



## SEG New Orleans, geophysical instruments, magnetic and gravity fields

Last month, as ASEG President, I attended the SEG meeting in New Orleans. Heading to New Orleans I thought of Howard Golden's article in *Preview* (December 2006), written after Hurricane Katrina (August 2005) had struck the Gulf Coast and burst the New Orleans levee bank causing widespread destruction. On arrival I wandered the downtown streets, vaguely heading for the museum district to kill time (and jetlag) until I could grab some decent sleep, but I came across Lafayette Square and the 10th Anniversary of the Katrina Blues & BBQ festival.

I never made it to the museums but having had a Cajun BBQ and a good night's sleep I was ready to set up the ASEG booth with Koya Suto the following morning, before attending the SEG Council Meeting and the Conference Centre. Just an aside on our booth props, Skippy and Hoppy, I have to admit that when I first heard of them I was quietly dismissive but, having been at the booth when passers-by instantly recognise where you must be from, I now realise that they are an instant ice-breaker and often led to more meaningful discussions. Curtin University even said they almost nicked Skippy because no-one knew where Curtin Uni was. So, I take back my silent indifference Greg!

This issue of *Preview* includes an article by Roger Henderson on a gravity meter built in the Department of Physics at Sydney University in the late 1800s. This gravity meter operated on the same principle that many modern gravity meters operate. I will not steal Roger's thunder here, but it is a fascinating piece of geophysics history that we should all know about. It reminded me of Doug Morrison's series on Neumayer in the 1850s, and the Flagstaff laboratory in



*The ASEG booth at New Orleans with two characters well known to the membership, plus Koya and me.*

Melbourne which was a first in the Southern Hemisphere. Doug's article from *Preview* 121 (April 2006) is entitled 'Neumayer: pioneer exploration geophysicist' and quotes Neumayer '...all my instruments are constructed on new principles ... by a Magnetic Map of a country we can draw a conclusion as to its probable value for agricultural and mining purposes. It is more than probable that there exists a relation of terrestrial Magnetism and the great tracts of auriferous land in Australia, and such a map would enable us to point out new spots of the above mentioned interest without making trials on an expensive scale.' Remarkably prescient given the time. So, Australia has been at the forefront of geophysics since the 1850s.

According to NASA, Mars' lack of a magnetic field is now thought to be responsible for its lack of a significant atmosphere. This came as a surprise to me because I attended lectures given by Ted Ringwood at RSES ANU in the 1960s where he would attribute the lack of the Martian atmosphere on the Sun's T-Tauri phase during accretion of the planets. In fact all inner planets were supposed to have lost their atmospheres during this stage and only those planets

with residual volatiles in their mantles were able to redevelop atmospheres. Plate tectonics has certainly helped Earth to regain an atmosphere. But NASA now say that the solar wind, comprised of charged particles that on approach to Earth become deflected north or south depending upon polarity (and spiral relatively harmlessly into the magnetic poles), has stripped Mars of its atmosphere after its magnetic field ran out of ergs and the whole planet became directly exposed to the solar wind. Mars probably had a molten core for its first billion years but it is thought to have since solidified. NASA has made much of evidence for large quantities of water on Mars sometime in its past, so what has caused the loss of the Martian atmosphere becomes extremely important in whether it may be possible for mankind to establish a base there. You would want to be very careful recycling water at such a base.

Meanwhile, economist Saul Eslake has suggested that the final commodities boom in 'human history' may have just finished (from the International Mining and Resources Conference in Melbourne last Tuesday). This is hard to believe given the global population is growing more or less exponentially. I prefer to listen to Ross Gittins, (economics editor for Fairfax) who says economists make the worst soothsayers. I'm sticking to my belief that the next boom is around the corner, hopefully soon enough that universities do not start cutting geophysics courses.

*Phil Schmidt  
ASEG President  
president@aseg.org.au*



*Left: New Orleans 2006 (immediately post-Katrina). Right: New Orleans 2015 (10th Anniversary of the Katrina Blues & BBQ Festival).*



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## Welcome to new Members

The ASEG extends a warm welcome to 23 new Members approved by the Federal Executive at its October and November meetings (see table).

