

THE VICTORIAN GEOLOGIST



February 2009

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

First General Meeting for 2009
Thursday 26th February at 6:15 p.m.

Combining geological data, plate reconstructions and mantle tomography to constrain the evolution of the Southwest Pacific region

Wouter P. Schellart
Lecturer, Monash University

Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne
Preceded at 5.30 p.m. by drinks and nibbles in the tea-room, 4th floor, cost \$2.

The Southwest Pacific region east of the Australian continent is tectonically complex and is home to numerous fossil and active subduction zones. There remain numerous geological controversies in the region regarding the polarity and continuity of fossil subduction zones in New Zealand and New Caledonia, the origin of obducted ophiolites, the presence of high-pressure metamorphism, and the occurrence of widespread Cenozoic magmatism. Traditional models for the Cenozoic evolution of the Southwest Pacific region include two distinct subduction zones, a northeast-dipping subduction zone in New Caledonia and a southwest-dipping subduction zone in the Northland region. These models, however, fail to meet numerous spatio-temporal, geophysical and geological constraints. In a new tectonic model, the Northland and New Caledonia regions are interpreted to bear the hallmarks of a ~2500 km continuous northeast-dipping subduction zone along which the South Loyalty Basin was subducted in the Eocene-Early Miocene. Geological and geochronological data that constrain the timing of subduction and slab detachment have been incorporated into regional tectonic reconstructions and coupled to different global reference frames to be able to predict the location and depth of the detached South Loyalty slab in the mantle. Global S-wave and P-wave mantle tomography models have been used to see if the predictions fit with

continued overleaf...

the regional tomography. Both tomography models identify a previously unrecognized isolated lower-mantle high-velocity anomaly located below the Tasman Sea at ~1100 km depth, striking NW-SE and with lateral dimensions ~2200 km by 600-900 km. It is found that high-velocity anomaly in the tomography models shows a good agreement with the predictions from the reconstructions and analytical calculations in terms of geographical location, size, geometry and depth, supporting the former existence of a continuous 2500 km wide subduction zone.

MONTHLY HIGHLIGHTS

International Association of Hydrogeologists Darcy Distinguished Lecture Susan White

The 2008 Henry Darcy Distinguished Lecture Series in Ground Water Science was given by Dr. Michael Celia from Department of Civil and Environmental Engineering at Princeton University on Thursday November 6th. Dr Celia presented his findings relating to models of the interaction between injected liquid CO₂ and the host rock and formation water. His work has important implications for the application of this relatively new carbon emission mitigation technology. It was hosted in Victoria by the Victorian Branch of the International Association of Hydrogeologists.



Dr Michael Celia (left), who presented the Darcy Lecture, discusses questions with Ric Evans (right).

To foster interest and excellence in ground water science and technology, the Henry Darcy Distinguished Lecture Series in Ground Water Science was established in 1986. The series honors Henry Darcy of France for his scientific discoveries of 1856. Darcy's investigations established the physical basis upon which ground water hydrogeology has been studied ever since. Annually, a panel of scientists and engineers invites an outstanding ground water professional to share his or her work with their peers and students. Today, the National Ground Water Research and Educational Foundation sponsors the Henry Darcy Distinguished Lecture Series in Ground Water Science in response to invitations from universities throughout the world.

Over 70 people from mainly IAH and GSA members attended this interesting and provocative lecture. The talk focused on the increased atmospheric concentration of CO₂ by about 35 percent during the past 200 years due to anthropogenic emissions of CO₂ and the potential effects of projected future emissions. If this increase of atmospheric CO₂ is to be reduced, or reversed, technological solutions, such as carbon capture and storage (CCS) must be investigated. The "geological storage" version of CCS involves capture of CO₂ and subsequent injection into deep geological formations. Injection of CO₂ into deep formations leads to a multiphase flow problem that may involve important mass exchange between phases, nonisothermal effects, and complex geo-chemical reactions. In addition, because enormous quantities of CO₂ must be injected to have any significant impact on the atmospheric carbon problem, the spatial scale of the problem becomes very large. Broad questions involving the fate of the injected CO₂, including possible leakage of CO₂ out of the formation, as well as the fate of displaced fluids lead to very challenging modeling and

analysis problems. Because important leakage pathways can be very localized, an overall analysis of the system requires resolution of multiple length scales in the context of a probabilistic approach. These requirements render standard numerical simulators ineffective due to excessive computational demands. A series of simplifying assumptions may be proposed to provide more efficient numerical calculations. Such simplifications, while restrictive in their assumptions, allow for large-scale analysis of leakage in a probabilistic framework while capturing much of the essential physics of the problem. Example calculations illustrate the utility of these methods, show the current state of leakage estimation and provide the basis for field experiments to further reduce leakage uncertainty.

