

THE VICTORIAN GEOLOGIST



July 2010

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2010

Thursday 29th July at 6:15 p.m.

Australia Paleoproterozoic tectonics: the intraplate vs plate margin debate, hotspots, mineral systems and paleogeographic reconstructions

Dr. Peter Betts

School of Geosciences, Monash University

Fritz-Loewe Theatre, Earth Sciences Building, The University of Melbourne

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

In the past 15 years there has been a major paradigm shift in way the Australian geological community has interpreted Palaeoproterozoic tectonics. Intraplate tectonic models have given way to plate tectonic models for both orogenic systems at proposed plate margins and basinal systems in the interior of the Australian continent. The shift to plate tectonic models allows for comparisons with other cratonic elements in the supercontinent known as Columbia (e.g., Laurentia), and provides a plate context for large mineral resources formed between ca 1800 Ma and 1500 Ma in the North and South Australian cratons. Plate tectonic models, however, fail to explain continental geochemical datasets, which form the basis for the argument that vast areas of the Australian continent have remained intact since ca 2200-2100 Ma, which implies that all subsequent Proterozoic tectonic events were intraplate in nature. In this presentation, I explore these issues and present a model for plate tectonism in Palaeoproterozoic Australia, which can be reconciled with continental-scale geochemical data.

 FORTHCOMING EVENTS

12-14 July 2010

Resources Victoria Conference and Technical Forum

Melbourne Hilton on the Park

 Hosted by GeoScience Victoria, the MCA - Victorian Division and PESA
 Day 3 (Technical Forum) is FREE

<http://www.resourcesvictoriainconference.com/>
5-9 September 2010

5ias Evolving Early Earth

5th International Archean Symposium

Burswood Entertainment Complex Perth, WA

Presented by Geoconferences (WA) Inc

 Final submission date for Abstracts is 12 February 2010. Authors
 informed of acceptance by 30 April 2010

<http://www.5ias.org/>

Monash University upcoming seminars

 For more information contact **Simon Jowitt** (simon.jowitt@monash.edu); Ph: +61 3 9905 1119

Fri 16th July 2010, 12 noon, S10, Building 25, Clayton Campus:

 Dr Hamish Campbell (Senior Scientist, Institute of Geological and Nuclear Sciences, New Zealand) will be presenting a seminar on "*The sinking of Zealandia: a significant geological constraint on the antiquity and origin of the native terrestrial biota of New Zealand?*"

Abstract: Landis et al. (2008, Geological Magazine 145: 173-197) drew attention to the possibility that the New Zealand region of Zealandia may have been totally submerged 23 million years ago.

This geological suggestion has proved somewhat contentious, especially within the biological world. For various reasons, this idea is not easily tested but molecular biological research does seem to support it. The overwhelming DNA evidence from modern studies of diverse New Zealand native terrestrial biota indicates an Australian origin, not a Gondwanan origin. This talk will explain the geological basis for daring suggest possible total submergence of Zealandia, and will also attempt to address some of the biological concerns such a suggestion raises.

Fri 23rd July 2010, 12 noon, S1, Building 25, Clayton Campus:

 Prof Michael Manga (UC Berkeley, seismo.berkeley.edu/~manga/rsch.html) will be presenting a seminar on: "*Earthquakes and water (and why the LUSI mud volcano was not triggered by an earthquake)*"

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 Alison Fairmaid (a.fairmaid2@pgrad.unimelb.edu.au)

We'd be glad to hear from you

STUDENT FUNDING OPPORTUNITIES

Geological Society of Australia (Victoria Division) Student Research Scholarships

Scholarships valued at up to \$500 are available for honours and postgraduate students for assistance with travel costs associated with conferences and field work. The number of and value of the scholarships awarded each year is made at the discretion of the GSA(Vic) committee.



Students that receive this scholarship are required to submit a report for publication in this 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.

More information and scholarship form will be available in the next newsletter and on the GSAV website in the coming months. For all enquiries please contact Barbara Wagstaff (wagstaff@unimelb.edu.au).

