

July 2013

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting

Thursday 25th July at 6:15 p.m.

How does VanDieland fit with the rest of the world?

David Moore

School of Geosciences, Monash University

Fritz Loewe Theatre, School of Earth Sciences, University of Melbourne

Talks will be preceded by drinks from 5:30pm in the 4th floor tearoom, cost \$2

Western Tasmania and associated areas (VanDieland) is a complex terrane that appears to show little in common with the rest of Australia. In this talk, I will use detrital zircon populations to trace its origins back to Paleoproterozoic Laurentia, through Rodinia and the Grenville Orogeny to East Antarctica, where it broke off at about 580 Ma.

Vandieland then drifted north along the Terra Australis margin as a hyper-extended crustal fragment, coming together outboard of Gondwana in the Middle to Late Cambrian Tyennan Orogeny. It was then progressively incorporated into Gondwana from the Late Ordovician Benambran Orogeny to the Middle Devonian Tabberabberan Orogeny.

MEMBER NEWS

In connection with the ASEG-PESA conference in August, there will be a field trip led by Prof. Mike Hall on August 14-15. The stratigraphy and structure of Lower Cretaceous rocks along the west Gippsland coastline at San Remo and Inverloch will be examined. Anyone who is interested can call Mike on 9905 5773 or email to mike.hall@monash.edu

VALE NOEL SCHLEIGER 3/10/26 - 24/4/13

Noel became a member of GSA in 1977. As a secondary school teacher, then a university lecturer in Science Education, his main fields of interest were mathematics and geology. His MSc and PhD work dealt with quantitative and statistical aspects of geological structures.

Noel was the sort of person our profession needs more of—he had a passion for interpreting geology to people of all ages in the wider community. He was a member and later convenor of GSA(V)'s Education Subcommittee for more than 20 years, and represented the society at countless secondary school teachers' conferences with an information table on geology. He was also active for nearly 30 years with the Field Naturalists Club of Victoria, especially its geology group, holding various positions of responsibility, but he was happiest participating in and leading geological field trips. His small book *Roadside Geology: Melbourne to Ballarat* was a joint publication of GSA(V) and the FNCV. In retirement, Noel continued his geological educational activities at both ends of the age spectrum—with U3A programs, and with the Commonwealth-supported Scientists in Schools program with primary school children.

GSA(V) is indebted to Noel particularly for his sustained enthusiasm in raising the level of understanding of Victoria's geology in the wider community.

Leon Costermans

(In recognition of Noel's contributions in the education space on behalf of the GSAV, the GSAV is proud to announce the naming of the 'Noel Schleiger GSAV-TESEP PD attendance grant'. This grant will provide support for teacher attendance at professional development programs run by the Teacher Earth Science Education Programme (TESEP), designed at furthering Earth Sciences education in Victoria)

STUDENT CONTRIBUTION

Henrietta Leong**GSAV Student Scholarship Recipient****Masters Candidate, The University of Melbourne**

In June 2013 I was able to travel to South Africa and Botswana with my supervisor David Phillips to collect some samples for my Masters project with the University of Melbourne. My project focuses on the relatively recently discovered Nxau Nxau kimberlite cluster in north-western Botswana. The project area is currently under lease by Tsodilo Resources and is an area which may be developed further in the future. Tectonically this is a very interesting area as the kimberlites were previously thought to be off-craton but are now considered to be on part of the Angolan craton which has had a younger fold belt thrust over the top.

While in Africa I spent about a week in Johannesburg and then four days in Botswana.



During my time in Johannesburg I was fortunate enough to be able to visit the De Beers Headquarters, the University of Witwatersrand and also the University of Johannesburg, meeting a lot of interesting and well-travelled people along the way. I was quite captivated by the De Beers library which, while small, is filled with books relevant to my project. What little spare time I had at De Beers I spent browsing these collections.

On our last day in Johannesburg, Dave and I visited the Sterkfontein Caves. We had a knowledgeable and enthusiastic guide to take us through the caves which are found in the 'Cradle of Humankind'. Dave and I did our best not to look bored as we spent a good fifteen minutes walking 'through geological time' from the Big Bang right through to the present day. We had intended to visit the tourist centre at Maropeng after Sterkfontein, however, after finding out that we would have to go through geological time again (this time on a boat) we decided that visiting the nearby Lion and Rhino Park would be more interesting.