Welcome to our new member

Howard Mitchell

FORTHCOMING EVENTS



7th International Association of Geomorphologists (IAG) Conference

Be in Melbourne for 6-11 July 2009 for the 7th IAG conference – ANZIAG – which will be on the theme ‘Ancient Landscapes – Modern Perspectives’. For the first time in the history of the International Association of Geomorphologists the International Conference will be held in the Southern Hemisphere, on an ancient piece of Gondwanaland.

Topical sessions include:

- Southern Hemisphere/Gondwana Geomorphology
- River Management
- Fire Effects on Geomorphology and Environmental Processes
- Coastal Geomorphology and Management
- Biogeomorphology
- Geomorphological Impacts of Armed Conflict

... and many more.

See the website for details: <http://www.geomorphology2009.com/>



More upcoming conferences...



The Society for Geology Applied to Mineral Deposits (SGA) and the Economic Geology Research Unit (EGRU) at James



Cook University, in association with the Society of Economic Geologists (SEG), are delighted to invite all their members and others interested in economic geology to participate in the 2009 conference to be held in Townsville, North Queensland, Australia, 17–20 August 2009. Sessions include: ore-forming processes, specific mineral systems, and new and frontier areas.

Abstract submission is now open.

See the website for more details: <http://sga2009.jcu.edu.au/>

AESC 2010

The 20th Australian Geological Convention is set to be held 4–8 July 2010 in the ACT at the Canberra Convention Centre. It's time to start planning your submissions and to claim the time in your calendar so you can attend.

AESC 2010

Business News



Mission accomplished!

The Geological Society of Australia's business office has relocated.

The new office address is:

Suite 61, 104 Bathurst Street,
Sydney, NSW 2000, Australia

Phone and fax numbers remain the same:

Tel: 02 9290 2194

Fax: 02 9290 2198

Please update your records accordingly.

Welcome back!

As you are already scratching your head, wondering about the speed of time, it seems to have taken off from us again. Welcome to the end of February 2009! As you can see, we are still establishing the talk schedule for this year, with some more details sure to be settled upon by next month's newsletter. On behalf of the GSA(V), I hope that your holidays went well and that the Christmas season brought you only good things.

If you have anything that you would like to share with the membership, please don't hesitate to send me an e-mail... my contact details are on the back page. Things have gone (fingers crossed) well for my project and it turns out that I will most likely be done around the beginning of April. If you have any interest in taking over the reigns of this, your monthly publication, that position will need to be filled very soon. Training provided!

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to be presented at
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Fritz Loewe Lecture Theatre, Earth Science Building (cnr Swanston and Elgin Streets)

Followed at 4.45 p.m. by drinks and refreshments in the tea-room, 4th floor. \$2 per person.

Further information: http://www.earthsci.unimelb.edu.au/php/seminars_upcoming.php

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GPO Box 2355, Melbourne, VIC, 3001
Internet address: www.vic.gsa.org.au

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Vice-chair:	position vacant	
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Heritage:	Susan White	9328 4154
Membership:	Peter Pritchard	9431 9582
Newsletter:	Kyle Rebryna	9905 5768
Program:	position vacant	
Publications:	position vacant	
Promotions	position vacant	
Webmaster:	Lindsay Thomas	0427 354 828

OTHER CONTACTS

Geology of Victoria:	Bill Birch	9270 5049 (BH)
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Next General Meeting
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**Precise constraints on the timing and nature of
Quaternary climatic events, from novel applications of
uranium-series geochronology**

John Hellstrom
Postdoctoral Research Fellow, University of Melbourne

Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne

Preceded at 5.30 p.m. by drinks and nibbles in the tea-room, 4th floor, cost \$2.

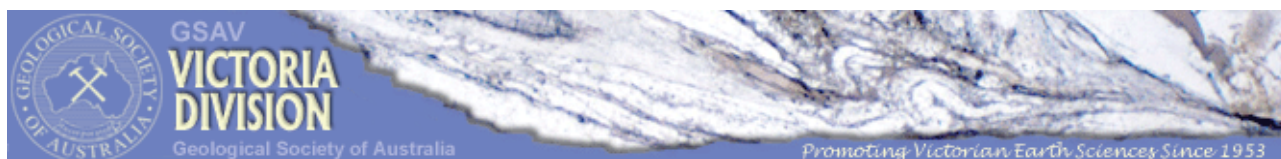
Quaternary paleoclimate sets ground rules for plausible climatic variability at the present time, in that any understanding of what might be to come must also be consistent with what we can show has gone before. Increasingly detailed paleoclimate records are becoming available particularly for the latter part of the Quaternary, and there is a growing focus on obtaining the precise absolute chronologies required for discrimination between competing models of past climatic change. U-series research at The University of Melbourne has focussed on the development of new geochronological tools to facilitate this, and their application through widespread international collaboration. Here I will discuss some of our more prominent findings, particularly of the timings of past glacial terminations and their implications for current models of orbital forcing.

