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## N072: Workshop in Integrated Geological and Geophysical Interpretation of Deep Marine Deposits

Format and Duration  
Classroom - 3 Days

Instructor(s): Lesli Wood

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### Summary

The course is aimed at exploration, development, and operations-level interpreters working in areas dominated by deepwater depositional systems. Through a combination of lectures and case studies, participants are exposed to many aspects of seismic stratigraphic interpretation, with an emphasis on predicting, mapping, and quantifying deepwater reservoirs.

### Learning Outcomes

Participants will learn to:

1. Assess, map, and quantify deepwater depositional systems.
2. Evaluate seismic facies to develop depositional models and predict reservoir presence, distribution, and quality.
3. Construct seismic interpretations by integrating analogues, models, and well data.
4. Analyze reflection terminations and configurations on seismic data.
5. Assess the implications of interpretations on lithology, net-to-gross ratio, and reservoir properties.
6. Evaluate the geomorphology of deepwater depositional systems using quantitative seismic geomorphologic techniques.

### Training Method

A classroom course comprising a mixture of lectures, workshops, exercises, and case studies from carbonate and siliciclastic settings around the world.

### Who Should Attend

This course is designed for geoscientists working on deepwater sediments across exploration, appraisal, development, or production. The workshop format requires a high degree of commitment and involvement from participants, who are strongly encouraged to bring relevant materials to contribute to the discussions.

### Course Content

The lecture content provides a summary of the fundamentals of deep marine systems. The principal goal of the course is to equip subsurface interpreters with a methodology and hands-on experience in seismic stratigraphic interpretation of deepwater depositional systems. The course is designed to foster instructive discussions among experienced professionals, moderated and guided by the tutor. Participants are encouraged to bring examples of their own data for discussion.



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### Section 1

- **Introduction, overview, goals**
  - Course logistics, goals, overview of agenda and relevance of deepwater reservoirs in the E&P business
- **Fundamentals of Deepwater depositional systems**
  - Model- vs. process-based approach
  - Factors controlling deposition in the deepwater environment
  - Depositional elements
  - Siliciclastic slope and deepwater systems
  - Carbonate slope and deepwater systems
- **Seismic facies analysis**
  - Key surfaces in deepwater environments
  - Reflection terminations and configurations
  - Seismic facies interpretation and mapping
  - Review of integrated workflow and case studies
- **Exercises**

### Section 2

- **Seismic geomorphology of deepwater systems**
  - Seismic geomorphology - tools and methodologies
  - Margin feeder systems: canyons, valleys, and channels (Exercise: Guyana)
  - Leveed and unleveed channel systems (Exercise: Gabon)
  - Lateral and terminal lobes/sheets

### Section 3

- Continuous current deposits – contourites
- Mass transport complexes and deposits (Exercises: Trinidad and Permian)
- Dealing with overburden issues (Exercise: Gulf of Mexico)
- Wrap-up