While in Botswana we stayed at a lodge just outside of Maun which is the 'tourist capital' of Botswana. Tsodilo Resources has drilled several of the kimberlite pipes in the Nxau Nxau cluster and has the core stored in an airport hangar close to the main part of Maun International Airport.

I spent most of my time at this hangar and unfortunately had to hand over my passport to airport security whenever Dave and I entered the grounds. The team at Tsodilo Resources proved to be very helpful and while the kilometres of core laid out was a bit intimidating, armed with some core logs it was light work finding good places to sample. On my return I managed to get four small samples of kimberlite core safely through customs with the other 25 sent by courier.



Back in Australia I am now pleased to report that after diligently taking my anti-malaria tablets and dousing myself in insect repellent to ward off the three mosquitoes that I saw, I am confident that I did not contract malaria. Special thanks to Tsodilo Resources, De Beers and of course GSAV for enabling this project to go ahead.

SCREAMING VOLCANOES

As competitive music shows such as The X Factor, Idol and The Voice grow in popularity, it seems that the Earth is getting into the spirit of music with new research reporting on 'screaming' volcanoes.

As reported in Science Daily on July 14th, new research has emerged on the creation of harmonic tremors and screaming volcanoes. Monitoring of Redoubt Volcano in Alaska from 2009 showed that the creation of harmonic tremors occurred just prior to eruption for a number of separate eruption events. While the exact cause of harmonic tremor is uncertain, experts believe it relates to the subsurface movement of magma.

As magma ascends, it may stick in the conduits to the surface. As pressure builds, the magma moves ever so slowly. This movement creates small (0.5-1.5 M) earthquakes that increase in succession as pressure continues to build.

Eventually, the earthquakes blend into a continuous harmonic tremor that increases in frequency until just prior to eruption. Tremors start out at very low frequencies of 1 Hz but they build to over 30 Hz prior to eruption. With 20Hz as the lower threshold for human hearing, it is possible for humans to hear the volcano 'scream' prior to eruption.

GSA ANNUAL GENERAL MEETING

The Geological Society of Australia Inc Annual General Meeting will be held in Brisbane on Tuesday, 13 August 2013.

Prior the AGM all financial members of the GSA will receive ballot papers to vote on changes to the GSA Constitution (Society Rules). Changes to the GSA constitution are designed to bring the GSA in-line with modern Constitutions and include:

- clearly defined Definitions and Interpretations;
- Objects of the Society;
- improved equity into the area of Discipline timing and standards;
- provisions to utilise technology opportunities and transparency in relation to meetings, notifications, electronically transmitted signatures and the opportunity to approve resolutions circulated to the members of the committee;
- clarification of membership criteria and categories;
- improved member rights;
- clarification of the delegation of powers to committees including Divisions, Branches and Specialist Groups;
- transparent voting process to ensure Divisions are represented on the Governing Council;
- inclusion of Post-nominals;
- standardised terminology so the GSA rules comply with all legal requirements in Australia, including new legislation passed in Dec 2012 governing the not-for-profit sector;
- an Indemnity clause for the Governing Councillors;
- transitioning to the Governing Council and
- provision for streamlining the current process for consolidating the accounts

The constitutional changes have been approved by the GSA Executive Committee and supported by the Divisions, Branches and Specialist Groups. The proposed new constitution will be made available to all members in July with a deadline to lodge a vote for or against, prior to the AGM. Members can vote directly by attending the AGM, or alternatively lodge a proxy vote by post with the Chairman of the meeting, or with another member who will be attending the AGM. Approval of the new constitution will require 75% approval from those members casting a vote.

