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Geophysics and Geology together for Discovery

ASEG-PESA 2015

24th International Geophysical Conference and Exhibition
15–18 February 2015
Perth, Western Australia

SECTION 1
CONFERENCE PROGRAMME

Australian Society of Exploration Geophysicists

PESA Petroleum Exploration Society of Australia

WesternGeco

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24th International Geophysical Conference and Exhibition
15–18 February 2015 Perth, Western Australia

24th International Geophysical Conference and Exhibition						
Monday, 16 February 2015						
0730 – 1800	Registration Open					
0830 – 1810	Trade Exhibition Open					
0830 – 1010	Opening Plenary Room: Riverside Theatre Welcome To Country – **Marie Taylor** Conference welcome from Platinum Sponsor – **Roger Dowdney**, *WesternGeco* Conference official opening – **Hon. Bill Marmion**, WA Minister for Finance, Mines and Petroleum ASEG President address – **Greg Street** PESA President address – **Max Williamson** ASEG Award presentations Addressing market challenges through collaboration and technology – **Aparna Raman,** *WesternGeco*					
1010 – 1030	**Morning Tea**					
1030 – 1210	**Petroleum** **Theme: Marine Seismic Acquisition** **Room: Riverside Theatre** **Chair: Andrew Long**	**Petroleum** **Theme: 4D Seismic Monitoring 1** **Room: Meeting Room 2** **Chair: James Deeks**	**Petroleum** **Theme: Seismic Signal Processing** **Room: Meeting Room 3** **Chair: Andrej Bóna**	**Minerals** **Theme: Exploration Case Studies 1** **Room: River View 5** **Chair: Jayson Meyers**	**Minerals** **Theme: Gravity and Magnetics 1** **Room: Meeting Room 7** **Chair: David Isles**	**Near-Surface** **Theme: Groundwater Geophysics 1** **Room: Meeting Room 1** **Chair: James Reid**
1030 – 1055	**KEYNOTE** Evolution of Marine Acquisition Technology after Wide Azimuth **Nick Moldoveanu** *Schlumberger*	Overburden heterogeneities influence on time-lapse seismic repeatability: a finite difference modelling study **Lisa Gavin** *Chevron, ETC*	True-azimuth 3D inverse scattering series method for internal multiple attenuation **Min Wang** *CGG*	**SPONSORED PRESENTATION** +40 years of Geophysics in Pilbara and beyond **Asmita Mahanta** *BHP Billiton*	Magnetic mapping of river channel and palaeochannel deposits – An example from Teetulpa, South Australia **Clive Foss** *CSIRO*	Compilation of a resistivity atlas of Danish lithologies based on direct resistivity measurements and wireline logging data **Ingelise Moller** *Geological Survey of Denmark and Greenland*
1055 – 1120		4D seismic over the Pyrenees Fields **Guy Duncan** *BHP Billiton*	Adaptive primary-multiple separation using 3D curvelet transform **Xiang Wu** *CGG*		Automated estimation of uncertainties in a 3D geological model of the Sandstone Greenstone Belt, Yilgarn Craton, Western Australia **Ruth Murdie** *Geological Survey of Western Australia*	Optimizing airborne electromagnetic (AEM) inversions for hydrogeological investigations using a trans disciplinary approach **Ken Lawrie** *Geoscience Australia*

