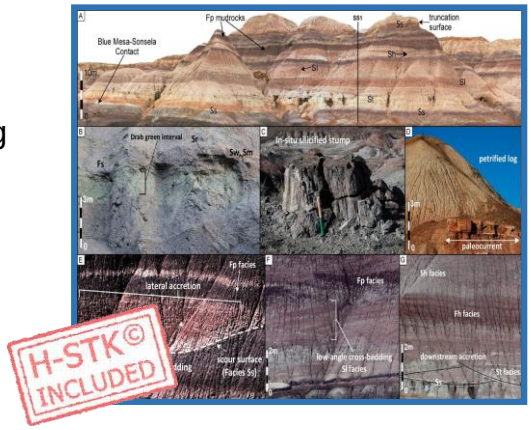
COURSE OVERVIEW DE0696(KP4)
MICP & Deterministic Rock Typing

Course Title
MICP & Deterministic Rock Typing



Course Date/Venue
Session 1: August, 11-15, 2025/Fujairah Meeting Room, Grand Millennium 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
DE0696(KP4)

Course Duration/Credits
Five days/3.0 CEUs/30 PDHs

Course Description

This practical and highly-interactive course includes real-life case studies and exercises where participants will be engaged in a series of interactive small groups and class workshops.

This course is designed to provide participants with a detailed and up-to-date overview of facies analysis and rock typings. It covers the general work-flow for rock typing based on logs, core description and petrophysical data; the supervision of electrofacies analysis with discriminant analysis and integrate core description; and the electrofacies analysis based on supervised approach with various clustering techniques like statistical, neural network, optimizing techniques, etc.

During this interactive course, participants will learn the interpretation from the analysis of multivariate probability density function; comparing methods and results for electrofacies analysis; performing electrofacies propagation at wells with limited or different sets of logs, electrofacies to rock-types with petrophysical data as well as permeability/porosity modeling for the electrofacies with various types of regression; integrating SCAL data in rock-typing and reservoir quality indexes; assessing capillary pressure curve processing for rock-typing; integrating rock-types in seismic attribute analysis; and interpreting work-flows for seismic attribute using rock-types.

Course Objectives

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

- Apply and gain an in-depth knowledge on facies analysis and rock typings
- Recognize general work-flow for rock typing based on logs, core description and petrophysical data
- Supervise electrofacies analysis with discriminant analysis and integrate core description
- Discuss electrofacies analysis based on supervised approach with various clustering techniques like statistical, neural network, optimizing techniques, etc.
- Build an interpretation from the analysis of multivariate probability density function and compare methods and results for electrofacies analysis
- Perform electrofacies propagation at wells with limited or different sets of logs, electrofacies to rock-types with petrophysical data as well as permeability/porosity modeling for the electrofacies with various types of regression
- Integrate SCAL data in rock-typing and illustrate reservoir quality indexes
- Assess capillary pressure curve processing for rock-typing and describe the integration of rock-types in seismic attribute analysis
- Explain work-flows for seismic attribute interpretation using rock-types

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 facies analysis and rock typings for senior production, petroleum, reservoir and field engineers.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

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

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.

Course Instructor

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:

