



Introduction to
Structural Geology
in the Petroleum
Industry

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Upstream Research Company

Short Course
8-12 October 2007

@ RWTH Aachen University



RWTHAACHEN
UNIVERSITY

Course Outline:

Structural geology in the petroleum industry includes a vast array of problems at a multitude of scales, from lithospheric plates to pores in sedimentary rocks. Structural geology also intersects and complements other technical disciplines, including engineering, sedimentology, and geochemistry. Structural geology is used to solve interdisciplinary problems in the petroleum industry, but a sound basis in structural geology concepts and methods is required to participate in interdisciplinary efforts.

The purpose of this workshop course is to help develop three critical aspects of structural geology necessary for petroleum geoscientists:

- Sound structural mapping methods
- Introduction to geomechanics
- Fluids and their response to subsurface structures

Students will learn how good structural mapping skills are necessary for thinking about the distribution of fluids and fluid pressures in the subsurface and how the fluids themselves can contribute to a deeper understanding of structural geometries. Finally, the role of geomechanics will be introduced to help further elucidate how rocks deform and the consequences for subsurface fluids.

The workshop will consist of lectures, exercises, and student-led seminars. Pre-course reading assignments must be completed in order to participate in the seminar aspects of the workshop. Students will be introduced to fundamental concepts in lectures, will practice those concepts in exercises, and will debate the limits of current structural topics in seminars. The goal of this workshop is to hone fundamental geologic skills while encouraging critical thinking.

Exercises are based on subsurface petroleum problems while retaining the perspective of surface outcrop geology. Subsurface mapping methods are augmented with a seismic dataset, using the Petrel software package for data interrogation and mapping. However, the focus of this course is to contribute to the development of geologic skills rather than software proficiency. Knowledge of the Petrel program is not a course prerequisite, nor is the course intended to develop skills for using the program.

Course Organization:

The course will take place in the ZIP Pool of the Geological Institute, Wüllnerstrasse 2, Aachen, Germany, on 8-12 October 2007.

Students close to finishing their Diplom or MSc, or preparing for a PhD are invited to apply.

Participation is at no cost but students have to arrange their own travel and housing.

Please send applications to Bettina Dulle: ged@ged.rwth-aachen.de before 15.09.2007.

Contact on course content and technical issues:
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