

Contents

Dedication	vii
Acknowledgements	viii
CHILDS, C., HOLDSWORTH, R. E., JACKSON, C. A.-L., MANZOCCHI, T., WALSH, J. J. & YIELDING, G. Introduction to the geometry and growth of normal faults	1
Fault geometric analysis	
YIELDING, G. The geometry of branch lines	11
NICOL, A., CHILDS, C., WALSH, J. J., MANZOCCHI, T. & SCHÖPFER, M. P. J. Interactions and growth of faults in an outcrop-scale system	23
FERRILL, D. A., MORRIS, A. P., MCGINNIS, R. N. & SMART, K. J. Myths about normal faulting	41
GHALAYINI, R., HOMBERG, C., DANIEL, J. M. & NADER, F. H. Growth of layer-bound normal faults under a regional anisotropic stress field	57
Fault kinematic analysis	
WHIPP, P. S., JACKSON, C. A.-L., SCHLISCHE, R. W., WITHJACK, M. O. & GAWTHORPE, R. L. Spatial distribution and evolution of fault-segment boundary types in rift systems: observations from experimental clay models	79
KHALIL, S. M. & MCCLAY, K. R. 3D geometry and kinematic evolution of extensional fault-related folds, NW Red Sea, Egypt	109
FORD, M., HEMELSDAËL, R., MANCINI, M. & PALYVOS, N. Rift migration and lateral propagation: evolution of normal faults and sediment-routing systems of the western Corinth rift (Greece)	131
FAZLIKHANI, H., BACK, S., KUKLA, P. A. & FOSSEN, H. Interaction between gravity-driven listric normal fault linkage and their hanging-wall rollover development: a case study from the western Niger Delta, Nigeria	169
JACKSON, C. A.-L., BELL, R. E., ROTEVATN, A. & TVEDT, A. B. M. Techniques to determine the kinematics of synsedimentary normal faults and implications for fault growth models	187
FINCH, E. & GAWTHORPE, R. Growth and interaction of normal faults and fault network evolution in rifts: insights from three-dimensional discrete element modelling	219
Fault zone structure	
GABRIELSEN, R. H., BRAATHEN, A., KJEMPERUD, M. & VALDRESBRÅTEN, M. L. R. The geometry and dimensions of fault-core lenses	249
ROCHE, V., HOMBERG, C., VAN DER BAAN, M. & ROCHER, M. Widening of normal fault zones due to the inhibition of vertical propagation	271
SKAR, T., BERG, S. S., GABRIELSEN, R. H. & BRAATHEN, A. Fracture networks of normal faults in fine-grained sedimentary rocks: examples from Kilve Beach, SW England	289

SCHÖPFER, M. P. J., CHILDS, C., MANZOCCHI, T. & WALSH, J. J. Three-dimensional Distinct Element Method modelling of the growth of normal faults in layered sequences	307
DELOGKOS, E., MANZOCCHI, T., CHILDS, C., SACHANIDIS, C., BARBAS, T., SCHÖPFER, M. P. J., CHATZIPETROS, A., PAVLIDES, S. & WALSH, J. J. Throw partitioning across normal fault zones in the Ptolemais Basin, Greece	333
Fault-related folding	
CHILDS, C., MANZOCCHI, T., NICOL, A., WALSH, J. J., SODEN, A. M., CONNEALLY, J. C. & DELOGKOS, E. The relationship between normal drag, relay ramp aspect ratio and fault zone structure	355
LÄPÄDAT, A., IMBER, J., YIELDING, G., IACOPINI, D., MCCAFFREY, K. J. W., LONG, J. J. & JONES, R. R. Occurrence and development of folding related to normal faulting within a mechanically heterogeneous sedimentary sequence: a case study from Inner Moray Firth, UK	373
HOMBERG, C., SCHNYDER, J., ROCHE, V., LEONARDI, V. & BENZAGGAGH, M. The brittle and ductile components of displacement along fault zones	395
Pre-existing structure and reactivation	
MORLEY, C. K. The impact of multiple extension events, stress rotation and inherited fabrics on normal fault geometries and evolution in the Cenozoic rift basins of Thailand	413
REILLY, C., NICOL, A. & WALSH, J. Importance of pre-existing fault size for the evolution of an inverted fault system	447
FOSSEN, H., KHANI, H. F., FALÉIDE, J. I., KSIENZYK, A. K. & DUNLAP, W. J. Post-Caledonian extension in the West Norway–northern North Sea region: the role of structural inheritance	465
FERRER, O., McCLAY, K. & SELLIER, N. C. Influence of fault geometries and mechanical anisotropies on the growth and inversion of hanging-wall synclinal basins: insights from sandbox models and natural examples	487
WORTHINGTON, R. P. & WALSH, J. J. Timing, growth and structure of a reactivated basin-bounding fault	511
Index	533