



July 2011

THE GEOLOGICAL SOCIETY OF AUSTRALIA  
Victoria Division

## Next General Meeting

Thursday 28th July at 6:15 p.m.

### **Some Information on the Deep Exploration Technologies Cooperative Research Centre (DET CRC)**

**Tom Whiting**

Chair of the DET CRC

**Fritz-Loewe Theatre, School of Earth Sciences, The University of Melbourne**

Preceded at 5:30 p.m. by drinks and nibbles in the tea room, 4th floor. Cost \$2

Talk will be followed by time for discussion

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Tom Whiting is Independent Chair of the Deep Exploration Technologies Cooperative Research Centre. This new CRC aims to provide the Exploration industry with cheaper, better tools to explore the subsurface. Drilling is a major cost, and technologies to be investigated include coiled-tube drilling systems (that allow cheaper, faster and safer drilling), logging-while-drilling and real time remote access to results (allowing offsite 3D geological modelling). These last two technologies will mean that rigs will be less likely to have to remobilise to the same place to follow up results. Many projects underway include biotite geochemistry being used as a vector for gold deposits, a logging-while-drilling gamma tool and a neutron logging tool being manufactured, using the seismic signals derived from drill bits to image the surrounding rocks, and carbon fibre drill rods being lab tested. The projects have attracted \$49 million cash and \$62 million of in-kind support from both the Australian government and industry.

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**VALE LEX FERGUSON**

*from Bill Birch*

Most members of the Victoria Division will have heard of the death of our long-serving member Lex (John Alexander) Ferguson on May 20 this year, at the age of 85. Lex had a long and distinguished career in industry after obtaining his PhD at the University of Illinois in 1950. With an expertise in clay mineralogy, Lex was employed by Brick and Pipe Industries after his return to Melbourne in 1962 and was a Director of the company when he retired in 1990. Lex also made great contributions to the Victoria Division through his chairmanship, his service on the committee for several decades, and his establishing the procedures for the Selwyn Medal. He was joint editor, with Jack Douglas, of the first and second editions of *Geology of Victoria*, and was the indexer for the third edition. He was recognised nationally as a Foundation Member and Fellow of the GSA. All those who knew Lex were always impressed with his depth of knowledge, quiet wisdom and enthusiasm for geology; he will be greatly missed.

(A full obituary is being prepared for publication in *The Australian Geologist*)

**THE A.W. HOWITT LECTURE**

On June 3rd, the 8th Annual A.W. Howitt lecture took place at the Royal Society of Victoria Building in Melbourne. The joint meeting of the Royal Society of Victoria (RSV) and the Geological Society of Australia Vic. Div (GSAV) featured Dr. Gary Gibson, a senior research seismologist at the University of Melbourne, discussing what could be learned from recent earthquake activity.

A major focus of the lecture was how earthquakes cause damage. An important observation has been the relationships between the magnitude of earthquakes and the type of damage they cause. Using the 2010 M8.8 Chile earthquake and the 2011 M6.3 Christchurch earthquakes as examples, Dr. Gibson discussed the differing types of damage caused by earthquakes.

In short, large earthquakes, such as the M8.8 Chilean earthquake, produce low frequency waves which cause more damage to larger structures. Damage in the affected regions of Chile was focussed mainly on larger structures which were well engineered to withstand the ground shaking. In contrast, smaller earthquakes, like the M6.3 Christchurch earthquake, produce higher frequency waves which are more damaging to smaller (<10 stories) structures. Typical damage from the Christchurch earthquake was the failure of masonry on smaller buildings.

While earthquake prediction is still a long way off, our understanding of how earthquakes cause damage is continually on the rise due to greater numbers of seismic monitoring equipment. The seminar was concluded with a hearty Q&A session.

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Gary Gibson grew up amongst the volcanoes about Terang in the Western District, then studied at the University of Melbourne, and worked there for several years in the School of Earth Sciences, mainly in exploration geophysics. In 1968 he joined the Phillip Institute of Technology, later amalgamated into RMIT University.

In 1976 he established the Seismology Research Centre, working on the application of earthquake seismology to engineering and geological problems. The centre is now part of Environmental Systems and Services Pty Ltd, and operates a medium-resolution network of 120 seismographs in eastern Australia. The centre has developed seismographs and analysis software for its own use, and for sale in Australia and overseas. Gary still works at the Centre part-time, undertaking earthquake hazard consulting for major projects. Since 2002 he has been an Adjunct Research Fellow at Monash University. In 2010 he returned to the University of Melbourne as Seismology Principal Research Fellow.

