

Field Course :: Sequence Stratigraphy (Chapada Diamantina, Bahia)

From basin fill to reservoir zonation.

Refine your knowledge by taking part in this UNIQUE field course on Sequence Stratigraphy in Brazil!

It is a methodological and hands-on course that uses 3D outcrop models to integrate geophysical data and those collected by the participants in the field. As a result, they build a hierarchical system, from basin to reservoir scale. This approach, used in the petroleum industry with geological and fluid flow models to optimise production, may be employed for other natural resources, storage of C and H, and injection of contaminants.

COURSE TYPE: FIELD TRIP (08 DAYS)

LOCAL: LENÇÓIS, BAHIA (BR)

GROUP 01: 17 - 24/AUG (PORTUGUESE)

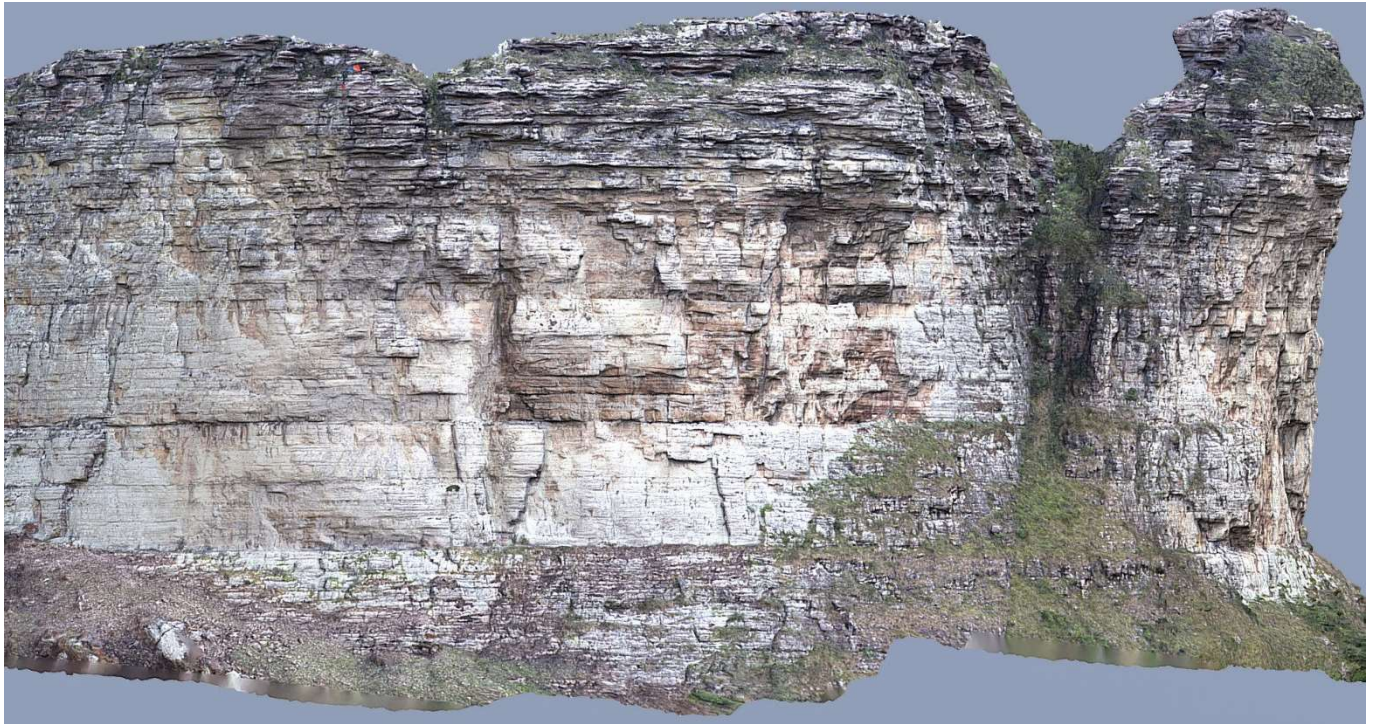
COST: € 2000 :: INCLUDES HOTEL AND TRANSFER (LENÇÓIS AIRPORT-HOTEL-FIELD TRANSPORTATION)



Why is sequence stratigraphy so crucial for the exploration of natural resources?

Sequence stratigraphy is a method that helps to understand the evolution of sedimentation through time and space in sedimentary basins. Currently, regional studies that support the exploration of natural resources are based on the understanding of the sedimentary processes that form the deposits and the sedimentation breaks that limit them.

The exploration and production of natural resources formed or related to sedimentary processes depend on the construction of chronostratigraphic frameworks that allow paleogeographic reconstructions that in turn increase our understanding of the temporal and spatial distribution of deposits of economic interest such as source rocks, seals and reservoirs of oil and other natural resource deposits.



Morro do Pai Inácio (Chapada Diamantina, Bahia). Fonte: BRGeo.org.

Objectives

Upon completion of this course, attendees are expected to:

- Learn the concepts and methodology of sequence stratigraphy;
- Propose chronostratigraphic frameworks applicable to the exploration and production of hydrocarbons and other natural resources, the storage of C and H, and the injection of contaminants;
- Use high-resolution sequence stratigraphy for reservoir zonation and characterization;
- Understand the impact of this approach on fluid injection and production performance.

Content

World-class outcrops of Mesoproterozoic, very low-grade metasedimentary rocks are found in Chapada Diamantina, one of the most beautiful Brazilian National Park. Strata are superbly exposed/preserved, and the rocks still exhibit primary structures. The studied interval represents continental to shallow marine sedimentation in an intracratonic sag basin.

Fieldwork is supported by facies analysis, GR logs, photo-mosaics, GPR lines and 3D virtual outcrop models. All data collected by attendees are used in-class through stratigraphic correlation exercises and integrated into 3D digital models.

- **Day 1:** Arrival in Lençóis, Bahia, Brazil.
Classroom activity: welcome and agenda.
- **Day 2:** Classroom activities (hotel).

Classes and preparation for Field courses.

- **Day 3:** Field Course in: Eolian setting.
Outcrop description, interpretation of stacking patterns and sequence stratigraphic surfaces.
Hotel: data integration.
- **Day 4:** Field Course in: Estuarine and fluvial settings.
Outcrop description, interpretation of stacking patterns and sequence stratigraphic surfaces.
Hotel: data integration.
- **Day 5:** Field Course in: Shallow marine, estuarine, fluvial settings.
Outcrop description, interpretation of stacking patterns and sequence stratigraphic surfaces.
Hotel: data integration.
- **Day 6:** Field Course in: Stratigraphic correlation.
- **Day 7:** Classroom activities (hotel).
State of the art in the stratigraphic analysis of outcrops using 3D virtual models, GPR (Ground Penetrating Radar) lines, gamma-ray logs and columnar sections. Exercises and closing.
- **Day 8:** Departure from Lençóis, Bahia, Brazil.



Pai Inácio Hill (Chapada Diamantina, Bahia - BR)

Who should attend

Geologists, geophysicists, and engineers working on exploration and production of petroleum and other natural resources, storage of C and H, and injection of contaminants.

Instructors

- A.J.C. **Magalhães**, PhD
- Francisco **Pinheiro** Lima Filho