

## Contents

ROBINSON, A. The future of geological modelling in hydrocarbon development: introduction	1
FREEMAN, S. R., HARRIS, S. D. & KNIPE, R. J. Fault seal mapping – incorporating geometric and property uncertainty	5
PÖPPELREITER, M. C., BALZARINI, M. A., HANSEN, B. & NELSON, R. Realizing complex carbonate facies, diagenetic and fracture properties with standard reservoir modelling software	39
TVERANGER, J., HOWELL, J., AANONSEN, S. I., KOLBJØRNSEN, O., SEMSHAUG, S. L., SKORSTAD, A. & OTTESEN, S. Assessing structural controls on reservoir performance in different stratigraphic settings	51
STREBELLE, S. & LEVY, M. Using multiple-point statistics to build geologically realistic reservoir models: the MPS/FDM workflow	67
LABOURDETTE, R., HEGRE, J., IMBERT, P. & INSALACO, E. Reservoir-scale 3D sedimentary modelling: approaches to integrate sedimentology into a reservoir characterization workflow	75
JONES, R. R., MCCAFFREY, K. J. W., IMBER, J., WIGHTMAN, R., SMITH, S. A. F., HOLDSWORTH, R. E., CLEGG, P., DE PAOLA, N., HEALY, D. & WILSON, R. W. Calibration and validation of reservoir models: the importance of high resolution, quantitative outcrop analogues	87
HOWELL, J., VASSEL, Å. & AUNE, T. Modelling of dipping clinof orm barriers within deltaic outcrop analogues from the Cretaceous Western Interior Basin, USA	99
RINGROSE, P. S., MARTINIUS, A. W. & ALVESTAD, J. Multiscale geological reservoir modelling in practice	123
ZHANG, P., PICKUP, G. E., MONFARED, H. & CHRISTIE, M. A. Flow upscaling in highly heterogeneous reservoirs	135
BENTLEY, M. & SMITH, S. Scenario-based reservoir modelling: the need for more determinism and less anchoring	145
CHAKRAVARTY, A., HARDING, A. W. & SCAMMAN, R. Incorporating uncertainty into geological and flow simulation modelling in Chevron: application to Mafumeira, a pre-development field, Offshore Angola	161
MARTIN, C. A. L. Addressing uncertainty and remaining potential in a mature field. A case study from the Tertiary of Lake Maracaibo, Venezuela	181
KEOGH, K. J., BERG, F. K. & GLITNE PETEK. A method for quantifying geological uncertainties in assessing remaining oil targets: a case study from the Glitne Field, North Sea	193
FREEMAN, P., KELLY, S., MACDONALD, C., MILLINGTON, J. & TOTHILL, M. The Schiehallion Field: lessons learned modelling a complex deepwater turbidite	205
Index	221