18 – 19 November 2019
Brisbane Convention & Exhibition Centre,
Brisbane, Australia

ASIA PACIFIC UNCONVENTIONAL® RESOURCES TECHNOLOGY CONFERENCE

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Conference Preview

EXPANDING UNCONVENTIONALS

Making It Happen

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Message from the Technical Programme Co-Chairs

Dear Colleagues,

We are delighted to announce that the inaugural Asia Pacific Unconventional Resources Technology Conference (APAC URTeC) will be held 18-19 November 2019 in Brisbane Convention & Exhibition Centre, Brisbane, Australia.

The APAC URTeC is a joint effort between the Society of Petroleum Engineers (SPE), American Association of Petroleum Geologists (AAPG) and the Society of Exploration Geophysicists (SEG).

The rise of unconventional resources in North America has been a powerful catalyst in changing the world oil and gas landscape to meet growing energy demand. Over the past decades, the industry has also witnessed increased activities in the Asia Pacific region and Eastern Hemisphere. Coal seam gas (CSG) to LNG developments in Australia, and shale gas and CSG developments in other Asia Pacific and Middle East countries have proven that unconventionals can be commercially viable in our region and have afforded an opportunity for many operating companies to further invest in developing efficient and effective techniques to recover tight gas, CSG and shale gas.

As we continue to explore new opportunities, we must address challenges unique to the Asia Pacific region during unconventional exploration and development. For instance, identifying optimal techniques for challenging stress regimes and maturing logistics are keys to the industry reaching its full potential. Industry needs continuous improvement to ensure projects are internationally competitive in terms of performance, reliability and production costs.

Themed **"Expanding Unconventionals – Making it Happen"**, the APAC URTeC will gather regional and global experts, regulators and prominent researchers to share their technical know-how and technology advancements, providing us with new perspectives in evaluating and optimising the extraction of unconventional resources in the Asia Pacific region.

We thank you in advance for your participation. With the support of our industry colleagues, we believe that the conference will be a successful and significant event. We look forward to welcoming you at APAC URTeC in Brisbane.

Sincerely,
Technical Programme Co-Chairs

Raymond Johnson Jr.
SPE Co-Chair
University of Queensland

Andrew Garnett
AAPG Co-Chair
University of Queensland

David Close
SEG Co-Chair
Santos

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About the Conference

The Asia Pacific Unconventional Resources Technology Conference (APAC URTeC) is a joint effort between the Society of Petroleum Engineers (SPE), American Association of Petroleum Geologists (AAPG) and the Society of Exploration Geophysicists (SEG).

APAC URTeC will gather regional and global experts, regulators and prominent researchers to share their technical know-how and technology advancements, providing new perspectives in evaluating and optimising the extraction of unconventional resources in the APAC region.

What's Planned for 2019

- **300+** participants from 10+ countries
- **60+** technical presentations from 10+ countries
- **15+** technical and ePoster sessions
- **5** plenary and panel sessions
- **2** days of networking opportunities
- Training courses
- Technical showcase of the cutting-edge services and solutions

Why Attend

- **Enrich** your skills by attending a wide array of comprehensive technical sessions
- **Meet** and network with key industry leaders, experts and your peers from across the globe
- **Discover** solutions and emerging trends in the industry

Registration is now open

Register by 18 August 2019 to take advantage of the Super Early Bird offer. Group registration package is also available – Register 5 people and pay for the price of 4.

Visit **go.spe.org/19APURC** to register for APAC URTeC 2019

Committee

Technical Programme Co-Chairs

Raymond Johnson Jr., SPE
University of Queensland

Andrew Garnett, AAPG
University of Queensland

David Close, SEG
Santos

SPE Committee Members

George Koperna
Advanced Resources International

Dan Kuznetsov
Arrow Energy

Ted Bergman
Arrow Energy

Tom Neville
Asia-Pacific Formation Evaluation Services

Lucas Bazan
Bazan Consulting

Martin Rylance
BP Exploration

Rod Bresnehan
CFT Holdings (HK)

Baosheng Liang
Chevron

Changdong Yang
Chevron

Hao Sun
Chevron

Johannes Alvarez
Chevron

Gensheng Li
China University of Petroleum

Qi Tian
Chinese Academy of Engineering

Jennifer Miskimins
Colorado School of Mines

Elham Samari
Condor Energy Services

Vibhas Jagdish Pandey
ConocoPhillips

Dilhan Ilk
DeGolyer and MacNaughton

Jeremy Meyer
Ikon Science

Stephen Kelemen
Independent Industry Professional

Vincent Artus
Kappa Engineering

Deborah Ryan
MHA Petroleum Consultants

Alexander Cote
Origin Energy

Sameer Ganpule
Origin Energy

Thomas Flottman
Origin Energy

Hani Farouq Mutie Abul Khair
PETRONAS

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ProTechnics Division of Core Laboratories

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Shell Development Australia

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Subsurface Consultants & Associates

Fangui Zeng
Taiyuan University of Technology

Nefeli Moridis
Texas A&M University

Sam Noynaert
Texas A&M University

Stephen Begg
University of Adelaide

Christopher Leonardi
University of Queensland

Vahab Honari
University of Queensland

Marcel Croon
Weatherford

Robert Fulks
Weatherford

Usman Ahmed
WellDog

Committee

AAPG Committee Members

Stephanie Perry
Anadarko Petroleum Corporation

Chris Mijnssen
Arrow Energy

Xingjin Wang
Denison Gas

Steve Mackie
Geosim Consulting Pty. Ltd

Jim Underschultz
Petroleum Hydrogeology International

Iain Rodger
University of Queensland

Suzanne Hurter
University of Queensland

SEG Committee Members

Paul Anderson
Oxy

Rob Ross
Qeye

Creties Jenkins
Rose and Associates

Randall Taylor
Taylor Exploration Consulting

Dennis Cooke
ZDAC Geophysical Technologies

PESA Committee Members

Samantha Ware
Origin Energy

Rachel Kieft
Senex Energy

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Schedule of Events

Sunday, 17 November		
1200 – 1800 hours	**Registration**	Boulevard B1-B3 Foyer
1200 – 1800 hours	**Speaker/Author Check-In**	Boulevard B1-B3 Foyer
1200 – 1800 hours	**Exhibitors Move-In**	Boulevard Room

Monday, 18 November		
0730 – 1830 hours	**Registration**	Boulevard B1-B3 Foyer
0730 – 1730 hours	**Speaker/Author Check-In**	Boulevard B1-B3 Foyer
0900 – 0930 hours	**Opening and Keynote Session**	Meeting Room B1-B3
0930 – 1030 hours	**Executive Plenary Session:** Expanding Unconventionals – Making it Happen	Meeting Room B1-B3
1030 – 1100 hours	Coffee Break	Boulevard Room
1030 – 1830 hours	**Exhibition**	Boulevard Room
1100 – 1230 hours	**Technical Plenary Session:** Expanding Unconventionals – Making it Happen Technically in Asia Pacific	Meeting Room B1-B3
1230 – 1400 hours	Networking Luncheon	Boulevard Room
1300 – 1330 hours	Knowledge Sharing ePoster Session 1	Boulevard Room
1330 – 1400 hours	Knowledge Sharing ePoster Session 2	Boulevard Room
1400 – 1530 hours	**Technical Session 1:** CSG Drilling and Completions	Meeting Room B1
	Technical Session 2: Faults, Fracture and (Micro) Seismicity	Meeting Room B2
	Technical Session 3: Case Studies: Expanding Shale and Tight Gas Beyond North America	Meeting Room B3
1530 – 1600 hours	Coffee Break / Knowledge Sharing ePoster Session 3	Boulevard Room
1600 – 1730 hours	**Panel Session 1:** "Facts and Fiction" Unconventional Projects Outside North America	Meeting Room B1
	Technical Session 4: Evaluating Reservoir Quality in Shales and Coals	Meeting Room B2
	Technical Session 5: Communicating External Opportunities and Risks	Meeting Room B3
1730 – 1830 hours	Welcome Reception	Boulevard Room
1830 - 2100 hours	Conference Dinner by SPE Queensland Section	Sky Level Rooms

Note: (All sessions/events are held at Boulevard Level, Brisbane Convention & Exhibition Centre unless otherwise stated).

Schedule of Events

Tuesday, 19 November		
0800 – 1730 hours	**Registration**	Boulevard B1-B3 Foyer
0800 – 1730 hours	**Speaker/Author Check-In**	Boulevard B1-B3 Foyer
0900 – 1030 hours	**Technical Session 6:** CSG Reservoir Models	Meeting Room B1
	Technical Session 7: Getting the Shale Geosciences Right	Meeting Room B2
	Technical Session 8: Stimulating the Deep, Hot, Tight Reservoirs	Meeting Room B3
1000 – 1600 hours	**Exhibition**	Boulevard Room
1030 – 1100 hours	Coffee Break / Knowledge Sharing ePoster Session 4	Boulevard Room
1100 – 1230 hours	**Panel Session 2:** CSG to LNG in Queensland – A Decade of Industry Learnings	Meeting Room B1
	Technical Session 9: Geology of Coal: What Matters?	Meeting Room B2
	Technical Session 10: Production Data Analysis: A Reality Check	Meeting Room B3
1230 – 1400 hours	Networking Luncheon	Boulevard Room
1300 – 1330 hours	Knowledge Sharing ePoster Session 5	Boulevard Room
1330 – 1400 hours	Knowledge Sharing ePoster Session 6	Boulevard Room
1400 – 1530 hours	**Panel Session 3:** Unconventional Gas and the Social License to Operate	Meeting Room B1
	Technical Session 11: Assessing CSG Reservoir Properties	Meeting Room B2
	Technical Session 12: The Finer Details of Shale Stimulation and Production	Meeting Room B3
1530 – 1600 hours	Coffee Break / Knowledge Sharing ePoster Session 7	Boulevard Room
1600 – 1730 hours	**Technical Session 13:** Improving CSG Well Production	Meeting Room B1
	Technical Session 14: Applying Geomechanics in a Stressed World	Meeting Room B2
	Technical Session 15: Modelling All Things Big and Small in Shales	Meeting Room B3

Wednesday, 20 November		
0900 – 1800 hours	**SPE Training Course:** Mastering Uncertainty and Risk in Unconventional Reservoir Assessment (Shale, Coals, Tight Sandstones & Carbonates)	Sofitel Brisbane Central
	AAPG Training Course: Volumetric Analysis of Shale Reservoirs	
	SEG Training Course: Integrated Geologic, Seismic, and Reservoir Engineering Characterisation for Dual-media Simulation in Conventional and Unconventional Fractured Reservoirs	
	SPE Queensland Section Training Course: Applied Statistical Modelling and Data Analytics for Reservoir Performance Analysis	

Note: (All sessions/events are held at Boulevard Level, Brisbane Convention & Exhibition Centre unless otherwise stated).

