

Gustavo Villarruel

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EDUCATION

PhD in Earth and Planetary Sciences • McGill University • Aug 2023 – present

Thesis: Insights on eruptive processes at Poás volcano, Costa Rica, their forecast and impacts from high-resolution drone measurements.

Advisor: Prof. Dr. John Stix (john.stix@mcgill.ca)

MS in Geology • State University of New York at Binghamton • Jan 2021 – Dec 2022

GPA: 4.0 (0-4 scoring scale).

Thesis: Detailed sedimentology and chemostratigraphy of the Trenton Group limestones in the Mohawk Valley of New York

Advisor: Prof. Dr. Jeffrey T. Pietras (jpietras@binghamton.edu)

BS in Geology • National University of Cordoba, Argentina • Mar 2012 – Mar 2018

GPA: 9.41 (0-10 scoring scale).

Thesis: Water repellency in soils affected by fire and comparison with heating experiments.

Advisor: Prof. Dr. Gabriela Sacchi (gsacchi@unc.edu.ar)

PROFESSIONAL EXPERIENCE

Geologist Internship at YPF • Buenos Aires, Argentina • Jun 2022 – Sep 2022

Described 126 m of drill cores and thin sections from the Vaca Muerta Formation in the Neuquen Basin, Argentina. Integrated the descriptions with well logs, XRD and organic geochemistry data for unconventional reservoir characterization. Reference: Dr. Guillermina Sagasti (gsagastic@ypf.com)

Junior Geologist at Represas Patagonia (Patagonia Dams) • Santa Cruz, Argentina • Sep 2020 – Jan 2021.

Performed slope stability and landslide risk analysis, geotechnical logging, description of trial pits and well supervision.

Reference: Geologist Diana Boero (dboero@represaspatagonia.com.ar)

Laboratory Analyst at CEPROCOR • Cordoba, Argentina • Apr 2019 – Mar 2020

Determined trace elements in soils and aqueous samples by spectroscopic techniques: ICP-MS and FAAS. Acquired training in the use of gas chromatography, XRF and FTIR. Reference: MS. Marcela Inga (marcela.inga@cba.gov.ar)

Geologist Internship at Tecpetrol - Techint Group • Buenos Aires, Argentina • Jan 2018 – Mar 2018

Produced formal proposals of new unconventional wells and updated data bases of different plays in the Neuquen Basin. Collaborated on the design of a disposal well. Reference: Geologist Diego García Acebal (diego.garcia@tecpetrol.com)

Geologist Internship at Environmental Mining Department of Cordoba • Argentina • Jun 2017 – Dec 2017

Evaluated environmental impact reports from mines and quarries and collaborated on the field inspections thereof. Wrote technical reports for the issue of environmental license for mining companies. Reference: Geologist David Palacio (davidhpalacio@gmail.com)

Teaching Assistant in Igneous Petrology at National University of Cordoba • Argentina • Mar 2016- Dec 2016

Reference: Dr. Alina Guerreschi (alina.guerreschi@unc.edu.ar)

COURSES AND TRAINING

- **Environmental Resilience: Protecting the Natural Environment of San Diego and Beyond.** Fulbright Enrichment Seminar. Sep 2022.
- **Bartle Field Trip: Volcanology, Glaciology and Climate Change in Iceland.** Professors: Tim Lowenstein, Howard Naslund and Kennie Leet. Jun 2022.
- **Imperial Barrel Award of the American Association of Petroleum Geologists (AAPG).** Prospective basin evaluation competition. Leader of the Binghamton University team. Feb 2022 – Apr 2022.
- **Geospatial Applications for Disaster Risk Management.** Massive Online Open Course (MOOC) imparted by the Centre for Space Science and Technology Education for Asia and the Pacific and the United Nations. Aug 2021.
- **Energy Transition: Innovation Towards a Low-Carbon Future.** MOOC offered by IFP School with the support of Total Energies. Feb 2020.
- **Sedimentology and Geochemistry of Carbonate Systems.** National University of Cordoba. Lecturer: Dr. Fernando Javier Gómez. Aug-Nov 2018.

HONORS AND AWARDS

- Scholarship granted by the Fulbright Commission and the Ministry of Education of Argentina to pursue graduate studies in the U.S. Jun 2019.
- Recognition of the National University of Cordoba for achieving the highest GPA out of all natural sciences candidates in the class of 2018. Jun 2019.
- Kenneth N. Weaver Student Travel Award of the Northeastern Section of the Geological Society of America (GSA). Travel award for research presented in the GSA annual meeting. Oct 2022.

PUBLICATIONS

- Villarruel, G., Sacchi, G.A., and Zampar, V.P. 2022. Water repellency in soils affected by fire and comparison with heating experiments. Journal of the School of Exact, Physical and Natural Sciences from the National University of Cordoba, 9(2), 69-76.

CONFERENCES AND PRESENTATIONS

- **Geological Society of America Annual Meeting.** Oral presentation “Water repellency in soils affected by wildfires: a case study in Calamuchita Valley, Argentina” and poster presentation “Hardground formation in the Rust Formation of the Trenton Group in the Taconic foreland basin, New York”. Denver, USA. Oct 2022.
- **Houston Geological Society Student Expo.** Oral Presentation “Sedimentology and Geochemistry of the Trenton carbonates in the Taconic foreland basin, New York”. Houston, USA. Sep 2022.
- **XIII Argentine Congress of Mineralogy, Igneous and Metamorphic Petrology and Metallogenesis.** Student attendee. Cordoba, Argentina. Aug 2019.
- **3rd Argentine Congress of Aggregates.** Cordoba, Argentina. Assistant and member of the organization committee. Nov 2017.

PROFESSIONAL ASSOCIATIONS

- Geological Society of America. Aug 2021 – present.
- President of the AAPG Student Chapter of Binghamton University. Aug 2021 – Dec 2022.

LANGUAGES

Spanish: Native • English: Proficient • French: Intermediate

COMPUTER SKILLS

Microsoft Office • Adobe Illustrator • ArcGIS • QGIS • Global Mapper • Surfer • Petrel • GeoGraphix • Python

VOLUNTEERING

Masters Argentina. Organization of Argentinean graduate students from foreign universities aimed to contribute to the development of their home country through a network of professionals and policy makers. Oct 2021 – Apr 2022.

Education program “Nunca Es Tarde (NET)”. Tutored children and teenagers from low-income families. May 2018 – Mar 2020.

Ñuke Mapu Asociación Civil. Guided museum tours on academic exhibitions about responsible use and management of water and energy resources. Aug 2014 – Nov 2014