

SECTION 1

CONFERENCE PROGRAMME



Hosted by:



ASEG-PESA 2013

'THE EUREKA MOMENT'
 11-14 AUGUST 2013 • MELBOURNE, AUSTRALIA



23rd International Geophysical Conference and Exhibition PROGRAMME AT A GLANCE

Programme – current as at 6 June 2013 and subject to change



Friday 9 August 2013	Saturday 10 August 2013	Sunday 11 August 2013	Monday 12 August 2013	Tuesday 13 August 2013	Wednesday 14 August 2013	Thursday 15 August 2013	Friday 16 August 2013
0830							
0900	Workshops	Workshops	Workshops	Concurrent Sessions	Concurrent Sessions	Workshops	Workshops
0930			Opening Ceremony and Plenary Session	Concurrent Sessions	Concurrent Sessions		
1000			Morning Tea	Morning Tea	Morning Tea		
1030			Concurrent Sessions	Concurrent Sessions	Concurrent Sessions		
1100			Lunch and Poster Viewing Session	Lunch and Poster Viewing Session	Lunch and Poster Viewing Session		
1130			Concurrent Sessions	Concurrent Sessions	Concurrent Sessions		
1200			Afternoon Tea	Afternoon Tea	Afternoon Tea		
1230			Concurrent Sessions	Concurrent Sessions	Concurrent Sessions		
1300			Happy Hour in Exhibition	Happy Hour in Exhibition	Happy Hour in Exhibition		
1330			Postgraduate Student Night	Conference Dinner	Conference Dinner		
1400							
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2130							

Plenary 1					
Registration – Level 2 Foyer					
0700–0830	Conference Opening Conference Co-chair welcome: Jarrod Dunne and Asbjorn Christensen PESA welcome: TBC SEG President welcome: David Monk Platinum Sponsor address: Denis Sweeney, General Manager, WesternGeco APG ASEG President welcome and ASEG Awards: Koya Suto				
0830–1000					
1000–1030	PLENARY ADDRESS: The role of technology to the modern minerals industry and its potential to materially improve discovery success rates <i>Stephen McIntosh</i> Proudly Sponsored by Rio Tinto				
1030–1100	Morning Tea Exhibition Area				
Room	Room 211	Room 210	Room 208	Room 204	Room 203
1100–1230	Seismic Acquisition – Case Histories KEYNOTE ADDRESS: A view on advances in petroleum industry seismic acquisition technology and what it means to an oil independent <i>David Monk</i>	Unconventionals KEYNOTE ADDRESS: Beyond conventional seismic for unconventional reservoirs <i>Jon Dowdton</i>	Hard Rock Seismic I Mt Woods 2D seismic reflection survey, Gawler Craton, South Australia: an integrated minerals exploration case study <i>Thomas Harris</i>	EM Innovations KEYNOTE ADDRESS: Advantages to using EM systems with multiple transmitters and multiple receivers: deep exploration, covered exploration and 'perfect' conductors <i>Richard Smith</i>	Gravity Gradiometry I The coming of age of gravity gradiometry <i>Daniel DiFrancesco</i>
1100–1130	Impact of survey design and acquisition technology on 3D marine mega-survey success, a recent example from Southern Australia <i>Ted Manning</i>		Seismic imaging beneath the Eucla Basin limestones <i>Ross Costelloe</i>		Results from FALCON airborne gravity gradiometer surveys over the Karing AGG test site <i>Asbjorn Norlund Christensen</i>
1130–1200	Design and operation of a 3D seismic survey in a dense urban environment: Long Beach 3D <i>Dan Hollis</i>	Integrating well and seismic data for characterisation of shale plays <i>Pieter Gabriels</i>	High resolution seismic reflection for hydrogeology – where is the value? <i>Robert Martin</i>	Unconformity-type uranium exploration using a combined AEM and MT approach <i>Milicent Crowe</i>	The effects of density contrast surfaces on airborne gravity gradiometry (AGG) data interpretation <i>Luisa D'Andrea</i>
1200–1230					
1230–1330	Lunch and Poster Viewing Session – Exhibition Area Proudly sponsored by CSIRO				
1330–1500	Seismic Processing	CSEM	Microseismic	Minerals – IP	Minerals Exploration Strategy I
1330–1400	KEYNOTE ADDRESS: It's noise if you don't recognise it <i>Fred Hilterman</i>	KEYNOTE ADDRESS: Marine CSEM: an academic's perspective on the past, present, and future <i>Steven Constable</i>	KEYNOTE ADDRESS: A short history of the shale gas phenomenon in North America <i>Bob Langan</i>	The inversion of data from complex 3-D resistivity and IP surveys <i>Meng Heng Loke</i>	KEYNOTE ADDRESS: From Mumbwa to Ktumba: regional to deposit scale geophysics of the Ktumba IOCG discovery, Zambia <i>Tom Whiting</i>
1400–1430			KEYNOTE ADDRESS: The latest in passive seismic monitoring in North America: from mapping hydraulic fractures with microseismicity to issues with induced seismicity from waste water disposal <i>Julie Sherman</i>	Magnetic induced polarization – using new technology for greater detection capability of deep and elusive mineralization <i>Glenn Chubak</i>	
1430–1500	True-azimuth 3D internal multiple attenuation without identifying the multiple generators <i>Barry Hung</i>	Application of synthetic aperture concepts to towed streamer EM data <i>Folke Engelmark</i>	Microseismic monitoring – methods and interpretation <i>Mike Mueller</i>	Decoupling induced polarisation data based on Cole-Cole parameters <i>Michael Hatch</i>	Geophysical vectors to IOCG mineralisation in the Gawler Craton <i>Charles Funk</i>
1500–1530	Afternoon Tea Exhibition Area				
1530–1730	Seismic Acquisition and Imaging Simultaneous long offset (SLO) towed streamer seismic acquisition <i>Andrew Long</i>	Rock Physics and Borehole Seismic An exploratory study of the seismic properties of thermally cracked, fluid-saturated aggregates of sintered glass beads <i>Yang Li</i>	Land Seismic KEYNOTE ADDRESS: High resolution acquisition modeling to meet imaging requirements <i>Andreas Cordsen</i>	Minerals & Geothermal – Resistivity & MT I Joint sensing of B and dB/dt responses <i>James Macnae</i>	Minerals Gravity Gradiometry & AEM Evaluating gravity gradient tensor components <i>Mark Pilkington</i>
1530–1550					
1550–1610	Mitigation of the 3D cross-line acquisition footprint using separated wavefield imaging of dual-sensor streamer seismic data <i>Andrew Long</i>	Rock physics analysis: a tool for lithology and fluid prediction within the Gulf of Thailand <i>Mirza Naseer Ahmad</i>		Orion true 3D DCIP – why does it give such high definition? <i>Jonathan Rudd</i>	Getting the best value from gravity gradiometry <i>Desmond FitzGerald</i>
1550–1610					

