

# Fernando M Rey

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## Highlights

- PhD Candidate at UT Austin.
- Msc from UT Austin (2021).
- 7 years of Oil and Gas industry experience. Internship in Chevron US summer 2023.
- Petrophysical interpretation, well correlation, 2D and 3D modelling of reservoirs, Oil and Gas Operations, completion and stimulation design, clastic sedimentology, mudstone geochemistry and Basin Analysis.

## Education

### **PH.D. STUDENT | THE UNIVERSITY OF TEXAS AT AUSTIN | FALL 2021-PRESENT**

*Academic advisor:* Matthew Malkowski.

*Research focus:* link the stratigraphic record with tectonic processes using geochronology and geochemical signatures. Current research projects in southern Patagonia (Late Jurassic-Early Cretaceous Rocas Verdes Back-arc basin) and Japan (Neogene opening of the Sea of Japan).

*Expected graduation:* Spring 2025.

*GPA:* 3.97.

### **MSC IN GEOLOGICAL SCIENCES | THE UNIVERSITY OF TEXAS AT AUSTIN | 2021**

*Academic advisors:* Ronald Steel and Cornel Olariu.

*Research Focus:* dispersal of sediments in shallow marine environments.

*Thesis title:* Anatomy of Compound Clinoforms.

*GPA:* 3.96

### **BS IN GEOLOGICAL SCIENCES | BUENOS AIRES UNIVERSITY, ARGENTINA | 2011**

## Experience

### **EARTH SCIENCE INTERN IN MID-CONTINENTAL BU | CHEVRON | MAY 2023- AUGUST 2023**

Develop an Earth Model workflow that incorporates uncertainty of hydraulic fracture height and frac barriers during the early stages by utilizing 1DMEM as input. Through the integration of this efficient workflow, the team achieved a comprehensive understanding of uncertainties while significantly saving valuable time for all key stakeholders involved in the project. This achievement was made possible by applying expertise in Coding (Python), Geomechanics, Petrophysics, and 3D Geological Modelling.

### **GRADUATE TEACHING ASSISTANT | THE UNIVERSITY OF TEXAS AT AUSTIN | AUGUST 2021-PRESENT**

*Courses:* Physical Geology (Field based), Introduction to Field Methods.

### **DEVELOPMENT GEOLOGIST | YPF S.A. | OCTOBER 2011- AUGUST 2019**

Create multiple 2D and 3D geological models for estimation of OOIP, OGIP, and reserves and to define the location of new wells and workovers.

Define petrophysical models to use in geological models and design completion strategies.

Elaborate geomechanical models to improve and optimize well construction and well stimulation, using petrophysical logs, microseismic data, and production history information.

Use production data, well logs, and geostatistical technics to evaluate the efficiency of completions and stimulation designs.

Supervise drilling, completions, and Workover operations in the field.

*Projects:*

- Natural fractured igneous reservoir. 35 wells drilled. 80% of success.
- Deep (~22000 ft) tight Gas reservoir. 73 wells drilled and 8 Workovers. 75% of success.
- Waterflooding projects on mature (>60 yrs.) oil fields. 12 wells drilled (9 injectors), 43 Workovers.

## Publications

### JOURNALS

**F M. Rey**, C Olariu, R J. Steel (2022). Using the modern Colorado delta to reconstruct the compound clinoforms of the Pliocene Colorado delta. *Journal of Sedimentary Research* 2022; 92 (5): 405–432. DOI: <https://doi.org/10.2110/jsr.2021.098>

### THESIS

**Rey F.**, (2021) Anatomy of Compound Clinoforms. Master Thesis.

### ABSTRACTS AND CONFERENCE PROCEEDINGS

C Olariu, R J Steel, Y. Peng, V Rossi, A Osmar, **F Rey**, and J Abdullatif (2022) Deltas in the stratigraphic record: Catching up with the marine geologists on understanding compound delta clinoforms. DOI: 10.1190/image2022-3751724.1. Conference: Second International Meeting for Applied Geoscience & Energy

F Rey and M Malkowski (2022) Using Lu-Hf in Detrital Zircon to follow the Extension of Back-arc basin.: an example from the Jurassic-Cretaceous Rocas Verdes Basin in Southernmost Patagonia. AGU Fall Meeting 2022, held in Chicago, IL, 12-16 December 2022, id. T22D-0136. DOI: 2022AGUFM.T22D0136R

C Bell, A Papendieck, **F Rey**, M Poteet, D Mohrig (2022). Learning and Identity Work in a Field-based Introductory Geology Course. *Earth Educators Rendezvous*, Twin Cities, Mn. [https://serc.carleton.edu/earth\\_rendezvous/2022/program/talks/thursdayA/249438.html](https://serc.carleton.edu/earth_rendezvous/2022/program/talks/thursdayA/249438.html)

**Rey, F.**, Olariu, C., Steel R. J. (2022). Double Clinoform Architectural Characteristics of the Paleo Colorado Deposits in the Fish Creek-Vallecito Basin, California Guided by the Holocene Colorado Delta Analog in Baja California. AAPG International Conference and Exhibition held in Denver.

Velo, D., **Rey, F.**, Pioli, O. Ugarte, R. (2014). Oil from Granitoid Rocks. Reservoir Characterization of The Fractured Basement of The Neuquén Basin, Octógono Field, Argentina. AAPG International Conference and Exhibition held in Istanbul.

## Honors and Awards

- AAPG Foundation Grants-in-Aid Award-Spring 2022- to support research.
- Outstanding Teaching Assistant Award -Fall 2021- Issued by the Department of Geological Sciences, the University of Texas at Austin. The award recognizes graduate TAs who have distinguished themselves through excellence in teaching and innovation.
- The 2019 IAPG’s Claudio Manzollillo Scholarship: The Scholarship awards a substantial contribution to the university tuition and a round-trip ticket to fly to Argentina during the academic year. Renewed for fall 2020 to spring 2021 period.
- Argentine Presidential Fellowship in Science and Technology to pursue a master’s degree in the United States starting Fall 2019. Administered by the Fulbright Commission.
- Award for best project and team performance granted by YPF (2012). Project: “Characterization, Identification of Opportunities and Assessment of Primary Recovery of Oil in West Sierra Barrosa Area”.

## Skills

- *Software*: Petrel, Interactive Petrophysics (IP), Techlog, Python (geostatspy and scikit-learn libraries).
- *Languages*: Spanish (native), English (full professional proficiency)

## Leadership initiatives:

- Organized weekly entertainment and academic support for teenagers in Buenos Aires city with NGO “El Arranque” Argentina.
- Mentor undergraduate and recently graduate environmental and geology students as part of Fundación YPF’s program.
- Mentoring undergraduate students as part of Texas RTX programs.
- Organize and lead the Jackson School of Geosciences Soccer Coed team (2021-2023)
- Participated in the Chevron volunteer program “Kids Meal volunteer event”.