

Julio C. Villarroel, MS, MPM

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Authorized to work in the U.S. (Green Card in process); No visa sponsorship required

Education (6)

1 doctoral degree (in progress) • 2 master's degrees • 2 graduate certificates

The University of Texas at Austin
PhD in Petroleum Engineering
GPA: 3.6 (17 courses), 2025

The University of Texas at Austin
MS in Petroleum Engineering
GPA: 3.8, Graduation: 2023

Military School of Engineering
BS in Petroleum Engineering
GPA: 8.7/10 (Valedictorian)

Universidad de Barcelona (Spain)
Master's in Project Management
(MPM), Graduation: 2015

UT Austin, School of Geosciences
Certificate in Machine Learning
& Data Analytics in Geosciences
Expected: 2025 (in progress)

Private University of Santa Cruz
Certificate in Modeling of Fluid
Properties and Oil Reservoirs

Experience (6)

9 years industry experience • 12 oil & gas exploration projects • 16 oilfields • 34 reservoirs

PhD Research, Lithium Reservoir Engineering, Advisors—Dr. [Larry W. Lake](#) & [Carlos Torres-Verdín](#) 2023-present

- I conduct research at The University of Texas at Austin on formation evaluation, geochemistry, and fluid flow for **lithium** exploration in **oilfields**, **salt flats** (*salars*), and **geothermal** basins. Demonstrated the feasibility of characterizing Li⁺ in geophysical well logs focusing on the **Smackover Fm.**, explored by *Equinor*, *Albemarle*, and *ExxonMobil* [LINK1](#) [LINK2](#)

ZELANDEZ, Aquifer Performance Intern [Andean Lithium Salars] 2022 | Salta/Buenos Aires, Argentina

- I gained experience in lithium E&P operations at *Salar del Hombre Muerto* (northern Argentina). By analyzing data and market opportunities, I presented reservoir-engineering applications for spent-brine re-injection modeling, which opened a **new business line** for the company. I gained transferable insights between the mining and oil industries. [LINK](#)

STRONGHOLD Investment Management, Reservoir Engineering Intern [Haynesville Shale] 2021 | Dallas, TX

- I conducted research in the oil & gas mineral rights sector. I developed a novel decline-curve model tailored to Haynesville wells, achieving residuals **below 1%** for type-curve modeling and strategic planning in this basin. This work advanced my understanding of shale-gas production under over-pressured conditions (published at SPE ATCE). [LINK](#)

BP (now YPF Bolivianos-Chaco), Reservoir Engineer [Deep Sub-Andean Basins] 09/2012–09/2020 | Bolivia

- Managed 14 oilfields and contributed to 12 major exploration projects, specializing in gas-condensate, naturally fractured, and geo-pressured reservoirs for development, production optimization, reserves valuation, and forecasting.
- Budgeted and conducted risk analysis for HPHT wells valued at **\$90M–\$120M** each.
- Designed and executed the Carrasco FW-3 workover, discovering **6 BCF** of gas and generating **\$4.5M** in revenue.
- Supervised over **200** field operations, including well testing, slick-line, wireline logging, and coiled tubing.

OXY, Reservoir Jr. Engineer, Co-op [Condensate Mature Fields] 05-09/2011 | Bolivia

- Conducted reserves evaluation for the *Naranjillos* field, comprising **six** gas-condensate reservoirs, **28** wells, and over **30** years of production. I found potential upsides and scenarios for a joint venture with the national oil company. This work became my undergraduate thesis and was my first exposure to a complete petroleum-reserves booking and forecasting.

