President's piece



Katherine McKenna

It is yet another sad introduction to my President's Piece with the news of the passing of Professor Boyd. I recently, on behalf of the ASEG, had the pleasure of awarding him the ASEG Gold Medal at the recent ASEG conference. It was during the conference that I had the opportunity to talk to this inspiring individual. I walked away with a new optimism for the world of geophysics and the opportunity it poses for us.

Professor Boyd reminded me that a career in geophysics opens a world of opportunity, and it is the individual who chooses what opportunities to take. During the short period we talked, he also reminded me that there are no barriers other than those that we place in front of ourselves. The enthusiasm and energy that Professor Boyd radiated was intoxicating. Our meeting, which was followed too quickly by the news of his passing, has reminded me that we should be out there getting it done. For this I personally thank him.

Australia is a hub of geophysical knowledge and experience. Our geological environment has forced us to invent, innovate and adapt theories and ideas. Australian geophysical skills have been utilised in many other countries and many have been out there training others as well. Recently I have had a great experience working with the Malaysian Geological Survey. The government is conducting their first airborne geophysical survey in twenty years. The enthusiasm for the project and the possibilities that the results offer for the future of the mineral exploration in the country is an example of the power of geophysics.



The selfie shows many of the Malaysian group inspecting the geophysical aircraft, and demonstrating a huge thirst for knowledge of geophysics. It shows that there are opportunities for Australian geophysicists to promote and transfer our experience and knowledge elsewhere. A famous Roman saying states that by teaching we learn. Nothing can be truer

case of India I arrived the same day the Prime Minister announced the removal of Rs500 and Rs1000 from circulation, and on the same night of the elections in the United States. It was interesting to watch the first day when the banks reopened the queue of people waiting to try and exchange their money.



than promoting geophysics through teaching. The e-book from Dave Isles and Leigh Rankin together with the new book from Steve Mudge and Mike Dentith are an example of this transfer of knowledge but there is so much more that can be done.

The second opportunity I had this month was a visit to India. The government there is also undertaking an airborne geophysical survey with the objective of mapping the whole country geologically. The power of geophysics is recognized by the government as playing a part in the economic future of the country. One of the advantages of travelling in the name of geophysics is that you are often watching, or taking part in history. In the

Geophysics has certainly offered me the opportunity to travel and see the world, to gain experiences that are more than often unique and to meet the most interesting people that not only share the passion for geophysics but also a passion to learn.

Finally, I would like to wish everyone a safe and merry Christmas. May 2017 bring happiness, security and a renewed enthusiasm for geophysics.

docendo discimus (by teaching we learn)

Katherine McKenna ASEG President president@aseg.org.au



Welcome to new Members

The ASEG extends a warm welcome to 29 new Members approved by the Federal Executive at its October and November meetings (see table).

First name	Last name	Organisation	State	Country	Membership type
Sam	Ballard	Macquarie University	NSW	Australia	Student
Teagan	Blaikie	CSIRO	NT	Australia	Active
Casey	Blundell	Monash University	VIC	Australia	Student
Thomas	Boyle	Curtin University	VIC	Australia	Student
Stephen	Brennan	University of Auckland	Auckland	New Zealand	Student
David	Burt	Vale Exploration Pty Ltd	QLD	Australia	Active
James	Carroll	Bell & Murphy and Associates, LLC	TX	USA	Active
Dennis	Conway	University of Adelaide	SA	Australia	Student
lain	Сорр	University of Western Australia	WA	Australia	Student
Sam	Corbett	FMG	WA	Australia	Active
Charles	Criss	INOVA	СО	USA	Active
Roslyn	Dalton	University of Queensland	QLD	Australia	Student
Stanislav	Glubokovskikh	Curtin University	WA	Australia	Active
Cameron	Graham	University of Queensland	QLD	Australia	Student
Kathryn	Hayward	Australian National University	ACT	Australia	Student
Lachlan	Hennessy	RMIT	VIC	Australia	Student
Sarah	Mason	Curtin University	WA	Australia	Student
Joshua	Meertens	ASST Pty Ltd	WA	Australia	Active
Thomas	Meyer	Lockheed Martin Corp	NY	USA	Active
Michael	Morse	Geoscience Australia	ACT	Australia	Active
Shaun	O'Brien	University of Adelaide	SA	Australia	Student
Mark	Pohutsky	University of Queensland	QLD	Australia	Student
Christian	Richards	Austin Bridgeporth	Buckinghamshire	UK	Active
Joseph	Rugari	University of Adelaide	SA	Australia	Student
Todd	Smith	University of Adelaide	SA	Australia	Student
Hernan	Ugalde	Paterson, Grant & Watson Limited	Ontario	Canada	Active
Terry	Visser	Eustatic Resources	WA	Australia	Active
Carmine	Wainman	University of Adelaide	SA	Australia	Student
Nicholas	Wauchope	University of Adelaide	SA	Australia	Student



