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WORK EXPERIENCE

- Apr. 2022 - Currently** **Researcher “Chargé de Recherche”**
Institut de Recherche pour le Développement, IRD - ISTerre
Study of seismic sources: *Development of techniques to analyze and classify seismic sources and their time-space evolution. Inclusion of independent geophysical observations to better understand the dynamics of active faults.*
Strong collaboration with Instituto Geofísico del Perú
- Apr. 2021 - Mar. 2022** **PostDoc. at Institute for Radiological Protection and Nuclear Safety**
IRSN ANR EQTime: *Applied physics-based dynamic earthquake rupture simulations to determine if large earthquakes are probable to occur on complex fault systems where multiple segments could be activated by a single event.*
- Nov. 2019 - Jan. 2021** **Postdoctoral researcher at Université Grenoble Alpes, ISTerre**
MONIFAUULT ERC Project: *Development and application of novel techniques to analyze and classify seismological data to study the evolution of the stress field in real active faults.*
- Oct. 2015 - Oct. 2019** **PhD. Student at Université Grenoble Alpes, ISTerre**
Thesis: *Progressive linear kinematic source inversion method and its perspectives towards the uncertainty quantification*
- Mar. 2015 - Jun. 2015** **Research Internship at Université Joseph Fourier, ISTerre**
Project: ANR S4 Subduction: *standard and slow seismology*
- Feb. 2014 - Jun. 2014** **Internship at Université Joseph Fourier, ISTerre**
Project: *1D Eikonal equation by a DG Finite Element Method*
- Oct. 2012 - Aug. 2013** **Geophysical Specialist in Oil Exploration at COMESA S. A.**
Tasks: *Development of didactic software for PSTM seismic data.*
- Other activities:**
- Since Jan. 2019** Reviewer for Journal of Geophysical Research (JGR) and Geophysical Journal International (GJI)

EDUCATION AND TRAINING

- Oct. 2019** **PhD. in Earth Sciences, Solid Earth**
Thesis: *Progressive linear kinematic source inversion method and its perspectives towards the uncertainty quantification* | Advisors: Prof. J. VIRIEUX and Dr. L. MÉTIVIER
Université Grenoble Alpes, France
- Feb. 2015** **MSc. in Engineering Seismology**
Thesis: *Eikonal Equation by a DG-FEM* | Advisor: Prof. Jean VIRIEUX
Université Joseph Fourier, France | Istituto Universitario di Studi Superiori di Pavia, Italy
- Apr. 2013** **BSc. in Geophysical Engineering**
Thesis: *Seismic source modeling of Jalisco earthquake ($M_w=8.0$), 1995, from the inversion of seismic and static records* | Advisor: PhD. Vala HJORLEIFSDOTTIR
National Autonomous University of Mexico, UNAM, Mexico | **Graduated with honors**
- Other trainings:**
- Oct. 2020** ChEESE Advanced Training on HPC for Computational Seismology
Basic use of HP computational codes: ExaHyPE, Salvus, SeisSol and SPECFEM3D
Universitat Stuttgart, TUM, LMU, ETH Zurich & CNRS LMA Marseille
- Jul. 2018** Mechanics of Earthquake Faulting Workshop
Lectures, seminars and discussions on earthquakes: theory, simulations and observations.
School of Physics “Enrico Fermi” Societa’ Italiana di Fisica

- Mar. 2013** Guralp-Ampère Latin American Instrumentation Workshop
Basic use and setup of Guralp and FreeWave instruments
Ampère Instrumentation and Telemetry, Mexico
- Jul. 2011** Course of field seismic instrumentation
Use of seismic sensors and digitizers
Institute of Geophysics, National Autonomous University of Mexico, Mexico

TEACHING EXPERIENCE

- Jun. 2018** **Co-Supervision of a Student**, Solène Jouany.
Université Grenoble Alpes | *Advisors: Prof. J. Virieux, H.S. Sánchez-Reyes and L. Métivier*
Rapport de Stage: *Inversion cinématique pour une source sismique*
MSc. Sciences de la Terre et de l'Environnement

SCIENTIFIC PUBLICATIONS

- [1] **Sánchez-Reyes, H. S.**, Essing, D., Beaucé, E. and Poli, P. (2020). The imbricated foreshock and aftershock activities of the Balsorano (Italy) Mw 4.4 normal fault earthquake and implications for earthquake initiation. *Seismological Research Letters*, 92(3), 1926-1936, DOI: 10.1785/0220200253. [\[Link\]](#)
- [2] **Sánchez-Reyes, H. S.**, Tago, J., Métivier, L., Cruz-Atienza, V. M. and Virieux, J. (2018). An evolutive linear kinematic source inversion. *JGR Solid Earth*, 123, DOI: 10.1029/2017JB015388. [\[Link\]](#)
- [3] Hjorleifsdottir, V., **Sánchez-Reyes, H. S.**, Ruiz Angulo, A., Ramírez-Herrera, M. T., Castillo-Aja, R., Singh, S. K. and Ji, C. (2018). Was the October 9th 1995 M_w 8 Jalisco, Mexico earthquake a near trench event? *JGR Solid Earth*, DOI: 10.1029/2017JB014899. [\[Link\]](#)
- [4] Jara, J., **Sánchez-Reyes, H. S.**, Socquet, A., Cotton, F., Virieux, J., Maksymowicz et al. (2018). Kinematic Study of Iquique 2014 M_w 8.1 earthquake: understanding the segmentation of the seismogenic zone. *Earth and Planetary Sciences* DOI: 10.1016/j.epsl.2018.09.025. [\[Link\]](#)

LANGUAGES & OTHER SKILLS

FRENCH:	Fluent B2	Basic:	SeismicUnix, QGIS, C++
ENGLISH:	Fluent IELTS 7.0	Intermediate:	Template matching, Python, OpenQuake, SAC, MPI, HypoDD, SEISAN
RUSSIAN:	Basic A2	Advanced:	Fortran, OpenMP, MatLab, GMT
ITALIAN:	Basic A2	Leadership:	2011-2012 President of UNAM's SEG Student Chapter
SPANISH:	Mothertongue	Research:	Organizer of a research reading group: Link: "Earthquake Precursors"

SCHOLARSHIPS-AWARDS & CONFERENCES

2018	AGU Outstanding Student Presentation Award	2020	AGU Fall Meeting (Oral)
2015	CNRS Recrutement étudiant handicapé	2019	AGU Fall Meeting (Poster 2nd author)
2013	MEEES Erasmus Mundus Scholarship Winner	2020	EGU General Assembly (Online)
2012	ExxonMobil Research Scholarship Award	2018	AGU Fall Meeting (Oral)
2011	Chevron/SEG Student Leadership Travel Grant	2017	IAG-IASPEI Kobe Meeting (Poster)
	Posters and presentations: [ResearchGate]	2016	AGU Fall Meeting (Poster)
		2015	UGM Annual Meeting (Oral)
		2012	UGM Annual Meeting (Oral)

SCIENTIFIC INTERESTS

Inverse problems, Bayesian inference, seismic sources, earthquake initiation process, signal processing and programming.

MOBILITY

SEP. 2015 - MAR. 2016	6 Months PhD. research internship at the National Autonomous University of Mexico (UNAM), Mexico
SEP. 2014 - MAR. 2015	6 Months MSc. program at the Istituto Universitario di Studi Superiori di Pavia (IUSS), Italy

HOBBIES AND OTHER ACTIVITIES

Scientific divulgation, disability awareness podcasting ([link to podcast](#)), playing guitar and saxophone, ice skating, languages, literature, writing science-fiction tales.