Conference Programme Schedule (as of 1 July 2019)

	Meeting Room B1	Meeting Room B2	Meeting Room B3
Monday, 18 November 2019			
0900 - 0930 hours	**Opening and Keynote Session**		
0930 - 1030 hours	**Executive Plenary Session** Expanding Unconventionals - Making it Happen		
1030 - 1100 hours	**Coffee Break -** Boulevard Room		
1100 - 1230 hours	**Technical Plenary Session** Expanding Unconventionals - Making it Happen Technically in Asia Pacific		
1230 - 1400 hours	**Networking Luncheon -** Boulevard Room		
1300 -1330 hours	**Knowledge Sharing ePoster Session 1 -** Boulevard Room		
1330 -1400 hours	**Knowledge Sharing ePoster Session 2 -** Boulevard Room		
1400 - 1530 hours	**Technical Session 1** CSG Drilling and Completions	**Technical Session 2** Faults, Fractures and (Micro) Seismicity	**Technical Session 3** Case Studies: Expanding Shale and Tight Gas Beyond North America
1530 - 1600 hours	**Coffee Break and Knowledge Sharing ePoster Session 3 -** Boulevard Room		
1600 - 1730 hours	**Panel Session 1** "Facts and Fiction" Unconventional Projects Outside North America	**Technical Session 4** Evaluating Reservoir Quality in Shales and Coals	**Technical Session 5** Communicating External Opportunities and Risks
1730 - 1830 hours	**Welcome Reception -** Boulevard Room		
1830 - 2100 hours	Conference Dinner by SPE Queensland Section		
Tuesday, 19 November 2019			
0900 - 1030 hours	**Technical Session 6** CSG Reservoir Models	**Technical Session 7** Getting the Shale Geosciences Right	**Technical Session 8** Stimulating the Deep, Hot, Tight Reservoirs
1030 - 1100 hours	**Coffee Break and Knowledge Sharing ePoster Session 4 -** Boulevard Room		
1100 - 1230 hours	**Panel Session 2** CSG to LNG in Queensland - A Decade of Industry Learnings	**Technical Session 9** Geology of Coal: What Matters?	**Technical Session 10** Production Data Analysis: A Reality Check
1230 - 1400 hours	**Networking Luncheon -** Boulevard Room		
1300 - 1330 hours	**Knowledge Sharing ePoster Session 5 -** Boulevard Room		
1330 - 1400 hours	**Knowledge Sharing ePoster Session 6 -** Boulevard Room		
1400 - 1530 hours	**Panel Session 3** Unconventional Gas and the Social License to Operate	**Technical Session 11** Assessing CSG Reservoir Properties	**Technical Session 12** The Finer Details of Shale Stimulation and Production
1530 - 1600 hours	**Coffee Break and Knowledge Sharing ePoster Session 7 -** Boulevard Room		
1600 - 1730 hours	**Technical Session 13** Improving CSG Well Production	**Technical Session 14** Applying Geomechanics in a Stressed World	**Technical Session 15** Modelling All Things Big and Small in Shales

Opening and Keynote Session

Monday, 18 November 2019 | 0900-0930 hours — Meeting Room B1-B3, Boulevard Level

Speakers

Ian Macfarlane
Chief Executive, **Queensland Resources Council**

Shauna Noonan
Director of Artificial Lift Engineering
Occidental Petroleum;
2020 SPE President

Executive Plenary Session

Expanding Unconventionals – Making it Happen

Monday, 18 November 2019 | 0930-1030 hours — Meeting Room B1-B3, Boulevard Level

Session Moderators

David Close
General Manager,
Onshore New Ventures,
Santos

Tom Blasingame
Professor,
Texas A&M University

Speakers

Mark Fitzgerald
President and CEO,
PETRONAS Canada

Rob Simpson
Vice President, CSG Development, **Santos**

Peter Lambert
Senior Expert,
Oil and Gas,
McKinsey & Company

Technical Plenary Session

Expanding Unconventionals – Making it Happen Technically in Asia Pacific

Monday, 18 November 2019 | 1100-1230 hours Meeting Room B1-B3, Boulevard Level

Session Moderators

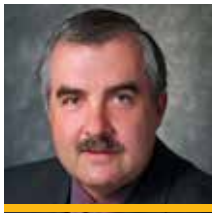
Andrew Garnett
Professor and Director of the UQ Centre for Coal Seam Gas,
University of Queensland

Raymond Johnson Jr.
Professor,
University of Queensland

Speakers

Scott Mildren
Solution Lead – Geomechanics Centre of Excellence,
Ikon Science

Rick Lewis
Schlumberger Fellow
Unconventional Petrophysics,
Schlumberger



John Hattner
Senior Vice President
Netherland, Sewell & Associates, Inc.

Bill Langin
General Manager, Upstream
Shell QGC

Panel Sessions

Panel Session 1: "Facts and Fiction" Unconventional Projects Outside North America

Monday, 18 November 2019 | 1600 - 1730 hours Meeting Room B1-B3, Boulevard Level

Session Moderators

Jennifer Miskimins
Associate Professor,
Colorado School of Mines

Usman Ahmed
Executive Technical Advisor,
WellDog

Speakers

Alexander Cote
Exploration and Appraisal Manager – Beetaloo and Growth Assets,
Origin Energy

Louis Yang
President
Orion Energy Group

George Waters
Head of Integrated Fracturing Services Domain,
Schlumberger

If we have learnt anything from the North American experience, unconventional resources cannot be exploited by small incremental projects. If we are to be successful in developing these types of reservoirs, we have to make projects scale operations work to bring these resources to market in a timely manner.

A number of Eastern Hemisphere unconventional gas projects have raised interest, neared completion or are commencing deliveries. Success or failure of these projects have depended on successfully addressing key technical project management, political uncertainty and community issues. A panel of company representatives spanning experiences in various projects across the Eastern Hemisphere have been invited to share with the audience on how each of these projects they have been involved in fare in the "technical" metrics including:

- Scoping
- Cost management
- Scheduling and implementation; and
- Achieving defined business objectives

As well as sharing experiences relating to each panellist's project, it is hoped that they can give their insight to future projects by addressing some important questions, such as the following:

- What are the main technical inhibitors to these projects and what are some of the ways to overcome them?
- What became the highest risk and capital cost driver, what is the impact, and how much subsurface definition is needed before committing to further development?
- How are we able to acquire and manage resources efficiently, in all sense of the word: people, materials, and services capacity?
- How do we ensure that the development accomplishes organisational business objectives?
- Do we have the project management skills and business climate required to ensure success of these projects at the current maturity of the unconventional market in the Eastern Hemisphere?

By bringing experienced technical managers currently involved in industry projects to the panel, we hope to generate fruitful discussions on key pre-requisites for proposed revision: successfully delivering unconventional projects in the Eastern Hemisphere moving forward.

Panel Sessions

Panel Session 2: CSG to LNG in Queensland – A Decade of Industry Learnings

Tuesday, 19 November 2019 | 1100 - 1230 hours Meeting Room B1-B3, Boulevard Level

Session Moderators

Thomas Flottman
Principal Geologist and
Chief Geoscientist
Origin Energy

Andrew Garnett
Professor and Director of the
UQ Centre for Coal Seam Gas,
University of Queensland

Speakers

Martin Riley
Non-Executive Director
Comet Ridge

Katie Whittle
General Manager
Development East
Shell

Elizeu Boto
Partner
Deloitte

Chris White
General Manager,
Exploration & New
Ventures
Origin Energy

It is fitting that the first URTeC to be held outside of North America is being held in Queensland, Australia; home to three of the largest (by most capital and production metrics) unconventional development projects outside of North America. Queensland's projects are also the only to date where unconventional gas development has been used exclusively to underpin an LNG development.

Since reaching Final Investment Decisions (FID) nearly a decade ago, these three projects have drilled and brought online thousands of wells, and exported numerous cargoes of LNG. During this period, projects have moved on from "schedule focused" to "meet target first-gas dates" and finally, to "value focused" during the operate and sustain phase. Under intense regulatory, community, political and shareholder scrutiny, operators have made technical and operational gains to drive efficiencies and value while maintaining an outstanding track record of safety and environmental performance.

In this session, we have sought participation from operating companies and service or consulting firms to gain broad insights into the history and future of what are some of Australia's biggest ever infrastructure projects.

Panel Sessions

Panel Session 3: Unconventional Gas and the Social License to Operate

Tuesday, 19 November 2019 | 1400 - 1530 hours Meeting Room B1-B3, Boulevard Level

Session Moderators

Mark Stone
Executive Director, Department of Natural Resources
Mines and Energy (Queensland)

Katherine Witt
Research Fellow
University of Queensland

Speakers

Barry Goldstein
Executive Director
Energy Resources at Department of the Premier and Cabinet

Vilas Tawde
Managing Director & CEO
Essar Oil & Gas Exploration and Production Ltd.

Carolyn Collins
CEO
Gas Fields Commission Queensland

Siti Sumilah Rita Susilawati
Head of Center for Mineral Coal and Geothermal Resources, Geological Agency of Indonesia
Ministry of Energy and Mineral Resources Indonesia

The International Energy Agency (WEO2017) suggested that global natural gas use is projected to rise by 1.6% pa to 2040 if policies already announced are implemented. This growth is concentrated in the Asia Pacific region. Gas trading will more than double by 2040 and 90% of the additional gas trade will be in the form of LNG. To fulfil this demand, it is suggested that almost one third of production may need to be unconventional, meaning, we need to produce gas intensively near where people live, to cohabit land and not necessarily where people are used to having a gas facility in their communities.

The reason for this rising demand varies with location and jurisdiction, and therefore the nature of the "social licence" can be expected to have a different flavour. We are already seeing gas demand rise from coal substitution in response to air quality concerns. We expect a massive growth in the need for gas as an industrial feedstock as regional economies continue to develop. Perhaps more importantly as population rises, we will see increased demand for gas fertilisers. The potential for methane to reduce greenhouse gas emissions in power generation has long been established. However, it is also critically dependant on our ability to supply fuel at costs competitive to coal.

There is a lot at stake if we do not get our social licence right for the places we produce.

In this session, we will explore experiences from operators and regulators to discuss the changing nature of social licence and possibly unforeseen, "knock-on" effects of the changing mode of production.

Technical Programme (as of 1 July 2019)

Monday, 18 November
1400 – 1530 hours | Meeting Room B1, Boulevard Level

Technical Session 1: CSG Drilling and Completions

Session Co-Chairs: Ted Bergman, **Arrow Energy**; Pankaj Bhavnani, **Shell**

Presentation

198203

Quantifying the Influence of Three Dimensionality on Hydraulic Fracturing in Coal Seam Gas Wells

C. Leonardi, U. of Queensland; T. Flottmann, Origin Energy; V.J. Pandey, ConocoPhillips Co; R. Johnson, U. of Queensland

198324

Evaluating Performance of Graded Proppant Injection into CSG Reservoir: A Reservoir Simulation Study

A. Ribeiro, U of Queensland; V. Santiago, Z. You, R. Johnson Jr and S. Hurter, U. of Queensland

198321

Optimising Drilling Performance through Interburden and Basement Formations Utilising Adaptive Drill Bit Technology

S. Cornel, Baker Hughes, a GE company; A. Shaban and M. Zaman, Santos Ltd.

198325

Deviated (Pad) Wells in Surat: Journey So Far

A. Rajora, V. Sharma, M. Oberhardt, M. Lukyanov and S. Mazumder, Arrow Energy

Monday, 18 November
1400 – 1530 hours | Meeting Room B2, Boulevard Level

Technical Session 2: Faults, Fractures and (Micro) Seismicity

Session Co-Chairs: Randall Taylor, **Taylor Exploration Consulting**; Dennis Cooke, **ZDAC Geophysical Technologies**

Presentation

198283

Well Stimulation Seismicity in Oklahoma: Preventing Felt Earthquakes Related to Hydraulic Fracturing

J.E. Shemeta, MEQ Geo Inc.; C. Brooks and C. Lord, Oklahoma Corp. Commission

198222

Focal Mechanism Determination and Stress Inversion for Induced Seismicity in the Southern Sichuan Basin, China

Y. Tan, U. of Science and Technology of China; J. Hu, Chengdu U. of Technology; Z. Zhao, U. of Queensland; L. Li, Central South U.

