

Carlos Vega-Ortiz

EGI Research Fellow


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Technical Expertise

- Carbon Capture
- Core Experimental and Numerical Flow Analysis
- Petrophysical logging and interpretation

EGI Research Fellow Carlos Vega Ortiz is from San Marcos, Hidalgo, Mexico. He is currently pursuing a Ph.D. in Chemical Engineering with the dissertation topic "Applications of mass transport in micro- to nanoporous media: Characterization of CO₂ sequestration in Coalbed Methane and Carbonaceous Mudstones."

Carlos is the recipient of the National Hydrocarbon Grant by Mexico's National Council for Science and Technology (CONACYT) and the Ministry of Energy (SENER). Carlos completed the Masters in Petroleum Engineering at the University of Utah and is currently pursuing his Ph.D. under the mentorship of Dr. John McLennan.

He has previous experience in the oil and gas industry for 11 years as reservoir evaluation engineer, in onshore and offshore locations with assignments in countries such as Mexico, UK (North Sea), Libya, and Turkey, performing high profile logging operations in deepwater environments, running services like conventional logging, pressure testing, fluid sampling, sidewall coring, and seismic acquisition.

His current research seeks to evaluate two different types of reservoirs for applications in carbon capture sequestration and contributing to the global effort of reducing pollutants to the atmosphere. In Utah, a coal-fired power plant aims to capture and store flue gases in a coal-bed methane field. In Mexico, the feasibility of underground storage aiming at deep aquifers may present a solution for the severe emissions in an industrial corridor that includes four cement factories, a refinery, and a fuel-oil power plant.

Selected Publications

Vega-Ortiz, C., Richards, B., McLennan, J., Levey, R., Martínez-Romero, N., 2020. Analysis of mineralogy and porosity distribution and on a carbonate mudstone sample of Pimienta Formation in Mexico's Tampico Misantla Basin. *Bol. Asoc. Mex. Geol. Pet.* LXII, 34–71, pp.36-71.

Vega-Ortiz, C., McLennan, J.D. and Walton, I.C. (2020) Numerical simulation for near borehole fluid dynamics at perforation tunnel", *Journal of the International Perforators Forum*, 3, 12–41, ISSN 2471-9374. <https://perforators.org/jipf-february-2020/>

Vega-Ortiz, C., Dhruvad B., Setoyama E., McLennan J.D., Ring T., Levey, R., and Martínez-Romero, N., (2020). Source Rock Evaluation in the Central-Western Flank of the Tampico Misantla Basin, Mexico. *Journal of South American Earth Sciences*, 100. <https://doi.org/10.1016/j.jsames.2020.102552>

Vega-Ortiz, C., Saunders, M., Vanden Berg, M. D., Omotilewua, O., McLennan, J. D. (2020) Coal Bed Methane Field Delineation and Reservoir Volumetric Estimation for CO₂ Storage, Buzzard Bench Field, Emery County, Utah. Accepted AAPG-ACE (American Association of Petroleum Engineers, Annual Convention and Exhibition), Houston, TX, USA, Sep 29-31, 2020.

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