



*Workshop Title:*

## **Sequence Stratigraphy Applications in Petroleum Exploration & Field Development**

**Dr. Ibrahim Mriheel**

### **SUMMARY**

This workshop will comprise lectures, short exercises, discussion sessions and field trip posters. The course will focus on a number of case studies that link outcrop and subsurface geology and have relevance to petroleum exploration and production. Case studies range from Silurian to Miocene in age, and come from North African and Mediterranean Basins. The course builds on basic knowledge of sedimentary geology but does not require specialist skills from participants. The concepts and techniques learned in the course are applied to real industry examples in exercises and workshops. The workshop sessions will involve the use of seismic sections, well data and regional geological data.

### **Workshop Contents**

- This course has lectures, practical exercises and field component (poster presentation only)..
- Both reservoir and seismic scale outcrops will be presented where participants can compare log signatures with outcrop and create stratal terminations using IS tool from outcrop photos.
- Sequence stratigraphy Concepts: depositional trends; stratal stacking patterns; stratal terminations; accommodation; relative sea-level changes; forced regressions; normal regressions; transgressions.
- Sequence stratigraphic surfaces: subaerial unconformity, correlative conformity, Transgressive surface, maximum flooding surface and flooding surface.
- Systems tracts: lowstand, transgressive, highstand, and falling-stage; sequence models: depositional sequences, genetic stratigraphic sequences and transgressive-regressive sequences
- Applications to depositional systems: fluvial systems, coastal systems, shallow-water clastic systems, deep-water clastic systems and carbonate systems.

Short Curriculum-Vitae

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Currently, Dr. Ibrahim Mriheel is working as geological studies superintendent for National Oil Corporation, Libya. He worked as consultant geologist for Petrobras Oil Company between year 2006 and 2012 both in Libya and Turkey. Mriheel has received his BSc. in Geology from Tripoli University, Libya in 1983. He has obtained his MSc and PhD from Manchester University, UK in 1989 and 2000 respectively. He has >35 years of experience in oil industry and authored

and coauthored many published papers in international journals and conferences. His fields of interests are sedimentology, sequence stratigraphy and basin analysis. Dr. Mriheel has taught sequence stratigraphy subjects both as MSc courses & seminars to petroleum professionals in Libya and Tun