198212

Case Study: Fault Slip Induced by Hydraulic Fracturing and Risk Assessment of Casing Deformation in the Sichuan Basin

Z. Chen and R. Huang, CNPC Engineering Technology R&D Co. Ltd.; Y. Song, Shale Gas Research Inst. of PetroChina Southwest Oil & Gas Field Co.; R. Walsh, Decision Geomechanics LLC; D. Xiang, CNPC Engineering Technology R&D Co. Ltd.; M.D. Zoback, Stanford U

198202

Discrimination of Microseismicity Caused by Proppant Injection Using Microseismic Waveform Clustering: The Horn River Basin Case Study

S. Ishikawa, INPEX Corp.

Monday, 18 November
1400 – 1530 hours | Meeting Room B2, Boulevard Level

Technical Session 3: Case Studies: Expanding Shale and Tight Gas Beyond North America

Session Co-Chairs: Hani Farouq Abul Khair, **PETRONAS**; Robert Fulks, **Weatherford**

Presentation

198328

Horizontal Completion Challenges in the Vaca Muerta Formation

S. Perez Millan, Pluspetrol SA; R.W. Fulks and R. Schmidt, Weatherford

198318

How Not to Squander Billions on your Next Unconventional Venture

C.D. Jenkins, M.A. Mclane, Rose & Associates, LLP

198248

Understanding the Complexity of Fracturing in the Sichuan Shale Gas Reservoir in China

Y. Liu, Schlumberger

Technical Programme (as of 1 July 2019)

Monday, 18 November
1600 – 1730 hours | Meeting Room B2, Boulevard Level

Technical Session 4: Evaluating Reservoir Quality in Shales and Coals

Session Co-Chairs: Thomas Neville, **Asia-Pacific Formation Evaluation**; Marcel Croon, **Weatherford**

Presentation

198285

Understanding Pore Structure of Mudrocks and Pore Size Dependent Sorption Mechanism Using Small Angle Neutron Scattering

A. Rezaeyan, Heriot-Watt U.; T. Seemann, Belgian Nuclear Research Centre and Ghent U.; P. Bertier, RWTH Aachen U., Clay and Interface Mineralogy; V. Pipich, Forschungszentrum Jülich GmbH, (Jülich Centre for Neutron Science, JCNS); L. Leu, Imperial College London, Department of Earth Science and Engineering; N. Kampman, Shell Global Solutions Intl. B.V.; L. Barnsley and A. Feoktystov, Forschungszentrum Jülich GmbH, (Jülich Centre for Neutron Science, JCNS); A. Busch, Heriot-Watt U.

198292

Customised Formation Evaluation Workflow and Production Prediction of a Shale Gas Reservoir: A Case Study in Huangjinba Block, China

L.W. Jiang, PetroChina Zhejiang Oilfield Co.; Y. Wang, X.R. Zhao, K.X. Li and F. Pan, Schlumberger

198257

Integrated Evaluation of Matrix Chemistry and Mineralogy from Core and Log Measurements

T.J. Neville, Asia-Pacific Formation Evaluation Services

198211

In-situ Quantification of Adsorbed Gas in Coals Using Stimulated Diffusion Magnetic Resonance Measurements

B. Birt, Qteq; T. Down, Senex Energy; K. O'Neill and T. Hopper, Qteq; R. Ilett, Senex Energy

Monday, 18 November
1600 – 1730 hours | Meeting Room B3, Boulevard Level

Technical Session 5: Communicating External Opportunities and Risks

Session Chairs: Rod Bresnehan, **CFT Holdings**; Nefeli Moridis, **Texas A&M University**

Presentation

198314

Monitoring Socio-Economic Changes in Small Towns Affected by Large Scale CSG-LNG Development

K. Witt, University of Queensland

198209

Getting the Most from Public Domain Data

B.W. Gunn and I. Cockerill, RISC Advisory Pty. Ltd.

198220

The Unknown Risks of Fracking

D.N. Campin, Campin & Co. Pty. Ltd.

198195

Integrated Royalties Model to Promote the Exploration and Exploitation of Tight Reservoirs in North West of Peru

G. Prudencio Baldeon, J.J. Sinchitullo Gomez, Y. Tafur Mariluz and J.S. Armacanqui, National U. of Engineering

Technical Programme (as of 1 July 2019)

Tuesday, 19 November
0900 – 1030 hours | Meeting Room B1, Boulevard Level

Technical Session 6: CSG Reservoir Models

Session Session Co-Chairs: Anna Oudinot, **Advanced Resources International**; Dan Kuznetsov, **Arrow Energy**

Presentation

198205

Development Performance of an Unconventional Coal Bed Methane Reservoir Using Integrated Reservoir and Production Modelling

O. Abadie, TOTAL SA (Pau); N. Mottet, TOTAL

198254

Comparative Study of Coal Seam Gas Production Forecasting Methodologies: Detailed Analysis of Benefits and Drawbacks of Numerical Simulation, Analytical Models and a New Hybrid Approach

I. Sugiarto, D. Kuznetsov and S. Mazumder, Arrow Energy Ltd.

198276

Development of Predictive Models in Support of Micro-particle Injection in Naturally Fractured Reservoirs

Z. You, D. Wang, N. Di Vaira and R. Johnson Jr., U. of Queensland; P. Bedrikovetsky, U. of Adelaide; C. Leonardi, U. of Queensland

198225

Development Potential Analysis on Abandoned Mine Methane Recovery with Surface Wells from Sealed Gobs

H. Huang, B. Wang and S. Sang, Key Laboratory of Coalbed Methane Resources and Reservoir Formation Process, China U. of Mining and ; Z. Pan, CSIRO; C. Bi, Oil & Gas Resource Survey Center, China Geological Survey; B. Pang, Liaoning Province Geology and Minerals Group Energy Geology Co., Ltd.

Tuesday, 19 November
0900 – 1030 hours | Meeting Room B2, Boulevard Level

Technical Session 7: Getting the Shale Geosciences Right

Session Co-Chairs: David Close, **Santos**; Bronwyn Camac, **Santos**; Rachel Kieft, **Senex Energy**

Presentation

198221

Improving Wellbore Placement Accuracy Using Stratigraphic Misfit Heatmaps

T. Gee, S. Maus, A.M. Mitkus, K. McCarthy and D.M. Velozzi, Helmerich & Payne Technologies

198284

Upper Jurassic Unconventional Shale Gas Potential in Onshore Abu Dhabi, UAE

P. Van Laer, K. Leyrer, M. Povstyanova, M.Z. Baig, G.V. Makarychev, H. Almarzooqi and M.R. Al-Zaabi, ADNOC

198247

A New Screening Methodology for China Lacustrine Liquids Rich Shale Resource Evaluation

G. Bai, Shell

198243

Impact of Organic Fabrics, Thermal Maturity, Saturation and Diagenesis on Shale Rock Properties

C. Delle Piane, M. Josh and D.N. Dewhurst, CSIRO Energy

Tuesday, 19 November
0900 – 1030 hours | Meeting Room B3, Boulevard Level

Technical Session 8: Stimulating the Deep, Hot, Tight Reservoirs

Session Co-Chairs: Lucas Bazan, **Bazan Consulting**; Sameer Ganpule, **Origin Energy**

Presentation

198267

Successful Field Trials on Linear-Gel Fracturing with High-Strength Proppants in Deep Ultra-Tight Gas Wells in the Sultanate of Oman

A.M. Al Kindi, A. AL Shanfari, J. Chavez Florez and A.S. Al Mufarraji, Petroleum Development Oman

198200

Tailored Workflow for Optimising the Hydraulic Fracturing in Tight Reservoir Development: A Case Study from Cambay Basin

A. Dutt, Schlumberger; V. Pandey, R.K. Singh, S. Dimri and D. Mathur, ONGC; S. Khataniar, A. Agarwal, A. Herrera, K. Fischer, C. Darous, V.R. Mukku, R. Talreja, D. Gunasekaran, S.B. Aderemi and S. Bahuguna, Schlumberger

198265

A Simple and Accurate Mathematical Model for Optimising Fracture Spacing in Multi-fractured Horizontal Wells in Unconventional Oil and Gas Reservoirs

B. Guo, U. of Louisiana

Technical Programme (as of 1 July 2019)

Tuesday, 19 November
0900 – 1030 hours | Meeting Room B2, Boulevard Level

Technical Session 9: Geology of Coal: What Matters?

Session Co-Chairs: Chris Mijnssen, **Arrow Energy**; Jim Underschultz, **Petroleum Hydrogeology International**

Presentation

198304

Resource Estimates of the Next Frontier: Deep Coals of the Cooper Basin

D.S. Warner, Deep Coal Technologies; C.D. Jenkins and J. Brown, Rose & Associates; T. McMahon, Cutlass Exploration

198196

Evaluation of Conservative Tracers for Coal Seam Reservoirs

D.D. Heryanto, CSIRO Energy; L. Connell, CSIRO Petroleum; N. Lupton, CSIRO; M. Camilleri, CSIRO Energy

198232

Coal Thickness Modelling Across a Regional CBM Project: An Amended Workflow

S. Beaney, M. Jeffries and S. Mazumder, Arrow Energy Ltd.

198270

Semi-automated Permeability Detection for Aquifer Isolation in the Surat Basin, Queensland, Australia

T. Flottmann, Origin Energy

Tuesday, 19 November
1100 – 1230 hours | Meeting Room B3, Boulevard Level

Technical Session 10: Production Data Analysis: A Reality Check

Session Co-Chairs: Dilhan Ilk, **DeGolyer and MacNaughton**; Tom Blasingame, **Texas A&M University**

Presentation

198311

Integrated Lifecycle Rate-Transient/Pressure-Transient Analysis (RTA/PTA) for Multi-Fractured Horizontal Wells Experiencing Various Operational Upsets

B. Yuan, C.R. Clarkson and Z. Zhang, U. of Calgary

198266

A New Analytical Model for Production Forecasting in Unconventional Reservoir Considering the Simultaneous Matrix-fracture Flow

K. Qiu and H. Li, Peking U.

198319

Production Data Analysis in Complex Fracture Network Horizontal Wells Based on a New Semianalytical Model

Z. Chen and K. Sepehrnoori, U. of Texas At Austin

198197

Ranking Shale Performance from Water Flowback Rate Transient Analysis, Field Case

A.F. Ibrahim and M.H. Ibrahim, Apache Corp.

Tuesday, 19 November
1400 – 1530 hours | Meeting Room B2, Boulevard Level

Technical Session 11: Assessing CSG Reservoir Properties

Session Co-Chairs: George Koperna, **Advanced Resources International**; Buddy Woodroof, **ProTechnics Division of Core**

Presentation

198260

Anisotropic Coal Permeability Estimation Using Pore Volume Distribution and Deformation Measurement

S.S. Raza and V. Rudolph, U. of Queensland

198264

A Coupled Pore-scale Modelling Approach to Capture Macro-scale Stress-dependent Permeability of Rocks

K. Khaleghi and S. Talman, U. of Alberta; B.K. Primkulov, Massachusetts Inst. of Technology; A. Rangriz Shokri, A. Sanchez Juncal and R.J. Chalaturnyk, U. of Alberta

198244

Probing the Characteristics of Adsorption and Diffusion of CO2, CH4 and their Mixture on Kerogen Slit Using Molecular Simulation

W. Zeng, PetroChina Co. Ltd.

198327

Cleat Connectivity on Coal Seam Gas Geomodels' 3D Permeability

R. Balucan and K. Steel, U. of Queensland

Technical Programme (as of 1 July 2019)

Tuesday, 19 November
1400 – 1530 hours | Meeting Room B3, Boulevard Level

Technical Session 12: The Finer Details of Shale Stimulation and Production

Session Co-Chairs: Ted Bergman, **Arrow Energy**; Daniel Kalinin, **Schlumberger**

Presentation

198315

Integrated Optimisation of Fracturing Design to Fully Unlock the Chang 7 Tight Oil Production Potential in Ordos Basin

X. Zhuang, Schlumberger

198208

The Impacts of Proppant Sorting and Dune Shape on Slickwater Hydraulic Fracturing Conductivity

J.L. Miskimins, Colorado School of Mines; M.A. Al-otaibi, Saudi Aramco PE&D

198207

Refracturing Candidate Selection for Multi-fractured Horizontal Wells Using A New Hybrid Model in Tight Oil Reservoirs

J. Guo and L. Tao, State Key Laboratory of Oil and Gas Reservoir Geology and Exploitation, Southwest Petroleum U.; J. Zeng, U. of Western Australia; Y. Liu, State Key Laboratory of Oil and Gas Reservoir Geology and Exploitation, Southwest Petroleum U.