Conference Programme

CONFERENCE PROGRAMME

	Room 211	Room 210	Room 208	Room 204	Room 203	
1610–1630	Simplify the variable-depth streamer data processing through pre-migration deghosting: a case study from NWS Australia <i>Keat Huat Teng</i>	An experimental study of modulus dispersion and attenuation in sandstones at seismic frequencies <i>Maxim Lebedev</i>	Chasing Australia's unconventional resources with point-source, point-receiver, full azimuth surface seismic <i>Jennifer Badry</i>	Results from long-period MT array in the Newer Volcanic Province, western Victoria, Australia <i>Sahereh (Sasha) Alivazourpogou</i>	Evaluation of an unmanned aircraft for geophysical survey <i>Adam Kroll</i>	1610–1630
1630–1650	Seismic source comparison in Surat Basin, Queensland <i>Afsa Kaba</i>	Quality control of dipole acoustic data <i>Marek Kozak</i>	Comparison of near-surface properties derived from non-linear inversion of refraction amplitudes versus the refraction convolution section <i>Alan Meulenbroek</i>	Magnetotelluric characterisation of the Habanero geothermal EGS project – initial results on fluid injection monitoring and regional geology <i>Stephan Thiel</i>	Correcting for SPM effects in airborne EIM <i>James Macnae</i>	1630–1650
1650–1710	High performance computational modeling of 3D seismic wavefields Offshore NW Australia <i>James Deeks</i>	Walkaway VSP – going beyond an image <i>Konstantin Galyan</i>	Improvements in land seismic static calculation via simultaneous joint inversion and integrated earth modeling <i>Garrett Kramer</i>	Magnetotelluric exploration at tendaho high temperature geothermal field in North East Ethiopia <i>Yohannes Lemma Didana</i>	Integrative geophysical approach for assessing the prospectivity of the Idelwilde intrusion, NSW <i>Aurore Joly</i>	1650–1710
1710–1730	A 4D-repeatability indicator based on similarity between shots illumination imprints <i>Julie Svay</i>	Improving quality and safety through the use of a purposely designed truck-mounted vibroseis for VSP surveys <i>Timothy Dean</i>	Deconvolution of correlation noise in coded-impact seismic systems <i>Stewart Fletcher</i>	Virtual geophysics laboratory (VGL) version 1.1: recent developments to incorporate 3D geological maps and thermal modelling using the Underworld software <i>Alison Kirkby</i>		1710–1730
1730–1830	 Happy Hour and Poster Viewing Monday, Happy Hour proudly sponsored by AngloGold Ashanti Australia.					1730–1830
1830–2030	 Postgraduate Student Night – The Wharf Hotel Proudly sponsored by BP.					1830–2030



23rd International Geophysical Conference and Exhibition Programme (ASEG-PESA 2013)