Kind regards, Sue Fletcher

(on behalf of the Governance Committee)



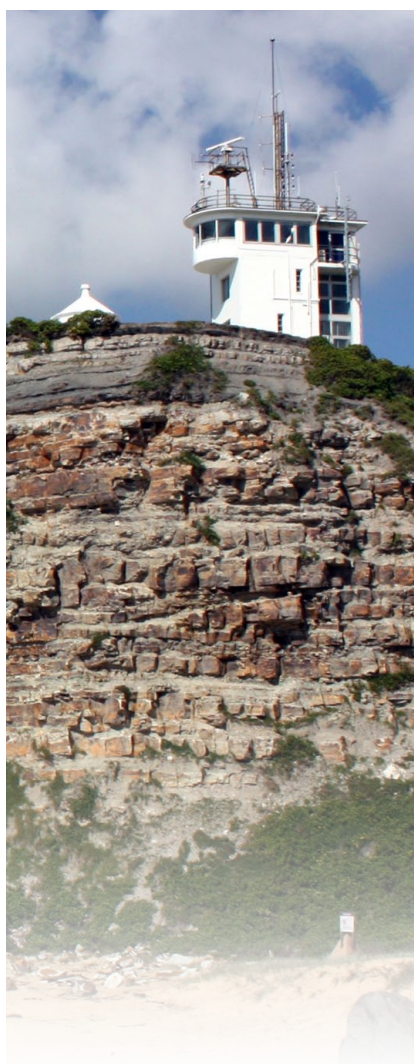
AESC

australian earth sciences
convention

**Sustainable
Australia:**
7-10 July 2014



NEWCASTLE, NSW, AUSTRALIA



AESC 2014 will be held in Newcastle, a vibrant port city that is characterised by its working harbour, beautiful surf beaches and proximity to many of Australia's most prestigious wineries.

It is the gateway to the Hunter Valley – heart of the Sydney Basin coalfields, centre of power generation for New South Wales, and home of the NSW Institute for Frontier Geoscience, a joint initiative of the University of Newcastle and the NSW Department of Trade and Investment. Combined with the city's focus on energy efficiency via the Federal Government's Smart Grid, Smart City initiative and the CSIRO Energy Centre, Newcastle is an ideal site for our convention – **Sustainable Australia.**

The convention will be based around the themes of energy, basin geology, geodynamics, resources and the environment. Dedicated symposia include the 39th Symposium on the Advances in the Study of the Sydney Basin and Comparisons & Contrasts in Circum-Pacific Orogens.

AESC 2014 offers all geoscientists a unique opportunity for professional development and a chance to hear firsthand the latest developments in geosciences.

Plan your trip to Newcastle

Call for Abstracts:
October 2013

Abstracts Deadline:
March 2014

The website is coming soon,
in the interim please contact:
info@gsa.org.au

Presentation: Oral and poster

Registration: early 2014

Workshops and field trips:

The convention invites proposals for short courses, workshops and field trips.

Exhibition:

The convention will host an exhibition. We welcome companies and businesses to participate so they can promote the emerging opportunities in their organisation, state or territory.

Supporters:

The organising committee invites companies, institutions and technology providers to support this meeting.

Expressions of interest:

info@gsa.org.au

Convention location:

Newcastle City Hall



*Coalfield Geology Council
of New South Wales*

T + 61 2 9290 2194
F + 61 2 9290 2198

Email: info@gsa.org.au
Convention Website: coming soon



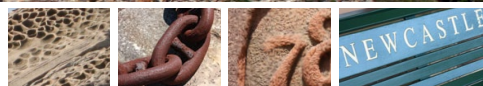
AESC

australian earth sciences
convention

**Sustainable
Australia:**

7-10 July 2014

NEWCASTLE, NSW, AUSTRALIA



Earth scientists recognise that the key to sustaining the Australian society, economy and environment into the future lies in an understanding of the make-up, structure and deep-time history of the continent, and its setting in an evolving planet.

THEMES

Energy

Increases in the global demand for energy has been driving advances in the efficiency of coal and conventional hydrocarbon extraction, while also urging the rapid growth of interest in unconventional hydrocarbons. Future energy supplies are likely to include all fossil fuels, nuclear sources, and significant increases in the use of renewable energy and cleaner alternatives. Building on the public debate to be stimulated by the 'Energy 2050' public forum, the Energy theme will encompass Earth Science perspectives on energy sources, exploration and extraction methods, and environmental consequences and solutions.