1120 – 1145	Fast cycle time broadband seismic for exploration **Peter Chia** *Shell Australia*	Estimation of reservoir fluid saturation from seismic data: amplitude analysis and impedance inversion as a function of noise **Rafael Souza** *University of Western Australia*	Improving imaging through specular amplitude enhancement in the local angle domain **Karl Hosgood** *Paradigm Geophysical*	Geophysical responses over the Cannington Ag-Zn-Pb deposit – Queensland **Ken Witherly** *Condor Consulting Inc.*	3D joint gravity and magnetic inversion at regional scale – what can it tell us about geology? **Alan Aitken** *University of Western Australia*	**KEYNOTE** Advancing geophysical methods for groundwater evaluation and management **Rosemary Knight** *Stanford University*
1145 – 1210	New Insights into the North Taranaki Basin from New Zealand's first broadband 3D survey **Marjosbet Uzcategui Salazar** *Schlumberger*	4D inversion of borehole gravity data for monitoring fluid fronts **Hyoungrea Rim** *KIGAM*	Interferometric OBC Surface Related Multiple Attenuation **Kunlun Yang** *CGG*	The Camelwood and Musket nickel deposits – Discovery of a new nickel sulphide camp in the north eastern goldfields of Western Australia **Antonio Huizi** *Southern Geoscience Consultants*	Paleo-drainage and structural deformation during Gondwana breakup: insights from the 3D geometry of the Bunbury Basalt **Hugo Olierook** *Curtin University*	
1210 – 1300	**Lunch**					
1300 – 1330	**Room: Exhibition Hall 2 Poster Display**					
1330 – 1510	**Petroleum Theme: Passive Seismic Room: Riverside Theatre Chair: Andrew Long**	**Petroleum Theme: 4D Seismic Monitoring 2 Room: Meeting Room 2 Chair: Lisa Garvin**	**Petroleum Theme: Potential Fields + Seismic Room: Meeting Room 3 Chair: Jane Cunneen**	**Minerals Theme: Exploration Case Studies 2 Room: River View 5 Chair: Joel Jansen**	**Minerals Theme: Gravity and Magnetics 2 Room: Meeting Room 7 Chair: Alan Aitken**	**Near-Surface Theme: Groundwater Geophysics 2 Room: Meeting Room 1 Chair: Geoff Pettifer**
1330 – 1355	**KEYNOTE** Microseismic frac monitoring: yesterday, today and tomorrow **Peter Duncan** *MicroSeismic*	Stochastic time-lapse Inversion of a CO2 sequestration synthetic seismic data **Mateus Meira** *Petrobras*	Estimation of the petrophysical model via joint inversion of seismic and EM datasets **Garrett Kramer** *Schlumberger*	**KEYNOTE** Geophysics of the Tropicana gold deposit **Keith Martin** *Anglogold Ashanti Ltd.*	Constraining regional scale fault architecture in the southern New England Orogen: integration of seismic, multiscale edges and surface mapping **Jamie Robinson** *Geological Survey of New South Wales*	An investigation of the hidden precious water resources of Dampier Peninsula using airborne electromagnetic method **John Joseph** *Geophysical Consultancy Services*
1355 – 1420		Integrating 3D seismic data and hydraulic units to improve reservoir property models **Mohammad Emami Niri** *University of Western Australia*	Airborne gravity gradiometer surveying of petroleum systems under Lake Tanganyika, Tanzania **Douglas Roberts** *Beach Energy*		A new interpretation of Cambrian basement geology increases the prospectivity for Cu porphyries in western Victoria **Phil Skladzien** *Geological Survey of Victoria*	Adiabatic pulses enhance speed and sensitivity of geophysical surface NMR measurements for groundwater investigations **Elliot Grunewald** *Vista Clara*

1420 – 1445	Velocity model estimation by full waveform inversion of time-lapse 4D passive seismic array data **Rie Kamei** *University of Western Australia*	Using time-lapse VSP data to constrain velocity-saturation relations **Boris Gurevich** Curtin University	*New geological insights from the Barbwire Terrace using Falcon® data, Canning Basin* **Tony Rudge** *Buru Energy*	Geophysical response of the Atlántida Cu-Au porphyry deposit, Chile - An undercover discovery in an old district **Matthew Hope** *First Quantum Minerals*	**KEYNOTE** 3D gravity and magnetic modelling - its past and future contribution to understanding the geology of Australia **Richard Lane** *Geoscience Australia*	Using airborne EM and borehole NMR data to map the transmissivity of a shallow semi-confined aquifer, western New South Wales **Ko Piang Tan** *Geoscience Australia*
1445 – 1510	Passive seismic imaging at depth using ambient noise fields recorded in a shallow buried sensor array **Nader Issa** *University of Western Australia*	Multi-objective optimization for reservoir modelling and seismic data matching: proof of concept and field application **Mohammad Emami Niri** *University of Western Australia*	Integrated interpretation and simultaneous joint inversion of 3D marine CSEM and seismic datasets **Garrett Kramer** *Schlumberger*	Passive airborne EM and ground IP\resistivity results over the Romero intermediate sulphidation epithermal gold deposits, Dominican Republic **Jean Legault** *Geotech Ltd.*		An efficient and automatic procedure for integrating resistivity and borehole information for large scale groundwater modelling **Anders Vest Christiansen** *Aarhus University*
1510 – 1530	**Afternoon Tea**					
1530 – 1710	**Petroleum** **Theme: Full Waveform Inversion 1** **Room: Riverside Theatre** **Chair: Andrew Long**	**Petroleum** **Theme: Borehole Geophysics** **Room: Meeting Room 2** **Chair: TBC**	**Petroleum** **Theme: Rock Physics 1** **Room: Meeting Room 3** **Chair: Boris Gurevich**	**Minerals** **Theme: Exploration Case Studies 3** **Room: River View 5** **Chair: John Hart**	**Minerals** **Theme: Gravity and Magnetics 3** **Room: Meeting Room 7** **Chair: Clive Foss**	**Near-Surface** **Theme: Groundwater Geophysics 3** **Room: Meeting Room 1** **Chair: Geoff Pettifer**
1530 – 1555	**KEYNOTE** Full model wavenumber inversion **Tariq Alkhalifah**	Instantaneous frequency-slowness analysis applied to borehole acoustic data **Marek Kozak** *SuperSonic Geophysical*	Changes in microstructure and mineralogy of organic-rich shales caused by heating **Marina Pervukhina** *CSIRO*	Discovery of the Eureka volcanogenic massive sulphide lens using down-hole electromagnetics **Mike Whitford** *Independence Group*	Constraints on interpreting magnetic spectral depths **Roger Clifton** *Department of Mines & Energy*	Derivative analysis of geophysical borehole traces **Aaron Davis** *CSIRO*
1555 – 1620		Look ahead rig source vertical seismic profile (VSP) applications - Case studies **Muhammad Shafiq** *Schlumberger*	Effective medium modelling the effects of saturation on the joint elastic-dielectric properties of carbonates **Marina Pervukhina** *CSIRO*	Helicopter AFMAG (ZTEM) EM and magnetic results over sedimentary exhalative (SEDEX) lead-zinc deposits at Howard's Pass, Selwyn Basin, Yukon **Jean Legault** *Geotech Ltd.*	Constraining gravity gradient inversion with a source depth volume **Cericia Martinez** *Colorado School of Mines*	The application of AEM to mapping sea-water intrusion at La Grange, Western Australia **David Annetts** *CSIRO MRF*
1620 – 1645	High resolution anisotropic earth model building on conventional seismic data using full waveform inversion: a case study offshore Australia **Bee Jik Lim** *Schlumberger*	Automated structure detection and analysis in televiewer images **Daniel Wedge** *University of Western Australia*	Joint effect of capillary force and fluid distribution on acoustic signatures in rocks saturated with two immiscible fluids **Qiaomu Qi** *Curtin University*	Identification of massive sulphide targets using the galvanic source EM (GSEM) signal from a sub-audio magnetic (SAM) survey at the Far South Project, Western Australia **William Peters** *Southern Geoscience Consultants*	Remanent Magnetisation Inversion **Peter Fullagar** *Fullagar Geophysics Pty. Ltd.*	Airborne electromagnetic survey for water supply planning – Cane River, Western Australia **James Reid** *Mira Geoscience Asia-Pacific*