Tuesday 13 August 2013
Current as at 6 June 2013 and subject to change

	Room 211	Room 210	Room 209	Room 208	Room 204	Room 203	
0830–1030	Seismic Acquisition – Technologies	Advanced Seismic Interpretation	Minerals – Statistical Methods in AEM Mapping	Minerals – AEM Inversion I	Minerals Case Histories II	Surface Waves in Hazard and Cover Studies	0830–1030
0830–0900	KEYNOTE ADDRESS: More measurements, more sources: implications of the recent advances in marine seismic technology <i>Craig Beasley</i>	KEYNOTE ADDRESS: Global seismic interpretation techniques are coming of age <i>Paul De Groot</i>	Probabilistic inversion of airborne electromagnetic data for a multidimensional earth <i>Juerg Hauser</i>	Bigger, better, smarter: high performance computers applied to Government geophysics <i>Ned Stolz</i>	KEYNOTE ADDRESS: Vision for future exploration: geophysics and gold <i>Berry Bourne</i>	The good, the bad and the ugly – lessons from and methodologies for extracting shear-wave velocity profiles from microtremor array measurements in urban Newcastle <i>Michael Asten</i>	0830–0900
0900–0930			Conditional and marginal probabilities in AEM inversions using multivariate Gaussian statistics <i>Aaron Davis</i>	Ultra-fast 3D parameterised AEM inversion using spectral methods <i>James Macnae</i>		Cover depth and seismic velocity structure along a transect in central Australia from passive seismic soundings <i>Nicholas Smith</i>	0900–0930
0930–1000	Simultaneous sources in marine acquisition: experiences to date <i>Andrew Long</i>	Data-driven interpreter-guided geobody interpretation <i>Nicholas McArdle</i>	Correlating ERT with AEM in a rock slide mapping project: same shape but different quantities <i>Andi A Pfaffhuber</i>	Inversion of Spectrem AEM data for conductivity and system geometry <i>A. Yusein Ley-Cooper</i>	Geophysical signature of the Hollands copper deposit, Western Australia <i>James Reid</i>	Determination of the site characterization properties in eastern segment of the North Anatolian fault zone in Turkey based on the MMSPEC method <i>Fatma Nurten Sisman</i>	0930–1000
1000–1030	Simultaneous sources: recent advances in marine acquisition and processing <i>Ian Moore</i>	Digital surface analysis: a completely new approach using differential geometry <i>James Dirstein</i>	Fixed wing vs helicopter airborne EM for mapping fine scale conductivity variations in transported sedimentary cover associated with sedimentary uranium mineralisation <i>Camilla Sorensen</i>	Hybrid 1D/3D geologically constrained inversion of airborne TEM data <i>Glenn Pears</i>	The Hood 10 VHMS deposit of Nunavut, Canada: a case history <i>Heather Schijns</i>	Joint inversion of spatial autocorrelation curves with HVSR for site characterization in Newcastle, Australia <i>Tatsunori Ikeda</i>	1000–1030
1030–1100	Morning Tea Exhibition Area						1030–1100

	Room 211	Room 210	Room 209	Room 208	Room 204	Room 203		
1100–1230	Seismic Imaging	Seismic Interpretation – Case Studies	Minerals – Hardrock Seismic II	Minerals – AEM Mapping I	Minerals – Exploration Strategies II	Minerals – Regional Studies I	1100–1230	
1100–1130	Successful application of joint reflection/refraction tomographic inversion in a shallow water marine environment <i>Sergey Birdus</i>	The Zeppelin 3D rocks the Vulcan sub-basin <i>Jarrod Dunne</i>	Seismic while drilling experiment with diamond drill bit at Brukunga, South Australia <i>Baichun Sun</i>	Geophysics and uranium in the Cumamona and Billaroo Palaeochannels, Frome Embayment, South Australia <i>Timothy Munday</i>	KEYNOTE ADDRESS: Discovering deeper porphyry ore bodies – is there a role for geophysics? <i>Dan Wood</i>	Regional geodynamic study of the Yilgarn-Officer-Musgrave region – investigating the deep crust using forward modelling and 3D inversion <i>James Goodwin</i>	1100–1130	
1130–1200	Depth velocity model building beyond reflection tomography, a case study, Offshore Vietnam <i>Yonghe Guo</i>	Texas in Australia? Imaging channel sands in the Cooper Basin <i>Gabriele Busanello</i>	Optimising seismic data acquisition parameters for open-cut coal exploration using a shallow high resolution reflection seismic test survey <i>Kevin Wake-Dyster</i>	Updated inversion of SkyTEM data using downhole a-priori for new conceptual model and GW management targets at Toolbin Lake <i>Andrea Vezzoli</i>		Next generation 3D geological and geophysical modelling, west Tasmania <i>Mark Duffett</i>	1130–1200	
1200–1230	Advances in velocity modeling and imaging techniques in the Taranaki Basin <i>Dominic Fell</i>	Beneath Bass Strait: linking Tasmania and mainland Australia using ambient seismic noise <i>Simone Pilla</i>	Coal seismic diffraction fault imaging: results from numerical modelling <i>Weijia Sun</i>		What can seismic in hard rocks do for you? <i>Milovan Jusevic</i>	Magnetic depths to basalts – extension of Spector Grant method <i>Roger Clifton</i>	1200–1230	
1230–1330	 LOCKHEED MARTIN Lunch and Poster Viewing Session – Exhibition Area <i>Sponsored by Lockheed Martin</i>							1230–1330
1330–1500	Seismic Processing – Multiples	Reservoir Characterisation	Minerals – Hardrock Seismic III	Minerals – AEM Mapping II	Minerals – Joint MT & Seismic	Minerals – Regional Studies II	1330–1500	
1330–1400	Modelling and removing WAZ OBC interfered multiples <i>Todd Mojesty</i>	KEYNOTE ADDRESS: Reservoir characterisation using CSEM, seismic and wells logs: challenges and pitfalls <i>Lucy MacGregor</i>	3D VSP: a mine of information for mining exploration <i>Michel Denis</i>	Mapping subsurface geological structure using TEMPEST data, McArthur Basin, Northern Territory <i>Jacqueline Hope</i>	Regional mineral exploration targeting for gold and nickel deposits using crustal electrical conductivity variations determined using the magnetotelluric method <i>Mike Dentith</i>	The curie depth of Australia, and its uncertainty <i>Richard Chopping</i>	1330–1400	
1400–1430	High-fidelity adaptive curvelet domain primary-multiple separation <i>Xiang Wu</i>		Ore-body delineation using borehole seismic techniques for hard rock exploration <i>Felix Menu</i>	Eureka! AEM uncovers more than expected <i>Marina Costelloe</i>	Structure-coupled joint inversion for magnetotelluric, seismic refraction and reflection traveltine data <i>Xu Liu</i>	Depth to basement calculation in Southern Thomson, Queensland <i>Janelle Simpson</i>	1400–1430	
1430–1500	Shallow water demultiple using hybrid multichannel prediction <i>Kunlun Yang</i>	Fining up the seismic stochastically enough for reservoir characterization offshore North West Australia <i>Chester Hobbs</i>	Imaging using mining machinery as a source <i>Andrew King</i>	3D conductivity model of the Lalor Lake VMS deposit using ground and airborne EM data <i>Dikun Yang</i>		Mineral prospectivity analysis of the Wagga-Oneco Belt in NSW <i>David Robson</i>	1430–1500	
1500–1530	Afternoon Tea Exhibition Area							1500–1530
1530–1730	Seismic Inversion and CO ₂	Mag Grav Technologies/Deep Exploration	Hard Rock Seismic IV	Minerals – AEM Inversion II	Passive EM & Remote Sensing	Minerals – Regional Studies III	1530–1730	
1530–1550	A multi-objective stochastic optimization approach for estimation of subsurface geomodels <i>Mohammad Enami Niri</i>	GRAVLOG – borehole gravity results in mining and geotechnical applications and the introduction of a dual sensor density probe <i>Chris Nind</i>	Internal combustion impulse source vs mini-vibrator vs nomad65 vibrator shot test <i>Michel Denis</i>	Monte Carlo inversion of SkyTEM AEM data from Lake Thelis, Western Australia <i>James Reid</i>	Passive and active helicopter EM survey comparisons over the 501 Project Cu-Zn volcanogenic massive sulphide at McFauld's Lake, Northern Ontario <i>Jean Legault</i>	3D modelling of magnetotelluric data acquired along the Youanmi deep seismic reflection transects in the Yilgarn, Western Australia <i>Peter Milligan</i>	1530–1550	
1550–1610	A geomorphology-centric ranking scheme for stochastic seismic inversion realizations <i>Vincent Kong</i>	New approaches to dealing with remanence: magnetic moment analysis using tensor invariants and remote determination of in situ magnetisation using a static tensor gradiometer <i>David Clark</i>	Estimation of seismic attenuation from zero-offset VSP acquired in hard rock environments <i>Roman Pevzner</i>	Constrained inversion of IP parameters from airborne EM data <i>Andrea Vezzoli</i>	An assessment of ZTEM and time domain EM results over three mineral deposits <i>Ken Witherly</i>	Targeting future mineral discoveries under cover using a mineral systems approach <i>Anthony Schofield</i>	1550–1610	
1610–1630	Initiation of time lapse measurement to monitor the change of water table in water pumping at Al Wasee Field, Saudi Arabia using seismic across source and mulch-receivers (preliminary report) <i>Khaled Aldamegh</i>	Deep crustal structures interpreted from potential field data along the deep seismic sounding transect across Olympic Dam, South Australia <i>Irena Kivior</i>	Volumetric interpretation of 3D hard rock seismic data <i>Muhammad Sharaadat Hossain</i>	Recovery of 3D IP distribution from airborne time-domain EM <i>David Marchant</i>	Helicopter EM (ZTEM-VTEM) survey results over the Nuqrah Cu-Pb-Zn-Au Sedex massive sulphide deposit in the Western Arabian Shield <i>Jean Legault</i>	An electrical resistivity model of the southeast Australian lithosphere <i>Kate Robertson</i>	1610–1630	
1630–1650	Laboratory measurements of seismic velocities of CO ₂ /brine mixtures at elevated temperatures up to 70°C and pressures up to 38 Mpa <i>Maxim Lebedev</i>	Airborne magnetic and radiometric geophysical mapping in South and Central Range Mountains, Papua Indonesia <i>Katherine McKenna</i>	A reproducible framework for 3D acoustic forward modelling of hard rock geological models with Madagascar <i>Andrew Squeish</i>	AEM system target resolvability analysis using a Monte Carlo inversion algorithm <i>Murray Richardson</i>	3D inversion of ZTEM data for uranium exploration <i>Yutaka Sasaki</i>	Regional AEM surveys for Namibian Government <i>Gregory Street</i>	1630–1650	

