



The Geology of Geomechanics

Wednesday 28 and Thursday 29 October 2015

Programme

Day 1

09.00	Registration, Tea and Coffee
09.20	Opening Remarks
09.30	KEYNOTE: Musings about earth signals including microseismic events before and during high volume hydraulic fracturing of gas shale Terry Engelder (Pennsylvania State University, USA)
10.00	Pore Pressure – Stress Coupling: Evidence from deep boreholes Richard Swarbrick (Geopressure Consultancy and University of Durham, UK)
10.20	Does geological and mechanical stratigraphy determine minimum and maximum horizontal stress? Jorg Herwanger (Ikon Science, UK)
10.40	Posters - introduced by authors/presenters
11.00	Tea and Coffee Break
11.30	Mechanical constraints on kink band and thrust development in the Appalachian plateau Paul Gillespie (Statoil, Norway)
11.50	Active Low Angle Normal Faults in Deep-Water Santos Basin, Offshore Brazil: A geomechanic analogy between salt tectonics and crustal deformation Marcos Fetter (Petrobras E&P, Brazil)
12.10	To Seep or not to Seep? A comparison of CO₂ bearing reservoirs in Italy Jen Roberts (University of Strathclyde, UK)
12.30	Posters - introduced by authors/presenters
12.50	Lunch and Poster Session
14.00	Temporal Evolution of Fault Architecture and Diagenesis: Coupling between fault development and fluid flow Zoe Shipton (University of Strathclyde, UK)
14.20	Driving Mechanisms for Regional Opening-Mode Fracture Systems: Insights from fluid inclusion microthermometry of crack-seal fracture cements Joe English (Petroceltic, Ireland) and Stephen Laubach (University of Texas, USA)
14.40	Clumped isotope thermometry: A tool to further detail fluid processes in fault zones, a view from the South Pennine Orefield, Peak District, UK Daniel Myhill (University of East Anglia, UK)
15.00	Strength recovery and vein growth during self-sealing of faults in Westerly granite Philip Meredith (University College London, UK)
15.20	Tea and Coffee Break
15.50	KEYNOTE: Challenges of Incorporating Geology in Geomechanical Models Julia Gale (University of Texas, USA)
16.20	Integrating Microseismicity and Rock Mechanics in Shale Gas Development: Lessons for the UK Rob Westaway (University of Glasgow, UK)
16.40	Load Transfer, Chemical Compaction, Seepage Forces and Horizontal Hydrofractures within Mature Source Rocks: Evidence from theory, physical models and geological examples Alain Zanella (CNRS and Université de Rennes, France)
17.00	Simulation of Geomechanical History: Contributions to petroleum geoscience illustrated by examples from Brazil and Trinidad Tim Harper (Geosphere Ltd, UK)
17.20	Some Stressful Realisations about the Concept of Stress in Geomaterials Gary Couples (Institute of Petroleum Engineering, UK)
17.40	Drinks Reception and Book Launch <i>Ground Breakers: The story of oilfield technology and the people who made it happen</i> by Henry Edmundson presentation by Andrew Gould, Chairman BG-Group

Day 2

08.45	Registration, Tea and Coffee
09.10	KEYNOTE: The Edge of Failure: Critical stress-overpressure states in different tectonic regimes Richard Sibson (University of Otago, New Zealand)
09.40	The Role of Fluid Pressure in Frictional Stability and Earthquake Triggering: Insights from rock deformation experiments Cristiano Collettini and Marco Scuderi (Università di Roma and Istituto Nazionale di Geofisica e Vulcanologia, Italy)
10.00	Faulting and Friction of Sandstones Abigail Hackston and Ernest Rutter (University of Manchester, UK)
10.20	¿Cómo se lava? How representative are “typical lavas” in volcano stability models? Alodie Bubeck (Cardiff University, UK)
10.40	Posters - introduced by authors/presenters
11.00	Tea and Coffee Break
11.30	KEYNOTE: Geomechanical Engineering in Field Development Planning and the Impact of Geological Uncertainties Tony Addis (Baker Hughes, UK)
12.00	Hydraulic fracture design in tight hydrocarbon reservoirs using coupled geomechanical – porous flow simulation with adaptive remeshing Matthew Profit (Rockfield Software Ltd, UK)
12.20	High-resolution 3D structural geology and geomechanical modelling at well sector scale for hydraulic fracturing Jean Desroches (Schlumberger, USA)
12.40	Posters - introduced by authors/presenters
13.00	Lunch and Poster Session
14.00	KEYNOTE: The Present-Day Stress Field in Sedimentary Basins Mark Tingay (Chevron and University of Adelaide, Australia)
14.30	Contemporary stresses from petroleum exploration data and neotectonic structures in southeastern Australia: Can geology and geomechanics be reconciled? Simon Holford (University of Adelaide, Australia)
14.50	Stress Distribution, Mechanical Stratigraphy and Basement Structure in the Bowen and Surat Basins (Australia): Implications for coal reservoir performance Thomas Flottmann (Origin Energy, Australia)
15.10	Reservoir Characterisation by Integration of Outcrop Analog with <i>In Situ</i> Stress Profiling of a Fractured Carbonate Reservoir Jon Gutmanis (Geoscience Ltd, UK)
15.30	Tea and Coffee Break
16.00	Case Studies of the Complex Relationship of Geology and Geomechanics in the Eocene Formations in Quad 9 and Quad 15 based on 30 years' experience Tony Batchelor (Gesocience Ltd, UK)
16.20	Predicting Sub-Seismic Fracture Density and Orientation: A case study from the Gorm Field, Danish North Sea Brett Freeman (Badley Geoscience, UK)
16.40	The Chalk Reservoir of the Ockley Accumulation (Licence Block UKCS 30/1): In-situ stresses, natural fractures and implications for stimulation Tim Wynn (AGR TRACS International, UK)
17.00	Integration of Geology and Geomechanics in Carbonate Fields: From exploration to production Josephine Wheeler (BG Group, UK)
17.20	Closing Remarks
17.30	Conference End