First name	Last name	Organisation	State	Country	Membership type
Antonia	Bigault	University of QLD	QLD	Australia	Student
Sarah	Buckerfield	Geoscience Australia	ACT	Australia	Active
Adrian	Callum	University of the Sunshine Coast	QLD	Australia	Active
Wenchao	Cao	The University of Sydney	NSW	Australia	Student
Vince	Gerrie	DGI Geoscience	Ontario	Canada	Active O/S
Issac	Graves	University of Melbourne	VIC	Australia	Student
Bradley	Grosser	Chevron	WA	Australia	Active
Mahmood Ul	Hassan	Royal Institute of Technology		Sweden	Student
Paul	Hyde	Velseis Pty Ltd	QLD	Australia	Active
Nick	Jervis-Bardy	Zonge Engineering and Research Organisation Australia	SA	Australia	Active
Mehdi	Khaki	Curtin University	WA	Australia	Student
Alexandra	Lemenager	Macquarie University	NSW	Australia	Student
Yaoguo	Li	Colorado School of Mines	CO	USA	Active O/S
Louise	L'oste-Brown	Minotaur Exploration Ltd	SA	Australia	Associate
Luke	Mahony	University of Melbourne	VIC	Australia	Student
Mardi	McNeil	Queensland University of Technology	QLD	Australia	Student
Michel	Nzikou	Curtin University Of Technology	WA	Australia	Student
Joaquin	Pablo		WA	Australia	Student
Denny	Rompotes	Hiseis Pty Ltd	WA	Australia	Active
Beti	Slakeska	Geosoft	WA	Australia	Associate
Katri	Vaittinen	Boliden	Västerbotten	Sweden	Active O/S
Christopher	Yeomans	University of Exeter , Camborne School of Mines	UK	UK	Student O/S
Dailei	Zhang	Griffith University/Jillin University, China	QLD	Australia	Student



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## Notice of Annual General Meeting (AGM)

The 2016 AGM of the Australian Society of Exploration Geophysicists (ASEG) will be held in Perth on 13 April 2016. The meeting will be hosted by the WA Branch. Details of the meeting time and address of the venue will be advised closer to the meeting.

The business of the Annual General Meeting will include:

- To confirm the minutes of the 2015 Annual General Meeting;
- To receive from the Federal Executive reports on the activities of the Society during the last preceding financial year;
- To receive and consider the financial accounts and audit reports that are required to be submitted to members pursuant to the Society's Constitution and to law;
- To consider and if agreed approve any amendments to the Constitution of the Society that the Federal Executive may bring to the meeting;
- To report the ballot results for the election of the new office holders for the Federal Executive;
- To confirm the appointment of auditors for the 2016 financial year.

The AGM will be followed by a scientific presentation. The speaker and title will be advised closer to the event.

### Invitation for candidates for the Federal Executive

Members of the Federal Executive serve in an honorary capacity. They are all volunteers and Members are encouraged to consider volunteering for a position on the Executive or on one of its committees. Current members are listed in *Preview*; please contact one of them if you wish to know more about volunteering for your society.

The Federal Executive comprises up to 12 members, and includes the following four elected members:

- (i) President,
- (ii) President Elect,
- (iii) Secretary, and
- (iv) Treasurer.

These officers are elected annually by a general ballot of Members. Katherine McKenna was elected as President-Elect in 2015 and as such will stand for the position of President in 2016. Members wishing to nominate for one of these positions should note that in accordance

with Article 8.2 of the ASEG Constitution '...The elected members of the Federal Executive are designated as Directors of the Society for the purposes of the [Corporations] Act'.

The following officers are also recognised in the Society's Constitution and serve on the Federal Executive:

- (i) Vice President,
- (ii) the Immediate Past President (unless otherwise a member of the Federal Executive),
- (iii) the Chairman of the Publications Committee,
- (iv) the Chairman of the Membership Committee,
- (v) the Chairman of the State Branch Committees, and
- (vi) up to three others to be determined by the Federal Executive.

These officers are appointed by the Federal Executive from the volunteers wishing to serve the Society.

Nominations for all positions (except Past President) are very welcome. Please

forward the name of the nominated candidate and the position nominating for, along with the names of two Members who are eligible to vote (as Proposers), to the Secretary:

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ASEG Secretary  
Care of the ASEG Secretariat  
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NSW, 1585  
Tel: (02) 9431 8622  
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Nominations for the elected positions must be received via post, fax or email **no later than COB Wednesday 16 March 2016**. Positions for which there are multiple nominations will then be determined by ballot of Members and results declared at the Annual General Meeting.

Proxy forms and further details of the meeting will be sent to Members prior to the meeting by email and made available to Members on the Society's website.

