2A: Coal

Timothy Hopper

Quantifying Gas Content in Coals Using Borehole Magnetic Resonance

Tim completed his PhD at the Queensland University of Technology in 2005, during which he spent time at the University of Pennsylvania on a Fulbright Scholarship. Tim started his career as a wireline field engineer with Schlumberger after which he moved to Schlumberger-Doll Research in Boston, USA. He then transferred to the Schlumberger Houston Product Centre as project manager for a new LWD NMR tool. Following this he moved back to Perth where he worked as a petrophysicist for three years. Tim started NMRSA in 2013 with the aim of introducing slimhole BMR tools into the mining and hydrogeology industries.

Brett Larkin

Integration of Downhole Geophysical and Lithological Data from Coal Exploration Drillholes

Brett Larkin is a geocomputing consultant with over 35 years' experience, chiefly in the Australian coal industry but also in the Indonesian and UK coal industries, and in the Australian oil, metals and uranium industries. He studied Geology, Geophysics and Computer Science at the University of Sydney and Geostatistics at Stanford University. He is the chief author of the popular LogCheck program for the collection, validation and display of coal exploration data and one of the two authors of the widely used CoalLog, Borehole Data Standard for the Australian Coal Industry.

Binzhong Zhou

Seismic diffraction imaging for improved coal structure detection in complex geological environments. Binzhong Zhou obtained his Ph.D. from Flinders University of South Australia. He is currently a principal research scientist with CSIRO Energy. Prior to CSIRO, he worked for Chengdu University of Technology, Wiltshire Geological Services, and Oxford University. His research effort is directed to improving the scientific understanding of how geophysical measurements can be used to improve the mining industry's ability to delineate orebodies and geological structures, understand the geotechnical characteristics of host rocks, improve mine design, reduce mining safety risks, and increase mine production and profitability.

2B: West Australian Basins Symposium

Gerry O'Halloran

Evolution of "Tres Hombres" A Large Mid-crustal Dome Structure within the Northern Beagle Sub-basin Western Australia: An Integrated Geophysical Investigation

"Graduated from Adelaide University in 1992 with a BSc (Hons) in Geology gained a PhD in Geology from Monash University (Stratigraphic and Structural Evolution of the Late Devonian of Central Victoria). From 1996 he worked as a geoscientist at ExxonMobil in both exploration and development roles in a variety of basins including the Gippsland Basin and the Papuan Fold Belt.

He has worked for BHP since 2004 as a Geoscientist, again in a variety of exploration and development roles in basins within Australia (Exmouth, Browse, NWS, Beagle and Otway) and the UK (North Sea and Irish Sea)."

Victorien Paumard

SHELF-MARGIN ARCHITECTURE AND SHORELINE PROCESSES AT THE SHELF-EDGE: CONTROLS ON SEDIMENT PARTITIONING AND PREDICTION OF DEEP-WATER DEPOSITION STYLE

Victorien Paumard is a PhD student at the University of Western Australia. He graduated with a BSc in Geology and a MSc in Petroleum Geology from the UniLasalle University (France). His first research interests were centered on the stratigraphy and paleogeography of Cenozoic carbonate platforms in SE Asia. His PhD research is focused on better understanding the link between shelf-margin architecture, shallow-marine processes and deep-water systems within the Barrow Group (North West Shelf of Australia) using regional 3D seismic datasets and innovative tools and workflows in seismic interpretation. His research interests are in basin analysis, sequence stratigraphy and seismic geomorphology.

Hayley Rohead-O'Brien

Controls on Mesozoic rift-related uplift syn-extensional sedimentation in the Exmouth Plateau

Hayley (Halla) is currently undertaking a PhD program with Curtin University's Petroleum Geology department; focusing on rift activity in the Exmouth Plateau. Prior to this she also received a Master's degree from Curtin in 2015, while working with CSIRO's Energy, and Land and Water Flagships, working on projects in the Great Australian Bight and eastern Australia. In 2011 she completed an Honours degree from the Australian School of Petroleum, which followed on from a Bachelor of Science degree between James Cook University and the University of New Brunswick. Hayley is currently a member of AAPG, ASEG, GSA, and PESA.

