

IFP Training

IFP Training is a subsidiary of the French Petroleum Institute (IFP) and since 1975 it has been providing skill development & training for all the professionals in the oil, gas, petrochemical, chemical and automotive industries, from top managers to site operators. With 80 full-time instructors and a network of 500 consultants, IFP Training offers services in three main areas, in France but also overseas:



- Training courses for professionals, from a few-day short courses to several-month integrated courses with both lectures and hands-on activities. Every year IFP Training delivers over 1,200 courses for about 14,000 participants from some 80 countries.
 - Master Degree or Graduate Diploma programs outside France in partnership with the IFP School.
 - Training engineering and consulting for Ministries of Energy, and international/national oil & gas companies, or international institutions, thanks to a multidisciplinary team combining technical experts with professionals in education and instructional design.
- > Two training sessions are scheduled:
- French session: February to April.
 - English session: September to November.
- For each session, the number of participants is limited to 10.

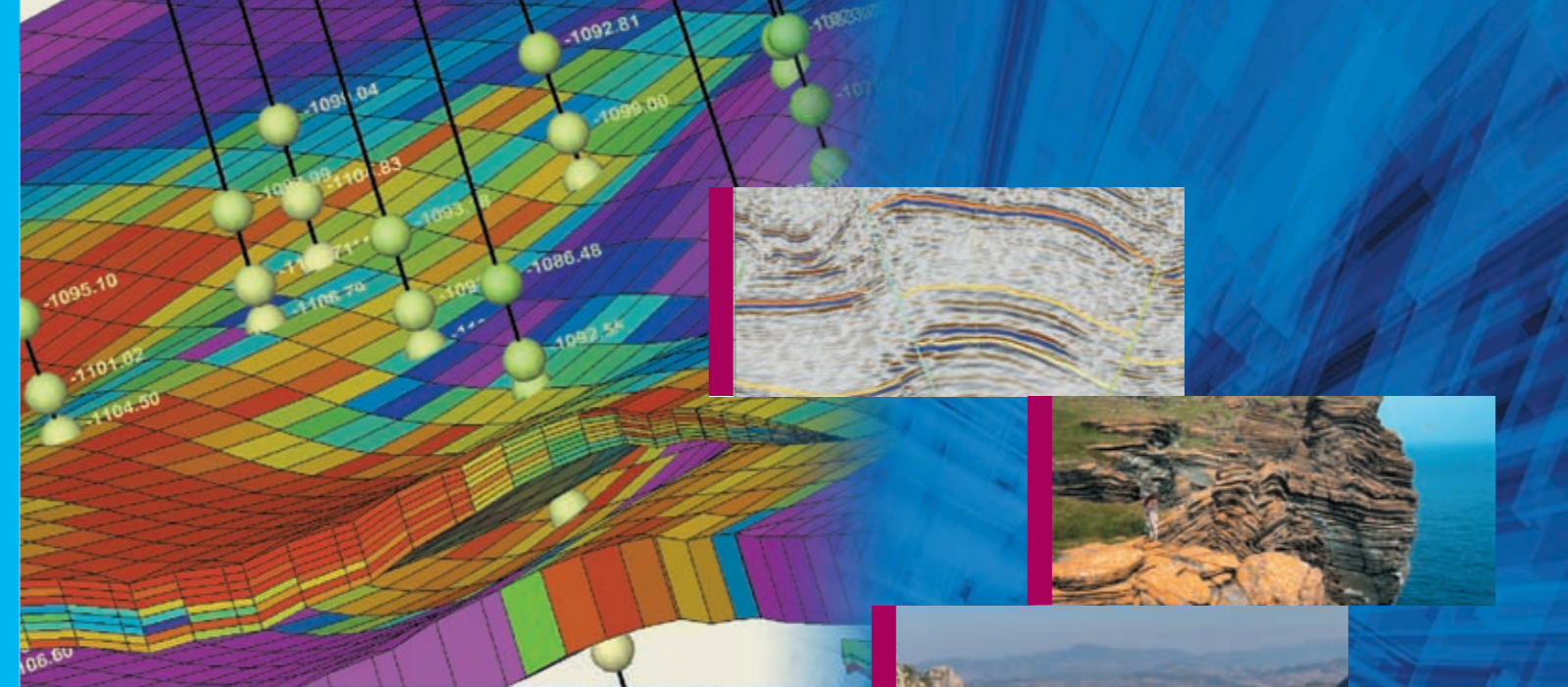
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Reservoir Characterization & Modeling