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## Executive Brief

The Federal Executive of the ASEG (FedEx) is the overall governing body of the Society. It meets once a month to see to the administration of the Society. It also meets twice a year to consider and make more strategic plans. A report on the last planning meeting, which was held in September, is included in this brief.

In addition to reporting on planning meetings, the Honorary Editor of *Preview* has been asking for some time for FedEx to report to Members, via *Preview*, on the business conducted at its regular (monthly) meetings. Much of what we do at these meetings is routine and would make pretty boring reading if repeated verbatim. In the spirit of openness, however, it is our intention that the minutes of our meetings will eventually appear on the Members-Only part of our website. But, we need a re-design and re-engineer of the website before that can happen. In the interim FedEx will use this column to brief Members on its regular business. Anyone who would like to see the Minutes should add their name to a mailing list maintained by the Secretariat.

### October meeting

At its October meeting FedEx reviewed the minutes of the September meeting. Unresolved action items, including unresolved action items from all other previous meetings, were considered and progress or otherwise noted. The meeting approved the Treasurer's report and endorsed individual expenditure items for the previous month. The Society's financial position at the end of September was:

Year to date income \$333 638.26  
Year to date expenditure \$397 547.19  
Net assets \$1 050 785.34

Other issues discussed are itemised below.

### 2016 Membership fees

At the end of September, the Society had 1146 Members. Current membership fees were reviewed and it was agreed that the fees would increase by a 2.2% inflator in 2016. Fees for (non-corporate) Members who pay before 31 December 2015 will be:

Australian Active and Associate Members \$127 including GST

Retired Australian Members \$63 including GST  
Australian Student Members free  
Australian Life Members \$633 including GST

Overseas members will now be charged at rates commensurate with their ability to pay based on the development status of their country.

### 2016 AGM

The meeting resolved to ask the WA Branch if it would host the 2016 Annual General Meeting in April.

### Member survey

A report on the recent Member survey was tabled (see the article in *Preview* 178) and discussed in light of the outcomes of the recent planning meeting (see report below). The results of these discussions include an agreement to develop a business model for an OzLEAP programme of courses and an agreement to develop a proposal for a Promotions Committee and/or Promotions Officer for the Society.

### Conferences

The accounts for the 2015 ASEG-PESA Perth Conference and Exhibition have been audited and the Society looks forward to the receipt of surplus funds in the near future. Planning for the 2016 Adelaide ASEG-PESA-AIG Conference is progressing well with a steady take up of sponsorship opportunities and exhibition space. Call for papers has gone out and expressions of interest in holding workshops closes in December.

There was discussion about a review, with PESA, of the recent ICE conference in Melbourne and agreement on a process to negotiate with SEG and AAPG about who hosts future meetings in Australia.

ASEG is a member of the Australian Geoscience Council (AGC). AGC has proposed holding an Australian Geoscience Conference in 2018-19 involving all the Societies in the AGC (except PESA). The intention is that this conference will focus on issues important to geoscience in Australia. It would be an opportunity to showcase geophysics to the whole geoscience community. We would like to know what Members think about this proposal – **would Members prefer to be part of a major conference**

**or maintain the schedule of their own conferences?**

### Committees

FedEx would like to appoint a new Chair for the Publications Committee; the Chair of this Committee will be a Member of the Federal Executive. **A call will be made for volunteers.**

### Courses for 2015

FedEx reviewed progress with courses and lectures. A report on courses and lectures is provided elsewhere in this issue of *Preview* (see Education Matters).

### Outcomes of the September planning meeting

If fledgling plans initiated at a recent Federal Executive (FedEx) planning day come to fruition, the ASEG will have a broader education programme, an expanded publications programme with a greater international reach, more overseas Members in countries where many of our Members already operate, an improved website, and stronger and closer ties with other international societies that are increasingly working in our region, all delivered to Members who are more aware of what the Society has to offer them.

The ASEG FedEx meets monthly via telephone hook-up. These meetings are focussed mostly on the day to day running of the Society. Since 2013 FedEx has also met twice a year face to face to plan future directions and strategies for the Society. Representatives of the local Branch where these meetings are held and the Honorary Editors are also invited to attend.