198245

Determination the Inflow Performance Relationshipfor Class II Methane Hydrate Deposits: A Quick Approach to Predict and Optimise Well Performance

N. Lu, China U. of Petroleum & Texas A&M U.; J. Hou, China U. of Petroleum; Q. Wang, U. of Calgary; K. Zhou, China U. of Petroleum

Tuesday, 19 November
1600 – 1730 hours | Meeting Room B1, Boulevard Level

Technical Session 13: Improving CSG Well Production

Session Co-Chairs: Saikat Mazumder, **Shell Development Australia**; Iain Rodger, **University of Queensland**

Presentation

198240

Prediction of the Flowing Bottom-hole Pressure Using Advanced Data Analytics

M. Firouzi and S. Rathnayake, U. of Queensland

198194

Source of Solids in CSG Wells of the Surat Basin: Who is the Culprit?

A. Sibgatullin, V. Sharma and S. Mazumder, Arrow Energy

198226

Improved Dewatering Efficiency of Undersaturated Coal Reservoirs

J.P. Cardwell, Santos Ltd.

198281

Application of Machine Learning Methods to Assess Progressive Cavity Pumps (PCP) Performance in Coal Seam Gas (CSG) Wells

F. Saghir, M.E. Gonzalez Perdomo and P. Behrenbruch, U. of Adelaide; G. Lydyard, Santos

Technical Programme (as of 1 July 2019)

Tuesday, 19 November
111600 – 1730 hours | Meeting Room B2, Boulevard Level

Technical Session 14: Applying Geomechanics in a Stressed World

Session Co-Chairs: Yongcun Feng, **China University of Petroleum**; Thomas Flottman, **Origin Energy**;

Presentation

198255

Using 3D Printed Synthetic Rock for Systematic Evaluation of Mechanical Properties in Coal

T. Flottman, Origin Energy; N. Deisman, Y. Guo and K. Hodder, U. of Alberta; R. Chalaturnyk, Origin Energy; C. Leonardi, U. of Queensland

198199

Significance of Rock Compositional Control on Geomechanical Properties and Hydraulic Fracturing of the Montney Formation, Western Canadian Basin

N. Vaisblat, A. Rangriz Shokri, K. Ayranci, N. Harris and R.J. Chalaturnyk, U. of Alberta

198286

Effect of Oriented Drainage Areas on Permeability Evolution during Production from Coal Seam Gas Reservoirs

M.A. Aghighi, R. Johnson, C. Leonardi, M. Rajabi and S. Mukherjee, U. of Queensland

Tuesday, 19 November
1600 – 1730 hours | Meeting Room B3, Boulevard Level

Technical Session 15: Modelling All Things Big and Small Shales

Session Co-Chairs: Sameer Ganpule, **Origin Energy**; Raymond Johnson Jr., **University of Queensland**

Presentation

198274

Direct Pore Scale Simulation of Water in Nanoporous Shale and Prediction of Apparent Liquid Permeability

T. Zhang and F. Javadpour, U. of Texas at Austin; J. Li, U. of Calgary; J. Shi and X. Li, China U. of Petroleum

198303

Characterising Gas Transfer from the Inorganic Matrix and Kerogen to Fracture Networks: A Comprehensive Analytical Modelling Approach

J. Zeng, J. Liu, L. Wai and Y. Leong, U. of Western Australia; D. Elsworth, Pennsylvania State U.; J. Guo, Southwest Petroleum U.

198262

A New Approach to EUR Prediction Methodology Applied at a Shale Gas Block in Sichuan Basin

L. Wu, Shell China E&P Co. Ltd.; P.S. Fair, Shell Intl. E&P Co.; G. Deinum, Shell Kuwait Exploration and Production B.V

198246

Quantitative Investigation of the Water-sensitivity Damage on Ultra-low Permeability Reservoir

L. Jie, Key Laboratory of Petroleum Engineering, China U. of Petroleum; W. Li, Inst. of CNOOC; Y. Li, Texas A&M U.

Knowledge Sharing ePoster (as of 1 July 2019)

An ePoster, presented on a digital screen, offers the added benefit of animation and video to enhance the visual experience and provide greater interactivity between attendees and authors.

During the ePoster session, authors will present their technical papers at designated ePoster stations. Attendees are encouraged to attend the sessions for more knowledge sharing and networking opportunities. ePosters are also available for attendee's viewing at ePoster stations throughout the conference.

Paper #	Presentation
198192	**Production Performance Estimation from Stimulation and Completion Parameters Using Machine Learning Approach in the Permian Basin** M.A. Al-Alwani, Missouri U. of Science and Technology; L.K. Britt, NSI Fracturing LLC; S. Dunn-Norman, Missouri U. of Science and Technology
198198	**Production Forecasting for Shale Gas Well in Transient Flow Using Machine Learning and Decline Curve Analysis** D. Han and S. Kwon, Dong-A U.; H. Son, Pukyong National U.; J. Lee, U. Teknologi PETRONAS *(Alternate Paper in Technical Session 10)*
198201	**Experimental and Modelling Study of Phase Behaviour for Montney Tight Oil-Light Hydrocarbon Gas Systems** S. Tran, S. Eghbali and H. Dehghanpour, U. of Alberta *(Alternate Paper in Technical Session 15)*
198204	**Advanced Modelling of Production Induced Pressure Depletion Impact on Multiple Infill Wells and Production Optimisation in the Haynesville** W. Zheng, Schlumberger
198206	**Geochemical Interpretation of Flowback Fluids to Assess Stage Functionality and Reservoir Compartmentalisation** P. Birkle, Saudi Aramco PE&D; G.K. Makechnie, Saudi Aramco *(Alternate Paper in Technical Session 7)*
198210	**Optimisation of Dewatering Rates to Maximise Coal Seam Gas Production** C. Khan, U. of Queensland; D. Kuznetsov, Arrow Energy Ltd.; T. Rufford, V. Rudolph and Z. Chen, U. of Queensland *(Alternate Paper in Technical Session 13)*
198213	**Shale Gas Transport Behaviour Considering Dynamic Changes of Multiscale Flow Channels** M. Chen, Y. Kang, T. Zhang and J. Bai, Southwest Petroleum U. *(Alternate Paper in Technical Session 10)*
198214	**Mechanism of Ultra-Low Flowback Rate with High Productivity in Fuling Gas Shale Filed** L. Dun Qing, G. Hongkui and S. Yinghao, China U. of Petroleum (Beijing); J. Li, U. of Calgary; L. Qinyu, China U. of Petroleum (Beijing) *(Alternate Paper in Technical Session 3)*
198215	**Fault and Fracture Prediction of Tight Gas Reservoir Based on Seismic Likelihood Attribute** M. Li, T. Duan and H. Zhao, China Petroleum and Chemical Corp. (SINOPEC) *(Alternate Paper in Technical Session 2)*
198216	**Investigation on Petrophysical Properties of Fractured Tight Gas Sandstones: A Case Study of Jurassic Xujiahe Formation in Sichuan Basin, Southwest China** H.W. Zhao, P. Lian, M. Li and X. Shang, Sinopec Petroleum Exploration and Production Research Inst. *(Alternate Paper in Technical Session 4)*
198217	**Enhanced Oil Recovery in Clay-hosted Pores in Shales: Insights from Molecular Dynamics Simulations** H. Xiong and D. Devegowda, U. of Oklahoma *(Alternate Paper in Technical Session 10)*
198218	**Constraining Tectonic Component during Geomechanics Aided Successful Hydrofracturing Campaign of Tight Gas Exploration Fields Located at Sultanate of Oman** M.M. Molenaar, Petroleum Development Oman; R.R. Kumar, Schlumberger Asia Services Ltd.; S.K. Subbiah, Schlumberger *(Alternate Paper in Technical Session 8)*

Knowledge Sharing ePoster (as of 1 July 2019)

Paper #	Presentation
198224	**Stable Isotope and Water Quality Analysis of Production Gas and Water to Test Geological Domains in Cesar-Rancheria Basin, Colombia** V.M. Sepulveda, U. of Queensland *(Alternate Paper in Technical Session 9)*
198227	**Spectral Decomposition of the Heterogeneous Springbok Sandstone and Walloon Coal Measures in the Surat Basin, Australia** Z. Hamerli, U. of Queensland *(Alternate Paper in Technical Session 2)*
198228	**Investigating the Effect of Salinity on Counter-current Two-phase Flow Regimes in Annuli** B. Wu, M. Firouzi, A.S. Ribeiro, T. Rufford and B.F. Towler, U. of Queensland *(Alternate Paper in Technical Session 13)*
198230	**Flow Capacity of Nano-confined Hydrocarbon Mixture in Shale Reservoirs Considering Pore-size-dependent Phase Behaviour: Analytical Models and Field Case Application** Z. Sun and H. Nasrabadi, Texas A&M U.; W. Keliu, U. of Calgary *(Alternate Paper in Technical Session 15)*
198231	**Upscaled Gas and Water Relative Permeability from Pore and Core Scale Experimental Data for Comparative Analysis of Shale Gas Production Over Hydraulic Fracturing, Flowback and Online Production** D. Wang, U. of Calgary; J. Yao, China U. of Petroleum (East China); Z. Chen, U. of Calgary; W. Song, H. Sun and M. Cai, China U. of Petroleum (East China); B. Yuan, U. of Calgary
198234	**A Very Unconventional Hydrocarbon Play: The Mesoproterozoic Velkerri Formation of Northern Australia** A. Collins and M. Blades, The U. of Adelaide; A. Jarrett, Geoscience Australia *(Alternate Paper in Technical Session 7)*
198235	**Dynamic Non Darcy Flow Compositional Numerical Simulation for CO2 Huff-n-puff Development in Tight Oil Reservoir** Q. Wang, R. Jiang, Y. Cui and X. Jianchun, China U. of Petroleum (East China)
198236	**Investigation of Spatial and Temporal Variation of Seismic B-values Along the Gulf of Aden Area** A. Basaloom, Missouri U. of Science and Technology *(Alternate Paper in Technical Session 2)*
198237	**Breakthrough Shale Gas Exploration in the Wufeng-Gaojiabian Formation, Lower Yangtze Area, China** S.Z. Li, China Geological Survey; Y. Wang, X.R. Zhao, F. Pan and K.X. Li, Schlumberger *(Alternate Paper in Technical Session 3)*
198238	**Advanced Machine Learning Methods for Fracture Closure Pressure Prediction** M.S. Mohamed, Khalda Petroleum; M. Ibrahim, Colorado School of Mines; M.H. Ibrahim, Apache Corp.; S. Ganpule, Origin Energy; C.D. Pieprzica, Apache Corp. *(Alternate Paper in Technical Session 8)*
198239	**Development and Evaluation of Multiphase Closure Models for Pressure Gradient and Void Fraction Prediction in Coal Seam Gas Wells** T.R. Mitchell and B. Hill, U. of Queensland; M. Firouzi and C. Leonardi, Centre of Coal Seam Gas, U. of Queensland *(Alternate Paper in Technical Session 6)*
198241	**Modelling the Contribution of Individual Seams to Coal Seam Gas Production** V. Salomao De Santiago, A.S. Ribeiro and S. Hurter, U. of Queensland *(Alternate Paper in Technical Session 6)*
198242	**A Method to Predict the Resistivity Index for Tight Sandstone Reservoirs from Nuclear Magnetic Resonance (nmr) Data** L. Xiao, China U. of Geosciences-Beijing

Knowledge Sharing ePoster (as of 1 July 2019)

