

**PETROLEUM GEOSCIENCE AND PETROPHYSICS**

Seismic Attributes for Reservoir Characterisation

5 day course

Classroom, online or in-house

Course overview

An amplitude map can show where sand is thick or where gas sits, but the same anomaly can equally come from tuning, lithology or a processing artefact. Using attributes well means knowing which physics each one responds to. Delegates start with rock physics: how porosity, fluid and lithology change velocity, density and impedance, and how Gassmann substitution predicts the response. AVO classes and intercept and gradient analysis follow, then post stack and prestack inversion to acoustic impedance and V_p/V_s . Geometric attributes such as coherence and curvature, spectral decomposition and multi attribute classification are covered as tools for channels, fractures and thin beds. The course ends with calibrating attributes to wells and turning them into property trends for the geomodel. Delegates leave able to choose, run and validate attributes for a stated reservoir question.

What you will learn

- Relate rock and fluid properties to elastic parameters using rock physics models
- Perform Gassmann fluid substitution to predict seismic response
- Classify AVO responses and interpret intercept and gradient crossplots
- Compare post stack and prestack inversion results
- Apply coherence, curvature and spectral decomposition to reservoir geometry
- Calibrate attributes statistically against well data
- Deliver attribute derived property trends for reservoir modelling

Who should attend

- Quantitative interpretation geophysicists
- Seismic interpreters supporting development projects
- Reservoir geoscientists building property models
- Petrophysicists working with rock physics
- Development team leads deciding on well placement

Course outline

- 01 Rock physics foundations
- 02 Fluid substitution and modelling
- 03 AVO theory and classification
- 04 Seismic inversion methods
- 05 Geometric attributes for faults and fractures
- 06 Spectral decomposition and thin beds
- 07 Multi attribute analysis and classification
- 08 Calibration to wells and validation
- 09 Attributes in the static model

Upcoming dates



Dates	Venue	Format	Fee per delegate
2 to 6 November 2026	Gaborone, Botswana	Classroom	R19,950
4 to 8 January 2027	Harare, Zimbabwe	Classroom	USD 1,325
11 to 15 January 2027	Johannesburg, South Africa	Classroom	R19,950
25 to 29 January 2027	Casablanca, Morocco	Classroom	USD 1,325

Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriScience.co.za, or WhatsApp us on **+27 63 479 1136**.

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