1645 – 1710	Making anisotropy in PSDM depth-velocity models conformal with geology and velocity. Case study from the NW Australian shelf **Sergey Birdus** *CGG*	Imaging by multiples: a case study in the Carnarvon Basin **Konstantin Galybin** *Schlumberger*	Integration of stratigraphic & rock physics models to generate synthetic seismic data **Mohammed Alkaff** *Curtin University*	Follow up drill hole surveying to determine unidentified EM targets **Paul Mutton** *Touchstone Geophysics*	The application of the Signum transform to the interpretation of magnetic anomalies due to prismatic bodies **Jeferson De Souza** *Universidade Federal do Parana & University of Western Australia*	3D geological modelling of a buried-valley network based on AEM and borehole data **Anne-Sophie Høyer** *Geological Survey of Denmark and Greenland*
1710	**Close of Session**					
1710 – 1810	**Room: Exhibition Hall 1 & 2** **Happy Hour**					

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24th International Geophysical Conference and Exhibition						
Tuesday, 17 February 2015						
0730 – 1710	Registration Open					
0830 – 1810	Trade Exhibition Open					
0830 – 1010	**Petroleum** **Theme: Full Waveform Inversion 2** **Room: River View 4** **Chair: Andrew Long**	**Petroleum** **Theme: Faults and Structures** **Room: Meeting Room 2** **Chair: Dushyan Rajeswaran**	**Minerals** **Theme: MT Methods 1** **Room: Meeting Room 7** **Chair: Ian Ferguson**	**Minerals** **Theme: Mine Scale Geophysics 1** **Room: River View 5** **Chair: Andrew Fitzpatrick**	**Minerals** **Theme: Petrophysics** **Room: Meeting Room 3** **Chair: David Clark**	**Near-Surface** **Theme: Archaeological Geophysics** **Room: Meeting Room 1** **Chair: Greg Street**
0830 – 0855	**KEYNOTE** Randomized algorithms in exploration seismology **Felix Herrmann** UBC	3D seismic analysis of normal fault growth and interaction within a gravitational detachment delta system in the Ceduna Sub-Basin, Great Australian Bight **Alexander Robson** *University of Adelaide*	3D magnetotellurics for mineral exploration beneath cover **Graham Heinson** *University of Adelaide*	**KEYNOTE** Step-changes in geoscientific inputs to mining value chain configuration **John Vann** *Anglo America PLC.*	A moving 3-component fluxgate magnetometer to measure remanent and induced magnetizations in drill core **Clive Foss** *CSIRO*	**KEYNOTE** An Overview of Australian Archaeology: a near surface guide **Fiona Hook** ARCHAE-AUS
0855 – 0920		Kinematic reconstruction of the Hastings Block, Southern New England Orogen, Australia **Paul Lennox** *The University of New South Wales*	The 3D joint inversion of MT and ZTEM data **Daniel Sattel** *EM Solutions LLC*		Evaluation of banded iron formation using magnetic susceptibility **Robert Howard** *Case Consulting Pty. Ltd.*	