Paper #	Presentation
198249	**Fast Marching Method Based Rapid Simulation Accounting for Gravity** T. Onishi, Texas A&M U.; A. Lino, INPEX Corporation; H. Jung and A. Datta-gupta, Texas A&M U.
198250	**Optimising the Dispersion of Coal Fines Using Sodium Dodecyl Benzene Sulfonate** F. Awan, A. Keshavarz, S. Iglauer and A. Nosrati, Edith Cowan U. *(Alternate paper in Technical Session 13)*
198251	**Impacting Factors on Horizontal Coal Seam Gas Well Production and Proxy Model Comparison** Q. Wang, Henan Polytechnic U.; F. Zhou, Arrow Energy Ltd.; B. Thompson, T. Reay and D.M. Donovan, U. of Queensland *(Alternate Paper in Technical Session 6)*
198252	**Fracture Induced Stress Measurement and Evaluation Considering Influence of Complex Natural Fracture** X. Chen, Y. Li and F. He, Chuanqing Drilling Engineering Co. Ltd., CNPC *(Alternate Paper in Technical Session 14)*
198253	**Successful Field Applications with Alcoholic Treatments in Deep Tight Gas Wells in the Sultanate of Oman** A.M. Al Kindi, J. Falla, K.K. Barton and H. Qassabi, Petroleum Development Oman; A. Yaaribi, Baker Hughes, a GE Company *(Alternate Paper in Technical Session 8)*
198259	**Integrated Workflow for Optimising Bottomhole-pressure (BHP) Drawdown by Use of Transient Inflow Performance Relationship (IPR)** J.W. Wang, China National Petroleum Corp.; A. Jia, PetroChina Co. Ltd.; Y. Wei, Research Inst. Petroleum Exploration and Development
198261	**Characterisation of Reservoir Pressure and Temperature Impact on Diffusion Behaviour of Beetaloo Basin Shales** N. Lupton, R. Sander, M. Camilleri, Z. Pan and L. Connell, CSIRO *(Alternate Paper in Technical Session 15)*
198263	**In-situ Downhole Gas Desorption Measurement in CBM through Advanced Formation Characterisation** S. Singh, U. of Petroleum and Energy Studies; A.M. Ali, Schlumberger *(Alternate Paper in Technical Session 11)*
198268	**Mitigating the Risk: An Analysis of Well Integrity Regulation in Queensland Unconventional Oil and Gas Developments and Associated Assurance Activities Conducted** T. Thomas, U. of Queensland *(Alternate Paper in Technical Session 5)*
198269	**Anisotropy of the Dielectric Polarisability of Organic-rich Shales as a Proxy of their Thermal Evolution** L. Esteban, CSIRO; M. Cauchefert, Curtin U.; J. Dautriat, M. Josh and J. Sarout, CSIRO; S. Vialle and M. Lebedev, Curtin U.; B. Maney, CSIRO *(Alternate Paper in Technical Session 4)*
198271	**A Coupled Geomechanics-reservoir Properties Workflow for Unconventional Play Landing Zone Optimisation** J. Zhou, Shell China E&P Co. Ltd.; T. Bai, Shell; Q. Qu, Shell China E&P Co. Ltd., *(Alternate Paper in Technical Session 14)*
198272	**Smart Midstream Integration for CSG to LNG** R.K. Byfield, Yokogawa Australia
198273	**Pressure Transient Behaviour of Unconventional Fractured Reservoirs: Combined Effect of Spatial and Stress Dependence on Permeability** A. Das and H. Hassanzadeh, U. Of Calgary *(Alternate Paper in Technical Session 10)*
198275	**A Comprehensive Workflow for Propagation Simulation and Structural Characterisation of Multiple Hydraulic Fractures in Naturally Fractured Unconventional Oil Reservoirs** L. Ren, Xi'an Shiyou U.; S. Zhan, U. of Alberta; J. Sun, China U. of Petroleum (Beijing); C. Jing, Xi'an Shiyou U. *(Alternate Paper in Technical Session 8)*

Knowledge Sharing ePoster (as of 1 July 2019)

Paper #	Presentation
198277	**Evaluation of Wettability Variation of Gas Shales by Drop Shape Analysis Approach** H. Sharifigaliuk and S.M. Mahmood, U. Teknologi PETRONAS *(Alternate Paper in Technical Session 4)*
198278	**A Robust Machine Learning Model for Fracture Stimulation Design in Unconventional Reservoirs** S. Wang and S. Chen, U. of Calgary
198279	**3D Discrete Natural Fracture Networks and Fracture Reactivation Potential Assessment in the Longmaxi Shale** C. Bian, Sinopec Petroleum Exploration and Production Research Inst.; W. Sun, Sinopec Exploration and Production Research Inst.; S. Li and F. Shen, GeoReservoir Research *(Alternate Paper in Technical Session 7)*
198280	**Petrophysical Evaluation of Organic Richness and Brittleness of Shale for Unconventional Hydrocarbon Prospecting: A Case Study on Vadaparru Shale, Krishna Godavari Basin, India** A. Sahu and M.K. Das, Oil and Natural Gas Corp. Ltd. *(Alternate Paper in Technical Session 7)*
198282	**Investigation of the Dynamic Capillary Pressure during Displacement Process in Fractured Tight Reservoirs** Y. Li, Southwest Petroleum U.; S. Chen, U. of Calgary; H. Li, Southwest Petroleum U.
198287	**Pressure Analysis for Volume Fractured Vertical Well with Considering Low-Velocity Non-Darcy Flow and Stress Sensitivity** Z. Wu, China U. of Petroleum (East China) & U. of Alberta; C. Cui, China U. of Petroleum (East China); J.J. Trivedi, U. of Alberta *(Alternate Paper in Technical Session 15)*
198288	**Using Machine Learning Methods to Identify Coals from Drilling and Logging-while-drilling (LWD) Data** R. Zhong, R. Johnson Jr. and Z. Chen, U. of Queensland *(Alternate Paper in Technical Session 1)*
198290	**Review of Stimulation and Completion Activities and Trends in the United States Shale Play Appalachian Basin Case Study** M.A. Al-Alwani, Missouri U. of Science & Technology; L.K. Britt, NSI Fracturing LLC; S. Dunn-Norman, Missouri U. of Science & Technology *(Alternate Paper in Technical Session 3)*
198291	**3D Petrophysical and Geomechanical View for Enhancing Hydraulic Fracturing of Vertical and Highly Deviated Wells** O.S. Al Isaee, Petroleum Development Oman *(Alternate Paper in Technical Session 14)*
198293	**Applicability Evaluation of Srv Concept in Tight and Shale Reservoirs via Large-scale Rock Block Experiments** S. Li, Research Inst. of Petroleum Exploration and Development, PetroChina *(Alternate Paper in Technical Session 12)*
198294	**Molecular Simulation of Ch4 Co2 Competitive Adsorption and Enhanced Gas Recovery in Low Rank Bituminous Coal** Y. Li, Z. Yang, X. Li and M. Jia, State Key Laboratory of Oil and Gas Reservoir Geology and Exploitation *(Alternate Paper in Technical Session 6)*
198295	**Sedimentary Geochemical Record of the Middle Mesoproterozoic: Early Neoproterozoic Tectonic Geography of Northern Australia** B. Yang, A. Collins and M. Blades, The U. of Adelaide *(Alternate Paper in Technical Session 7)*
198296	**Tracking Procedures for Reserves and Resources Other than Reserves (ROTR) for Internal Reporting Processes** N. Moridis and J. Lee, Texas A&M U.; W. Sim, Aucerna; T.A. Blasingame, Texas A&M U. *(Alternate Paper in Technical Session 5)*
198297	**Effect of Coal Surface Morphology on Transportation of Gases** P. Naveen, R. Maddirala and K. Ojha, Indian Inst. of Technology (ISM) Dhanbad *(Alternate Paper in Technical Session 11)*

Knowledge Sharing ePoster (as of 1 July 2019)

Paper #	Presentation
198298	**Mineral Cracking and Porosity Enhancement of Shale through Acidising** M. Sheng, W. Khan, S. Cheng, Q. Xu, S. Tian and Z. Guo, China U. of Petroleum-Beijing *(Alternate Paper in Technical Session 12)*
198299	**Fines Migration and Production in Coalbed Methane/ Coalseam Gas Reservoirs: Review** A. Hashemi and P.G. Bedrikovetsky, U. of Adelaide *(Alternate Paper in Technical Session 13)*
198301	**Swelling Inhibition of Bentonite Clay by Mg(OH)2 Precipitation between the Clay Layers** A. Patel, B.F. Towler, V. Rudolph and T. Rufford, U. of Queensland *(Alternate Paper in Technical Session 13)*
198302	**A Dynamic Apparent Permeability Model for Microfractures of Shale: Coupling the Interaction of Poromechanics, Fluid Dynamics, and Sorption-induced Strain** Y. Li and P. Dong, China U. of Petroleum-Beijing; D. Zhou, Colorado School of Mines
198305	**An Alternative BEM of Simulating Transient Pressure Response of Complex Fracture Model by Use of a Semi-analytical Approach** J.W. Wang, China National Petroleum Corp.; Y. Wei, Research Inst. Petroleum Exploration and Development; Y. Zhou, U. of Aberdeen; W. Luo, China U. of Geosciences-Beijing *(Alternate Paper in Technical Session 10)*
198307	**Frac Ht Prevention and Height Growth Control in Williston Basin** A. Sharma, K. Vidma, P. Abivin and J.D. Estrada, Schlumberger *(Alternate Paper in Technical Session 8)*
198308	**Sequence Stratigraphy of Walloons-Springbok Sections: Different or Significantly Different?** M. Reilly, Z. Hamerli, S. Hurter and I. Rodger, U. of Queensland *(Alternate Paper in Technical Session 9)*
198309	**Stress Changes and Coal Failure Analysis in Coal Seam Gas Wells Accounting for Matrix Shrinkage: An Example from Bowen Basin, East Australia** M. Zare Reisabadi, M. Haghighi, U. of Adelaide; A. Khaksar, Baker Hughes, a GE company *(Alternate Paper in Technical Session 14)*
198310	**Developing Coal Bed Methane (CBM) Project as a Truly Sustainable Venture: Strategies, Technologies and Methodologies** V. Tawde and I. Chellani, Essar Oil and Gas Exploration and Production Ltd. *(Alternate Paper in Technical Session 5)*
198312	**A 3D Model of the Unconventional Play in the Goldwyer Formation: An Integrated Shale Rock Characterisation Over the Broome Platform, Canning Basin** L.M. Johnson, G. Smith and R. Rezaee, Curtin U.; A. Kadkhodaie, U. of Tabriz *(Alternate Paper in Technical Session 7)*
198313	**Multi-scale Assessment of Plasticity of Deep Organic-rich Shale: A Coupled Tri-axial Test and Nano-indentation** M. Sheng, S. Cheng, Y. Zhang, Q. Xu, S. Tian and P. Li, China U. of Petroleum-Beijing
198316	**Pore Size Distribution of Unconventional Rocks with Dual-wet Pore Network** M. Yassin, Y. Shi and H. Dehghanpour, U. of Alberta *(Alternate Paper in Technical Session 4)*
198317	**Calculation and Modelling of Proppant Embedment in Ductile Rock: Experimental Investigation** M. Ibrahim, Colorado School of Mines; M.S. Mohamed, Khalda Petroleum; M.H. Ibrahim and C.D. Pieprzica, Apache Corp.; S. Ganpule, Origin Energy *(Alternate Paper in Technical Session 1)*

Knowledge Sharing ePoster (as of 1 July 2019)