Mr. Stan Constantino, MSc, BSc, is a **Senior Petroleum & Reservoir Engineer** with over **35 years** of **Offshore & Onshore** extensive experience within the **Oil**, **Gas & Petroleum** industries**.** His area of expertise include **Reserves & Resources**, **Reserves Estimation & Uncertainty**, **Reservoir** Characterization, **Unconventiona**l **Resource & Reserves** Evaluation, **Oil & Gas Reserves** Estimation, Methods for **Aggregation of Reserves & Resources**, **Fractured Reservoir** Classification & Evaluation, **Sequence Stratigraphy**, **Petrophysics & Rock** Properties, **Seismic** Technology, **Geological** Modelling, **Water Saturation**, **Crude Oil & Natural Gas** Demand, **Exploration Agreements & Financial** Modelling, **Seismic Survey** Evaluation, **Exploration Well** Identification, **Field Production** Operation, **Field Development** Evaluation, Crude Oil Marketing, **Core & Log Data** Integration, **Core Logging**, Advanced **Core & Log Integration**, **Well Logs & Core Analysis**, Advanced Petrophysics/Interpretation of **Cased Hole Logs**, **Cased Hole Formation Evaluation**, **Cased Hole Formation** Evaluation, **Cased Hole Evaluation**, **Cased-Hole Logging**, Applied **Production Logging & Cased Hole & Production Log** Evaluation, **Cased Hole Logging & Formation** Evaluation, Open & Cased Hole Logging, Screening of Oil Reservoirs for **Enhanced Oil Recovery**, **Enhanced Oil Recovery**, **Enhanced Oil Recovery** Techniques, **Petroleum Economic** Analysis, **Oil Industry** Orientation, **Oil Production & Refining**, **Crude Oil Market**, **Global Oil Supply & Demand**, **Global Oil Reserves**, **Crude Oil** Types & Specifications, **Oil Processing**, **Oil Transportation-Methods**, **Oil & Gas** Exploration and Methods, **Oil & Gas** Extraction, Technology Usage in Industrial Security; **Upstream**, **Midstream** & **Downstream Operations**; **Oil Reservoir** Evaluation & Estimation, **Oil Supply & Demand**, **Oil Contracts**, **Government Legislation & Oil Contractual Agreements**, **Oil Projects** & Their Feasibility (revenue and profitability), **Water Flooding**, **Reservoir** Souring & Water Breakthrough, **Reservoir Performance** Using Classical Methods, **Fractured Reservoir** Evaluation & Management, **Reservoir Surveillance** & Management, **Reservoir Engineering** & Simulation, **Reservoir Monitoring**, **Pressure Transient** Testing & **Reservoir** Performance Evaluation, **Reservoir** Characterization, **Reservoir** Engineering Applications with ESP and Heavy Oil, **Reservoir** Volumetrics, Water Drive Reservoir, **Reserve** Evaluation, Rock & Fluid Properties, Fluid Flow Mechanics, PVT Analysis, Material Balance, Darcy's Law & Applications, Radial Flow, **Gas Well** Testing, Natural Water Influx, EOR Methods, Directional Drilling, **Drilling** Production & Operations, Field Development & Production of Oil & Gas, **Wireline Logging**, **Mud Logging**, **Cased Hole Logging**, **Production Logging**, **Slick Line**, **Coil Tubing**, Exploration Wells Evaluation, **Horizontal Wells**, **Well Surveillance**, **Well Testing**, **Design & Analysis**, **Well Testing & Oil Well Performance**, **Well Log Interpretation** (**WLI**), **Formation Evaluation**, **Well Workover Supervision**, **Pressure Transient Analysis** and **Petrophysical Log Analysis**. Currently, he is the **CEO** & **Managing Director** of **Geo Resources Technology** wherein he is responsible in managing the services and providing technical supports to underground energy related projects concerning **field development**, **production**, **drilling**, **reservoir engineering** and **simulation**.

Throughout his long career life, Mr. Stan has worked for many international companies such as the **Kavala Oil**, **North Aegean Petroleum Company** and **Texaco Inc.**, as the **Managing Director**, **Operations Manager**, **Technical Trainer**, **Training Consultant**, **Petroleum Engineering & Exploration Department Head**, **Assistant Chief Petroleum Engineer**, **Reservoir Engineer, Resident Petroleum Engineer**, **Senior Petroleum Engineer** and **Petroleum Engineer** wherein he has been managing the evaluation of exploration wells, reservoir simulation, development training, production monitoring, wireline logging and well testing including selection and field application of well completion methods.

Mr. Stan has a **Master's** degree in **Petroleum Engineering** and a **Bachelor's** degree in **Geology** from the **New Mexico Institute of Mining & Technology** (**USA**) and from the **Aristotelian University** (**Greece**) respectively. Further, he is a **Certified Instructor/Trainer**, a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership of Management (ILM**) and a member of the Society of Petroleum Engineers, USA (**SPE**), Society of Well Log Professional Analysts, USA (**SPWLA**) and European Association of Petroleum Geoscientists & Engineers (**EAGE**). Moreover, Mr. Stan published numerous scientific and technical papers and delivered various trainings, courses and workshops worldwide.