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Executive brief

The Federal Executive of the ASEG (FedEx) is the governing body of the ASEG. It meets once a month, via teleconference, to see to the administration of the Society. This brief reports on the last monthly meeting, which was held in November. Anyone who would like to see the minutes of the monthly meetings should add their name to the mailing list maintained by the Secretariat. FedEx also holds planning meetings twice a year.

Society finances

The Society's financial position at the end of October:

Year to date income \$377716.24 Year to date expenditure \$664807.59 Net assets \$1139097.66

Membership

As of 30 September 2016, the Society had 1108 Members. Welcome to all of the new Members, particularly the student

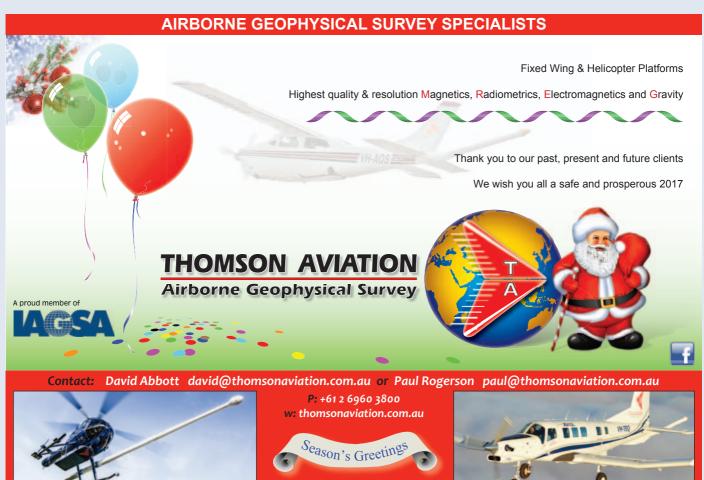
Members. Remember that early and mid-career Members can join the ASEG Young Professionals Network https://www.aseg.org.au/about-aseg/aseg-young-professionals.

As the holiday season approaches stay safe and visit as many scientific and

geological places of interest as you can. From all of us here wishing you all the best at Christmas time and a very Happy New Year.

Marina Costelloe Honorary Secretary fedsec@aseg.org.au





ASEG Branch news

Australian Capital Territory

September was kicked off by a visit from Professor Steven Constable, a former ANU student, now working at the Scripps Institute of Oceanography. ASEG ACT Members voted for Steven to give a talk on 'Geophysical inversion: which model do you want?'. Stephen illustrated the many ways in which inversion outcomes can be manipulated by factors not associated with the data, such as the error in the data, expected misfits, local and maximum minima misfits among other things. The talk generated a lot of interesting discussion and, in the end, the question time nearly went for as long as the talk itself!

Marina Costelloe, previously the ASEG ACT Branch President and currently a member of the ASEG Federal Executive, presented a talk on her new role with Geoscience Australia titled: 'Geoscience Australia's Geophysical Network; critical infrastructure and observed and derived data for earth modelling and community safety'. The entertaining talk gave an insight into the state-of-the-art network of sophisticated instrumentation that monitors both natural and human-made hazards in Australia. Such was the interest in Marina's talk that a tour of one of the monitoring facilities will be organised for ASEG ACT Members next year.

