

COURSE OVERVIEW DE0933
Petrel Fracture Modeling

Course Title

Petrel Fracture Modeling

Course Date/Venue

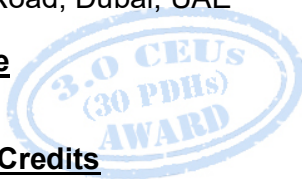
Session 1: May 12-16, 2025/Fujairah Meeting Room, Grand Milleneum, Al Wahda Hotel, Abu Dhabi, UAE

Session 2: November 02-06, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE



Course Reference

DE0933



Course Duration/Credits

Five days/3.0 CEUs/30 PDHs

Course Description



This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using the geological modelling software.



This course is designed to provide participants with a detailed and up-to-date overview of fracture petrel fracture modeling. It covers the techniques to create simulation properties for matrix and fractures to predict reservoir. Many-reservoir are dual-porosity/dual permeability (naturally fractured, which leads to high flow zones that are not representative of the matrix flow capacity. Consequently, flow simulators have problems simulating these kinds of reservoirs.



During this interactive course, participants will learn the fracture theory; the point well data and image log import and display; the tadpoles and rose diagrams; the stereo nets; dip/azimuth/filters/fracture sets; the generation of fracture intensity logs and cumulative logs; the fracture density maps; the upscaling of well logs and 3D modeling of intensity; and the building stochastic fracture models, fracture attribute generation and upscaling fracture properties.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain a comprehensive knowledge on fracture reservoir modeling using Petrel
- Discuss fracture theory, point well data and image log importing and display
- Create tadpoles and rose diagrams
- Explain stereo nets covering dip, azimuth, filters and fracture sets
- Discuss the generation of fracture intensity logs and cumulative logs
- Illustrate fracture density maps, upscaling of well logs and 3D modeling of intensity
- Build stochastic fracture models as well as recognize fracture attribute generation and upscaling fracture properties

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.

Who Should Attend

This course provides an overview of all significant aspects and considerations of fracture reservoir modeling using Petrel for geoscientists and exploration, production and development geologists.

Training Methodology

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Workshops & Work Presentations
- 20% Case Studies & Practical Exercises
- 30% Videos, Software & Simulators

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Fee


US\$ 8,000 per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Certificate(s)


Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

- 
British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- 
The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Ms. Diana Helmy, PgDip, MSc, BSc, is a **Senior Petroleum & Geologist** with extensive years of experience within the **Oil & Gas, Refinery and Petrochemical** industries. Her expertise widely covers in the areas of **Tubular & Pipe Handling, Tubular Strength, Casing & Tubing Design, Production/Injection Loads** for Casing Strings & Tubing, **Drilling Loads, Drilling & Production Thermal Loads, Well Architecture, Wellhead Integrity, Well Integrity & Artificial Lift, Well Integrity Management, Well Completion & Workover, Applied Drilling Practices, Horizontal Drilling, Petroleum Production, Resource & Reserve Evaluation, Reserves Estimation & Uncertainty, Methods for Aggregation of Reserves & Resources, Horizontal & Multilateral Wells, Well Completion & Stimulation, Artificial Lift System Selection & Design, Well Testing & Oil Well Performance, Well Test Design Analysis, Well Test Operations, Well Testing & Perforation, Directional Drilling, Formation Damage Evaluation & Preventive, Formation Damage Remediation, Drilling & Formation Damage, Simulation Program for The International Petroleum Business, Well Testing & Analysis, Horizontal & Multilateral Wells & Reservoir Concerns, Oil & Gas Analytics, Petrophysics & Reservoir Engineering, Subsurface Geology & Logging Interpretation, Petroleum Geology, Geophysics, Seismic Processing & Exploration, Seismic Interpretation, Sedimentology, Stratigraphy & Biostratigraphy, Petroleum Economy, Core Analysis, Well Logging Interpretation, Core Lab Analysis & SCAL, Sedimentary Rocks, Rock Types, Core & Ditch Cuttings Analysis, Clastic, Carbonate & Basement Rocks, Stratigraphic Sequences, Petrographically Analysis, Thin Section Analysis, Scanning Electron Microscope (SEM), X-ray Diffraction (XRD), Cross-Section Tomography (CT), Conventional & Unconventional Analysis, Porosity & Permeability, Geological & Geophysical Model, Sedimentary Facies, Formation Damage Studies & Analysis, Rig Awareness, 2D&3D Seismic Data Processing, Static & Dynamic Correction, Noise Attenuation & Multiple Elimination Techniques, Velocity Analysis & Modeling and various software such as Petrel, OMEGA, LINUX, Kingdom and Vista. She is currently a **Senior Consultant** wherein she is responsible in different facets of **Petroleum & Process Engineering** from managing **asset integrity, well integrity process, pre-commissioning/commissioning and start up** onshore & offshore process facilities.**

During her career life, Ms. Diana worked as a **Reservoir Geologist, Seismic Engineer, Geology Instructor, Geoscience Instructor & Consultant** and **Petroleum Geology Researcher** from various international companies like the **Schlumberger, Corex Services for Petroleum Services, Petrolia Energy Supplies** and **Alexandria University**.

Ms. Diana has a **Postgraduate Diploma in Geophysics, Master's degree in Petroleum Geology and Geophysics** and a **Bachelor's degree in Geology**. Further, she is a **Certified Trainer/Assessor/Internal Verifier** by the **Institute of Leadership & Management (ILM)** and has delivered numerous trainings, courses, workshops, seminars and conferences internationally.

