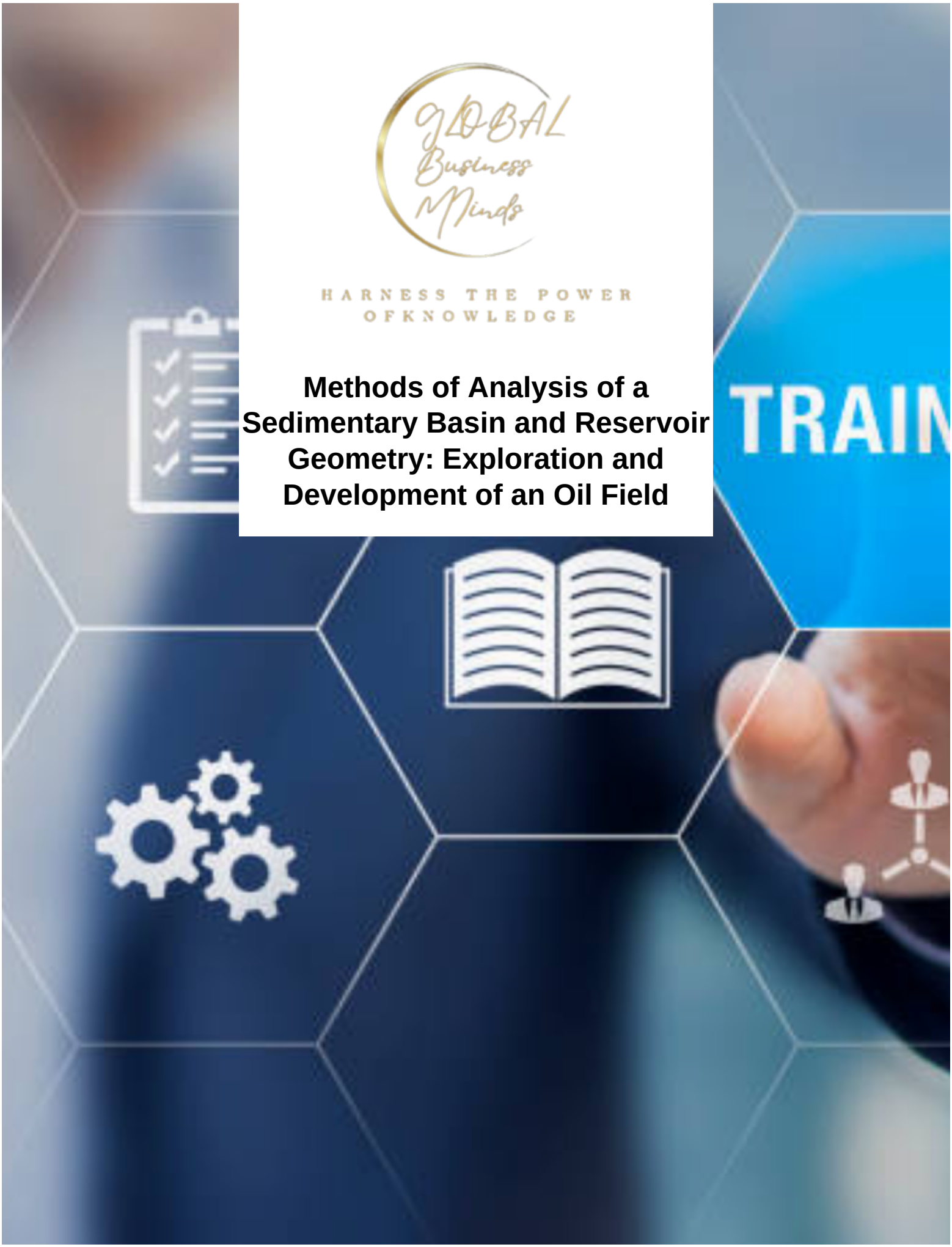

Methods of Analysis of a Sedimentary Basin and Reservoir Geometry: Exploration and Development of an Oil Field

Introduction:

The exploration and development of oil and gas fields require a thorough understanding of sedimentary basin analysis and reservoir geometry. Sedimentary basin analysis provides insights into the formation and evolution of sedimentary basins, while reservoir geometry characterizes the shape, size, and internal structure of hydrocarbon reservoirs.