A distinct advantage of living in Canberra and being a part of the ASEG ACT Branch is having access to talks from notable speakers such as Dr Brian Kennett, Emeritus Professor of Seismology at ANU. Brian's talk was on the hot topic that all geophysicists are now interested in, passive seismic. Brian proved his methodology and modelling of 40+ passive stations located over the Fraser Range against gravity modelling and three 2D seismic lines which transect the region. He was also able to model velocity in 3D across the region gaining valuable insight into the 3D structure of the region.

James Goodwin (ACT Branch Secretary)

New South Wales

In September, the Macquarie University Student Committee did all the hard work. They were given the remit to organise and run the meeting and to attract as many students along as possible. They did an excellent job, with over 40 people attending the meeting, it being the largest held for quite a while.

The abstract for the meeting was:

'Being a student in university is different to life in the geophysics industry. The presenters for this month's Branch meeting have been organised by the ASEG Macquarie University Student Committee. The speakers will be presenting insights into their work and experiences in the industry and how they found the transition from university to industry.'

The speakers were:

Tasman Gillfeather-Clark, Fender Geophysics, Field Technician Reagan Newton, Roads and Maritime Services, Scientific Officer Julian Costas, RPS Group Plc, Junior Geophysicist

The students and the 'students at heart' thoroughly enjoyed the evening.

In October, we held our student night and the following students spoke. All talks were well presented and much discussion followed over beers and wine.

Claire Dennerley: Identifying soil sodicity management zones by numerically clustering proximal sensed gamma-ray and EM data at the field scale (UNSW).

Harrison Jones: Geophysical signatures of small-scale base metal occurrences (Macquarie University).

Muddassar Muzzamal: Mapping soil particle-size fractions using additive-log ratio transformation and proximally sensed ancillary data (UNSW).

Bailey Payten: Modelling the evolution of cordillera's at active margins in the context of the Lord Howe Rise (University of Sydney).

Joanna Tobin: Tectonic and geodynamic evolution of the northern Australian margin (University of Sydney).

An invitation to attend NSW Branch meetings is extended to interstate and international visitors who happen to be in town at that time. Meetings are generally held on the third Wednesday of each

month from 5:30 pm at the 99 on York Club in the Sydney CBD. Meeting notices, addresses and relevant contact details can be found at the NSW Branch website.

Mark Lackie (NSW Branch President)

Queensland

The Queensland Branch held its last meeting for the year on Thursday 17 November.

Two students from the University of Queensland presented work they had undertaken in completion of their Honours Theses.

Chris Mathews discussed his work on 'Near-surface characterization from dispersion of Rayleigh and Love waves' while Shakira Heffner shared her insights from her work on 'Analysis of azimuthal anisotropy in coal-scale 3D seismic reflection'. Both students did a wonderful job and we welcome them into our professional community.



Chris Mathews and Shakira Heffner.

This month we also recognize our long-serving ASEG Members with Silver certificates distributed to those who have been Members of the ASEG for 25 years. Congratulations and thank you to: Geoffrey Beckitt, John Donohue, Karel

Geoffrey Beckitt, John Donohue, Karel Driml, Sylvia Michael, Darcy Milburn, Ron Palmer, Troy Peters, Denis Sweeney, and Randall Taylor.

Our next meeting for the year will be held in February. More details will be





From left to right: Karel Driml, John Donohue, Sylvia Michael, Denis Sweeney and Ron Palmer.

available via the Qld Events tab on the ASEG website in the new year. On behalf of the Queensland Branch I'd like to wish everyone a Merry Christmas and a Happy New Year.

Megan Nightingale (Qld Branch Secretary)

South Australia & Northern Territory

Since the last edition of *Preview*, the SA/NT Branch has held three events, shifting down a gear as compared to the very busy pace in the months leading up to the ASEG-PESA-AIG 25th International Geophysical Conference and Exhibition. These events included two technical evenings and the ever popular Melbourne Cup Luncheon.