0920 – 0945	Full waveform inversion comparison of conventional and broadband marine seismic streamer data, NW Shelf Australia **U Geun Jang** *University of Western Australia*	Quantitative sonic transit time analysis defines multiple Permian–Cretaceous exhumation events during the breakup of Gondwana **Hugo Olierook** *Curtin University*	Natural field electromagnetics: Assessing a partially known source: Improvements to signal to noise ratios **Lachlan Hennessy** *RMIT University*	Improving resource density models via surface gravity inversion **Chris Wijns** *First Quantum Minerals Ltd.*	A methodology for density determination from core imagery and assays **Adel Vatandoost** *Fortescue Metals Group Ltd*	Geophysical remote sensing of a historical aboriginal gravesite in Quairading, Western Australia **Lisa Gavin** *University of Western Australia*
0945 – 1010	Do we really need a very accurate starting velocity model for full waveform inversion? **Fabio Mancini** *Woodside*	A prospective deep basin in southern Papua New Guinea? **Michael Alexander** *Integrated Geophysics Corporation*	The effect of highly magnetic material on ZTEM data **Daniel Sattel** *EM Solutions LLC*	Seismic resonance modes for mine roof stability monitoring **Andrew King** *CSIRO*	Casing correction of slimline density logs for iron ore exploration **Duncan Hinton** *Weatherford*	
1010 – 1030	**Morning Tea**					
1030 – 1210	**Petroleum** **Theme: Stratigraphy and Facies 1** **Room: River View 4** **Chair: Andrew Long**	**Petroleum** **Theme: Laboratory Measurements** **Room: Meeting Room 2** **Chair: Boris Gurevich**	**Minerals** **Theme: MT Methods 2** **Room: Meeting Room 7** **Chair: Graham Heinson**	**Minerals** **Theme: Mine Scale Geophysics 2** **Room: River View 5** **Chair: Chris Wijns**	**Near-Surface** **Theme: Engineering Geophysics** **Room: Meeting Room 1** **Chair: Hugh Tassell**	
1030 – 1055	**KEYNOTE** Integration of seismic stratigraphy and seismic geomorphology for prediction of lithology: Applications and workflows **Henry Posamentier** *Independent Consultant, ex-Chevron*	Joint inversion of P-, and S-wave travel times for characterisation of anisotropic materials using laser doppler interferometry measurements **Andrej Bóna** *Curtin University*	Interpretation of resistivity and magnetic anomalies from the Fox River Sill, Trans Hudson Orogen, Canada **Ian Ferguson** *University of Manitoba*	Geostatistically and Drilling Constrained Magnetic Inversion for Predicting Mineralisation at the Basil Cu-Co Deposit **Matthew Zengerer** *Intrepid Geophysics*	**KEYNOTE** Developing urban and mining geophysical instruments and methods: pushing the boundaries **Alireza Malehmir** *Uppsula University*	
1055 – 1120		Broadband laboratory measurements of dispersion in thermally cracked and fluid-saturated soda-lime-silica glass **Yang Li** *Australian National University*	Deep conductivity anomaly of the Darling Fault Zone: Implications for fluid transport in the Perth Basin **Thomas Hoskin** *University of Western Australia*	Magnetic modelling and geological modelling come together at the Kintyre uranium deposit **Andrew Fitzpatrick** *Cameco Corporation*		
1120 – 1145	**KEYNOTE** Geophysics of stratigraphic facies identification: Emergent phases of self-organisation and the Mallat Scattering Transformation **Michael Glinsky** *Halliburton*	Stress-associated scattering attenuation and intrinsic attenuation from ultrasonic measurements **Li-Yun Fu** *Institute Of Geology And Geophysics*	Resistivity structures of western Victoria, Australia from 2D and 3D modelling of magnetotelluric data **Sasha Aivazpourporgou** *Monash University*	Mine scale constrained geophysical inversion; a case study at the Darlot-Centenary gold mine **Sarah Monoury** *SRK Consulting*	Multichannel 3D ground penetrating radar - Advances in civil infrastructure scanning **Lee Tasker** *University of Western Australia*	
1145 – 1210		X-ray computed tomography investigation of structures in claystone at large scale and high speed **Gerhard Zacher** *GE Sensing & Inspection Technologies*	Carpentaria conductivity anomaly revisited with preliminary magnetotelluric results from the southeast Mt Isa survey 2014 **Millicent Crowe** *Geoscience Australia*	Blind test of muon geotomography for mineral exploration **Joel Jansen** *Teck Resources Limited*	Detection of deep buried metal objects with the UltraTEM **Stephen Billings** *Gap Explosive Ordnance Detection*	