This comprehensive 5-day professional training course will equip you with the essential knowledge and skills to effectively analyze sedimentary basins and reservoir geometry, enabling informed decisions in oil field exploration and development.

Course Objectives

By the end of this course, you will be able to:

• Comprehend the fundamental principles of sedimentary basin analysis and its significance in hydrocarbon exploration

• Identify and classify different types of sedimentary basins, including continental basins, rift basins, and foreland basins

• Understand the processes of basin formation and evolution, including subsidence, sedimentation, and tectonics

• Apply basin analysis techniques to assess the potential for hydrocarbon accumulation in various basin settings

• Analyze reservoir geometry, including mapping reservoir boundaries, determining reservoir thickness, and characterizing reservoir heterogeneity

Course Agenda:

Day 1: Introduction to Sedimentary Basins and Reservoir Geometry

• Delve into the history, principles, and applications of sedimentary basin analysis in hydrocarbon exploration

• Explore the different types of sedimentary basins and their characteristics

• Understand the processes of basin formation and evolution, including subsidence, sedimentation, and tectonics

• Discuss the relationship between sedimentary basins and hydrocarbon accumulation

Day 2: Sedimentary Basin Analysis Techniques

• Explore various techniques used for sedimentary basin analysis, including geological mapping, seismic stratigraphy, and basin modeling

• Utilize geological maps to identify basin boundaries, structural features, and sedimentary formations

• Apply seismic stratigraphy to interpret seismic data and map subsurface structures and depositional systems

• Utilize basin modeling software to simulate basin evolution and assess hydrocarbon potential

Day 3: Reservoir Geometry Analysis

• Understand the fundamental concepts of reservoir geometry, including reservoir boundaries, thickness, and heterogeneity

• Analyze well logs to interpret reservoir properties, such as porosity, permeability, and fluid content

• Utilize seismic data to map reservoir boundaries, determine reservoir thickness, and identify internal structures

• Apply geostatistical techniques to model reservoir heterogeneity and predict reservoir performance

Day 4: Integration of Basin Analysis and Reservoir Geometry

• Discuss the integration of sedimentary basin analysis and reservoir geometry to enhance subsurface understanding
• Utilize basin analysis results to identify prospective areas for hydrocarbon exploration
• Apply reservoir geometry analysis to guide well placement, optimize production strategies, and assess reservoir potential
• Discuss the importance of integrated basin analysis and reservoir geometry in reducing exploration risks and maximizing hydrocarbon recovery

Day 5: Application of Basin Analysis and Reservoir Geometry in Oil Field Exploration and Development

• Explore real-world case studies demonstrating the application of basin analysis and reservoir geometry in oil field exploration and development
• Analyze geological data and seismic surveys from actual oil fields to identify and characterize hydrocarbon reservoirs
• Discuss the challenges and opportunities of applying basin analysis and reservoir geometry in various exploration and development scenarios
• Stay updated on the latest advancements and techniques in basin analysis and reservoir geometry research and industry practices

Who Should Attend:

This course is designed for:

• Aspiring and experienced geoscientists seeking to enhance their understanding of sedimentary basin analysis and reservoir geometry and their applications in hydrocarbon exploration
• Reservoir engineers involved in reservoir modeling, well placement, and production optimization
• Petroleum geologists working in exploration, development, and production of hydrocarbon resources
• Geophysicists utilizing seismic data, well log interpretation, and potential field data for subsurface mapping and reservoir evaluation
• Exploration managers and decision-makers involved in evaluating hydrocarbon exploration prospects

Course Benefits:

• Develop a comprehensive understanding of sedimentary basin analysis and reservoir geometry principles, techniques, and applications in hydrocarbon exploration
• Gain hands-on experience in analyzing geological data, seismic surveys, and well log data to identify and characterize hydrocarbon reservoirs
• Enhance your ability to integrate basin analysis and reservoir geometry to improve subsurface understanding and guide exploration strategies
• Apply basin analysis and reservoir geometry knowledge to optimize well placement, production strategies, and resource assessment
• Stay updated on the latest advancements and techniques in basin analysis and reservoir geometry research and industry practices.