At our September technical evening we were joined by the SEG Distinguished Lecturer Steven Constable from the Scripps Institution of Oceanography, La Jolla, California. With a great crowd to present to at the Coopers Alehouse, Steven spoke about some of his recent work, with his talk titled 'Mapping gas hydrate using electromagnetic methods'. It was a brilliant talk giving a very interesting overview of his recent work in gas hydrate mapping and the development and application of electromagnetic receiver technology and the areas in which this EM methodology is being used. Our thanks go to Steven for taking the time to come and present for our branch.

Our annual Industry Night, held at the Coopers Alehouse in September, was the second of the two technical evenings, which gave our valued sponsors the opportunity to showcase the diverse range of projects they are currently involved with. Many thanks go to **Dave Cockshell** from the Department of State Development, **Kate Wittwer** from Minotaur and **Mike Hatch** from Zonge for joining us to present to our membership.

Finally, the annual Melbourne Cup Luncheon was a great success. With the Calcutta Sweep producing some unlikely winners, prizes for the best dress colt and filly and a great atmosphere in the packed venue, much fun was had throughout the day and into the evening. I would like to thank our Branch sponsors, the Ambassadors Hotel for holding this year's event and Matt Hutchens, Adam Davey and Phil Heath and all the Committee Members who lent a hand. without whom the day would not have come together. I would especially like to thank Neil Gibbins, who under considerably adverse conditions with the AV, managed to pull the whole day back on track. With very quick, out of the box thinking we were able to watch and importantly hear the race. Who would have thought that would be so important at a Melbourne Cup Luncheon!

All of our technical meetings and events are made possible by our very generous group of sponsors, which in 2016 includes the Department of State Development, Beach Energy, Minotaur Exploration, Borehole Wireline and Zonge. We will be in touch with other previous sponsors hoping they will return again next year. Of course, if you or your company are not in that list and would like to offer your support, please get in touch at the email address below.

By the time you are reading this there will be no more events scheduled for 2016 as we go into the holiday season. Keep an eye out for events in 2017 on the website and in your inbox, further technical meetings will be held monthly at the Coopers Alehouse on Hurtle Square in the early evening, starting in February with the AGM, date TBA. If you are interested in joining the Committee or holding a position on the Branch Executive, nomination forms will be sent out early next year.

We invite all Members, both SA/NT and interstate to attend our events, and of course any new Members or interested persons are also very welcome to join us. For any further information or event details, please check the ASEG website under SA/NT Branch events and please do not hesitate to get in touch at joshua. sage@beachenergy.com.au or on 8338 2833.

Josh Sage (SA/NT Branch President)

Tasmania

ASEG members played key roles in tectonically themed presentations to the

geoscience community in Hobart during October and November. Though both dealt with tectonic reconstructions, they did so from opposite ends of the Australian plate in a spatial and to some extent temporal sense, but both using potential field geophysics to a significant extent.

Marine geophysicist Joanne Whittaker of the Institute for Marine and Antarctic Studies outlined the evidence for microcontinents offshore Western Australia and their implications for East Gondwana reconstructions, on October 27. Then on 8 November, recent Monash PhD graduate (he may have previously done one or two other things too) David Moore added his model to the melting pot of new ideas surrounding the pre-Ordovician development of western Tasmanian lithosphere leading up to its incorporation as 'VanDieland' within what became Gondwana generally, and southeast Australia in particular. Thanks to the Geological Society of Australia's Tasmania Branch for arranging these talks and extending an invitation for ASEG Members to attend them.

In the new year, look out for **Anton Rada** talking about his newly developed UAV geophysical data acquisition system, details TBA.

An invitation to attend Tasmanian Branch meetings is extended to all ASEG Members and interested parties. Meetings are usually held in the CODES Conference Room, University of Tasmania, Hobart. Meeting notices, details about venues and relevant contact details can be found on the Tasmanian Branch page on the ASEG website. Interested Members and other parties should also keep an eye on the seminar program of the University of Tasmania's School of Earth Sciences, which regularly delivers presentations of geophysical as well as general earth science interest. Contact Mark Duffett taspresident@aseg. org.au for further details.