MONTHLY HIGHLIGHTS

Message from the President

David Cantrill

As we move into 2009, I thought it would be a good time to send a message to the Division. It is already March, a third of the way into 2009, and with our forthcoming AGM in April time is passing quickly. Although the Division has some 330 members the core who continue to provide services to the society is small. Indeed, for the past couple of years we have not filled all the positions that are vacant on the committee. This has led us to question the need for various positions and subcommittees. We have survived without having people in these positions and in our view they are not necessary. Consequently we have decided for the forthcoming AGM that we will disband defunct positions such as Membership subcommittee, Program subcommittee, Publications subcommittee, and Promotions subcommittee. If there is a need for these positions to be filled in the future then we will deal with that need when it arises. I would also encourage members to think about what they actually want from the Division – are you, the members, happy with the current arrangements, program, communication and services provided? I would also encourage members to think how they could be more involved with the Division and what form that involvement might take. It is likely that we will need a replacement newsletter editor in the near future and we can always use a few extras on the committee to help with other tasks. So, coming into April and the AGM, talk to colleagues and other members and consider if you would like to be involved with the committee and who you could nominate.



Geology of Victoria turns five!

Bill Birch

Probably not many GSA Victoria members would have realised that the fifth anniversary of the launch of *Geology of Victoria* slipped quietly past on 23 October last. There were no celebrations but I managed to contact the two designers and the printer, as well as Peter Forwood and Lex Ferguson, to remind them of the occasion, and we all were surprised at how quickly the time has gone. In those five years we have sold or otherwise distributed over 800 copies from the original 1200 print run. Nowadays most of the sales are being made through direct approaches to the GSA's Sydney office, with only a trickle being sold through the Information Victoria outlet in Melbourne and Museum Victoria's shop. All the books are distributed from here at the Museum however, and it's possible to save postage costs (not to mention the retail mark-up) by buying a copy directly from me (see my contact details under Committee).

From time to time I receive notes from readers pointing out errors and I have kept a list of these ready for any reprinting. However, given the present rate of sales it will be a few years yet before we have to wrestle with doing a reprint, or maybe even a new edition, depending on how much of the information is considered 'out-of-date'.

Now that's an undertaking for someone to look forward to!

Caterer Required

GSA(V)

The Geological Society of Australia Victoria (GSAV) is looking for a person(s) to help cater for GSAV's monthly meetings. The voluntary position involves being part of the GSAV committee and preparing the drinks and nibbles prior to the GSAV talks held on the last Thursday evening of every month. No prior experience necessary. You will be required to do the shopping (GSAV funded) and setting up the drinks and nibbles and storing the food/drinks. This job allows you to develop your organisational skills, meet fellow members of the geological community and also help out an organisation that sponsors many students and student events.

If you are interested, please contact:

Chung-Leong Li
c.li2@pgrad.unimelb.edu.au

Adele Seymon
secretary@vic.gsa.org.au

Welcome to our new members:

Katrina Rast
Darren Higgins

FORTHCOMING EVENTS



Be in Melbourne for 6-11 July 2009 for the 7th IAG conference, which will be on the theme 'Ancient Landscapes – Modern Perspectives'. For the first time in the history of the International Association of Geomorphologists the International Conference will be held in the Southern Hemisphere, on an ancient piece of Gondwanaland. See the website for more details.



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FOR YOUR INFORMATION



Japanese journals online

Do you ever need information from Japanese journals, but find that information hard to get? The Japanese Science and Technology Agency has a free online database of many Japanese publications, many of which are translated into English. Several journals are entirely full text online.

See the website at:

http://www.journalarchive.jst.go.jp/english/top_en.php

Reminder...



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Newsletter Editor required

My term as newsletter editor is rapidly drawing to a close. The GSA(V) is currently looking for a replacement editor.

The commitment averages 4 to 6 hours, once a month, for 10 months of the year. December and January have no newsletter.

If you are interested, please contact any one of the executive or committee via e-mail or telephone. Contact details are on the back page.

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 Kyle Rebryna at kyle.rebryna@sci.monash.edu.au.

We'd be glad to hear from you

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30 April	David Cantrill	TBA
28 May	TBA	
24th September		Selwyn Symposium – Save the date!

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April 2009

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Annual General Meeting
Thursday 30th April at 6:15 p.m.
See insert for Committee Nomination Form

Palaeontological riches of Patagonia

Professor David Cantrill
Chairman, GSA (Victoria Division)

Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne
Preceded at 5.30 p.m. by drinks and nibbles in the tea-room, 4th floor, cost \$2.