Course Program

The following program is planned for this course. However, the course Instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 - 0800	Registration & Coffee
0800 - 0815	Welcome Introduction
0815 - 0830	PRE-TEST
0830 - 0900	Fracture Theory
0930 - 0945	Break
0945 - 1130	Fracture Theory (cont'd)
1130 - 1230	Point Well Data & Image Log Import & Display
1230 - 1245	Break
1245 - 1420	Point Well Data & Image Log Import & Display (cont'd)
1420 - 1430	Recap
1430	Lunch & End of Day One

Day 2

0730 - 0930	Creating Tadpoles & Rose Diagrams
0930 - 0945	Break
0945 - 1115	Creating Tadpoles & Rose Diagrams (cont'd)
1115 - 1230	Stereonets: Dip/Azimuth/Filters/Fracture Sets
1230 - 1245	Break
1245 - 1420	Stereonets: Dip/Azimuth/Filters/Fracture Sets (cont'd)
1420 - 1430	Recap
1430	Lunch & End of Day Two

Day 3

0730 - 0930	Generation of Fracture Intensity Logs & Cumulative Logs
0930 - 0945	Break
0945 - 1115	Generation of Fracture Intensity Logs & Cumulative Logs (cont'd)
1115 - 1200	Fracture Density Maps
1200 - 1215	Break
1215 - 1420	Fracture Density Maps (cont'd)
1420 - 1430	Recap
1430	Lunch & End of Day Three

Day 4

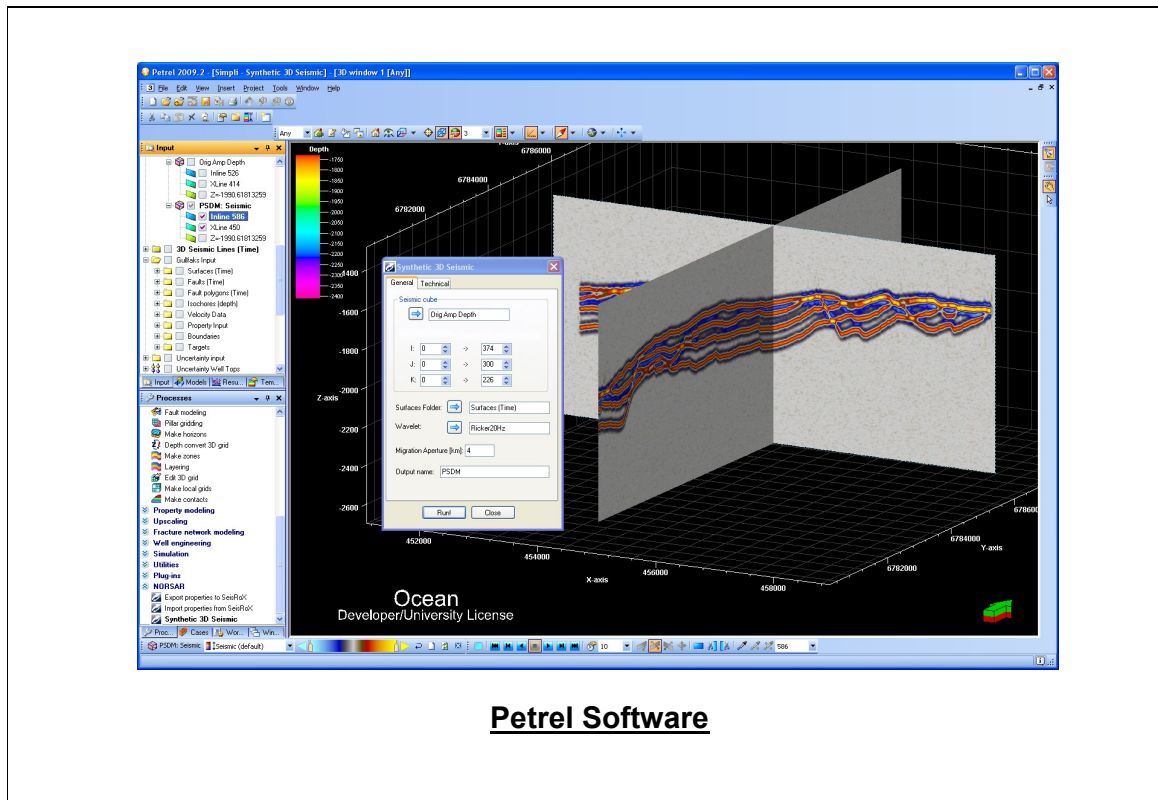
0730 - 0930	Upscaling of Well Logs & 3D Modeling of Intensity
0930 - 0945	Break
0945 - 1115	Upscaling of Well Logs & 3D Modeling of Intensity (cont'd)
1115 - 1200	Building Stochastic Fracture Models
1200 - 1215	Break
1215 - 1420	Building Stochastic Fracture Models (cont'd)
1420 - 1430	Recap
1430	Lunch & End of Day Four

Day 5

0730 – 0930	Fracture Attribute Generation
0930 – 0945	Break
0945 - 1115	Fracture Attribute Generation (cont'd)
1115 - 1200	Upscaling Fracture Properties
1200 - 1215	Break
1215 – 1400	Upscaling Fracture Properties (cont'd)
1400 – 1415	Course Conclusion
1415 – 1430	POST-TEST
1430	Lunch & End of Course

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the “Petrel” software.



Petrel Software

Course Coordinator

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org