2C: East Australian Basins Symposium

Natalie Debenham

The influence of reverse-reactivated normal faults on porosity and permeability in sandstones: A case study at Castle Cove, Otway Basin

Natalie is currently undertaking a Doctor of Philosophy at the Australian School of Petroleum at the University of Adelaide. Her current research is focused on using natural fracture networks to predict subsurface fluid flow in Australia's petroleum producing basins.

Oliver Gaede

TARGETING CORE SAMPLING WITH MACHINE LEARNING: CASE STUDY FROM THE SPRINGBOK FORMATION, SURAT BASIN

Dr. Gaede's research focuses on experimental rock physics, geomechanics and modelling of coupled processes. He published over 20 peer-reviewed papers and conference contributions including studies on the stress sensitivity of reservoir sandstones and the geomechanics of anisotropic rock formations. He has previously worked as a Geomechanics Specialist for GeoMechanics International.

Xiang Li

High frequency refraction/ reflection full-waveform inversion case study from North West Shelf offshore Australia

Xiang Li received PhD in Geophysics from Peking University in 2009 and then joined Seismic imaging department of CGG Singapore. He transferred to CGG Perth SI in 2014 and currently focuses on full waveform inversion implementation and multiple attenuation..

2D: Geology Case History

Richard Hillis

A Technology-Enabled Revolution in Mineral Exploration: 'Prospecting Drilling'

Richard Hillis is CEO of the Deep Exploration Technologies CRC. He graduated BSc (Hons) from Imperial College (London) and PhD from the University of Edinburgh. Richard was previously Mawson Professor of Geology and Head of the Australian School of Petroleum at the University of Adelaide. He has published ~200 research papers and has been involved in establishing and selling/listing several technology and resources companies. Richard is currently a director of AuScope, an NCRIS company, and of the CRC Association. He is also a Fellow of the Australian Academy of Technological Sciences and Engineering (ATSE).

Bruce Hooper

Pathfinder exploration techniques to target porphyry and epithermal alteration system in the Temora Copper-Gold Belt

Mr Hooper is a registered professional geoscientist with extensive experience in the resources industry including the energy, base metal and precious metal fields in Australia, Asia, the Americas and Africa. Prior to joining Sandfire Resources in 2012, Mr Hooper worked in a number of senior exploration, operational and business development roles for a variety of companies including BP, Rio Tinto, North Ltd, Straits Resources, Perilya Ltd and Ivernia. From October 2015 to July 2016 Mr Hooper was on secondment to the Tintina Resources office in Montana where he served as the Chief Executive Officer.

2E: EM & Deep Radar

Desmond Fitzgerald

2.5D vs 1D AEM Forward and Inversion Methods at a Survey Scale: A Case Study

Des FitzGerald is the Managing Director and owner of Intrepid Geophysics. He founded the company in 1978 as an independent consultancy specializing in the use of computer methods for mining and geophysics.

Des' major projects have included: the development of the Intrepid geological processing system with Geoscience Australia; a complete compilation of Australian regional geophysical maps (both on-shore and offshore) for magnetics, gravity, and bathymetry in partnership with Geoscience Australia; and liaising with the French Geological Survey to further develop and promote GeoModeller, for 3D Geological mapping with potential field geophysics.

Jan Francke

EXPECTATIONS AND REALITY FOR DEEP GROUND PENETRATING RADAR PERFORMANCE

Dr. Francke's 25 year career has focussed solely on the use of ground penetrating radar technology for deep mineral exploration and geotechnical investigations. He has conducted surveys in over 90 countries, on every continent and in conceivable environment. His company, International

Groundradar, creates custom radar technologies for specific project requirements worldwide. He conducts dozens of workshops and seminars globally each year, teaching the fundamentals of radar performance and managing user expectations. He holds a BSc, MSc and a PhD, all in Geophysics and all pertaining to deep GPR systems and applications.

Carsten Scholl

OTZE - AIRBORNE EM INVERSION ON UNSTRUCTURED MODEL GRIDS

Following Geophysics Diploma (2001) and Controlled Source EM Ph.D. (2005) at the University of Cologne, completed a post-doc at the University of Toronto (marine CSEM) and joined the Fugro EM group in 2008 (sold to CGG in 2013) developing the OTZE suite of CSEM modeling codes. The algorithms have been continuously developed by Carsten through to now, and have been used on over 50 commercial land, marine and airborne EM modeling and inversion projects.