	Room 211	Room 210	Room 209	Room 208	Room 204	Room 203	
1650–1710	Low frequency laboratory measurements of the elastic and anelastic properties of the sandstone flooded with supercritical CO ₂ <i>Maxim Lebedev</i>	Long-wavelength magnetic anomalies as a guide to the deep crustal composition and structure of eastern Australia <i>Robert Musgrave</i>	New constraints on an existing mineral resource through 3D seismic <i>Chris Wilms</i>	3D inversion of time domain electromagnetic data <i>Eldad Haber</i>	Extracting mineralogical and geomorphological information using new ASTER mineral maps with airborne geophysics <i>Robert Hewson</i>	The application of AEM as a regional mapping and targeting tool in the Paterson Province of WA <i>Will Robinson</i>	1650–1710
1710–1730	Experimental laboratory study on the acoustic response during injection of supercritical CO ₂ into brine saturated sandstones <i>Maxim Lebedev</i>	Defining a deep fault network for Australia, using 3D 'worming' <i>Desmond Fitzgerald</i>	CRS stack based seismic imaging – a case study from St Ives mining camp, Kambalda, Western Australia <i>Liliya Malovichko</i>		Unsupervised soft clustering of high resolution airborne geophysical and satellite data suites from the Sperrgebiet, Karas Region, Southern Namibia, to enhance lithology mapping <i>David Grant Hutchins</i>	The link between electrical conductivity anomalies and tectological boundaries <i>Stephan Thiel</i>	1710–1730
1730–1830	Happy Hour and Poster Viewing <i>Exhibition Area</i>						1730–1830
1830–2400	Conference Dinner <i>National Gallery of Victoria (NGV International)</i>						1830–2400