1210 – 1300	**Lunch**				
1300 – 1330	**Room: Exhibition Hall 2 Poster Display**				
1330 – 1510	**Petroleum Theme: Stratigraphy and Facies 2 Room: River View 4 Chair: Andrew Long**	**Petroleum Theme: Theoretical Studies Room: Meeting Room 2 Chair: James Deeks**	**Minerals Theme: Electrical-Electromagnetic Methods Room: Meeting Room 7 Chair: Andrew Duncan**	**Minerals Theme: New Ways to Analyse Data Room: River View 5 Chair: Eun-Jung Holden**	**Near-Surface Theme: Shallow Seismic 1 Room: Meeting Room 1 Chair: Jeffrey Shragge**
1330 – 1355	**KEYNOTE** Seismic geomorphology of mixed-influence coastal-deltaic systems **Simon Lang** *Chevron*	Broadband data from flat streamers: considerations for acquisition and processing **Edward Hager** *Polarcus*	Correcting EM system bandwidth limitations **James Macnae** *RMIT University*	Combining machine learning and geophysical inversion for applied geophysics **Anya Reading** *University of Tasmania*	**KEYNOTE** Advances in seismic surface wave analysis and integration with body waves data **Laura Valentina Socco** *Politecnico di Torino*
1355 – 1420		Linking electrical and hydraulic conductivity through models of random resistor networks **Alison Kirkby** *University of Adelaide*	Using induction coil sensor optimization techniques for designing compact geophysical transmitters **Joseph Hamad** *RMIT University*	Comparison between manual and automated targeting for Nolans Bore-style rare earth element (REE) deposits **Sharon Lowe** *Southern Geoscience Consultants*	
1420 – 1445	Quaternary isolated carbonate build-ups in the Timor Sea (NW Australia) – Understandings and implications **Muhammad Mudasar Saqab** *University of Western Australia*	Layer-induced scattering attenuation and VTI anisotropy – NW Shelf Australia synthetic study **Boris Gurevich** *Curtin University*	Pareto efficient multi-objective joint optimisation of EM data **Sebastian Schnaidt** *University of Adelaide*	**KEYNOTE** The future of mineral exploration – and what it means for geophysics **Jon Hronsky** *Western Mining Services*	Integrated reflection and refraction processing of an ultra-shallow seismic survey **Alan Meulenbroek** *Velseis Pty Ltd*
1445 – 1510	Geomorphology and seismic stratigraphy of the early Cretaceous delta in the Vlaming Sub-Basin and implications for seal quality **Chris Southby** *Geoscience Australia*	Pre-stack time migration in common source domain without velocity model **Mohammad Javad Khoshnavaz** *Curtin University*	Determination of model reliability in 3-D resistivity and I.P. inversion **M.H. Loke** *Geotomo Software*		Is it time to modernize near-surface refraction seismology with full waveform methods? **Derecke Palmer** *University of New South Wales*
1510 – 1530	**Afternoon Tea**				

	Petroleum Theme: Stress & Seals Room: River View 4 Chair: Dushyan Rajeswaran	Petroleum Theme: Seismic Imaging Theory Room: Meeting Room 2 Chair: Andrej Bóna	Minerals Theme: Atomic Dielectric Resonance Room: Meeting Room 7 Chair: Kim Frankcombe	Minerals Theme: CRC DET Downhole Technologies Room: River View 5 Chair: Mike Haederle	Near-Surface Theme: Shallow Seismic 2 Room: Meeting Room 1 Chair: Ian James
1530 – 1710					
1530 – 1555	Integrating geology & geophysics to assess seal risk – An example of seismic interpretation to address sand juxtaposition across faults **Leonardo Molinari** *Chevron Australia*	Solving the 3D acoustic wave-equation on generalized structured meshes: a FDTD approach **Jeffrey Shragge** *University of Western Australia*	Large depth exploration using pulsed radar **Gordon Stove** *ADROK*	**KEYNOTE** Coiled tubing drilling and real-time sensing — Enabling 'prospecting drilling' in the 21st century? **Richard Hillis** *Deep Exploration Technologies CRC*	The application of geophysics to the sport of Cricket **Ben McCarthy** *Curtin University*
1555 – 1620	The role of seal integrity in the Vlaming Sub-Basin (Perth Basin) for preservation of hydrocarbon accumulations **Irina Borissova** *Geoscience Australia*	Performance of the double absorbing boundary method when applied to the 3D acoustic wave equation **Toby Potter** *University of Western Australia*	Gold and sulfide targeting using Atomic Dielectric Resonance (ADR) **Simon Richards** *Citigold Corporation Ltd.*		An onshore and offshore seismic investigation across a creek **Koya Suto** *Terra Australis Geophysica*
1620 – 1645	Oblique reactivation of inherited fabrics in rift basins: applications to the Northern Carnarvon Basin **Chris Elders** *Curtin University*	Cross-Correlative Least-Squares Reverse Time Migration - Theory and Field Applications **Yi Xie** *CGG*	Discussion of ADR	Logging during diamond drilling - Autonomous logging integrated into the bottom hole assembly **Andrew Greenwood** *Curtin University*	Can near-surface velocity structure be improved via dispersion analysis of conventional reflection data? **Shaun Strong** *Velseis*
1645 – 1710	Evolution of detached listric fault systems in the Ceduna Delta, Bight Basin: insights from 3D seismic data **Matthew Kovacevic** *Curtin University*	Seismic prim waves generated by seafloor canyons and their effects on subsurface imaging **James Deeks** *University of Western Australia*		Evaluation of the looking ahead capability of conventional borehole radar **Binzhong Zhou** *CSIRO*	
1710	**Close of Session**				
1710 – 1810	**Room: Exhibition Hall 1 & 2** **Happy Hour**				
1900 – 2300	**Conference Dinner** **Venue: State Reception Centre, Kings Park**				