2F: Exploration

BertDe Waele

UNDERSTANDING GEOLOGY AND STRUCTURE: AN ESSENTIAL PART OF MINERAL RESOURCE ESTIMATION

Bert De Waele has over 25 years of structural mapping experience, mostly in African Precambrian terranes. During his career, he has worked for various geological surveys, leading and conducting regional-scale mapping work, and in the past 8 years he has worked a Principal Consultant with SRK Consulting in Perth. In that role, he has worked all over the world on a wide range of commodities, adding value by promoting geological understanding and mineral systems knowledge to increase success-rates in exploration. Bert also holds an Adjunct Research position at Curtin University in Perth.

Duy Thong Kieu

BUILDING 3-D MODEL OF ROCK QUALITY DESIGNATION ASSISTED BY CO-OPERATIVE INVERSION OF SEISMIC AND BOREHOLE DATA

I am working in Department of Exploration Geophysics, Western Australia School of Mines (WASM), Curtin University

2G: Regional Tectonic

Kate Robertson

EVOLVING 3D LITHOSPHERIC RESISTIVITY MODELS ACROSS SOUTHERN AUSTRALIA DERIVED FROM AUSLAMP MT

Dr Kate Robertson is a Senior geophysicist in the Lithospheric Architecture team at the Geological Survey of South Australia. Kate graduated from the University of Adelaide in 2017 specialising in magnetotellurics applied to the lithosphere of south-eastern Australia. She is working on combining MT with other geological and geochemical data to understand the fertility of the lithosphere and its implication for mineral prospectivity.

Stephan Thiel

IDENTIFYING LITHOSPHERIC BOUNDARIES AND THEIR IMPORTANCE FOR MINERAL DISCOVERY

Dr Stephan Thiel is the Program Coordinator of the Lithospheric Architecture team at the Geological Survey of South Australia. Stephan has 15 years experience in MT applied to lithosphere studies, geothermal exploration and EM monitoring of fluid fracking. He obtained his Masters from the Freiberg University of Mining and Technology in Germany, and completed his PhD at the University of Adelaide in 2008.

Tom Wise

IMPRINTS OF TECTONIC PROCESSES IMAGED WITH MAGNETOTELLURICS AND SEISMIC REFLECTION

Tom Wise is a geologist with the Geological Survey of South Australia, specializing in the geological interpretations and synthesis of geophysical datasets

2H: Geotechnical and Environmental

Tim Dean

HOW TO BUILD YOUR OWN SIMPLE, LOW-COST, SEISMIC SYSTEM

Tim has an Honours degree in Geophysics from Curtin University and a PhD in Physics from the University of New South Wales. He spent more than twelve years working for WesternGeco and Schlumberger in a variety of roles related to surface and borehole seismic acquisition including field operations, software development and research located in Saudi Arabia, England, Norway and Australia. After leaving Schlumberger he worked as a sports technology Project Advisor at Hawk-eye innovations (a division of Sony). He joined Curtin Universities Department of Exploration Geophysics as a Research Fellow in August 2016.

M. Javad Khoshnavaz

FEASIBILITY STUDY OF NEAR-SURFACE DISPERSION IMAGING USING PASSIVE SEISMIC DATA

Javad did his BSc in Physics, and MSc in exploration seismology in Iran. He received his PhD in exploration geophysics from Curtin University. He is currently a research assistant at the Department of Exploration Geophysics at Curtin University. His area of research is on active and passive seismic imaging, seismic anisotropy, and diffraction characterization, imaging and interpretation.

Aaron Tomkins

Refraction Microtremor for delineation of layers and lenses, and assessing liquefaction potential within an alluvial setting – Morobe Province, Papua New Guinea

Aaron Tomkins - BSc. Geology/Geophysics, MSc. Structural Geology and Andrew Spyrou - BSc. (Hons) Geophysics, have 5 and 12 years experience respectively in geophysics. As lead geophysicists for GBG Australia and GBGMAPS, they are responsible for overseeing projects carried out by the company to ensure technical validity and quality assurance. For major projects, they are typically involved with all stages of the project including on-site data collection, data analysis and reporting.