23rd International Geophysical Conference and Exhibition Programme (ASEG-PESA 2013)

Wednesday 14 August 2013

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	Room 211	Room 210	Room 208	Room 204	Room 203		
0830–1030	Seismic Acquisition – Technologies II	Seismic Anisotropy	Geophysics in Hydrology	Advances in Data Visualisation I	Minerals – Potential Fields – Constrained Geological Inversion I	0830–1030	
0830–0900	KEYNOTE ADDRESS: Are broadband, wide and multi-azimuth the new normals for 3D marine seismic? <i>Dan Whitmore</i>	KEYNOTE ADDRESS: Can we use conventional seismic in unconventional resource plays? <i>Leon Thomsen</i>	KEYNOTE ADDRESS: Is nuclear magnetic resonance the future of hydrogeophysics? <i>Jared Abraham</i>	KEYNOTE ADDRESS: Geological interpretation of potential field data <i>John McGaughey</i>	3D geological model for King Sound, Canning offshore basin, Western Australia using FALCON high resolution airborne gravity gradiometry <i>Peter Kovac</i>	0830–0900	
0900–0930					Application of curvatures and Poisson's relation to airborne gravity gradient data in oil exploration <i>Carlos Cevallos</i>	0900–0930	
0930–1000	Marine towed streamer seismic using continuous line acquisition <i>Timothy Brice</i>	Unexpected HTI velocity anisotropy: a wide-azimuth, low fold, 3D seismic processing case study <i>Randall Taylor</i>	The role of airborne geophysics in facilitating long-term outback water solutions to support mining in South Australia <i>Timothy Munday</i>	Computing, brains and geophysics? <i>Andrew Pethick</i>	KEYNOTE ADDRESS: 3D potential-field Inversions: recent advances and road ahead <i>Yaoguo Li</i>	0930–1000	
1000–1030	Broadband marine seismic, how much difference does acquisition and or processing make? A case study from Southeast Asia <i>Martin Bayly</i>	Spatial variation in azimuthal anisotropy due to sand-shale distribution: Stybarrow Field case study <i>Lisa Gavin</i>	Integration of surface and logging NMR data to map hydraulic conductivity <i>Elliot Grunewald</i>	Towards understanding and improving geoscientific data interpretation <i>Yathuranthan Sivarajah</i>		1000–1030	
1030–1100	Morning Tea Exhibition Area						1030–1100
1100–1230	Seismic Processing – Case Studies	Seismic Velocities and Applications	Environmental and Engineering I	Advances in Data Visualisation II	Minerals – Potential Fields – Constrained Geological Inversion II	1100–1230	
1100–1130	Multi-azimuth PSDM processing in the presence of orthorhombic anisotropy – a case history offshore North West Australia <i>Wenting Sun</i>	KEYNOTE ADDRESS: The challenge of drilling in high pressure areas such as the North West Australian Shelf <i>Richard Swarbrick</i>	KEYNOTE ADDRESS: Application of near-surface geophysics where no-one thought you could, or should <i>Phil Sirls</i>	Mass anomaly visualisation and depth estimation from full tensor gradient gravity data <i>Daniel Wedge</i>	Three-dimensional potential field modelling of the subsurface morphology of complex maar volcanoes – examples from the Newer Volcanics Province, Western Victoria <i>Teagan Blaikie</i>	1100–1130	
1130–1200	Horizon-based target-orientated beam demultiple with examples from the North West Shelf, Australia <i>Andrew Long</i>	High resolution time-to-depth conversion using 3D grid tomography <i>Fabio Mancini</i>	Application of geophysical methods to dam safety assessment in Korea <i>Sung Keun Lim</i>	Interactive multi-image blending for data visualisation and interpretation <i>Peter Kovesi</i>	Recovery of resultant magnetization vectors from magnetic anomalies <i>Dean Hillan</i>	1130–1200	
1200–1230	An imaging case study of ragay SC-43, Philippines: from 2D to 3D PSDM processing <i>Xiaodong Wu</i>			A geological structure mapping tool using photogrammetric data <i>Yathuranthan Vasuki</i>	Geological uncertainty and geophysical misfit: how wrong can we be? <i>Mark Lindsay</i>	1200–1230	
1230–1330	Lunch and Poster Viewing Session Exhibition Area						1230–1330