24th International Geophysical Conference and Exhibition					
Wednesday, 18 February 2015					
0800 – 1530	Registration Open				
0830 – 1530	Trade Exhibition Open				
0830 – 1010	**Petroleum** **Theme: Rock Physics 2** **Room: River View 4** **Chair: Mohammad Emami Niri**	**Petroleum** **Theme: Broadband Seismic Processing** **Room: Meeting Room 1** **Chair: U Geun Jang**	**Minerals** **Theme: Airborne Electromagnetics 1** **Room: Meeting Room 2** **Chair: David Annetts**	**Minerals** **Theme: Geology from Geophysics 1** **Room: River View 5** **Chair: Mark Jessell**	**Minerals** **Theme: Hard Rock Seismic 1** **Room: Meeting Room 3** **Chair: Alireza Malehmir**
0830 – 0855	**KEYNOTE** Seismic screening for hydrocarbon prospects using rock-physics attributes **Per Avseth** *Tullow Oil*	Unlocking the full potential of broadband data with advanced processing and imaging technology, a case study from NWS Australia **Jingyu Li** *CGG*	Quasi3D inversion of airborne EM data **Robert Ellis** *Geosoft Inc.*	**KEYNOTE** Structure and stratigraphy from aeromagnetic data within sedimentary basins **David Isles** *Southern Geoscience Consultants*	**KEYNOTE** Seismic exploration of the world's deepest gold and platinum orebodies in South Africa – Overview of the past, present and a look into the future **Musa Manzi** *University of Witwatersrand*
0855 – 0920		Pre-stack deghosting: Bringing out the seismic bandwidth in legacy marine data **Jun Zhou** *TGS*	Parametric 3D inversion of airborne time domain electromagnetics **Michael McMillan** *University of British Columbia*		
0920 – 0945	Relationship between shear wave azimuthal anisotropy, sand-shale content and depth in the Exmouth Sub-Basin, Western Australia **Lisa Gavin** *University of Western Australia*	Imaging through shallow gas: Integrating broadband acquisition, processing and high-end model building for improved imaging of deeper targets **Gavin Menzel-Jones** *Schlumberger*	Rapid 3D inversion of airborne TEM data from Forrestania, Western Australia **Peter Fullagar** *Fullagar Geophysics Pty. Ltd.*	**KEYNOTE** Structural geophysics: geological principles applied to geophysical data **Peter Betts** *Monash University*	Using seismic reflection profiles to model 3D geology of VMS districts in the Raahe-Ladoga belt, Finland **Suvi Heinonen** *Geological Survey of Finland*
0945 – 1010	Rock physics and quantitative interpretation using Lambda-Mu-Rho in the Shipwreck Trough, Otway Basin **David Close** *Origin Energy*	Innovative processing approaches to overcome sampling sparseness and irregularity in 3D OBC seismic data offshore Abu Dhabi **Shotaro Nakayama** *ADMA-OPCO*	Automated airborne EM anomaly picking and 3D model fitting **James Macnae** *RMIT University*		Seismic exploration for volcanogenic massive sulphides: the DeGrussa copper-gold mine, Western Australia **Jai Kinkela** *HiSeis Pty. Ltd*
1010 – 1030	**Morning Tea**				

1030 – 1210	**Petroleum** **Theme: Seismic Imaging Practice** **Room: River View 4** **Chair: Andrew Long**	**Petroleum** **Theme: Reservoir Characterization 1** **Room: Meeting Room 1** **Chair: Rafael Souza**	**Minerals** **Theme: Airborne Electromagnetics 2** **Room: Meeting Room 2** **Chair: Daniel Sattel**	**Minerals** **Theme: Geology from Geophysics 2** **Room: River View 5** **Chair: Mike Dentith**	**Minerals** **Theme: Hard Rock Seismic 2** **Room: Meeting Room 3** **Chair: Greg Turner**
1030 – 1055	**KEYNOTE** Incorporating near-surface velocity anomalies in pre-stack depth migration models **Ian Jones** *ION GX Technology*	Using AVO to map Cooper Basin Permian sands in the presence of coal **Stephanie Tyiasning** *University of Adelaide*	Utilizing massively parallel co-processors in the AarhusInv 1D forward and inverse AEM modelling code **Casper Kirkegaard** *Aarhus University*	**KEYNOTE** Geochemistry, the new geophysics? **Scott Halley** *Mineral Mapping Pty. Ltd.*	Kevitsa Ni-Cu-PGE deposit, North Finland – A seismic case study **Sasha Ziramov** *Curtin University*
1055 – 1120		Targeted interpretative reprocessing for reservoir characterisation – A case study using the Satyr Field **Dan Gillam** *Chevron Australia*	Sharp SCI: a new practical tool for blocky models reconstruction **Andrea Viezzoli** *AARHUS Geophysics APS*		Seismic volumetric interpretation of a disseminated copper system in Kevitsa, northern Finland **Muhammad Hossain** *Curtin University*
1120 – 1145	Anisotropic depth imaging in presence of stress: transversely isotropic or orthorhombic? **Olga Zdraveva** *Schlumberger*	Prospect validation using geological expression in a gas discovery, offshore Mozambique **Gaynor Paton** *Foster Findlay Associates Australia*	Artificial neural networks for efficient removal of coupled airborne transient electromagnetic data **Kristoffer Andersen** *Aarhus University*	**KEYNOTE** Practical geological mapping under cover using electromagnetic data **Gavin Selfe** *GRS Consulting*	Seismic impedance inversion with petrophysical constraints via the fuzzy cluster method **Duy Thong Kieu** *Curtin University*
1145 – 1210	A stable tomographic solution for anisotropic Epsilon – A tool to aid in exploring for oil in the Northern Carnarvon Basin **Ed Lewis** *ION Geophysical*	Volcanic rock characterisation using the concept of extended elastic impedance: A case study from a Middle Jurassic gas reservoir in offshore Western Australia **Syed Iftikhar Arsalan** *INPEX*	Quasi-3D inversion of full size AEM datasets **Esben Auken** Aarhus University		Laser doppler interferometry (LDI) to obtain full stiffness tensor: a case study on a deformation zone in Sweden **Pouya Ahmadi** *Curtin University*
1210 – 1300	**Lunch**				
1300 – 1330	**Room: Exhibition Hall 2** **Poster Display**				