Paper #	Presentation
198320	**Water-gas Flow in Laminated and Heterogeneous Coal-interburden Systems: The Effects of Gas Solubility** M. Sedaghat, D. Owen, J. Underschultz, S. Hurter, P. Hayes and A.J. Garnett, U. of Queensland *(Alternate Paper in Technical Session 11)*
198322	**Caliper Behind Casing: Using Nuclear Logging Tools to Replicate Openhole Caliper Measurements in Cased Holes** M.M. Lang and B. Clarricoates, Weatherford *(Alternate Paper in Technical Session 4)*
198323	**Mitigation of Calcium Sulfate Scale Deposition during Fracturing Treatment of Unconventional Gas Wells** A. Sadykov, M. Al-Dahlan, K. Mechkak, M. Al-Khaldi, F. Alotaibi, M. Al-Sayed and N. Al-Mulhim, Saudi Aramco *(Alternate Paper in Technical Session 12)*
198329	**Trends in Seismicity in the CSG Producing Region of the Surat Basin in Queensland** A. Garnett and D. Weatherley, U. of Queensland *(Alternate Paper in Technical Session 2)*
198330	**A Multiproxy Characterisation of Shale Brittleness in the Lawn Hill Platform, Northern Australia** A. Jarrett, A. Bailey and L. Hall, Geoscience Australia *(Alternate Paper in Technical Session 7)*
198331	**Assessment of Fault Zone Properties for CSG Development Areas** J. Underschultz, Petroleum Hydrogeology Intl.; S. Mukherjee and A. Wolhuter, U. of Queensland *(Alternate Paper in Technical Session 9)*
198332	**Shale Gas Prospectivity of the Lawn Hill Platform, Isa Superbasin** A. Bailey, A. Jarrett and L. Hall, Geoscience Australia *(Alternate Paper in Technical Session 7)*

Exhibition and Sponsorship Opportunities Available

The inaugural Asia Pacific Unconventional Resources Technology (APAC URTeC) 2019 is an aptly platform to explore new opportunities that addresses challenges unique to the Asia Pacific region during unconventional exploration and development. This flagship event is expected to attract **more than 300 participants from over 10 countries.**

Why Exhibit

- Showcase your organisation's innovations, services and expertise to over 300 industry professionals from more than 10 countries
- Promote your organisation's latest products and services at the region's strategic platform on unconventional
- Engage with existing clients and meet new business partners
- Reach out, establish and reinforce your marketing message and relationship with key stakeholders

Why Sponsor

- Enhance your brand identity to a targeted audience
- Maximise your organisation's visibility
- Reinforce your marketing message and relationship with key buyers
- Demonstrate your commitment to the industry through support

For further information about exhibiting at Asia Pacific Unconventional Resources Technology Conference (APAC URTeC), contact:

Nick Chantrell

SPE Senior Sales Manager – Asia Pacific

P: +60 3 2182 3145

nchantrell@spe.org

Exhibition and Sponsorship Opportunities Available

Sponsorship Opportunities

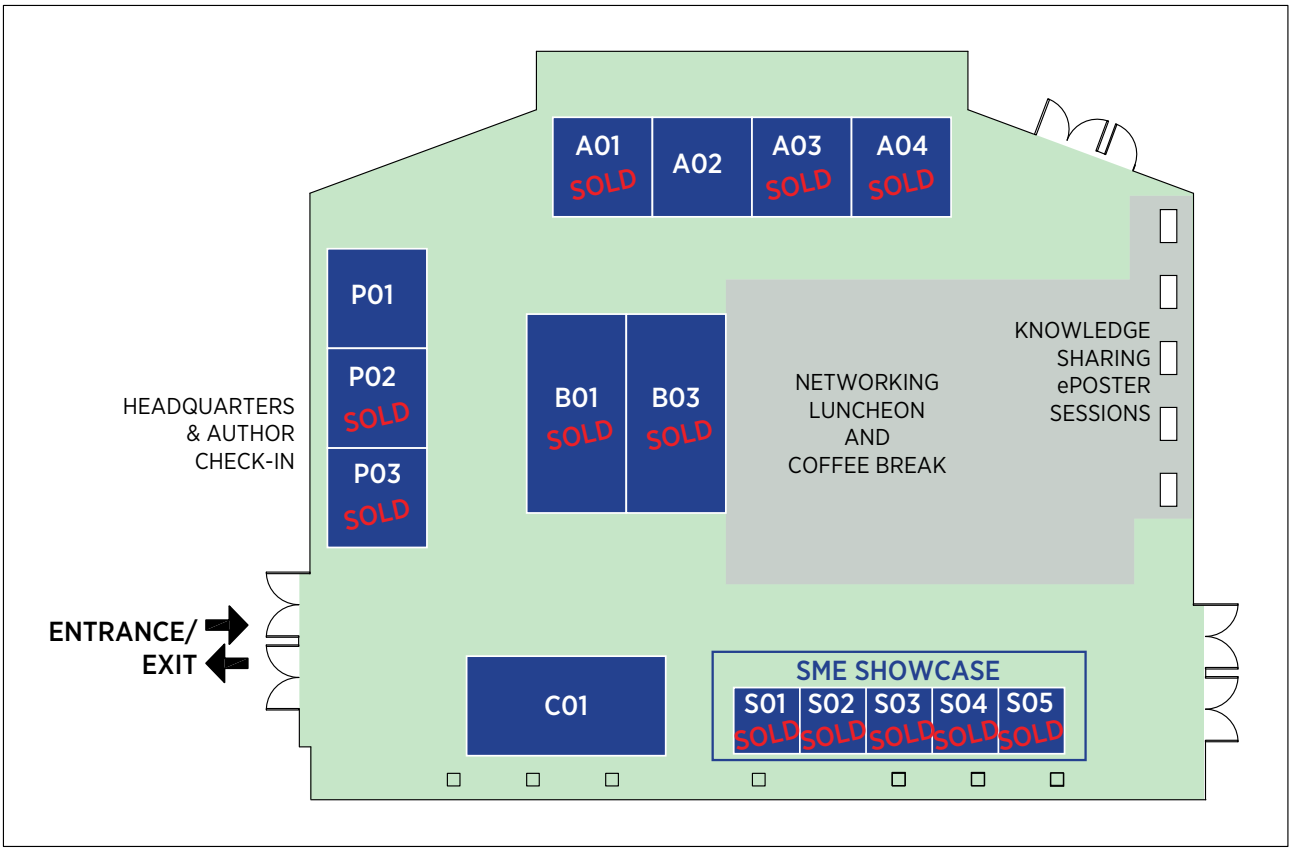
Sponsorship Item	Value (USD)
Principal Sponsor	25,000
Opening Session	10,000
ePoster Stations and Audio Visual Equipment	8,000
Lanyards	8,000
Welcome Reception (18 November)	SOLD
Conference Bags	SOLD
Directional Signage	SOLD
Conference Preview and Programme	6,000
Networking Luncheon – Day 1	SOLD
Networking Luncheon – Day 2	6,000
Water Bottles and Stations	SOLD
Writing Pads and Pens	SOLD
Coffee Breaks – Day 1 and Day 2	SOLD
Conference Bag Insertion	4,500
Ice Cream Social – Day 1 and Day 2	SOLD
Conference Digital Proceedings	4,000

List of Exhibitors

Company Name	Booth Number
AJ Lucas Services Pty Lyd	S04
Apergy Artificial Lift	A04
Cobalt	S03
Essar Oil and Gas Exploration and Production Ltd	P02
GeoGlide Australia	S05
Ikon Science Asia Pacific Pty Ltd	P03
Inflatable Packers International Pty Ltd (IPI)	S01
KAPPA Engineering	A01
NERA (National Energy Resources Australia)	B03
Pro-Test Well Services Pty Ltd	A02
Qteq Pty Ltd	A03
Schlumberger Australia Pty Ltd	B01
The University of Queensland Centre for Coal Seam Gas	B03

Floor Plan

Boulevard Room, Boulevard Level (Grey Street)
Brisbane Convention & Exhibition Centre (BCEC)



Training Courses

Post-Conference Training Courses

SPE Training Course: Mastering Uncertainty and Risk in Unconventional Reservoir Assessment (Shale, Coals, Tight Sandstones & Carbonates)

Instructor: Creties Jenkins, Partner, **Rose and Associates**
0900 - 1800 hours

Venue: Sofitel Brisbane Central

Course Synopsis:
This one-day course provides a robust framework for assessing uncertainty and risk in unconventional projects. It begins by summarising the key discipline-specific work-flows and work products needed to characterize your project. It then introduces 1) statistics as a basis for applying probabilistic techniques, 2) approaches for estimating key parameters under uncertainty, and 3) techniques to mitigate bias in your work. The course then turns to using aggregation and its derivative products (trumpet plots, confidence curves, and sequential aggregation plots) to quantify the optimal number of appraisal wells and track your drilling progress. The course concludes by applying what's been learned within a staged approach in order to expose capital incrementally and make good decisions along the way about whether to continue funding the project.

Learning Level: Intermediate

Who Should Attend:
This course is intended for:

- Geoscientists
- Engineers
- Commercial team members
- Business analysts
- Managers charged with creating value from their unconventional projects.

Course Topics:

Session 1: Work Processes and Deliverables
- Technical and commercial uncertainties and risks
- Data to collect and analyses to conduct
- Deliverables needed for informed decision-making
- Twenty examples showing the importance of this work
- Workflows for geoscience and engineering disciplines by project stage

Session 2: Probability, Distributions, Correlations and Uncertainty
- Creation and application of log probability plots
- Measures of central tendency and their utility
- Use and impact of correlation
- Estimating under uncertainty
- Identifying and mitigating bias

Session 3: Reducing Uncertainty through Aggregation
- Principles of aggregation and its application
- Generating trumpet plots
- Quantifying uncertainty around the mean
- Building confidence curves
- Constructing and applying sequential aggregation plots

Session 4: Decision Stage Assessment
- Why a staged approach is needed?
- Objectives and tactics associated with each stage
- Execution considerations for each stage
- Use of Monte Carlo simulation for production and economic forecasting
- Economic model outputs and significance

AAPG Training Course: Volumetric Analysis of Shale Reservoirs

Instructor: Reza Rezaee, Professor, **Curtin University**
0900 - 1800 hours

Venue: Sofitel Brisbane Central

Course Synopsis:
Volumetric analysis of shale reservoirs is of prime importance in the oil and gas industry. This course practically elaborates how different shale petrophysical parameters such as porosity, fluid saturation, and adsorbed gas, which are essential for volumetric analysis of shale reservoirs, can be estimated using well-log data. The major goal of the course is to show attendees how different shale petrophysical parameters such as porosity, fluid saturation, and adsorbed gas can be estimated. These petrophysical parameters are essential for volumetric analysis of shale reservoirs.

Learning Level: Intermediate - Advanced

Who Should Attend:
Professionals from these disciplines:

- Geologists
- Geophysicist
- Petro physicist
- Reservoir engineers who want to improve their knowledge about shale reservoirs

Course Topics:

Session 1: Introduction to Shale reservoirs

Session 2: Petrophysical Properties
- Gas Shale Log Analysis
- Well log responses for gas shale
- Total organic carbon (TOC) content calculations

Session 3: Shale Characterization
- Porosity estimation using different conventional logs
- Fluid saturation estimation
- Thermal maturity calculations

Session 4: Volumetric Analysis
- Adsorbed gas quantification
- Free gas quantification
- Total gas volumetric estimation
- On Hand Work Practical Examples

Training Courses

Post-Conference Training Courses

SEG Training Course: Integrated Geologic, Seismic, and Reservoir Engineering Characterization for Dual-Media Simulation in Conventional and Unconventional Fractured Reservoirs

Instructor: Reinaldo Michelena, Reservoir Characterization and Geophysical Advisor, **iReservoir**

0900 - 1800hrs

Venue: Sofitel Brisbane Central

Course Synopsis:
This course will present the workflows that have been developed along with spreadsheet-based exercises to solidify concepts. The workshop provides in-depth presentations and discussions of the models presented. This course examines datasets from both conventional and unconventional systems and present workflows to construct naturally-fractured reservoir models. Particular attention will be given to the use and calibration of a variety of 3D seismic attributes, which are critical to our characterization efforts. The combination of 3D seismic data with sound stratigraphic and structural frameworks provides a more robust fractured reservoir model. Models and concepts are examined in the context of how they impact fluid flow, reservoir simulation results, field production, and forecast.

Learning Level: Introductory - Intermediate

Who Should Attend:
This class is ideally suited for integrated teams working on characterization, modeling, and flow simulation of naturally fractured reservoirs:

- Geologists
- Geophysicists
- Reservoir Engineers
- Simulation Engineers
- Geomodelers

Course Topics:

Session 1: Introduction
Overview of geologic and engineering concepts in naturally fractured reservoirs. This session explains why the class will focus on the aspects that influence fluid flow. We discuss what a reservoir simulation model requires in terms of fracture porosity, effective fracture permeability tensor and shape factors.

