2017 **Becas Chile Ph.d. Fellowship**. Chilean government. Budget: €90.000

2014 **Labex OSUG@2020 Fellowship**. An asperity model in the South Peru - North Chile subduction zone, supervised by Mark Simons, Caltech, USA. Budget: €2.700

2012 **Geophysics Department Scholarship**. Geophysics Department, University of Chile. Budget: €5.000

2012 **Short Visit Grant**. Supported by Advanced Mining Technology Center (University of Chile). Slip Model of Tocopilla Earthquake supervised by Anne Socquet, Institut des Sciences de la Terre (ISTerre), Grenoble, France. Budget: €3.000

Scientific Service

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

2024 EGU General Assembly. Convener. Session: "TS1.6/EMRP1.16/SM4.7 Seismic and aseismic deformation on seismogenic faults". **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**

2023 EGU General Assembly. Co-Convener. Session: "TS3.9/EMRP1.12/SM4.6 Seismic and aseismic deformation on seismogenic faults". **URL**.

2022 EGU General Assembly. Co-Convener. Session: "TS4.5 Seismic and aseismic deformation on seismogenic faults". **URL**.

2021 EGU General Assembly. Co-Convener. Session "TS4.2 Seismic and aseismic deformation at seismogenic faults: from distributed to localized deformation". **URL**.

2020 AGU Fall Meeting. Co-Convener. Session: "S034. The Role of Fluids in Aseismic and Seismic Slip on Faults". **URL**.

2020 EGU General Assembly. Convener. Session: "TS5.4/GS9.4/SM2.9 Seismic and Aseismic Slip on Seismogenic Faults". **URL**.

2018 AGU Fall Meeting Convener. Session: "T043 Seismo-tectonic processes along active Latin American margins: earthquakes and aseismic signatures". **URL**.

2015 - 2017 In charge of Seismic Cycle Team Seminar, ISTerre, Grenoble, France.

Reviewer in 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.

Membership American Geophysical Union. European Geophysical Union.

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 GAMIT/GLOBK, GROOPS, Latex, LibreOffice, Illustrator, Microsoft Office

Miscellaneous Activities

Hobbies Reading, Politics and Sociology, Soccer and Biking.

Music Latin American music band member. 2003 - 2013. Instruments: Classical and electric guitar, bass. Chanson Française music band member. 2019 - today. Instruments: Bass and guitar.

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