Room 211	Room 210	Room 208	Room 204	Room 203	
1330–1530	Seismic Velocities and Applications II	Environmental and Engineering II	Minerals – Geophysical Inversion	Minerals – Potential Fields – Constrained Geological Inversion III	1330–1530
1330–1350	Evidence for overpressure in the Belfast Formation, Shipwreck Trough, Otway Basin <i>Andrew Aouad</i>	Application of surface and borehole seismic methods to trenchless construction problems <i>Bob Whiteley</i>	An assessment of the performance of derivative based data enhancement techniques in the presence of coherent noise <i>Jelena Markov</i>	3D magnetic modeling and inversion incorporating self-demagnetisation and interactions <i>Peter Fullagar</i>	1330–1350
1350–1410	Regional velocity modelling methodology in the Gippsland Basin <i>Mark McLean</i>	Engineering geophysics for geotechnical characterisation of LNG processing plant sites <i>Tariq Rahiman</i>	Large-scale magnetic inversion using differential equations and oc trees <i>Kristofer Davis</i>		1350–1410
1410–1430	Integration of seismic velocity measurements in the context of the CO2 Storage project in the Bonaparte Basin, offshore NW Australia <i>Rowan Rameyn</i>	An MASW survey for geotechnical engineering in an urban setting – an application to pre-tunnelling investigation <i>Koya Suto</i>	3-D inversion of the regional magnetic data in spherical coordinates and its preliminary application in Australia <i>Jinsong Du</i>	A new technique for low magnetic latitude transformation: synthetic model results and examples <i>Zhiqun Shi</i>	1410–1430
1430–1450	Time-lapse velocity inversion through image-domain tomography <i>Jeffrey Shragge</i>	Geophysical monitoring for inspecting the stability of the sea dike in South Korea <i>Sung-Ho Song</i>	Large scale joint inversion of geophysical data using the finite element method in escript <i>Lutz Gross</i>	Anisotropy of magnetic susceptibility (AMS) and paleomagnetism applied to the differentiation of structural and metallogenic controls on iron oxide copper-gold (IOCG) mineralization: a case study from Monakoff, NW Queensland <i>James Austin</i>	1430–1450
1450–1510	High frequency enhancement of sparker sub bottom profiles with multichannel reflection processing <i>Leonie Jones</i>	Validating vertical velocity gradients in near-surface refraction seismology <i>Derecke Palmer</i>	Constrained voxel inversion using the cartesian cut cell method <i>Robert Ellis</i>	Equivalent sources: rapid calculation in the frequency domain and application to leveling correction <i>Philip Schmidt</i>	1450–1510
1510–1530	Shallow subsurface imaging using high resolution seismic reflection methods <i>Ghulam Al-Anazi</i>	Ultrasonic sounding and monitoring of the excavation damaged zone in relation with drift support <i>Cyrille Bailard</i>	Flexible approaches to grav/mag inversion at regional and continental scales <i>Alan Aiken</i>	Supervised and unsupervised classification of near-mine soil geochemistry and geophysics data <i>Matthew Cracknell</i>	1510–1530
1530–1600	Afternoon Tea Exhibition Area				1530–1600
Room	Level 2 Foyer				Room
1600–1700	Plenary Session and Closing Ceremony				1600–1700
1700–1800	Farewell Drinks Level 2 Foyer				1700–1800

23rd International Geophysical Conference and Exhibition Poster Programme (ASEG-PESA 2013)



Posters: Monday 12 – Wednesday 14 August 2013

Current as at 6 June 2013 and subject to change

REGIONAL STUDIES	SEISMIC METHODS	UNCONVENTIONALS
3D architecture between the Yilgarn Craton and Musgrave Province <i>Tim Jones</i>	A comparative overview of velocity-independent imaging methods <i>Mohammad Javad Khoshnavez</i>	Uncertainty in surface microseismic monitoring <i>Mike Mueller</i>
Forward modelling along the Southern Carnarvon deep seismic reflection line – using gravity data to investigate seismic interpretations <i>James Goodwin</i>	Development of the high sensitivity MEMS accelerometer for oil and gas exploration <i>Takao Aizawa</i>	Continuous land seismic reservoir monitoring of thermal EOR <i>Laurene Michou</i>
Potential field modelling of mafic and exhalative rocks in the Girilambone-Tritton mine area, western NSW <i>Rosemary Hegarty</i>	Natural hazard monitoring by InSAR analysis <i>Shuichi Rokugawa</i>	
Towards understanding the influence of data-richness on interpretational confidence in image interpretation <i>Alan Aitken</i>	Case study: successful application of 3D depth processing in Eromanga Basin, Queensland <i>Min Lee Chua</i>	
	Significant VSP data quality improvements through the use of a broadband source <i>Timothy Dean</i>	
	Laboratory measurement of seismic velocity dispersion in cracked quartzite <i>Heather Schijns</i>	
	Advanced borehole seismic acquisition challenges and successes in large LNG project <i>Muhammad Shafiq</i>	
	Robust scaling strategy for frequency-domain acoustic full waveform inversion <i>Ju-Won Oh</i>	
	A new strategy for 2D VTI seismic full waveform inversion <i>Won-Ki Kim</i>	
	Differentiating between potential reservoirs and hardrock with a holistic quantitative seismic interpretation method <i>Vincent Kong</i>	
	A revised chronostratigraphic framework for the onshore Otway Basin, implications for understanding the early development of an intra-cratonic rift margin <i>David Briguglio</i>	
	Broadband processing of conventional and deep tow marine streamer seismic data <i>Helen Debenham</i>	
	Sub-segmentation waveform analysis integrated with well control: case history onshore Canning Basin (Bunda 3D seismic survey) <i>James K. Dirstein</i>	
	Top seal efficiency of the Lakes Entrance formation, Gippsland Basin: some constraints from seismic inversion and attributes <i>Langhi Laurent</i>	
	Effects of vertical velocity heterogeneity on stacking velocity and depth conversion <i>Ayman Qadrouh</i>	