Session 2: Overview of Geologic Concepts in Naturally Fractured Reservoirs
This session provides the geologic principles that are the foundation for the fracture reservoir models we construct. We include examples from outcrop analogs that highlight the concepts of fault-related fractures that develop within different lithofacies and stratigraphic units which are characterized by heterogeneous rock mechanical properties. Using these observations, we make predictions about geologic horizons that more or less prone to natural fracture development.

Session 3: Seismic constrained natural fracture modelling
This session explains how to combine outcrop analogues and fracture data types with seismic information for improved subsurface natural fracture characterization and modelling.

Session 4: Flow in naturally fractured reservoirs
This session addresses considerations for flow simulation in naturally fractured reservoirs and discusses how engineering data is integrated with the geological, geophysical and geomechanical interpretations in a consistent manner. The goal of simulation is to aid in understanding fluid flow behavior in naturally fractured systems for the purpose of optimal development. We address what a reservoir simulation model requires in terms of fracture porosity, effective fracture network permeability tensor and shape factors.

SPE Queensland Section Training Course Applied Statistical Modeling and Data Analytics for Reservoir Performance Analysis

Instructor: Dr. Srikanta Mishra, Institute Fellow and Chief Scientist (Energy), **Battelle Memorial Institute**

0900 - 1800hrs

Venue: Sofitel Brisbane Central

Course Synopsis:
There is a growing trend towards the use of statistical modeling and data analytics for analyzing the performance of petroleum reservoirs. The goal is to "mine the data" and develop data-driven insights to understand and optimize reservoir response. The process involves: (1) acquiring and managing data in large volumes, of different varieties, and at high velocities, and (2) using statistical techniques to discover hidden patterns of association and relationships in these large, complex, multivariate datasets. However, the subject remains a mystery to most petroleum engineers and geoscientists because of the statistics-heavy jargon and the use of complex algorithms. This training course will provide an introduction to statistical modeling and data analytics for reservoir performance analysis by focusing on: (a) easy-to-understand descriptions of the commonly-used concepts and techniques, and (b) case studies demonstrating the value-added proposition for these methods.

Learning Level: Introductory - Intermediate

Who Should Attend:
This course is for designed for petroleum engineers, geoscientists, and managers interested in becoming smart users of statistical modeling and data analytics.

Course Topics:
Terminology and basic concepts of statistical modeling and data analytics

Multivariate data reduction and clustering (for finding sub-groups of data that have similar attributes)

Machine learning for regression and classification (for developing data-driven input-output models from production data as an alternative to physics-based models)

Proxy construction using experimental design (for building fast statistical surrogate models of reservoir performance from simulator outputs for history matching and uncertainty analysis)

Uncertainty quantification for performance forecasting

Registration

Register by 18 August 2019 to take advantage of the Super Early Bird offer.

How to Register

1. Online at **www.spe.org/go/19APUR**
2. Download the PDF Registration Form at go.spe.org/19APURRF and return completed form via:
   - Email: spekl@spe.org
   - Fax: +603 2182 3030
   - Office: Society of Petroleum Engineers
     Suite 12.01, Level 12, Menara IGB, Mid Valley City, Lingkaran Syed Putra, 59200 Kuala Lumpur, Malaysia

Individual Registration Packages and Fees

Type	Super Early Bird BY 18 August	Early Bird BY 18 September	Standard Rate AFTER 18 September
Full Conference Registration			
SPE/AAPG/SEG Member	USD 650	USD 700	USD 750
Non-Member	USD 750	USD 800	USD 850
Speaker / Author / Committee / Session Chair	USD 600	USD 650	USD 700
Student	Complimentary (with valid student ID only)		
Visitor	Complimentary (USD 50 for onsite)		
One-Day Conference Registration			
SPE/AAPG/SEG Member	USD 350	USD 400	USD 450
Non-Member	USD 400	USD 450	USD 500
One-Day Training Course (Wednesday, 20 November)			
• SPE Training Course: Mastering Uncertainty and Risk in Unconventional Reservoir Assessment (Shale, Coals, Tight Sandstones & Carbonates) • AAPG Training Course: Volumetric Analysis of Shale Reservoirs • SEG Training Course: Integrated Geologic, Seismic, and Reservoir Engineering Characterization for Dual-Media Simulation in Conventional and Unconventional Fractured Reservoirs • SPE Queensland Section Training Course: Applied Statistical Modeling and Data Analytics for Reservoir Performance Analysis			
SPE/AAPG/SEG Member	USD 500	USD 600	USD 700
Non-Member	USD 700	USD 800	USD 900

Group Registration Package

Register for 5 people and pay for the price of 4.

What Do You Get

Full Conference Registration: Admission to all Conference Sessions (Opening, Keynote and Executive Plenary Session, Technical Plenary Session, Panel Sessions, Technical Sessions and Knowledge Sharing ePoster Sessions), Exhibition, Daily Networking Luncheons, Daily Coffee Breaks, Welcome Reception and One (1) Conference Digital Proceedings.

One-Day Conference Registration: Admission to Panel Sessions, Technical Sessions, Knowledge Sharing ePoster Sessions, Exhibition, Networking Luncheon and Coffee Breaks for the selected day only. Registration on day one of conference (Monday, 18 November) also includes access to Opening, Keynote and Executive Plenary Session and Technical Plenary Session.

One-Day Training Course Registration: Admission to Training Course only. Training Course registration includes Training Course Workbook (selected topic), Certificate of Participation, Networking Luncheon and Coffee Break.

Student Registration: Admission to all Conference Sessions (Opening, Keynote and Executive Plenary Session, Technical Plenary Session, Panel Sessions, Technical Sessions and Knowledge Sharing ePoster Sessions) and Exhibition. Student registration does not include any Networking Luncheons, Conference Digital Proceedings or any function tickets.

Visitor Registration: Admission to the Exhibition and Knowledge Sharing ePoster Sessions ONLY

ASIA PACIFIC UNCONVENTIONAL RESOURCES TECHNOLOGY CONFERENCE
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REGISTRATION FORM

ASIA PACIFIC UNCONVENTIONAL RESOURCES TECHNOLOGY CONFERENCE

18 - 19 November 2019 | Brisbane Convention & Exhibition Centre, Brisbane, Australia

By registering this event, the registrant agrees to abide by the Terms & Conditions.

ATTENDEE INFORMATION			
SPE/AAPG/SEG Member	☐ Yes ☐ No	Membership Number	
First Name (Forename)		Last Name (Surname)	
Job Title			
Company Name			
Mailing Address			
City		State/Province	
Postal Code		Country	
Office Phone		Office Fax		Company URL	
Direct Line		Mobile Phone	
Email Address			

Please state your Technical Discipline (Select one ONLY):

☐ Completions ☐ Drilling ☐ Health, Safety and Environment ☐ Management and Information

☐ Production and Operations ☐ Reservoir ☐ Projects, Facilities and Construction

I would like to receive updates on products, services and events from SPE. ☐ Yes ☐ No

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FULL CONFERENCE REGISTRATION					
DESCRIPTION	FEE PER PERSON				
Full Conference Registration – includes access to all Conference Sessions*, Exhibition, Daily Networking Luncheons, Daily Coffee Breaks, Welcome Reception and one (1) Conference Digital Proceedings.	**Super Early Bird Rate by 18 Aug**	**Early Bird Rate by 18 Sep**	**Standard Rate after 18 Sep**	**Tick (✓)**	**Amount (USD)**
Member	USD 650	USD 700	USD 750		
Non-Member	USD 750	USD 800	USD 850		
Speaker / Author / Committee / Session Chair	USD 600	USD 650	USD 700		
Group Registration – Register 5, Pay for 4 (Refer to Group Registration or contact spekl@spe.org for more information)					
Student (access to all Conference Sessions* and Exhibition ONLY)	Complimentary (with valid student ID only)				0.00
Visitor (access to Exhibition ONLY)	Complimentary (USD 50 for onsite)				0.00

ONE-DAY CONFERENCE REGISTRATION					
One-Day Conference Registration – includes access to all Conference Sessions*, Exhibition, Daily Networking Luncheon, Daily Coffee Breaks, Welcome Reception for the selected day.	**Super Early Bird Rate by 18 Aug**	**Early Bird Rate by 18 Sep**	**Standard Rate after 18 Sep**	**Tick (✓)**	**Amount (USD)**
Member ☐ Monday, 18 Nov ☐ Tuesday, 19 Nov	USD 350	USD 400	USD 450		
Non-Member ☐ Monday, 18 Nov ☐ Tuesday, 19 Nov	USD 400	USD 450	USD 500		

ONE-DAY TRAINING COURSE (WEDNESDAY, 20 NOVEMBER)					
One-Day Training Course – includes Training Course Workbook (selected topic), Certificate of Participation, Networking Luncheon and Coffee Breaks.	**Super Early Bird Rate by 18 Aug**	**Early Bird Rate by 18 Sep**	**Standard Rate after 18 Sep**	**Tick (✓)**	**Amount (USD)**
Select one (1) ONLY: ☐ SPE Training Course: Mastering Uncertainty and Risk in Unconventional Reservoir Assessment (Shale, Coals, Tight Sandstones & Carbonates) ☐ AAPG Training Course: Volumetric Analysis of Shale Reservoirs ☐ SEG Training Course: Integrated Geologic, Seismic, and Reservoir Engineering Characterization for Dual-Media Simulation in Conventional and Unconventional Fractured Reservoirs ☐ SPE Queensland Section Training Course: Applied Statistical Modeling and Data Analytics for Reservoir Performance Analysis					
Member	USD 500	USD 600	USD 700		
Non-Member	USD 700	USD 800	USD 900		
Note: Price shown is inclusive of 10% Australian GST			**TOTAL AMOUNT (USD)**		

*Conference Sessions: Opening, Keynote and Executive Plenary Session, Technical Plenary Session, Panel Sessions, Technical Sessions and Knowledge Sharing ePoster Sessions.

REGISTRATION FORM

ASIA PACIFIC UNCONVENTIONAL RESOURCES TECHNOLOGY CONFERENCE

18 - 19 November 2019 | Brisbane Convention & Exhibition Centre, Brisbane, Australia

TERMS & CONDITIONS

Registration Fee

- Fee DOES NOT include accommodation. SPE will provide details of recommended hotels upon receipt of your registration.
- Registration of participant will only be confirmed upon registration and receipt of full payment or an acceptable employer's letter guarantee.
- All outstanding payments must be received on or prior to the date of the event for participants to be allowed to attend. SPE reserves the right to cancel the registration if no payment is received prior to or on the date of the event.
- Full fee is charged regardless of the length of time the Participant attends the event and cannot be pro-rated.

Taxes

- Fee are made free and clear of, and without any deduction or withholding for and on account of, any taxes, duties or other deductions. Any such deduction or withholding, if required by the laws of any country are the sole responsibility of the Participant.

Cancellation Policy

- A processing fee of USD 150.00 will be charged for cancellation received before by 4 November 2019.
- No refund for cancellation received after 4 November 2019.
- Participant who failed to attend will not be eligible for a refund.
- Cancellation must be notified in writing to SPE.

Privacy Policy

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- Please visit our website at www.spe.org/about/privacypolicy.php for further details on SPE's Privacy Policy. We reserve the right to amend the SPE Privacy Policy at any time and will place the latest version on our website.

Disclaimer

- SPE reserves the right to change the speaker(s), date(s), venue or to cancel the event should circumstance beyond its control arises.
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- SPE will not be liable to you for any damages, costs, losses or expenses of any kind incurred or suffered by you as a result of or in relation to SPE modifying, postponing or cancelling the event or any part of the event.
- The Participant acknowledges and agrees that by registering for this event, the Participant accepts these Terms and Conditions and agrees to be bound by them.