FedEx held its second meeting this year in Adelaide in September. FedEx thanks Beach Energy for providing the venue. The meeting began with a look at whether our programme of work was aligned with Members' views as shown by the recent Member survey (reported in the October issue of *Preview*). We found that there is fairly good alignment between what FedEx believes it needs to do when managing the Society and Member responses. **FedEx is now awaiting feedback from the report on the Member survey in the October issue of *Preview*.** The survey will probably be repeated in whole or in part

in 2016 to measure the effectiveness of the FedEx's response to Members' issues.

One thing that was noted clearly in the free form responses to the question 'List the benefits that you would like to see the ASEG introduce' is that many Members are unaware of a number of the services provided by the Society. Some time was spent discussing whether we need a more proactive promotional strategy; a proposal will be developed for FedEx to consider over the next few months.

The main body of the meeting was directed towards the aspirational goals set out in our strategic plan developed in 2013 and published in *Preview* that year. At this meeting we focussed on enhancing our education programme, broadening the reach of our publications, and further strengthening our membership base. We also discussed our relationships with overseas societies, several of which are becoming more active in our region. Many Members are aware of the programmes of visiting overseas lecturers and courses provided principally by the SEG and EAGE. One of the surprises that we found in the Member survey was the number of Members who do not know about our own OzSTEP programme of courses, despite their promotion and popularity.

OzSTEP courses are intended to fill the gaps between theory and application, university studies and industry practice, and between geophysicists and geologists. Each course typically takes a day. Expected audiences are graduate geophysicists with up to 10 years of experience and geologists and technical staff who are interested in geophysics. More effective promotion is clearly needed despite the courses being advertised through *Preview*, mail outs, and through Branch activities. The meeting resolved to investigate a second form of course proposed by the senior industry geophysicists on the FedEx. Called OzLEAP, it would make an attendee proficient and work-ready in a

specialised area of geophysics. Courses could take up to 5 days of intensive classes and practical hands on experience. Typical attendees of an OzLEAP course would be practicing geophysicists who need to apply new skills in their work. FedEx resolved to ask the senior management of exploration companies about what subjects they would like to see covered.

All Members receive our journal *Exploration Geophysics* (EG) and our magazine *Preview* (PV). EG is also the Journal of the Japanese and Korean geophysical societies. We have had feelers from several other overseas societies interested in linking into EG. Should FedEx agree to further expand the base of EG its international reach and status will be significant.

FedEx is also keen to use our web site to provide a wider range of text and video services for Members. A session at the last ASEG conference was recorded and the lectures and question and answer session at the end were made available via YouTube. This has proven to be a successful experiment. FedEx is keen to extend this kind of service to the delivery of technical meetings, especially to regionally based Members. A major redesign of the website is underway with some of this added capability in mind.

FedEx noted that we have existing Honorary Editors for EG and PV. If some of our thinking turns into reality we may also need to consider editors for our web content and our special publications. Any Member interested in taking on either of these roles should contact Greg Street, who is currently the FedEx member on the Publications Committee (Greg's contact details are in the ASEG Officeholders page of this issue of *Preview*).

Sixteen percent of our Members are based overseas; our overseas cadre is second only to the WA Branch as a group. FedEx Members who travel and work overseas as well as in Australia

reported that there is potential to attract many more Members, particularly from China, Southeast Asia and Africa. This is reflected in an increased number of applications for overseas student membership in the last few years. As we move more to on-line service delivery, particularly of our publications, the marginal cost to service additional Members will decrease. FedEx resolved to consider a fee structure similar to that operated by overseas societies in which international members are charged fees in accordance with their ability to pay; Members in developed countries pay more than those in developing countries. This would also reflect the reality that overseas Members do not receive the same level of services as Australian-based Members such as Branch technical meetings and hard copies of PV.

FedEx believes that collaboration, rather than competition and overlap, with other Australian societies continues to be in the interest of our Members. Our Conference and Exhibition in Adelaide next year will be held jointly not only with PESA, which has been the case for a number of previous meetings, but also with the Australian Institute of Geoscientists (AIG). Many of the technical and social functions organised by our Branches involve cooperation with PESA. But a number of international geophysical societies are now operating in our region and are seeking closer ties with the ASEG. The meeting agreed that members of our executive would meet with PESA to organise parallel approaches with a consistent message to our international sister organisations to ensure that the needs of our Members are not subsumed by the capacity of the much larger international organisations to dominate the planning and conduct of local events. The first meetings with the overseas societies have now been held.