*An international collaborative
training program.*

IFP Training

A reliable geological model for an integrated reservoir study

The reservoir model is used to simulate the hydrocarbon production profile of a producing field and hence, to predict cash flow evolution. This model is based on a **geological model**, one of the most important elements in a typical reservoir study workflow.

To reach a reliable flow prediction, this static model must integrate all reservoir heterogeneities that can interfere with the **fluid flow**.

The main purpose of this course is to provide the key concepts and methods required to properly characterize a reservoir and to **build a reliable static model**. Specific emphasis will be given to the **integration of data** from various sources and of different scales (e.g. geological, seismic, borehole log, core and dynamic fluid information).



> Who Should Attend?

The program is designed for geologists, geophysicists or petroleum engineers involved in integrated reservoir studies, especially those with some experience in geosciences and/or reservoir engineering. This course gathers international participants with varied backgrounds and experiences.

Previous sessions have been attended by participants from all over the world, working for **national or international oil companies**, but also from **leading services companies and renowned consulting firm** ■

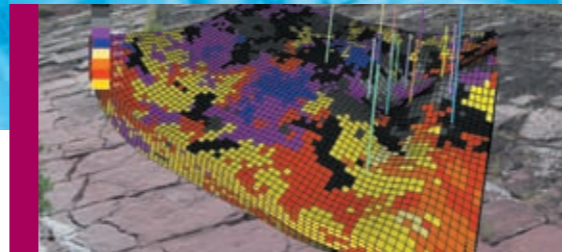
> Objectives

- To acquire the main concepts used in E&P and to get familiar with the most commonly applied methods on different types of reservoirs (i.e. **clastic, carbonate and fractured reservoirs**) in order to build reliable geological models, by integrating their specificities and relevant heterogeneities.
- To estimate both the range of uncertainties in the modeling process and their **impact on fluid flow** ■

> Course Schedule

8 weeks:

- RCM training session includes two modules:
 - > Module 1: **Reservoir Geology** (4 weeks).
 - > Module 2: **Advanced Reservoir Geology** (4 weeks).
- Several field trips are scheduled to study reservoir heterogeneities both in **carbonate and siliciclastic environments**.
- The program is comprised both lectures (about 50%) and workshops or field trips (about 50%).
- The lecturers have a strong industrial background ■



Reservoir Characterization & Modeling

> Reservoir Geology

4 weeks (Module 1)

The first module consists of several lectures that review the basic principles and stages leading to the construction of a geological model.

- Geophysics (horizons picking, fault network, seismic attributes).
- Petrophysics.
- Logs (Qualitative & semi-quantitative interpretation, and electro-facies determination).
- Sedimentology and stratigraphy.
- Rock-typing.
- Geostatistics.
- Heterogeneities.
- Uncertainties.

One field trip will study siliciclastic depositional environments and will be developed with workshops and hands-on sessions using industry software.

> Advanced Reservoir Geology

4 weeks (Module 2)

- Fractured reservoirs: from characterization to modeling, using industry software.
- Carbonate reservoirs with a special emphasis on sequence stratigraphy analyses.
- Petrophysical laboratory: conventional core analysis and measurements on plugs.
- Reservoir engineering:
 - > well test interpretation,
 - > introduction to reservoir simulation,
 - > workshop on upscaling and simulation

Two field trips on naturally-fractured reservoirs and carbonate reservoirs will focus on the impact of the different reservoir heterogeneities on fluid flow.