BICENTENNIAL GOLD 88 ENDOWMENT

The Trustees of The Australasian Institute of Mining and Metallurgy Education Endowment Fund are pleased to announce that the twenty-second round of financial awards from The Bicentennial Gold 88 Endowment will be made in the year 2011 for the advancement of education and research in Earth Sciences for the benefit of Economic Geology in Australia.

In the year 2011, a total of \$10,000 will be available for distribution through (and with the approval of) a university, in one or several of the following:

- Scholarships to senior university students and researchers for study and / or research in Australia in:
 - Economic Geology
 - Mineral Economics
- Technical visits
- Travel to conferences to deliver papers on aspects of Economic Geology in Australia
- Environmental Geoscience as applied to the Exploration / Mining Industry.

Those wishing to apply for an award under this Endowment should submit in writing a detailed proposal and justification for the financial support to:

The Director
Bicentennial Gold 88 Endowment
C/- The AusIMM
Education Endowment Fund
PO Box 660, Carlton South,
Victoria, Australia 3053

Some conditions may apply.

The decision of the Trustees regarding these awards is final and no further communication will be entered into.

**Applications close on
Wednesday, 29 September 2010**



Complex, Multicellular Life from Over Two Billion Years Ago Discovered

from ScienceDaily

The discovery in Gabon of more than 250 fossils in an excellent state of conservation has provided proof, for the first time, of the existence of multicellular organisms 2.1 billion years ago. This finding represents a major breakthrough: until now, the first complex life forms (made up of several cells) dated from around 600 million years ago.



Until now, it has been assumed that organized multicellular life appeared around 0.6 billion years ago and that before then the Earth was mainly populated by microbes (viruses, bacteria, parasites, etc.). This new discovery moves the cursor of the origin of multicellular life back by 1.5 billion years and reveals that cells had begun to cooperate with each other to form more complex and larger structures than single-celled organisms.

in **NATURE**:

Abderrazak El Albani, Stefan Bengtson, Donald E. Canfield, Andrey Bekker, Roberto Macchiarelli, Arnaud Mazurier, Emma U. Hammarlund, Philippe Boulvais, Jean-Jacques Dupuy, Claude Fontaine, Franz T. Fürsich, François Gauthier-Lafaye, Philippe Janvier, Emmanuelle Javaux, Frantz Ossa Ossa, Anne-Catherine Pierson-Wickmann, Armelle Riboulleau, Paul Sardini, Daniel Vachard, Martin Whitehouse, Alain Meunier. **Large colonial organisms with coordinated growth in oxygenated environments 2.1Gyr ago.** Nature, 2010; 466 (7302): 100 DOI: 10.1038/nature09166

Geo-related Podcasts - For those tech-savvy geologists

- ideas for student and teacher resources

Simply search within the iTunes store for 'geology' to locate many interesting podcasts. Here are but a few available from the iTunes Store:

Time on Earth: The podcast of the Bureau of Economic Geology (Jackson School of Geosciences at UT - Austin, and the Texas Geological Survey).

Earth and Environmental Systems: The podcast based on lectures delivered at the Colorado School of Mines' Department of Geology and Geologic Engineering.

REALscience: From nature to high technology, REALscience uncovers the science hidden in everyday life. Listen and learn



iPhone/iPad 'apps'

The iTunes store also has many geology applications for your iPhone that are free, or cost a few dollars:

- QuakeWatch - latest earthquake info
- Geology Glossary Book
- Gems and Minerals
- Strike and Dip

Or, some more wide-reaching science based apps that may be of interest include:

Nature: Stay in touch with the latest scientific news and research, anytime, anywhere

TED: watch the latest TED (Technology, Entertainment, Design) videos devoted to "ideas worth spreading"

FORTHCOMING SEMINARS AND EVENTS

to be presented at
GSA (Victoria Division) meetings

Note: unless otherwise indicated, all 2010 talks will be held in the
Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne.

July 29 Dr Peter Betts:

August 26 TBA

September 30 **SELWYN LECTURE** and presentation of Selwyn Medal
More details in next months newsletter

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

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Newsletter deadline

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