*Barry Drummond*  
Honorary Secretary  
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## ASEG Branch News

## Queensland

The Queensland branch has had a very busy end to the year. In October we hosted **Bob Musgraves'** OzSTEP course; 'Potential fields: a (re)introduction for geophysicists and geologists'. The course was a great refresher for geologists and seismic geophysicists alike.

Bob also presented his talk 'What can geophysics tell us about the mobile phase of the Lachlan and Thomson orogens?' while he was in town.

In November we hosted **Brian Russell's** OzSTEP course; 'AVO and inversion methods. Brian's course was well received by all who attended. We were also lucky enough to have Brian present to the local Branch while he was in town; his talk was titled; 'Integrating rock physics models and seismic pre-stack inversion'.

This November the Queensland Branch will also host SEG HL **Hansruedi Maurer** presenting his talk 'The curse of dimensionality in exploring the subsurface'.

This will be our last meeting for 2015. We would like to wish everyone Merry Christmas and look forward to seeing all our Members, and hopefully some new ones, in the New Year.

*Megan Nightingale*  
(QLD Branch Secretary)

## New South Wales

In September, **Keith Leslie** and **Clive Foss** from the CSIRO spoke about the work they have doing in regards to the application of magnetics. Their scope ranged from looking at 3D mapping of magnetite and hematite concentrations to logging magnetic phases using a travelling 3-component vector magnetometer to a downhole magnetic tensor gradiometer. Many questions and much discussion followed their presentation.

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.

**Luke Hardiman**; 'Impact of climate on the development of pull-apart basins' (University of Sydney).

**Alexandre Lemenager**: 'Numerical modelling of the Sydney Basin using

temperature dependent thermal conductivity measurements' (Macquarie University).

**Nikita Golkin**; 'Numerical modelling of microcontinent formation in the context of a passive margin' (University of Sydney).

Also in October, we hosted the OzSTEP workshop on potential fields given by **Bob Musgrave**. The workshop was attended by nine students.



*Luke, Alexandre and Nikita after presenting to the NSW Branch.*

An invitation to attend NSW Branch meetings is extended to interstate and international visitors who happen to be in town at the time. Meetings are held on the third Wednesday of each month from 5:30 pm at the Rugby Club in the Sydney CBD. Meeting notices, addresses and relevant contact details can be found on the NSW Branch website.

*Mark Lackie*  
(NSW Branch President)



*Bob Musgrave presenting to the SA/NT Branch.*

## South Australia &amp; Northern Territory

Since the last edition of *Preview*, the SA/NT Branch has enjoyed several events including our annual Industry Night, an OzSTEP Course and the ever popular Melbourne Cup Luncheon.

The annual Industry Night, held at the Coopers Alehouse in September, was a fantastic opportunity for some of our sponsors to showcase the diverse range of projects they are currently involved with. Many thanks go to **Darren Evans** from Beach Energy, **Miles Davies** from the Department of State Development, **Andrew Thompson** from Minotaur and **Alan Waldron** from Santos for taking the time to present to our membership.

Following up in October, we were joined by **Bob Musgrave** who ran the one day OzSTEP course; 'Potential fields: a (re) introduction for geologists and geophysicists', held at the Richmond Hotel in the Adelaide CBD. This was a highly anticipated course, which did not disappoint, with an excellent turnout from industry, government and academia alike.

Finally, the annual Melbourne Cup Luncheon was a roaring success. With the Calcutta Sweep producing some unlikely winners, prizes for the best dressed colt and filly and a great atmosphere in the packed venue, much fun was had throughout the day and into the evening. We would like to thank our exclusive sponsor Beach Energy, the Ambassadors Hotel for holding this year's event, **Neil Gibbins** for giving up his time to MC,

and **Jenni Clifford**, without whom the day would not have come together so successfully.

Without the support of all of our sponsors our monthly technical meetings would not be possible. As such, we would like to thank all of our sponsors for 2015, including Beach Energy, the Department of State Development, Geokinetics, Minotaur Exploration, Petrosys, Santos, Schlumberger, Borehole Wireline and Zonge. Of course, if you or your company are not in that list and would like to give your support, please get in touch at the email below.

As usual, further technical meetings will be held monthly, at the Coopers Alehouse on Hurtle Square, in the early evening. We invite all Members, both SA/NT and interstate to attend, 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.matthew.sage@gmail.com](mailto:joshua.matthew.sage@gmail.com) or on 8338 2833.