Resources

In an era of increasing demand for mineral resources from the developing Asian economies, and declining rates of discovery of new deposits, new mineral exploration strategies are vital. Discovery will be stimulated by new technologies, new methods of data interpretation and dissemination, refined and novel understandings of mineral systems and ore environments, and the strength of the pre-competitive geological and geophysical data sector, all addressed under the Resources theme.

Environment

Earth's environment is a dynamic and responsive system with a long geological record of change and an immediate and future impact on society, particularly in an Australian context. High-resolution records of past climates (including outcome of the International Ocean Drilling Program), assessments of the state and future of our ground- and surface-water resources, predictions of the response of the Australian environment to climate change, and studies specific to the Australian arid and semi-arid zones, will be major elements of the Environment theme.

Service and Community

The Earth Sciences have an ongoing role of service by informing, influencing, and supporting Australian society, and a proud history of education and research. The Service and Community theme will address the geoscience response to distributed grid computing and cloud storage, the dissemination of geoscience information in a high-bandwidth environment, the continuing and evolving role of geoscience outreach and education, geohazard studies and their role in protecting the community, the contributions of geotourism and geoheritage, and the historical record and influence of Earth scientists.

Dynamic Planet

Today's Earth is the sum of 4.5 billion years of geological processes. The Dynamic planet theme will address: the geodynamic evolution of Australia and other continents from the Hadean to the present; the evolution of the Earth-Moon system and the meteoritic impact record; the expression of the circulation driven by the Earth's heat engine in lithospheric plate tectonics, mantle dynamics and differentiation, and core evolution; the processes that govern deposition and deformation in intracratonic settings; processes of crustal growth and recycling, at convergent margins and in other settings; geophysical and geochemical evidence of the structure and composition of the deep subsurface; and the influence of all of these elements on the formation and distribution of mineral and energy resources.

Living Earth

Life has fundamentally influenced the development of the Earth, making it unique with respect to its planetary neighbours. The Living Earth theme will investigate: the evolution of life as witnessed in the fossil record; consider novel methods to supplement traditional palaeontological approaches; investigate the major events in the evolution of life, the hydrosphere and atmosphere; and draw contrasts and comparisons with other planets.

SYMPOSIA

39th Symposium on the Advances
in the Study of the Sydney Basin

Comparisons & Contrasts
in Circum-Pacific Orogens



Coalfield Geology Council
of New South Wales

T + 61 2 9290 2194

F + 61 2 9290 2198

Email: info@gsa.org.au

Convention Website: coming soon

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

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)

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

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 2013 talks will be held in the
Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne.

August 29th	Student Night
September 26th	Selwyn Seminar - Ray Cas
October 31st	TBA
November 28th	Liz Rogers <i>Diving Exploration and Cave Geology on the Nullabor</i>

Please welcome our newest members



Stuart Smith
Teagan Blaikie
Jackson McCaffrey
Henrietta Leong
Peter Trewhella
Tom Agar

Visit the GSAV on www.vic.gsa.org.au or the GSA on 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



GSA (VICTORIA DIVISION) COMMITTEE

Please address all correspondence to the GSA Victoria Division
GPO Box 2355, Melbourne, VIC, 3001
Internet address: www.vic.gsa.org.au

OFFICE BEARERS

Chair:	David Cantrill	9252 2301 (BH)
Vice-chair:	position vacant	
Secretary:	Adele Seymon	0403 269 462
Treasurer:	Barbara Wagstaff	8344 6537 (BH)

COMMITTEE

David Moore	0409 977 120
Susan White	9328 4154
Matthew Bliss	8344 9980 (BH)
Syed Amir Mahmud	9902 4206 (BH)
Estephany Marillo	8344 9980

SUBCOMMITTEE

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Bicentennial Gold:	Gerhard Krummei	9820 2595
Education:	Shannon Burnett	0414 775 939
Heritage:	Susan White	9328 4154
Newsletter:	Matthew Bliss	8344 9980
Webmaster:	Ken McLean	9905 1120

OTHER CONTACTS

Geology of Victoria:	Bill Birch	9270 5049 (BH)
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Newsletter deadline:

First Friday of the month except Dec & Jan
mbliss@student.unimelb.edu.au

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