Mark Duffett (Tasmanian Branch President)

Victoria

On 26 September The Victorian Branch had the pleasure of welcoming our SEG lecturer from the US (University of California, San Diego), **Professor Steven Constable**, who gave a talk entitled 'Geophyscial inversion: which model do you want?'. Steven enlightened us about the many pitfalls which present

themselves when proceeding to geophysical inversion. This was a very well received talk with the best attendance of the year! Thank you Steven and the SEG.

On 15 November the Branch hosted the annual student night, when current students from the University of Melbourne, Monash University and RMIT presented on the state of their research project. RMIT PhD student **Lachlan Hennessy** received the first prize for his work on 'Magneto-tellurics with lightning source information'. The Victorian Branch Student Night is reported on in more detail in the *Education Matters* section of this issue of *Preview*.

Seda Rouxel (Victorian Branch President)

Western Australia

The WA Branch hosted a presentation from **Lee Steven** of Geosoft on 'Delivering multi-disciplinary geoscience

data to industry' on 12 October at the Celtic Club, an alternative venue to City West and currently on trial. Lee drew his discussion from recent work with QDEX, from the Queensland Department of Natural Resources and Mines and the Botswana Geoscience Portal from the Botswana Geological Survey. Managing and distributing large datasets continues to challenge both government and end users so this update was timely and interesting.

The first event for November was the PESA-ASEG Golf Day which was held on Friday 11 November at the Novotel Vines Resort in the Swan Valley. This annual social event attracted 108 golfers. While sponsorship was down for the year, enthusiasm for the game from Members and guests was just as keen.

On 24 November the Branch hosted presentations from five of this year's students. Student awards for 2016 were announced after the talks, which was held in the City West Function Centre.

Our final technical presentation will be hosted at the Celtic Club on 7 December when Allan Trench will present current trends with mineral economics. The ASEG Annual General Meeting will precede the talk so all local Members are encouraged to attend. Christmas drinks and a light meal of South East Asian curries, sambals and rice will follow Allan's presentation.

Finally, the WA Branch would like to congratulate our President, **Kathlene Oliver**. Kathlene was awarded the ASEG Service Certificate at the ASEG-PESA-AIG conference for 2016 held in Adelaide at the end of August for her sterling effort at returning the WA Branch to profitability, steering it through a couple of eventful and interesting years, and focusing on enhancing diversity and the feeling of inclusiveness for Members at events.

Kathlene Oliver (WA Branch President)



New Resolution Geophysics (NRG™) has developed the Xcite™ system, a new generation of helicopter-borne time-domain electromagnetic (HTDEM) systems by incorporating the latest new-age, high speed electronics and sophisticated aeronautical engineering. Xcite™ is now commercially available for survey and provides an unparalleled alternative to existing HTDEM technologies for the minerals exploration and geoscience mapping community.

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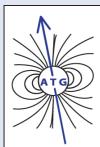




ASEG national calendar: technical meetings, courses and events

Date	Branch	Event	Presenter	Time	Venue	
2016						
2 Dec	SA-NT	SAEMC (http://www.saexplorers.com.au/)	Various	0800-1700	Adelaide Convention Centre, Adelaide	
7 Dec	WA	AGM, Tech night and Christmas party	Allan Trench	1730–2000	Celtic Club, 48 Ord Street, West Perth	
14 Dec	NSW	Quiz night	TBA	TBA	99 on York Club, Sydney CBD	
14 Dec	Vic	Christmas lunch with PESA and SPE	TBA	TBA	TBA	
15 Dec	ACT	Tech talks	Various TBA		Sir Harold Raggatt Theatre, Geoscience Australia, Symonston, Canberra	
2017						
Feb	SA-NT	AGM	TBA	1730	Coopers Alehouse, Hurtle Square, Adelaide	
Feb	Qld	AGM	TBA	1730	XXXX Brewery, Corner of Black Street and Paten Street, Milton	
8 Feb	WA	Tech night	Dave Annetts	1730–1900	TBA	
15 Feb	NSW	AGM	TBA	TBA	99 on York Club, Sydney CBD	
9 Mar	WA	Tech night	Shane Evans	1730–1900	TBA	

TBA, to be advised (please contact your state Branch Secretary for more information).



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