Call for summaries of student theses completed in 2018

As you complete your thesis and plan your future, please ensure you provide a summary of your thesis (a couple of paragraphs), a short bio (a couple of sentences) and a self-portrait (preferably doing something geophysical) to Preview (previeweditor@aseg.org.au). Every December Preview publishes summaries of student work completed in the preceding year (cf http://www.publish.csiro.au/PV/issue/8532/). Not only is this a marvellous opportunity to publicise your work, it is also your chance to catch the eye of some future employer – in industry or government, national and internationally!

An industry-student day for seismic exploration

Velseis Pty Ltd recently hosted a half-day tour of their facilities for students from the Queensland University of Technology (QUT) and the University of Queensland (UQ). On 20 August, a group of 10 geophysics and geology students, along with representatives from the Queensland ASEG Branch Lindsay Horn and Nick Josephs, travelled to their office at Sumner Park, Brisbane.

The success of several geophysics student field trips over the past few years prompted this industry-student collaboration. This was organised by representatives of the QUT Natural Resource Society (Alan Pearse), the UQ Geosociety (Harrison Button), the Qld Branch of ASEG (Nick Josephs) and the staff at Velseis (Karel Driml).

Troy Peters, geophysical services manager, greeted the group and, after a brief introduction and review of site safety, gave an introductory lecture on seismic geophysics and its use in industry. Troy presented an overview and history of Velseis and took the students through a typical onshore seismic survey; from planning through to interpretation. Several pertinent questions from the keen students were answered by Troy and Lindsay. Troy described recent projects consisting of thousands of channels being deployed for 3D surveys, and Lindsay provided historical perspective for the group by recollecting a 2D acquisition he was involved in, which contained a humble twelve channels. Their insights of where seismic has come from and where it is heading resonated well with the students and more questions surfaced from their curious minds. After more discussion the group went for a tour of the facility.

Shaun Strong, a previous graduate from UQ, led the group and explained the use of the different types of equipment. Shaun introduced the students to the Velseis workshop and showed the innards of their cabled systems and geophones. Most were in awe at the sheer scale of equipment and logistics required for the operations both in Australia and around the world.

The group moved outside and were tasked with laying cable spread out along some pegged points. Here they received a glimpse of the Juggie’s work day and quickly realised how tough it can get and how nice the dogbox was in comparison. Geophones were stomped in and cable unwound and connected by volunteers. Upon packing up everyone pitched in to tidy up and felt the weight of those cables and geophones.

Lastly the students reconvened in the presentation room and were met with food and drinks to close out the field trip. Informal discussions were had and everyone left on a good note.

QUT students Alan Pearse and Max Millen review an example of calculating residual statics on raw seismic data acquired by Velseis.
The 2018 geophysics seismic field trip was educational and effectively communicated the scope and application of seismic and was well received by the students and well orchestrated by staff. For the geophysics honours students, the use of data for interpretation was new and refreshing. While the day was pitched at a level for those just beginning their geophysics studies, the overview and machinery provided stimulation for the students by illustrating multiple avenues for them to follow up, including vacation work, focussing future studies and even providing a vision for possible careers.

Many thanks to Velseis and staff, Lindsay Horn and the ASEG for their organisation and supervision of the excursion.

Australian student wins gold medal at Earth Science world games

Rebecca Whittle, a Year 11 student from Abbotsleigh High School in Sydney, won a gold medal at the International Earth Science Olympiad in Thailand, securing Australia’s best gold medal performance at the UNESCO-sanctioned International Science Olympiads since 2009.

Rebecca competed against more than 140 students from 38 countries to win gold, finishing in the top 10 per cent of Earth Science students in the world. Her medal is the second gold for Australia at this year’s International Science Olympiads, following a gold-medal performance by Sydney Grammar School student Hugo McCahon-Boersma at the International Physics Olympiad in July.

Rebecca was part of a four-member team representing Australia at the International Earth Science Olympiad. The three other students won silver medals, putting them in the top 20 per cent of students and delivering Australia’s best overall performance at the competition since Australia began sending a national team in 2015.

The International Earth Science Olympiad competition involved two theory exams and four practical tests covering all aspects of Earth systems science and planetary astronomy. Topics included the geology of planetary bodies, the formation of rocks, rock and mineral identification, sea-level rise processes and the geochemistry of groundwater.

Rose Zhang from Narrabundah College in Canberra was also part of a team awarded a silver medal in the International Team Field Investigation that she completed with students from other countries. This part of the competition emphasises international collaboration and teamwork.

The Australian students spent a year in exams and intensive training before competing on the international stage. They outperformed 6000 other students from more than 280 schools in the qualifying exams, making a shortlist of 91 to attend a two-week summer school at the Australian National University in preparation for the International Science Olympiad competitions.

The Australian Science Olympiad program is run by Australian Science Innovations www.asi.edu.au and is funded through the Australian Government’s National Innovation and Science Agenda, with support from various organisations including the AGC.