Accommodation

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

Course Fee

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

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

0800 – 0815	*Registration & Coffee*
0815 – 0830	*Welcome & Introduction*
0830 – 0845	***PRE-TEST***
0845 – 0915	***General Work-Flow for Rock-Typing*** *Overview of Rock-Typing Based on Logs*
0915 – 0935	*Break*
0935 – 1030	***General Work-Flow for Rock-Typing (cont'd)*** *Core Description • Petrophysical Data*
1030 – 1140	***Supervised Electrofacies Analysis with Doscriminant Analysis*** *Electrofacies Analysis with Supervised Approach*
1140 – 1225	*Break*
1225 – 1350	***Supervised Electrofacies Analysis with Doscriminant Analysis (cont'd)*** *Exercise for Integrating Core Description in Electrofacies Analysis with Supervised Approach*
1350 – 1400	***Recap***
1400	*Lunch & End of Day One*

Day 2

0800 – 0915	***Techniques for Non-Supervised Electrofacies Analysis*** *Electrofacies Analysis Based on Non-Supervised Approach with Various Clustering Techniques (Statistical, Neural Network, Optimizing Techniques, Etc.)*
0915 – 0935	*Break*
0935 – 1030	***Techniques for Non-Supervised Electrofacies Analysis (cont'd)*** *Exercise with Non-Supervised Approach (Building An Interpretation from the Analysis of the Multivariate Probability, Density Function)*
1030 – 1140	***Comparing Methods & Results for Electrofacies Analysis*** *Hands on Optimization Techniques for Non-Supervised Approach*
1140 – 1225	*Break*
1225 – 1350	***Comparing Methods & Results for Electrofacies Analysis (cont'd)*** *Exercise for Merging Supervised and Non-Supervised Results*
1350 – 1400	***Recap***
1400	*Lunch & End of Day Two*

Day 3

0800 – 0915	***Hands on Electrofacies Propagation at Wells with Limited (or Different) Set of Logs***
0915 – 0935	*Break*
0935 – 1030	***Hands on Electrofacies Propagation at Wells with Limited (or Different) Set of Logs (cont'd)***
1030 – 1140	***From Electrofacies to Rock-Types with Petrophysical Data***
1140 – 1225	*Break*
1225 – 1350	***From Electrofacies to Rock-Types with Petrophysical Data (cont'd)***
1350 – 1400	***Recap***
1400	*Lunch & End of Day Three*

Day 4

0800 – 0915	***Porosity/Permeability Modeling with Various Types of Regression*** *Exercise for Permeability/Porosity Modeling for the Electrofacies*
0915 – 0935	*Break*
0935 – 1030	***Porosity/Permeability Modeling with Various Types of Regression (cont'd)*** *Exercise for Permeability/Porosity Modeling for the Electrofacies (cont'd)*
1030 – 1140	***Capillary Pressure Curve Processing for Rock-Typing*** *Integration of SCAL Data in Rock-Typing*
1140 – 1225	*Break*
1225 – 1350	***Capillary Pressure Curve Processing for Rock-Typing (cont'd)*** *Integration of SCAL Data in Rock-Typing (cont'd)*
1350 – 1400	***Recap***
1400	*Lunch & End of Day Four*

Day 5

0800 – 0915	***Reservoir Quality Indexes*** *RQI • FZI*
0915 – 0935	*Break*
0935 – 1030	***Reservoir Quality Indexes (cont'd)*** *Exercise on Reservoir Quality Indexes*
1030 – 1140	***Work-Flows for Seismic Attribute Interpretation Using Rock-Types*** *Integration of Rock-Types in Seismic Attributes (General Work-Flow, Seismic Facies Analysis, Linear Regression & Cokriging for Attribute Interpretation0*
1140 – 1225	*Break*
1225 – 1315	***Work-Flows for Seismic Attribute Interpretation Using Rock-Types (cont'd)*** *Hands-on Scale Issue Related Seismic Attribute Analysis • Exercise on Cokriging*
1315 – 1330	***Course Conclusion***
1330 – 1345	***POST-TEST***
1345 – 1400	*Presentation of Course Certificates*
1400	*Lunch & End of Course*

Practical Sessions

This practical and highly-interactive course includes real-life case studies and exercises:-

Course Coordinator

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