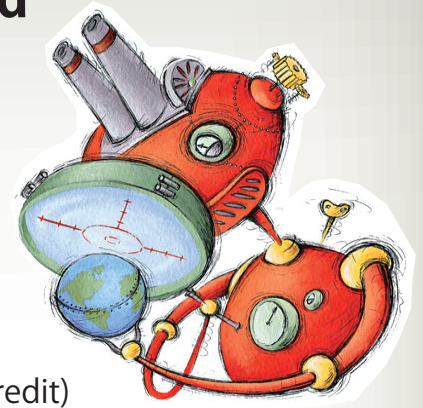


Intensive Lecture Information

Exploration and Development of Oil and Natural Gas from the View Point of Geology and Geophysics

Dr. Akihisa Takahashi

Executive Officer/ General Manager, Business Solution Office
Japan Petroleum Exploration Co., Ltd.



Name of Lecture :

MC — Earth and Planetary Dynamics Special Training II (1 credit)

DC — Earth and Planetary Dynamics Special Advanced Training II (1 credit)

Overview of the course :

Exploration and development of oil and natural gas (petroleum) are discussed from the geological and geophysical points of view.

Firstly, basics for the petroleum exploration and development are presented. Procedure of petroleum exploration and development and petroleum geology are introduced. Secondly, basics for the exploration geophysics are introduced. Reflection seismic method has been mainly developed in the area of the petroleum exploration. This includes from data acquisition, data processing to interpretation. Thirdly, method for the evaluation of geological risk and estimation of reserves with uncertainty are presented. Finally, actual examples of the petroleum exploration and development are introduced. Field examples including geological setting are presented and reservoir characterization and monitoring examples are introduced.

Some exercises will be included during the course. Lecture will be given both in Japanese and English (20 min. Japanese + 10 min. summary in English for example).

※The contents of the lecture (except for some parts) are different from those in the last year so that the students who took the class by Dr. Takahashi last year are also encouraged to attend.

As for the GP-EES students, the credit for this course can be used to fulfill a part of your GP-EES requirements if you wish.

Date : February 27 - 28, 2017

Place : Lecture Room #1, Annex, AOB

Total 12 hours,

including 5 hour exercises related to the reflection seismology.

Knowledge level:

Basic knowledge of physics and mathematics (1st grade level)

Who should participate? :

Those who interested in the reflection seismic method. It is not limited to the students in geophysics but also students in geology, petroleum engineering, and environmental engineering, and so on. The lecture will given both in Japanese and English. Therefore, foreign students are also welcome to the school.

Contact : Prof. Toru MATSUZAWA E-mail: toru.matsuzawa.c6@tohoku.ac.jp
(Research Center for Prediction of Earthquakes and Volcanic Eruptions)

Deadline : Those who wish to attend are asked to contact Prof. Matsuzawa via e-mail by Feb. 20, 2017.

Tentative schedule

Day 1	10:00-12:00	Chapter 1 Procedure of oil and gas exploration, and petroleum geology
Day 1	13:00-15:00	Chapter 2 Exploration geophysics (reflection seismology)
Day 1	15:30-17:00	Exercise 1
Day 2	10:00-12:00	Chapter 3 Geological risk and reserves estimation
Day 2	13:00-14:30	Exercise 2
Day 2	15:00-17:00	Chapter 4 Examples of field development, and reservoir characterization and monitoring using geological and geophysical methods