	Petroleum Theme: Unconventional Oil and Gas Room: River View 4 Chair: Andrew Long	Petroleum Theme: Regional Basin Studies Room: Meeting Room 1 Chair: Dushyan Rajeswaran	Minerals Theme: Airborne Electromagnetics 3 Room: Meeting Room 2 Chair: James Macnae	Minerals Theme: Geology from Geophysics 3 Room: River View 5 Chair: Campbell McCuaig	Minerals Theme: Miscellaneous 1 Room: Meeting Room 3 Chair: David Howard
1330 – 1510					
1330 – 1355	**KEYNOTE** Cultural and technical issues with development of unconventional reservoirs in Australia **Dennis Cooke** *University of Adelaide*	Interpretation and modelling of new Browse Basin airborne magnetic data for igneous rocks and basement **Ron Hackney** *Geoscience Australia*	The superparamagnetic response of transient AEM data **Daniel Sattel** *EM Solutions LLC*	**KEYNOTE** Geoscience data integration: insights into mapping lithospheric architecture **Graham Begg** *Minerals Targeting International*	Geophysics in greenfields regions to determine cover thickness: pre-competitive drilling in the Stavely region of Victoria **Anthony Meixner** *Geoscience Australia*
1355 – 1420		Using potential field data to map salt distribution in the Western Officer Basin, Western Australia **Jane Cunneen** *Curtin University*	Restoration of distributed IP information in airborne-time domain electomagnetic data **Seogi Kang** *University of British Columbia*		Processing gravity gradients to detect kimberlite pipes **Thomas Meyer** *Lockheed Martin MST*
1420 – 1445	Valuable lessons from acquiring 3D seismic for coal seam gas **Andrew Aouad** *Origin Energy*	Scientific ocean drilling and the capabilities of the IODP drillship JOIDES Resolution **Neville Exon** *Australian National University*	Airborne inductive induced polarization chargeability mapping of VTEM data **Jean Legault** *Geotech Ltd.*	**KEYNOTE** Building effective mineral system models; the importance of merging geophysical observation with geological inference **Ken Witherly** *Condor Consulting Inc.*	High precision terrain corrections for next generation airborne gravity data **Mark Grujic** *Rio Tinto Exploration*
1445 – 1510	Unconventional resource evaluation and applied geophysics utilising LMR **David Close** *Origin Energy*	3D geophysical model of the Glyde Basin, Northern Territory, based on curvatures derived from airborne gravity gradient data **Carlos Cevallos** *CGG*	Determining cover variability in the Capricorn Orogen with airborne EM **Yusen Ley-Cooper** *CSIRO*		The value of a combined approach: innovative mineral exploration techniques in the Irish Zn-Pb orefield **Simone de Morton** *University of Melbourne*
1510 – 1530	**Afternoon Tea**				

1530 – 1710	**Petroleum** **Theme: Reservoir Characterization 2** **Room: River View 4** **Chair: Rafael Souza**	**Petroleum** **Theme: Reservoir Characterization 3** **Room: Meeting Room 1** **Chair: Mohammad Emami Niri**	**Minerals** **Theme: Radiometrics** **Room: Meeting Room 2** **Chair: Stephen Mudge**	**Minerals** **Theme: Geology from Geophysics 4** **Room: River View 5** **Chair: Mike Dentith**	**Minerals** **Theme: Miscellaneous 2** **Room: Meeting Room 3** **Chair: Asbjorn Christensen**
1530 – 1555	Insights of dielectric measurements from cuttings recovered along the deepest offshore well in the world (Nankai trough accretionary prism): IODP expedition 338, site C0002F **Lionel Esteban** *CSIRO*	Enhanced delineation of reservoir compartmentalization from advanced pre and post-stack seismic attribute analysis **Mauricio Herrera Volccan** *Schlumberger*	Monitoring airborne gamma ray spectrometer sensitivities using the natural background **Robert Grasty** *Gamma-Bob Inc.*	**KEYNOTE** Geological uncertainty and geophysical inversion **Mark Jessell** *Centre for Exploration Targeting*	Bad colour maps hide big features and create false anomalies **Peter Kovesi** *Centre for Exploration Targeting*
1555 – 1620	Using multivariate data classification on frontier exploration basins to enhance the information value of suboptimal 2D seismic surveys for unconventional reservoir characterization **Andrea Paxton** *Schlumberger*	Seismic waveform classification: Renewing the interest in Barrolka field, SW Queensland, Cooper Basin **Yahya Basman** *Santos*	The 3D inversion of airborne gamma-ray spectrometric data **Brian Minty** *Minty Geophysics*		Quantifying model structural uncertainty and facies prediction for locating groundwater supplies in Timor-Leste using AEM data **Burke Minsley** *U.S. Geological Survey*
1620 – 1710	**Conference Awards and Closing Ceremony** **Riverside Theatre**				
1710 – 1810	**Closing Sundowner** **Riverside Theatre Foyer**				