Gary has completed over 300 earthquake hazard studies for dams, mines and other major structures in Australia and most southeast Asian and southwest Pacific countries, and other countries including China, Mongolia, Iran, Morocco, South Africa, Lesotho and Chile. He has been a member of the Standards Australia committee that produced the last two revisions of the Australia earthquake loading code (AS1170.4), and is a member of the ANCOLD committee developing design guidelines for large dams. He is a member of the Executive Committee of the International Seismological Centre and has completed a four-year term as Chairman. He is on the steering committee of the Asian Seismological Commission, is the Australian representative to the International Association for Earthquake Engineering, and is the Victorian representative in the Australian Earthquake Engineering Society.

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The lecture series, now in its 8th year, honours Alfred William Howitt. Born 1830 in England and arriving in Melbourne in 1852, Howitt was an explorer, geologist, botanist, anthropologist and pioneering authority on Aboriginal culture and social organisation.

As a geologist, his fundamental contributions were his studies of Upper and Lower Devonian geology around Bairnsdale and East Gippsland, compiling many maps of the region. As a botanist, he collected hundreds of varieties of ferns, grasses, acacias and flowering plants. But he is perhaps best known for his anthropological work, and his studies of Aboriginal social structure, publishing countless papers and several books on the topic.



A fellow of the Geological Society of London and the Royal Anthropological Institute of Great Britain as well as councillor of the Royal Society of Victoria, he passed in 1908.

*Taken from the Australian Dictionary of Biography*

## IUGG XXV GENERAL ASSEMBLY

From June 28th to July 7th, Melbourne played host to one of the largest gatherings of earth scientists in the form of the 25th International Union of Geodesy and Geophysics (IUGG) General Assembly. Founded in 1919 and holding general assemblies since 1922 (quadrennially since 1963), the Union is comprised of eight international associations (IACS, IAG, IAGA, IAHS, IAMAS, IAPSO, IASPEI, IAVCEI) which seek to advance and promote scientific knowledge of the Earth and the processes which continually shape it. In only the second General Assembly to be held in the southern hemisphere (the previous in Canberra in 1979) and the third outside of Europe or North America (Japan in 2003 was the other), the assembly has attracted over 3000 delegates from more than 100 countries, with 2300+ oral presentations and nearly 1200 poster presentations given.

While last month's eruption in southern Chile prevented a number of delegates from attending, it did bring the theme of the assembly, Earth on the Edge – Science for a Sustainable Planet, to the forefront of everyone's minds. In addition, with thousands of experts present, Melbourne managed to muster a M4.4 earthquake, centred approximately 120km south-east of the city. Striking at 11:32 a.m. local time, delegates reported visible screen shaking during the lectures occurring at the time.

The conference also garnered significant attention from the media in what can only be described as a boon for Earth Sciences with numerous local and international delegates appearing in print as well as on radio and TV. The next General Assembly will be held in Prague, Czech Republic in 2015.

### Eugene von Guérard: Nature Revealed

Take a fresh look at Australia's most renowned landscape artist through this comprehensive exhibition, which includes many of von Guérard's beloved studies of both familiar and exotic locations. His meticulous brushstrokes and breathtaking compositions will transport you to the magnificent natural beauty of regional Victoria, Australia, New Zealand and beyond.

Open daily 10am – 5pm at The Ian Potter Centre: NGV Australia, Federation Square from 16 April until 7 August.

\$15 Adult / \$12 Concession / \$7.50 Child (ages 5–15) / Family \$42

Visit:

<http://www.ngv.vic.gov.au/whats-on/exhibitions/exhibitions/eugene-von-guerard> for further information.

Eugene von Guérard

Tea Trees near Cape Schanck, Victoria 1865  
National Gallery of Victoria, Melbourne  
Purchased with funds donated by Ian Hicks AM and Dorothy Hicks, John Higgins, Bruce Parncutt and Robin Campbell, 2006



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## **GSAV Student Scholarship Recipient**

*Andrea Giuliani, PhD Student, The University of Melbourne*

Thanks to the support of a GSAV Student Scholarship I was able to attend one of the major conferences in the earth sciences; the International Union of Geodesy and Geophysics General Assembly. On the third day of the conference I gave an oral presentation about mantle petrology and geochemistry, and had reasonably good success. The room was pretty large so it was hard to envisage the number of delegates that attended my talk (40-50?), but I received many questions, even after the session ended. It was very pleasant to have top-class mantle petrologists (the ones you just know for the articles and books they have published) come to me saying that I was studying one of the most difficult mantle rocks ever investigated!