ELECTRICAL METHODS	MINERALS – DEEP EXPLORATION	HARD ROCK SEISMIC
Evolution of TEMPEST <i>Shane Mulè</i>	Macquarie Arc and the Lachlan Orogen hypothesis: magnetic analysis and development of geologically constrained forward model of lithospheric magnetisation <i>Michael Tetley</i>	Direct mineral targeting through seismic imaging in hard-rock environments <i>Sinem Yavuz</i>
Electrical geophysics of carbonate mound spring complexes of the South-Western Great Artesian Basin <i>Kent Inverarity</i>	A regional scale fixed-wing TDEM survey of the Palaeo-Proterozoic Bryah Basin, Western Australia: providing insights into a geological setting highly prospective for VMS Cu-Au and mesothermal Au systems <i>Timothy Munday</i>	Seismic anisotropy in cracked crystalline rock from Outokumpu, Finland <i>Heather Schijns</i>
Forward modelling fluid flow using 2-dimensional electrical anisotropy <i>Jake Macfarlane</i>	Crustal fluid pathways imaged using magnetotellurics – implications for the South Australian heat flow anomaly <i>Paul Soeffky</i>	Imaging bauxite layer using the high-resolution seismic reflection method <i>Ayman Qadrouh</i>
3D MT data modelling using multi-order hexahedral vector finite element method, including anisotropy and complex geometry <i>Aixa Rivera-Rios</i>	Potential field modelling of VHMS and sequences in the Captains Flat area, NSW <i>Astrid Carlton</i>	Improving time-lapse seismic repeatability: Otway site permanent geophone array field trials <i>Roman Pevzner</i>
	Assessing the calibration of the Sydney Basin thermal structure model – are shallow groundwater bores a good substitute for deeper measurements? <i>Cara (Danis) Jacques</i>	3D seismic response of complex hard rock geological structures <i>Milovan Urošević</i>
AIRBORNE EM	ENGINEERING – ENVIRONMENTAL	INVERSION AND IMAGING
An assessment of 3D ZTEM results over three deposits <i>Ken Witherly</i>	Towed transient electromagnetic survey using various loop configurations <i>David Allen</i>	Effective methods to highlight and delineate anomalies from geophysical images <i>Eun-Jung Holden</i>
Delineating the Kitumba IOCG deposit with the ORION 3D DCIP/MT <i>Jonathan Rudd</i>	Spatio-temporal variations in floodplain soil/sediment conductivity: Great Darling Anabranch <i>Kevin Cahill</i>	Bootstrapping as a means of solution ensemble based uncertainty analysis in geophysical inversion modelling <i>Sebastian Schnaidt</i>
Developments in frequency domain AEM; tackling drift and noise with a multicomponent, ferrite-core, receiver tripplet <i>Andi A. Pfaffhuber</i>	Seismic and geoelectric study of the basaltic sequence in the south of Al-Madinah <i>Abdulrahman Alanzi</i>	Geophysical and volcanological insights into the subsurface morphology and eruptive histories of complex maar volcanoes within the Newer Volcanics Province, Western Victoria <i>Teagan Blaikie</i>
Exploring model space via 1D extremal inversion of airborne TEM data: determination of depth and conductivity bounds of seawater and sediment in shallow coastal waters <i>Julian Vrbancich</i>	Mapping shallow groundwater aquifer by performing high-resolution seismic reflection technique in Wadi Nisah <i>Ibraheem Hafiz</i>	Improvements to the virtual geophysics laboratory (VGL): harnessing cloud computing for potential field and other geophysical inversions, phase II <i>Carina Kemp</i>
	Seismic microzonation of Earth's surface layers using borehole data and shear wave velocity analysis case study; Gorgan, Iran <i>Mohammad Javad Khoshnaveh and Alireza Khoshnavaz</i>	Constraints on the structure of the Border Ranges Fault System, Kenai Peninsula, Alaska from the preliminary results of the 3D inversion model of gravity data <i>Niti Mankemthong</i>
	The 2012 Newcastle and Sydney SPAC microtremor surveys using Geopsy software and comparisons <i>Theodora Volti</i>	
	Efficiency of MASW in detecting near-surface cavities <i>Hashim Almalki</i>	
MINERAL EXPLORATION		
Mineral geophysics – two decades of change <i>Campbell Mackey</i>		
Magnetic responses from an iron-rich gossan in a volcanic terrain and a limestone-hosted strata-bound manganese deposit, Central Province, Papua New Guinea <i>Nathan Mosusu</i>		
A review of AEM data in South Australia <i>Philip Heath</i>		
Helicopter AFMAG (ZTEM) survey results over the Ad Duwayhi intrusion related gold deposit (IRGD) in the Western Arabian Shield, KSA <i>Jean Legault</i>		

CET exSim: mineral exploration experience via simulation <i>Jason Wong</i>		
Investigation of the so-called Magnetic North Immeasurable Area in the South Sea of Korea by a newly assembled three axis magnetometer <i>Mutaek Lim</i>		
Petrophysical constraints for inversion models of the Eastern Gawler Craton IOCG Province <i>Tim Keeping</i>		
From craton to core tray: a multi-disciplinary, multi-scale quest for copper in the Curnamona <i>Helen Williams</i>		



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Workshop Summary						
Courses	Friday 9 August	Saturday 10 August	Sunday 11 August	Monday 12 August	Tuesday 13 August	Wednesday 14 August
General	VOXI Inversion MCEC Room 101			ASEG-PESA 2013 23rd International Geophysical Conference and Exhibition Melbourne Conference and Exhibition Centre (MCEC)		
			Gradiometry in Exploration Crowne Plaza			
Minerals		Inversion Forum Crowne Plaza	Remanence Forum Crowne Plaza			
		Hard Rock Seismic Crowne Plaza				
	MT/AMT You Yangs Regional Park and RMIT		GOCAD Crowne Plaza			
Petroleum			Seismic P-wave Anisotropy Crowne Plaza			
			Opentect Crowne Plaza			
			Land 3D Seismic Crowne Plaza			
			SEG DISC: 4D Seismic Crowne Plaza			
				Thursday 15 August		
				Friday 16 August		
				Ground Penetrating Radar Rio Tinto Bundoora		
				Model Vision Crowne Plaza		
				Exploration Undercover Crowne Plaza		
				Microseismic Crowne Plaza		
				Madagascar Crowne Plaza		
				West Gippsland field trip		

Note: some workshops may be withdrawn if there is insufficient interest. Please check the conference website or call at the conference registration desk for the latest updates.