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☐ **Telegraphic Transfer**

Bank details will be provided in the invoice.

☐ **Credit Card**

SPE accepts American Express, Visa, MasterCard and Diners Club and payment will be processed in US Dollars only.

To pay online, go to: http://www.spe.org/go/19APUR.
For manual payment, you will receive an email with instruction on securely submitting your payment.

SPE Contact:
Society of Petroleum Engineers
Suite 12.01, Level 12, Menara IGB
Mid Valley City, Lingkaran Syed Putra
59200 Kuala Lumpur Malaysia
Tel: +60 3 2182 3000 Fax: +60 3 2182 3030
Email: spekl@spe.org

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GROUP REGISTRATION FORM

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REGISTER 5, PAY FOR 4

FULL CONFERENCE REGISTRATION			
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Full Conference Registration – includes access to all Conference Sessions*, Exhibition, Daily Networking Luncheons, Daily Coffee Breaks, Welcome Reception and one (1) Conference Digital Proceedings.	**Super Early Bird Rate by 18 Aug**	**Early Bird Rate by 18 Sep**	**Standard Rate after 18 Sep**
Category A: Member	USD 650	USD 700	USD 750
Category B: Non-Member	USD 750	USD 800	USD 850
Category C: Speaker / Author / Committee / Session Chair	USD 600	USD 650	USD 700
ONE-DAY CONFERENCE REGISTRATION			
One-Day Conference Registration – includes access to all Conference Sessions*, Exhibition, Daily Networking Luncheon, Daily Coffee Breaks, Welcome Reception for the selected day.	**Super Early Bird Rate by 18 Aug**	**Early Bird Rate by 18 Sep**	**Standard Rate after 18 Sep**
Category D: Monday, 18 November – Member	USD 350	USD 400	USD 450
Category E: Monday, 18 November – Non-Member	USD 400	USD 450	USD 500
Category F: Tuesday, 19 November – Member	USD 350	USD 400	USD 450
Category G: Tuesday, 19 November – Non-Member	USD 400	USD 450	USD 500

Note: Price shown is inclusive of 10% Australian GST

COMPANY INFORMATION					
Company Name					
Mailing Address					
City		State/Province			
Postal Code		Country			
Office Phone		Office Fax		Company URL	
Contact Person Full Name					
Direct Line		Mobile Phone			
Email Address					

Please state your Technical Discipline (Select one ONLY):

☐ Completions ☐ Drilling ☐ Health, Safety and Environment ☐ Management and Information

☐ Production and Operations ☐ Reservoir ☐ Projects, Facilities and Construction

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1.							
2.							
3.							
4.							
5.							
Note: The lowest registration fee will be waived as part of Group Registration Package.					**TOTAL AMOUNT (USD)**		

*Conference Sessions: Opening, Keynote and Executive Plenary Session, Technical Plenary Session, Panel Sessions, Technical Sessions and Knowledge Sharing ePoster Sessions.

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Bank details will be provided in the tax invoice.

☐ **Credit Card**

SPE accepts American Express, Visa, MasterCard and Diners Club and payment will be processed in US Dollars only.

For manual payment, you will receive an email with instruction on securely submitting your payment.

SPE Contact:
Society of Petroleum Engineers
Suite 12.01, Level 12, Menara IGB
Mid Valley City, Lingkaran Syed Putra
59200 Kuala Lumpur Malaysia
Tel: +60 3 2182 3000 Fax: +60 3 2182 3030
Email: spekl@spe.org

General Information

Venue

Brisbane Convention & Exhibition Centre (BCEC)
Cnr Merivale & Glenelg Streets
P.O. Box 3869 South Bank
Brisbane, Queensland 4101
Australia
P: +61.7.3308.3000
W: www.bcec.com.au

Delegate Pack

The delegate pack consisting of event brochure and other relevant information will not be mailed in advance. They can be collected during the event at the venue.

Badge Collection

Event badges will not be mailed in advance. They can be collected during the event at the venue.

Badges are required for admission into the event and must be worn at all times during event days

Airport

The Brisbane International Airport is approximately 20 – 30 minutes by road to the Brisbane Convention & Exhibition Centre and Rydges South Bank. The various models of transportation available are airport/hotel limousine services, taxis, trains and shuttle busses.

Photography and Audio Visual Copyright

All conference sessions and the exhibition/technical showcase are protected by international copyright laws.

Photography and video/audio recording of any kind in conference sessions and the exhibition are prohibited without prior written permission by SPE

Accommodation

The following hotel is within proximity of the event. All accommodation and hotel bookings are to be made directly with the hotel.

Rydges South Bank
9 Glenelg Street, South Brisbane, Queensland 4101, Australia
P: +61 7 3364 0800
W: www.rydges.com/accommodation/brisbane-qld/brisbane-south-bank

Online Booking: https://www.rydges.com/private-page/asia-pacific-unconventional-resources-technology-conference/

Booking Deadline: 14 October 2019

Room Type	Rate Per Room Per Night
Queen Room	AUD 239

Notes:

- Rates are valid from 16 – 19 November 2019.
- Rates are inclusive of GST, on a per room night basis.
- Rates are applicable for up to two (2) adults; extra adults charged at AUD60 per night.
- Valet parking is available and is charged at AUD 40 per vehicle per night.
- Complimentary Wi-Fi is included within the rates above for all guests staying in house.
- Daily full buffet breakfast, included unlimited espresso coffee is served in Bacchus and is currently charged at a retail price of AUD 40 per person. APAC URTeC guests will be extended a discounted breakfast rate of AUD 32 per person (Not applicable for Room Service or CBD)

Visa

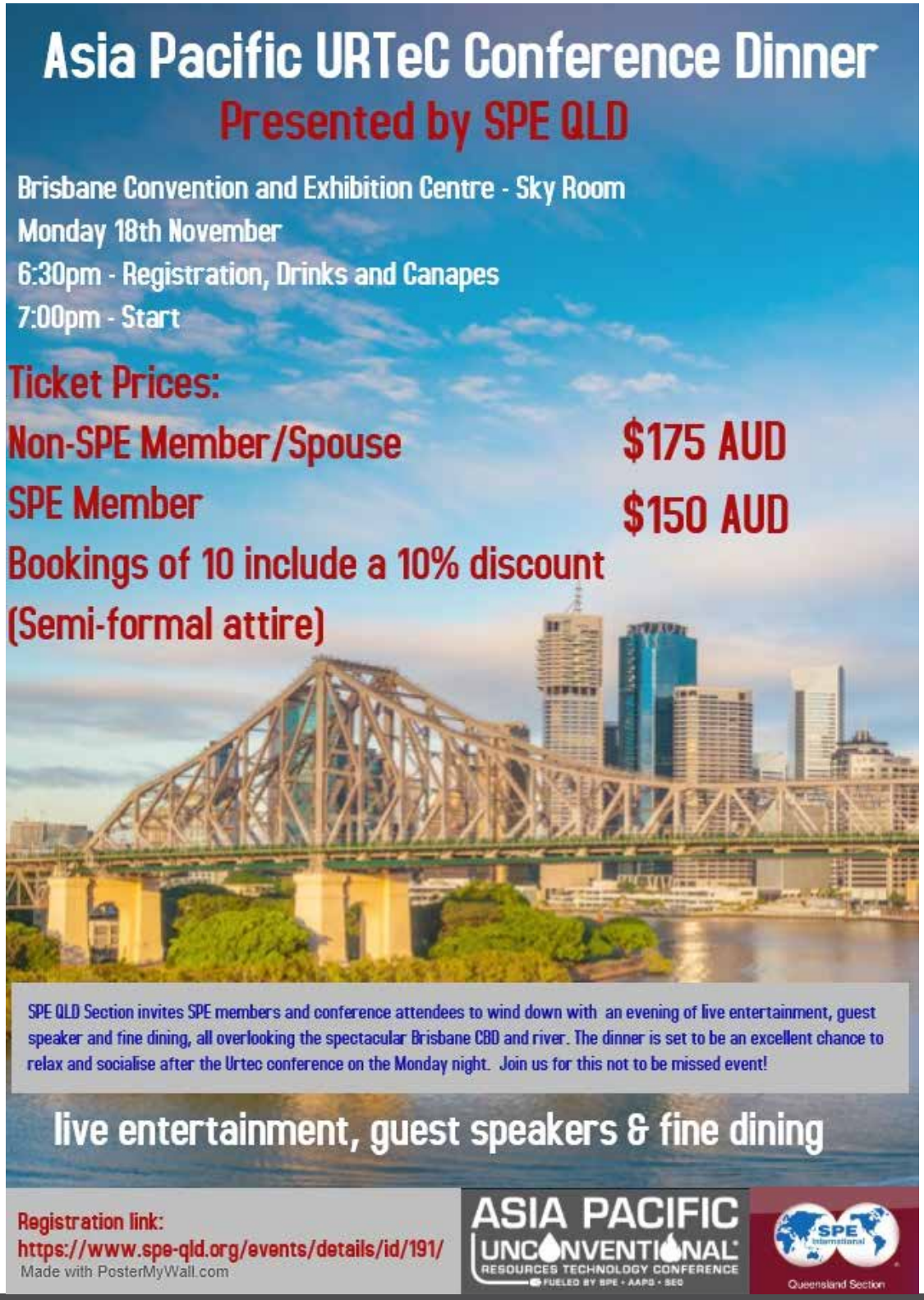
Event attendees travelling to Australia must be in possession of passports valid for at least six (6) months with proof of onward passage out of the country. Information on Australian visa requirement can be found on the Department of Home Affairs website https://www.homeaffairs.gov.au/. Visa requirements depend on the country of origin. Please check with your travel agent, or the Australian Embassy or Consulate on regulations relating to immigration/visa before your departure.

An invitation letter to facilitate the application of visa will be issued to registered attendees if required. Please download the letter of invitation request form at go.spe.org/19APURV, fill it in and send it to Ken Fu at kfu@spe.org.

Please note that it is the sole responsibility of the attendee to obtain the necessary paperwork for entry into Australia. The invitation letter does not guarantee that you will be granted a visa.

Conference Dinner

The SPE Queensland Section invites conference attendees, local members and partners to wind down with an evening of live entertainment, guest speaker and fine dining, all overlooking the spectacular Brisbane CBD and river. The dinner is set to be an excellent opportunity for delegates to relax and socialise after a busy day at the conference, on Monday evening. Join us for this not to be missed event! For further information and purchase of tickets, please register here: https://www.spe-qld.org/events/details/id/191/



Visit Brisbane - Plan Ahead

Brisbane, capital of Queensland, is a large city on the Brisbane River. Clustered in its South Bank cultural precinct are the Queensland Museum and Sciencentre, with noted interactive exhibitions. Another South Bank cultural institution is Queensland Gallery of Modern Art, among Australia's major contemporary art museums. Looming over the city is Mt. Coot-tha, site of Brisbane Botanic Gardens.

Brisbane has something for everyone – live sport, art and culture, music and festivals aplenty. These events are not confined to the city heart, as the precincts and regions play their part in staging entertainment throughout the year.

Feel the crowd roar at an international rugby showdown; browse through art galleries known for hosting collections from the likes of Warhol to Lynch; or unwind and unbuckle on the banks of the Brisbane River after eating your way through one of Australia's biggest food festivals. Discover our jam-packed calendar of food and wine, sport, art and cultural events.

For more information,
visit https://www.visitbrisbane.com.au/

Contact

Suite 12.01, Level 12
Menara IGB, Mid Valley City
Lingkaran Syed Putra
59200 Kuala Lumpur, Malaysia
Tel: +603 2182 3000
Fax: +603 2182 3030
Email: spekl@spe.org

Visit **go.spe.org/19APURC** for more information about APAC URTeC 2019

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Suite 12.01, Level 12, Menara IGB
Mid Valley City, Lingkaran Syed Putra
59200 Kuala Lumpur, Malaysia

T: +603 2182 3000

E: spekl@spe.org