The same day of the oral presentation I was to present a poster related to my Master's thesis. Unfortunately, there was an error on the program (one of the several) and the session about my poster had been held the day before. However, I could hang my poster on another day at my discretion. Considering that it was about thermometamorphic granites, I decided to join the 'magmatic chambers' session. My 'unexpected' poster was not a great success, and only a couple of delegates came to ask questions and share ideas. However, it was good to discover that the convenors of the 'magmatic chambers' session were preparing a volume about the topic, providing a chance to prepare a manuscript with the unpublished data of my Master's thesis.

After that, I spent the remaining days of the conference attending interesting symposia on volcanology and igneous petrology. Also, I had constructive chats with some mantle petrologists who helped me realise the importance of some of my findings. So for me the 2011 IUGG conference has not only been a place to feel part of the scientific community, but above all it has given me many ideas on how to improve my own research while realising the good results I have obtained so far. Attending conferences helps young students entering the world of science and I am grateful to the GASV for supporting my attendance at the 2011 IUGG conference.

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| <b>PAPER REDUCTION EFFORT</b> |
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**Attention All Members!!!**

Are you still receiving a hard copy of TVG each and every month? Each month a significant number of hard-copy TVG's are printed but wouldn't it be great if we could reduce that number, lessening costs and our impact on the environment? Well the good news is you can by switching to receiving an electronic copy of TVG via email.

It's as simple as going to [www.gsa.org.au](http://www.gsa.org.au), logging in with your member number and password, and changing your preferred newsletter delivery method to electronic. Alternatively, you can email [info@gsa.org.au](mailto:info@gsa.org.au) or call 02 9290 2194 to change your preference.

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**STUDENT FUNDING OPPORTUNITIES**

## **Geological Society of Australia (Victoria Division) Student Research Scholarships**

The GSAV are pleased to offer up to \$10,000 per year in scholarships available to honours and postgraduate students for assistance with travel costs associated with conferences and field work.



The scholarship is valued at up to \$500 for travel within Australia and \$700 for travel outside of Australia. The number of and value of the scholarships awarded each year is made at the discretion of the GSA(Vic) committee.

Funding will not be granted retrospectively and applicants are asked to submit forms no later than 6 weeks prior to their trip to give the committee time to consider the application.

Students that receive this scholarship are required to submit a report for publication in the newsletter, "The Victorian Geologist", following their trip. A presentation may also be requested by the committee, which will consist of a short, 10-15 minute presentation prior to the monthly seminar.

Applications forms can be scanned and emailed to: [secretary@vic.gsa.org.au](mailto:secretary@vic.gsa.org.au)

or mailed to:

Geology Research Scholarships Victoria  
Geological Society of Australia (Victoria Division)  
GPO Box 2355  
Melbourne VIC 3001

More information including eligibility criteria can be found on the form and by contacting Barbara Wagstaff ([wagstaff@unimelb.edu.au](mailto:wagstaff@unimelb.edu.au))

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### **Something interesting to share? Want to see your name in print?**

Don't be bashful, contribute to the GSA(V) monthly newsletter!

If there are any events, happenings, news, or views that would be of interest to the membership, please send your details and information to Matt Bliss at [mbliss@student.unimelb.edu.au](mailto:mbliss@student.unimelb.edu.au)




**We'd be glad to hear from you**

## FORTHCOMING SEMINARS AND EVENTS

to be presented at  
GSA (Victoria Division) meetings

Note: unless otherwise indicated, all 2011 talks will be held in the Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne.

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|--------------|--|
| August 25    | TBA  |
| September 29 | Self  Lecture TBA |
| October 27   | TBA               |
| November 24  | TBA               |

Visit the GSAV on [www.vic.gsa.org.au](http://www.vic.gsa.org.au) or the GSA on [www.gsa.org.au](http://www.gsa.org.au)  
• Renewing your GSA membership is easy - it can now be done online. •

### CONSIDER CONTRIBUTING TO TAG!

It is member contributions which make TAG a member magazine – please keep the contributions coming and assist with informing all of the membership (not just your Division) about your activities.

Please send your news to: [tag@gsa.org.au](mailto:tag@gsa.org.au)



### GSA (VICTORIA DIVISION) COMMITTEE

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