*Josh Sage*  
(SA/NT Branch President)

## Tasmania

A recent highlight for the geophysical community in Tasmania was the presentation to Dr **David Leaman** of the Twelvetrees Medal, struck by the Geological Society of Australia's Tasmania Division to recognise important contributions to the Earth Sciences within Tasmania, or outstanding contributions to Earth Sciences while resident in Tasmania. In the spirit of eminent Tasmanian government geologist, **William Harper Twelvetrees** (1848–1919), contributions are considered to include meritorious feats of geological exploration in Tasmania or elsewhere, significant published works, or meritorious service to the Earth Sciences.

The Medal was presented to Dr Leaman at a joint meeting of the Tasmanian Branches of the GSA and ASEG at the University of Tasmania on 15 October. The citation highlighted David Leaman's astonishingly productive contribution over a career applying geophysical techniques to a wide range of geological issues. No one present was left in any doubt that Dr Leaman richly deserves this prestigious award, and nor will be anyone else who reads the citation (which is published in full elsewhere in this issue of *Preview*).



*Mark Duffett, Keith Corbett, David Leaman and Bob Richardson after David Leaman was presented the Twelvetrees Medal.*

Geophysics in Tasmania also greatly appreciates the efforts of **Bob Musgrave**, who carried off the epic effort of a full day's OzSTEP course delivery followed by an address to the joint GSA/ASEG meeting that same evening, with aplomb. Bob's passion for potential field geophysics, especially palaeomagnetism and the big picture was evident right to the end of his presentation; 'What can geophysics tell us about the mobile phase of the Lachlan and Thomson orogens?', which held an audience composed mostly of geologists enthralled.

The ASEG in Tasmania is now looking forward to the visit of SEG Near Surface Honorary Lecturer **Hansruedi Maurer** of ETH Zurich. He will present on 'The curse of dimensionality in exploring the subsurface' in the CODES Conference Room, University of Tasmania at noon on Monday 30 November.

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](mailto:taspresident@aseg.org.au) for further details.

*Mark Duffett*  
(Tasmanian Branch President)



*Bill Lodwick presenting to the ASEG Victoria Branch.*

## Victoria

On Wednesday 7 October the ASEG Victoria Branch hosted a technical evening meeting at the Kelvin Club with **Bill Lodwick**, Fletchwick International, recently returned from Malaysia. The title of Bill's talk was 'Geophysicists, petrophysicists, seismic data and well logs'. Bill's talk was very well received and sparked a lengthy discussion.

On Tuesday 13 October we hosted the all-day OzSTEP course on 'Potential fields: a (re)introduction for geophysicists and geologists' presented by Bob Musgrave from the Geological Survey of New South Wales. We only had two attendees, but we decided to run the class anyway, which led to some excellent audience-tailored teaching by Bob.

The Victorian Branch held our 'Annual Student Night' on October 29 with a great turnout of around 25 people to see four students from Melbourne and Monash universities presenting research from their Honours or Masters projects. The presenters and presentations were:

- **Matt Sisson**, Monash University, 'Using remanent magnetisation to differentiate rock packages: insights from the Birksgate Prospect, Curnamona Province, SA'.
- **Isaac Graves**, Melbourne University, 'Rheological and stratigraphic controls on fault linkages in the Timor Sea'.
- **Taylor Ogden**, Melbourne University, 'A redefined crustal structure of the Buchan Rift, Northeast Victoria: evidence from potential field modelling of newly acquired land-based gravity data'.
- **Gemma Cochrane**, Monash University, 'Integrated geological and potential field analysis for the exploration of IOCG deposits within the Battle Axe prospect, Cloncurry'.



A few drinks and nibbles beforehand helped to calm any nerves, as for some this was their first truly public scientific presentation. The audience wouldn't have known it, as we witnessed four very clear and confident presentations. Matt and Isaac had to contend with an uncooperative laptop and even managed to carry on their presentation by ad-libbing or taking questions, while the laptop rebooted. The judges were impressed with the quality of all the presentations and with the scientific content too. Picking a winner would prove tough, but the deciding factor in the end was probably the ability of Taylor Ogden to communicate his work with great clarity to the diverse audience assembled.

The prize pool was extended to reward each presenter, with Taylor Ogden receiving the first prize of \$250. Celebrations continued afterwards at an adjacent pub as many students had also submitted their theses that day.

