IFP Training

IFP Training is a subsidiary of IFP Energies nouvelles. Since 1975, it has been providing skill development & training for professionals in the oil, gas, petrochemical, chemical and automotive industries, from top managers to site operators. With 95 full-time instructors and a network of 600 consultants, IFP Training offers services in three main areas, in France but also overseas:

• Training courses for professionals, from a few days short course to several-month integrated courses with both lectures and hands-on activities. Every year IFP Training delivers over 1,300 courses for about 15,000 participants from some 80 countries.

• Master Degree or Graduate Diploma programs outside France in partnership with 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.

Petroleum Exploration

Petex: a set of industry-focused and hands-on training modules

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A 6-week training program in the Oil & Gas Exploration

The “Petex” petroleum exploration training course in geosciences is designed to review each step of the Exploration workflow, from seismic & well data analysis to basin modeling, with the aim to assess plays and evaluate prospects. This industry-oriented training program results in effective integration of participants in multidisciplinary teams via a significant proportion of hands-on activities, contributing to a practical understanding of the specific role of the various specialists involved in the exploration process.

Who should attend?
The Petex course is of significant interest for geologists and geophysicists, both junior and experienced geoscientists who wish to either acquire or to complement their technical experience in all exploration domains. This training program has a strong practical bias and is ideally suited for professionals willing to enhance their expertise in Exploration techniques.

Course objectives
- To understand the fundamentals of petroleum exploration, from basin analysis to prospect evaluation.
- To review key concepts and methods for basin hydrocarbon potential assessment.
- Specific emphasis will be given to promoting integrated studies, to developing a common language, and to understanding relevant technical concepts and related applications.
- The Petex program is designed with a clear industry focus. Practically acquired skills enable participants to actively enhance their efficiency in multidisciplinary team work.

Module 1
- Exploration concepts & tools
  3 weeks (sessions 1 to 3)
  A presentation of indispensable exploration techniques:
  - To identify the structural style of a petroleum area and discuss tectonic events versus petroleum system timing.
  - To analyze the main depositional environments and their characteristics in seismic stratigraphy, in order to predict reservoir distribution and geometry with the help of sequence stratigraphy.
  An introduction to well data analysis:
  - To understand main measurements carried out in a well, while and after drilling.
  - To evaluate the reservoir potential.
  - To perform a geological interpretation via well log analysis, including borehole imaging and core matching.
  A 1-week field trip in the south of France:
  - To introduce petroleum systems on outcrop examples, and both seismic and well log analogues.
  Two possible locations:
    - Pau (in French, Spring session - focus on carbonates)
    - Lodève (in English, Autumn session - focus on clastics)

Module 2
- Play assessment & Prospect evaluation
  3 weeks (sessions 4 to 6)
  Basin analysis
  A global overview of seismic data acquisition, processing and interpretation with a 1-week hands-on practice on a case study on a workstation, covering from well-to-seismic tying and horizon picking, to time-to-depth conversion issues.
  Basin modeling
  A broad overview of the analytical workflow and modeling methods applied in the oil & gas industry:
  - To interpret geochemical data with a critical view for a reliable evaluation of source rock potential and maturity.
  - To understand modeling principles: Identify critical modeling parameters, understand basin thermal history, pressure and overpressure, hydrocarbon maturation, expulsion and migration. Related uncertainties are evaluated at each step of the process.
  Prospect generation
  A final synthesis:
  - To estimate the potential of a basin through play assessment, risk analysis and probability of success.
  - To evaluate a prospect with regional maps, cross correlations, CHIMP calculation, and to generate a prospect “ID sheet”.

Schedule
- 6 weeks
  - A 3-week review of exploration tools (from structural and stratigraphic analysis to well data analysis), including a 1-week field trip: “Petroleum systems on outcrop examples.”
  - A 2-week focus on seismic data acquisition, processing & interpretation, and basin modeling.
  - 1 week dedicated to play assessment and prospect evaluation.

Sessions are given in English (Autumn) and in French (Spring)

Specificity of unconventional vs conventional resources will also be highlighted throughout the Petex course.