ASEG-PESA 2015 Workshop Programme			
PCEC	**14 February**	**15 February**	**19 February**
Room	**SATURDAY**	**SUNDAY**	**THURSDAY**
Meeting Room 1	An Introduction to Velocity Model Building **Ian Jones**	An Introduction to Velocity Model Building **Ian Jones**	
Meeting Room 2		Full Waveform Inversion: Where are the Anisotropic Parameters Hiding? **Tariq Al-Khalifah** 0900 – 1700	
Meeting Room 3	Explorational Rock Physics and Seismic Reservior Prediction **Per Avseth & Tor Arne Johansen** 0900 – 1700	Explorational Rock Physics and Seismic Reservior Prediction **Per Avseth & Tor Arne Johansen** 0900 – 1700	
Meeting Room 7	Geophysical Downhole Logging **Luisa D'Andrea** 0800 – 1700	Geology for Mineral Exploration Geophysicists *Co-hosted by the Australian Institute of Geoscientists (AIG) and the ASEG*	Land Seismic Acquisition Technologies **Tim Dean**
Meeting Room 8		ASEG Council Meeting	Geophysical signatures of mineral systems; more than bumps **Ken Witherly**
Meeting Room 9		Practical Geophysical Workflows: Resolving Common Problems in Minerals Exploration Targeting **Geosoft Australia** 0900 – 1700	
Meeting Room 10	Gravity gradiometry and magnetic data with remanence: processing, inversion, and interpretation **Yaoguo Li**	Geophysics for Teachers Workshop	GPlates Short Course **Dietmar Muller**
Meeting Room 11	AEM processing and modelling fundamentals **James Macnae**	AEM processing and modelling fundamentals **James Macnae**	
Amcom Suite			Modern 3D-IP surveying. Practical techniques and short cuts – Benefits, limitations and pitfalls **Steve Collins** 0830 – 1700

* Workshop registrations can be made without attending the ASEG-PESA 2015 Conference.

Sunday 15 February 2015

Welcome Reception

Time: 1700–1900

Venue: The Summer Garden, Level 2, PCEC (located outside near Velluto Café)

Dress: Smart Casual

Tickets: Inclusive for full conference delegates

Additional Tickets: $75 per person

The function will provide the perfect opportunity for delegates to catch up with colleagues, reaffirm past acquaintances and make new contacts whilst enjoying the view of the city sky line.

Monday 16 February 2015

Happy Hour

Venue: Exhibition Halls 1 & 2, Level 1, PCEC

Time: 1700–1800

Cost: Inclusive for Full Delegates

Tuesday 17 February 2015

Happy Hour

Venue: Exhibition Halls 1 & 2, Level 1, PCEC

Time: 1700–1800

Ticket: Inclusive for Full Delegates

University Student Quiz Night – Sponsored by EAGE

Venue: Bob's Bar, The Print Hall, Brookfield Place, 25 George Terrace

Time: 1800–2100

Ticket: Inclusive for Registered students

Transfers: Meet at the ASEG-PESA 2015 Registration desk at 1745 sharp to walk to Bob's Bar

This is a free event for undergraduate and postgraduate students who have registered to attend the ASEG-PESA 2015 Conference. Offering excellent opportunities to network with peers from other universities, drinks and canapés will be provided. The European Association of Geoscientists and Engineers will host the EAGE GeoQuiz and have kindly donated a fantastic prize for the winning team to attend the 77th EAGE Conference & Exhibition in Madrid, Spain 1–4 June 2015. The prize includes airfares, accommodation and entry to the conference!

Conference Dinner

Time: 1900–2300

Venue: State Reception Centre, Kings Park, Perth

Dress: Cocktail

Seating: Cocktail function with scattered seating

Tickets: $125 per person

Transfers: Return transfers will be available departing from the PCEC from 1845, 1900 and 1915. Return transfers will depart the State Reception Centre at 2130, 2200 and 2230.

Come join us for an evening of fine wine, exquisite food, friends and jazz. This year we will be holding the annual conference dinner at the State Reception Centre atop Fraser's Restaurant in King's Park. Prepare to relax with a glass, socialise with your friends and colleagues and get down to the smooth sounds of Freehold, one of Perth's premier jazz bands. This night is all about enjoying yourself in a relaxed environment where you can eat and drink to your heart's content.

Wednesday 18 February 2015

Closing Sundowner

Time: 1700–1800

Venue: Riverside Theatre Foyer, Perth Convention and Exhibition Centre

Dress: Smart Casual

Tickets: Inclusive for full conference delegates