Business Meeting	Time	Location	Contact	
Sunday 11 August 2013				
ASEG Council	1230–1700	Crowne Plaza Bridge Room 1	Barry Drummond CASM	barrydrummond@bigpond.com aseg@casm.com.au
Monday 12 August 2013				
GGSSA	0730–0830	Meeting Room 205	Theo Aravanis	theo.aravanis@riotinto.com
International Affairs Inter-Society Luncheon	1230–1330	Meeting Room 205	Koya Suto	koya@terra-au.com
Finance Committee	1400–1500	Meeting Room 205	Reece Foster	reece.foster@groundprobe.com
Technical Standards Committee	1230–1330	Meeting Room 206	Dave Robson	david.robson@industry.nsw.gov.au
Tuesday 13 August 2013				
GGSSA Technical Update	1230–1330	Meeting Room 208	Theo Aravanis Kelly Keates	theo.aravanis@riotinto.com kjkeates@zonge.com.au
AMIRA P1022	0730–0930	Meeting Room 205	Phil McInerney	philip.mcinerney@amirainternational.com
Website Committee	1030 & 1500	Meeting Room 205	Carina Kemp	kemp.carina@gmail.com
Publication Committee	1230–1300	Meeting Room 205	Phil Schmidt	phil@magneticearth.com.au
Historical Committee	1030–1230	Meeting Room 206	Roger Henderson	rogah@tpg.com.au
Research Foundation	1230–1330	Meeting Room 206	Doug Roberts	dcrgeo@tpg.com.au
Academic Liaison Meeting	1730–1830	Meeting Room 206	Koya Suto	koya@terra-au.com
Wednesday 14 August 2013				
COC Sponsors/Exhibitors' Meeting	1000–1030	Meeting Room 205	Mark Dransfield Richard MacRae	mldransfield@fugroairborne.com.au richard.macrae@mmg.com
Conference Advisory Committee	1230–1330	Meeting Room 205	Mike Hatch	michael.hatch@adelaide.edu.au
State Branch Liaison Education–Membership Committees	1230–1330	Meeting Room 206	Phillip Heath Mark Tingay Kath McKenna	Philip.Heath@sa.gov.au mark.tingay@adelaide.edu.au katherine.mckenna@gpxsurveys.com.au



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Sunday 11 August 2013

Welcome Reception

Time: 1800–1930

Location: Level 2 Foyer, Melbourne Convention Centre

Dress: Smart Casual

Tickets: Included in the **Full** Registration fee for Delegates. Additional tickets can be purchased for A\$68 per person at the registration desk (subject to availability).

An invitation is extended to full delegates and additional ticket holders to attend the Welcome Function. Renew old friendships and make new acquaintances as we welcome you to Melbourne.

Monday 12 August 2013

Happy Hour

Monday's break is proudly sponsored by AngloGold Ashanti Australia



ANGLOGOLD ASHANTI

Time: 1730–1830

Location: Exhibition Hall, Melbourne Rooms 1 and 2, Level 2, Melbourne Convention Centre

Dress: Smart Casual

Tickets: Included in the **Full & Day** Registration fee for Delegates. Additional tickets can be purchased for A\$35 per person/per happy hour at the registration desk (subject to availability).

Review the day's events with colleagues while browsing the poster and exhibitor displays in a relaxed happy hour following the technical sessions.

Postgraduate Student Night

Proudly sponsored by BP



Time: 1830–2030

Location: The Wharf Hotel (Riverside), 18–38 Siddeley Street, Melbourne. The Hotel can be accessed via the foot bridge along the promenade outside MCEC.

Dress: Smart Casual

Tickets: Only open to postgraduate students and recent graduates. Tickets can be purchased for A\$30 per person at the registration desk (subject to availability).

The student night is primarily a networking event to promote interaction between exploration geophysics students. Drinks will be provided through the generous sponsorship of BP and the ASEG. Admission by student badge or invitation.

Tuesday 13 August 2013

Happy Hour

Time: 1730–1830

Location: Exhibition Hall, Melbourne Rooms 1 and 2, Level 2, Melbourne Convention Centre

Dress: Smart Casual

Tickets: Included in the **Full & Day** Registration fee for Delegates. Additional tickets can be purchased for A\$35 per person/per happy hour at the registration desk (subject to availability).

Review the day's events with colleagues while browsing the poster and exhibitor displays in a relaxed happy hour following the technical sessions.

Conference Gala Dinner

Date: Tuesday 13 August 2013

Time: 1830–2359

Location: Great Hall, National Gallery of Victoria (NGV) International, 180 St Kilda Road, Melbourne

Dress: Smart Casual

Tickets: This event is **not included** in the fee for Delegates. Subject to availability, and if not already purchased online while registering, delegates can still purchase tickets, at a cost of A\$150, for the Gala Dinner at the on-site registration desk.

The Conference Dinner will be one of the memorable highlights of the Conference. Set in one of Melbourne's finest cultural institutions, guests will be treated to a sumptuous three course meal and local Victorian wines, beers and soft drinks while being entertained by one of Australia's most significant and popular historians, Professor Geoffrey Blainey. Guests will also be treated to the music of the Hannah Cameron Jazz Trio and an authentic Australian bush band.

Wednesday 14 August 2013

Farewell Drinks

Date: Wednesday 14 August 2013

Time: 1700–1800

Location: Level 2 Foyer, Melbourne Convention Centre

Dress: Smart Casual

Tickets: Included in the **Full & Day** Registration fee for Delegates. Additional tickets can be purchased for A\$35 per person/per happy hour at the registration desk (subject to availability).

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