On 4 November the 'PESA VIC/TAS Geoscience R&D Forum' was held at Melbourne University in combination with VUEESC 2015 (the Victorian Universities Earth and Environmental Sciences Convention). ASEG was a Gold sponsor of the event and several local ASEG members were in attendance. The event was again well attended (about 80 in total) and the crossover between the industry-focussed R&D topics and the postgraduate student presentations gave the event a great energy boost. The interaction in between the sessions and subsequent follow-up observed suggests that much stronger ties between industry, private and academic research are already

being forged in Victoria. A more detailed wrap-up is being prepared for the next PESA news, but keep an eye on the ASEG and PESA websites too, or contact **Jarrold Dunne** ([JDunne@karoongas.com.au](mailto:JDunne@karoongas.com.au)) for more information.

Now for the upcoming events:

Make a big tick in your calendars for the Annual Joint PESA-ASEG-SPE Christmas Luncheon on Wednesday 9 December from 12:00 pm to 16:00 pm at the Victoria Hotel, 215 Little Collins Street, Melbourne. This year **John Hughes** and **Bruce Holland** of The Norwood Resource will present 'The Norwood Resource: dismantling myths!', along with games, quizzes, excellent food and drink and even better company!

On Thursday 10 December the ASEG Victoria Branch will host a technical meeting with Dr **Hansruedi Maurer**, ETH Zürich and SEG Honorary Lecturer, presenting 'The curse of dimensionality in exploring the subsurface'. The meeting will be held at the Kelvin Club, starting at 6 pm (drinks and nibbles) for a 6:30 pm presentation.

Following the summer break, please look out for an invitation to the 'Joint ASEG/PESA/SPE Mid-Summer Social' for some serious networking to get 2016 going. The date and venue is yet to be announced.

On Thursday February 18 the ASEG Victoria Branch will hold its Annual General Meeting (AGM), along with a technical meeting with **Phil Schmidt**, owner of Magnetic Earth and ASEG President, presenting on 'Magnetic exploration projects in CSIRO from 1978

to now'. The meeting will be held at the Kelvin Club, starting at 6 pm (drinks and nibbles) for a 6:30 pm presentation.

Pre-meeting registration for any of the upcoming events is mandatory, and can be made via the ASEG Events web-page. We look forward to seeing many ASEG Victoria Branch members at the meetings in the coming months. All the best for the holidays, enjoy a well-deserved summer break, and may 2016 bring you joy, wisdom and prosperity!

*Asbjorn Norlund Christensen (Victorian Branch President), with significant contributions from Jarrold Dunne*

## Western Australia

The WA Branch held three technical sessions over the past two months including:

- 9 September 'Nuclear magnetic resonance and its application in hard rock mining and hydrogeology' presented by **Tim Hopper**, NMR Services.
- 14 October 'Application of high resolution Q-tomography – a case study' presented by **Kia Zhao** of CGG.
- 10 November 'Resurrection of ocean bottom seismography in Australia' presented by Dr **Alexey Goncharov** of Geoscience Australia.

The remaining technical session for November will be on Wednesday 18 November at the City West Function Centre. **Hansruedi Maurer** is part of the SEG Honorary Lecturer Tour and will present 'The curse of dimensionality in exploring the subsurface'.

The student presentation night will be the final technical session for 2015 and is scheduled for 2 December. A total of 11 submissions were received from geophysics students from UWA and Curtin University for the annual ASEG Student Awards. The awards will be announced the same evening.

Three OzSTEP courses run by **David Lumley**, **Bob Musgrave** and **Brian Russell** during October proceeded well but attendance was down compared to previous years. The final course for 2015 is being offered by the EAGE EET9 'Satellite InSAR data: reservoir monitoring from space' on Friday 20 November at the Auditorium, Australian Resources Research Centre, 26 Dick Perry Ave, Kensington. Check the WA Branch website for details.



Bob Musgrave with an attentive Victorian OzSTEP audience.



David Lumley presenting at Geoscience Australia.

Social events include the 28th annual ASEG/PESA Golf Classic at the Joondalup Gold Resort on 11 November, which remains ever popular amongst Members. The Christmas wind-up will be held, combined with the AGM, on 24 November at Willong Pavilion, Kings Park, accompanied by a Greek BBQ and refreshments. Parking is available nearby. The venue is near Hale Oval and otherwise close to public transport along Kings Park road or to West Perth.

*Prue Leeming  
(WA Branch Preview correspondent)*

### Australian Capital Territory

The ACT branch has had a busy few months with two OzStep courses being run at Geoscience Australia, both well attended and excellently presented. The OzSTEP ACT '4D seismic reservoir monitoring' by **David Lumley** and OzSTEP ACT 'Potential fields AND a (re)introduction for geophysicists and geologists' by **Bob Musgrave** were both outstanding educational and networking opportunities for our branch.