SLB (Schlumberger), Wireline Intern 2011 | Bolivia

- Maintained logging tools and assisted the country manager as a translator in client meetings and business affairs

Publications (4)

- **Villarroel J.C.**, Torres-Verdín C., Lake L.W. (2025). “*Detection and Assessment of Lithium Concentration in the Smackover Formation Using Triple-Combo Well Logs*”. Submitted to SPWLA 2025 international symposium, Dubai, UAE.
- **Amaro Estrada J.I.**, **Villarroel J.C.**, Crisafulli D.M., Torres-Verdín C. (2025). “*Experimental and Molecular Modeling of the Structure and Electrical Conductivity of Bulk Ionic Aqueous Solutions: Lithium, Sodium, and Potassium*”. Submitted for review to J. of Molecular Liquids (Elsevier).
- **Villarroel J.C.**, Lake, L.W., and DiCarlo D. (2023). “*Accounting for Exterior Flow Using the Modified Logistic Growth Model for Unconventional Geo-pressured Shale Gas Reservoirs*”. SPE 214872-MS at SPE ATCE 2023 San Antonio, TX. [LINK](#)
- **Villarroel J.C.** “*Exterior Flow for Unconventional Geopressured Shale Gas Reservoirs using the Modified Logistic Growth Model*”. MS Thesis. The University of Texas at Austin. Supervised by Professors Larry W. Lake and David DiCarlo. [LINK](#)

Skills and Proficiencies

- **Technical**: geochemical modeling, reserves evaluation, well-log interpretation, pressure and rate transient analysis (PTA /RTA), production modeling, pore pressure prediction, geomechanics, decline curve analysis, ML & data analytics
- University of Texas **Teaching Assistant** for: **Reservoir Engineering 1**, **Thermodynamics** and **Natural Gas Engineering**
- Fluent in ComboCurve, Whitson, Enverus, CMG, PetEx: GAP, MBal, Prosper; Kappa: Citrine, Saphir; PanSystem, PHDwin, PVT-Sim, Techlog, UTAPWeLS, Kingdom Seismic, PHREEQC, Spotfire and [Spanish](#)

Highlights

18 academic Awards • \$50K in value

Merit-based recognitions in the U.S.A.

	<u>amount</u>
2024: SPE Henry DeWitt Smith Memorial Fellowship: international award, PhD student in petroleum engineering LINK	\$5,000
2024: Osmar, M. and R. Abib Memorial Scholarship in Petroleum Engineering: outstanding academic achievement	\$6,000
2023: Osmar, M. and R. Abib Memorial Scholarship in Petroleum Engineering: outstanding academic achievement	\$3,285
2023: Texas Good Neighbor Scholarship: for outstanding students. Issuer: Texas Government Dept. of Education. LINK	\$22,700
2023: 1 st Place—SPWLA International Paper Contest 2023, 64 th Annual Symposium, Master's division. LINK	\$1,800
2023: 1 st Place—SPWLA UT Austin Student Local Paper Contest 2023. Master's division	\$200
2023: 2 nd Place—SPE UT Austin Student Paper Local Contest 2023. Master's division	\$250
2023: 3 rd Place (out of 45 worldwide projects)—AAPG Sustainable Development International Competition. LINK	\$2,000
2023: 3 rd Place—SPE Gulf Coast and Southwestern North America Regional Paper Contest. Master's division	
2023: Professional Development Award—Cockrell School of Engineering, The University of Texas at Austin	\$250
2022: S.P. Yates Memorial Endowment for Graduate Fellowships in Petroleum Engineering, UT Austin	\$2,000
2021: George J. Heuer, Jr. Ph.D. Endowed Graduate Fellowship Fund in Petroleum Engineering, UT Austin	\$1,500

in Bolivia. -

2017-2019: SPE Presidential Outstanding Chapter Award, 3 times awarded in the role of Faculty Advisor	
2014: Young Professional Talent Award. Issuer: The Military School of Engineering at the annual alumni ceremony	
2011: The Bolivian Society of Engineers (SIB)—Certificate of Excellence given to young professionals	
2011: "Scholarship of Honor"—Given to class Valedictorian. Issuer: The Military School of Engineering (Bolivia)	\$Bs.-15,000
2008-2010 Academic Excellence Scholarships, given to the top 5% of students (50% off in tuition & waivers)	\$Bs.-22,500
2009: YPFB Silver Diamond Distinction for Excellence Students. Issuer: YPFB (the national oil company)	
	<hr/> \$Bs.-37,500
	[\$5400]