Master Class Series

Uncertainty & Risk in Development

Quantifying subsurface risk and uncertainty for producing assets

TRACS Training Master classes

One day Master classes are designed for people who want to update or refresh on specific topics without having to spend a week out of the office. The classes are led by experts in their respective fields and provide an opportunity for learning, inspiration, conversation and networking.

Designed for:

Anyone involved in the quantification of risk and uncertainty in fields under development or in production, particularly mature fields. Geoscience, reservoir engineering, petrophysics, well technology, team leaders and management.

Duration:

1 Day

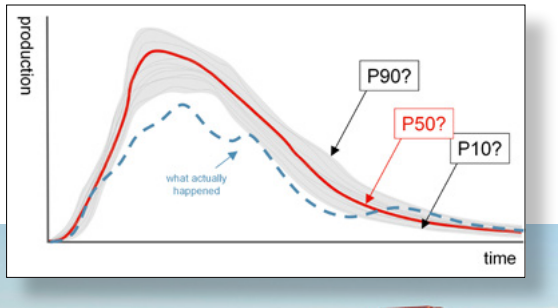
The quantification of risk and uncertainty is often discussed in the context of exploration and appraisal, yet most of the upstream E&P business concerns decision-making in producing assets.

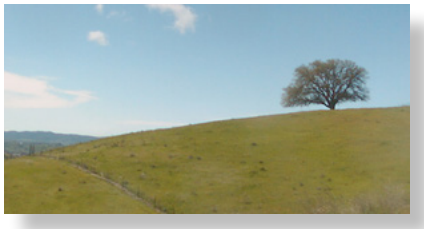
Uncertainty-handling in development and production differs from that in E&A, as it must deal with a growing and often imperfect production database against a backdrop of constantly changing circumstances. As the life cycle progresses, initial uncertainties over volume and productivity narrow but are supplanted by new uncertainties such as sweep efficiency, fine scale architecture and changing responses to new production mechanisms and techniques. These new issues demand a change in approach for the quantification of uncertainty and vigilance is required to avoid the subsurface interpretation simply collapsing on to a best guess.

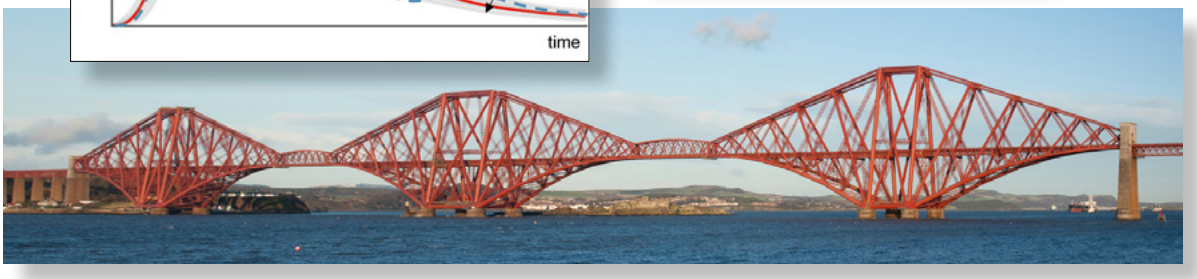
This Master Class explores the key aspects required to manage subsurface uncertainties and associated risks during the producing field life, in terms of:

- People - identifying and avoiding common biases and heuristics which lead to poor decisions
- Tools - making the best choice for given situations, balancing determinism and probability
- Approach - practical methodologies which avoid getting bogged down in unnecessary detail

The course will close with a set of questions to ask yourself and others, suitable for reference in informal personal or team reviews, peer reviews and peer assists.







Early Development
E&P Overview
Reservoir
Wells

Business & Risk
Open Air
Coaching
Master Class

Uncertainty & Risk in Development continued

Course Content:

Context

- The driving issue: decision-making in producing assets
- The key difference between uncertainty and risk in E&A vs. Development & Production
- Why it matters - some examples

Practice

- People - recognising personality and imperatives, sources of bias, common heuristics and how to minimise them
- Tools - the choice available, balancing simplicity and complexity, determinism and probability and the pros and cons of each
- Team approach - stitching tools of choice into a coherent methodology, the primacy of the underlying concept, the choice between forward modelling and inversion and the key to successful team-based approaches beyond initial framing sessions: the Forth Rail Bridge

Advice

- Questions to yourselves and others

Course Duration:

1 day

Courses available from this series:

E&P Business in a Day
Uncertainty and Risk in Development
How to Make a Good Reservoir Model
Common Fallacies in Casing and Tubing Design
Reservoir Engineering Fundamentals
Field Development Planning
Geomechanics Integration
New Trends in Data Analysis
The Energy Transition in a Day
Carbon Capture and Storage (CCS)

Course Tutors

Richard Oxlade MEng, BSc

Richard is an oil and gas industry business advisor with a petroleum/reservoir engineering background. He worked for BP in a range of technical, commercial and leadership roles and at AGR has taught and consulted in the areas of reservoir engineering and development concept selection. He is recognised as a strong analytical thinker who can cover strategic issues and is respected for providing business advice at all levels of organisations up to CEO level. He has a track record of bringing multi-disciplinary teams together, complemented by enthusiasm for developing others through coaching and training.

Mark Bentley PhD

Mark has spent most of his career working in or leading integrated study teams, initially with Shell and subsequently with AGR and TRACS where he currently designs and runs courses and directs the TRACS Training programme. His specialist fields of expertise are 3D reservoir modelling and scenario-based approaches to handling subsurface uncertainty and risk. Mark has served as a distinguished lecturer for the SPE and the EAGE, and has delivered training courses on every continent, except Antarctica. Mark is co-author of 'Reservoir Model Design', SPE and EAGE distinguished lecturer, associate professor Heriot-Watt University, Edinburgh, UK and a Fellow of the Geological Society, London

Mark Cook BSc, MBA

Mark Cook founded TRACS International in 1992 after working with Shell as a reservoir engineer for 11 years. As a Director of TRACS he managed the UK and Russia Reservoir Management consultancy business until 2011. His particular interests lie in the combination of technical and commercial risk analysis, and he released the textbook "Petroleum Economics and Risk Analysis" in 2021. He practises as a consultant on projects and in the delivery of related training courses, and has been an SPE Distinguished Lecturer.

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