

Valeria Villa

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EDUCATION

California Institute of Technology

PhD Candidate in Geophysics

Pasadena, CA

2021-Present

- Advisor: Zachary E. Ross. Co-advisor: Robert W. Clayton

University of California, Los Angeles

Bachelor of Science with Highest Honors, Geophysics

Los Angeles, CA

2021

- Thesis: Investigating the feasibility of performing ambient noise dispersion measurements across the Pacific Ocean.
Advisor: Caroline Beghein

APPOINTMENTS

Graduate Student Researcher, Caltech Seismological Laboratory

2021-Present

California Institute of Technology WAVE Program. 2019-2020

NASA L'SPACE Program 2019

Chapman University SURFEES Program. 2018

NASA Aerospace Program 2018

TEACHING AND MENTORING EXPERIENCE

Teaching Assistant to Dynamics of Seismicity Course

2024

California Institute of Technology

Pasadena, CA

Earthquake Fellows

2023

California Institute of Technology

Pasadena, CA

- * Earthquake science program mentoring high school students to study the geology site amplification using Raspberry shakes.

Teaching Assistant to Geophysical Field Course

2023

California Institute of Technology

Pasadena, CA

UCLA Learning Assistant (LA) Program

2020

University of California, Los Angeles

Los Angeles, CA

- * Undergraduate Learning Assistant to the Computing for Geoscientists at UCLA.

FELLOWSHIPS AND AWARDS

4.1 Fellowships

National Science Foundation Graduate Research Fellowship | 2023

Caltech Faculty Fellowship | 2021

UCLA Earth and Planetary Science Undergraduate Research Award | 2020

UCLA Clay Scholarship Recipient | 2019

4.2 Honors and Awards

Southern California Earthquake Center Meeting Best Visual Poster | 2023

American Geophysical Union Annual Meeting Outstanding Student Presentation Award | 2021

Seismological Society of America Student Presentation Award | 2021

American Geophysical Union Washington meeting Student Travel Grant | 2018

5.1 Publications

Valeria Villa, Zachary E. Ross (2024). “Time-Varying Background Rates of Swarms and Aftershock Sequences in the San Jacinto Fault Zone in Southern California.” *In preparation*.

Valeria Villa, Yida Li, Robert W. Clayton, Patricia Persaud. (2023) “Three-Dimensional Basin Depth Map of the Northern Los Angeles Basins From Gravity and Seismic Measurements” *Journal of Geophysical Research: Solid Earth*, 128, doi:10.1029/2022JB025425.

Yida Li, **Valeria Villa**, Robert W. Clayton, Patricia Persaud. (2023) “Shear Wave Velocities in the San Gabriel and San Bernardino Basins, California” *Journal of Geophysical Research: Solid Earth*, 128, doi:10.1029/2023JB026488.

Valeria Villa, Ramesh Singh. (2020) “Hydraulic fracturing operation for oil and gas production and associated earthquake activities across the USA” *Environ Earth Sci* 79, 271, doi:10.1007/s12665-020-09008-0

5.2 Selected Presentations

Valeria Villa, Zachary E. Ross. (2023) Time-Varying Background Rates of Swarms and Aftershock Sequences in the San Jacinto Fault Zone in Southern California. Southern California Earthquake Center 2023. *Awarded SCEC Best Visual Poster 2023*

Valeria Villa, Zachary E. Ross. (2022) Imaging hydraulic properties along fault zones with earthquake swarms in southern California. American Geophysical Union 2022

Valeria Villa, Yida Li, Robert W. Clayton, Patricia Persaud. (2021) 3D Basin Depth Map for the San Gabriel, Chino, and San Bernardino Basins. American Geophysical Union 2021. *Awarded OSPA 2021*

Valeria Villa, Yida Li, Robert W. Clayton, Patricia Persaud. (2023) Mapping the 3D Structure of the San Gabriel and San Bernardino Basins, Greater Los Angeles Area From Seismic and Gravity Measurements. Seismological Society of America Annual Meeting 2021. *Awarded SSA Student Presentation 2021*