**Ashby Cooper** commented on David Lumley course; 'The highlight for me was gaining insight into the technological advancements in 4D reservoir monitoring. I am especially interested in the development of ocean bottom permanent arrays for 4D monitoring and the capability to measure ambient noise and earthquake events using these systems. I think it's an exciting time for seismology.'



Bob Musgraves OzSTEP students, new and old, at Geoscience Australia.

**Ian Roach** commented on Bob Musgrave's course; 'Bob's course was a great refresher for me because I had first learned about potential fields over 30(!) years ago... Bob reminded me of all things that I had learned long ago, that were still correct, but also reminded me that the underlying principles of potential fields affect our daily work as geophysicists and geologists (and geophysical geologists like me). Bob also, and maybe this was because we were in the GA building, spoke highly of the fundamental work done by GA in potential fields, from the data collection, databases and breakthroughs in understanding the Australian potential fields by geophysicists at GA. Bob also spoke highly about the new isostatically corrected gravity model for Australia by our own Aki Nakamura. It was also a great catch-up for the latest developments in hardware and software and image processing. I greatly enjoyed the day, and was pleasantly surprised to discover that I hadn't forgotten so much in the intervening + 30 years.'

After Bob's talk there was a short tour given by **Phillip Wynne** to Geoscience Australia's A10 in the Gravity Laboratory that everyone enjoyed.

In November we run the EAGE EET9 'Satellite InSAR data reservoir monitoring from space' to be presented by world leader **Alessandro Ferretti** and

December sees us host **Hansruedi Maurer** who presents 'The curse of dimensionality in exploring the subsurface'. He is the SEG 2015 Honorary Lecturer.

In November **Chris Pigram**, CEO of Geoscience Australia, released a Value to the Nation package, it presents Geoscience Australia's long history of achievement: contributions to industry, communities and the environment, advice to all levels of government, and collaborations with partners. Please visit <http://www.ga.gov.au/value-to-the-nation> to see some of the geophysical impacts we make to the nation.

The joint ASEG-PESA Christmas event will be held November 20 with our own **Ted Lilley** as guest speaker; 'Some memories of geophysics 50 years ago'.

Our Branch as always is grateful to the South Australian Branch for organising the Wine Offer – thank you. The ACT members are also preparing submissions for the ASEG-PESA Conference – get those abstracts in. Remember to join us on social media – Facebook, Twitter and Linked In – just search for Australian Society of Exploration Geophysics and join in.

*Marina Costelloe  
(ACT Branch President)*



ASEG calendar: technical meetings, courses and events

Date	Branch	Event	Presenter	Time	Venue
<b>2015</b>					
2 Dec	WA	Student presentation night	Various	TBA	TBA
9 Dec	VIC	Annual joint PESA-ASEG-SPE Christmas luncheon and technical presentation entitled: 'The Norwood resource: dismantling myths!'	John Hughes and Bruce Holland	1200-1600	TBA
9 Dec	ACT	SEG HL Near Surface: The curse of dimensionality in exploring the subsurface	Hansreudi Maurer	TBA	Geoscience Australia, Symonston
10 Dec	VIC	SEG HL Near Surface: The curse of dimensionality in exploring the subsurface	Hansreudi Maurer	1800-2000	The Kelvin Club, 14-30 Melbourne Place (off Russell Street), Melbourne
11 Dec	SA	SA Exploration and Mining Conference	Various	0830-1700	Adelaide Convention Centre, North Terrace, Adelaide
<b>2016</b>					
Early Feb	VIC	Annual Joint PESA-ASEG-SPE Mid-Summer Social	TBA	1700-2000	TBA
18 Feb	VIC	AGM & Technical Night: Magnetic exploration projects in CSIRO from 1978 to now	Phil Schmidt	1800-2000	The Kelvin Club, 14-30 Melbourne Place (off Russell Street), Melbourne
14-18 Mar	TBA	Rock physics and geomechanics of fluid-induced seismicity: hydraulic fracturing, stimulation of geothermal systems and hazard assessment	Serge A. Shapiro	TBA	TBA
13 Apr	WA	2016 ASEG AGM	TBA	TBA	TBA

TBA, to be advised (please contact your state branch secretary for more information).

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