Fossil floras from southern South America have been little studied over the last fifty years with just a few floras being concentrated on. Recent discoveries together with reexamination of well known localities has been aided by the creation of new regional museums and associated research facilities. The reinvigoration of research in this area has revealed a wealth of new information about the history of past plant life. Although collecting sites are often difficult to access the relatively shallow burial of Mesozoic to Cenozoic strata (especially in the east) means fossils are well-preserved. Furthermore deposits not usually associated with rich fossil material have given important insights into the patterns of past biodiversity.



2009 GSA(V) Annual General Meeting

Agenda

The 2009 Annual General Meeting of the Victoria Division of the Geological Society of Australia will be held at 6:15 p.m. on Thursday 30th April 2009 in the Fritz Loewe Theatre at the University of Melbourne (to be followed by the regular monthly address, this month from Dr David Cantrill).

David Cantrill will present his Chairman's Report for 2008–2009 and the meeting will elect a new Geological Society Victoria Division Committee for 2009–2010.

Agenda

1. Minutes of the 2007–2008 of the GSA Victoria Division AGM on Thursday 24th April 2008.
2. GSA Victoria Division Chairman's Report for 2008–2009
3. GSA Victoria Division Financial Report for 2008–2009
4. Bicentennial Gold 88 Endowment Report for 2008–2009
5. Heritage Subcommittee Report for 2008–2009
6. Awards Committee Report for 2008–2009
7. Election of Committee Members for 2008–2009
8. Other business.

A. Seymon

Secretary of the Division, 30th March 2009

2008 AGM Minutes

1. Opening: time and place
 - a. The meeting opened at 6:20 pm on Thursday 24th April 2008 in the University of Melbourne Fritz Lowe Theatre
2. Minutes of the previous meeting on Thursday 25th April 2007
 - a. Minutes were taken as read.
Moved: Noel Schleiger; seconded: Ingrid Campbell.
3. Chairman's report for 2007-2008
 - a. Stephen Gallagher presented his Chairman's Report for 2007–2008 and his report was accepted by the meeting.
Moved: Susan White; seconded: Fons VandenBerg.
4. Treasurer's report for 2007-2008
 - a. Peter Pritchard's Financial Report for the Year Ended 2008 was tabled and accepted by the meeting. David Moore provided a statement of the branch's investment account and activities. A proper set of audited accounts will go into the next newsletter. This was accepted by the meeting.
Moved: Noel Schleiger; seconded: Stephen Gallagher.

5. Geological Heritage Subcommittee report for 2007–2008

- a. Sue White presented the geological heritage subcommittee report for the year ended 2008. This was accepted by the meeting.

Moved: Bernie Joyce; seconded: Marilyn Moore.

6. Division Awards Subcommittee report for 2007–2008

- a. Ingrid Campbell presented the awards subcommittee report for the year ended 2008. There was some question about being about to make nominations online. Fons Vandenberg replied that the Federal Division had already done that. The report was accepted by the meeting.

Moved: Fons Vandenberg; seconded: Susan White.

7. Bicentennial Gold 88 Working Group report for 2007–2008

- a. Gerhard Krummei presented the bicentennial gold 88 report for the year ended 2008. The report was accepted by the meeting.

Moved: David Moore; seconded: Stephen Gallagher.

8. Election of the Victoria Division Committee for 2008–2009

- a. The following members of the Victoria Division were elected or appointed to form the Division's Committee for 2008–2009:

Division Officers

Chairman	David Cantrill
Vice chairman	Vacant
Secretary	Adele Seymon
Treasurer	Stephen Gallagher
Promotions officer	Vacant

Division Committee Members

Chairman	David Cantrill
Vice chairman	Vacant
Secretary	Adele Seymon
Treasurer	Stephen Gallagher
Investments Admin	David Moore
Newsletter Editor	Kyle Rebryna
Earth Sciences Postgraduate Group Rep, Newsletter Assistant	Alison Fairmaid
Webmaster	Lindsay Thomas

Subcommittee Members

Awards Chairman	Ingrid Campbell
Membership Chairman	Peter Pritchard
Education Chairman	Noel Schleiger
Heritage Chariman	Sue White

Affiliates

Becentenntial Gold 88 Working Group Chairman	Gerhard Krummei
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9. Other business

- a. No other business.

10. Closure

- a. The meeting closed at 6:40 pm.

FOR YOUR INFORMATION



The Geological Society of Australia (Victoria Division) invites you to the Selwyn Symposium 2009

Thursday 24 September 2009

Origin of the Australian Highlands

The apparently quiescent continent of Australia lies near the middle of a plate yet there are many mountain ranges and highlands, in particular along the eastern seaboard. The origin and timing of these enigmatic features has been subject to considerable debate, ever since Andrews (1910) assigned a Pliocene (5–2 Ma) age to the Southeastern Highlands – the “Kosciuszko Uplift event”. Some researchers suggest that most highland relief was present by the Cretaceous. Others believe Cainozoic uplift created most of the mountains. This symposium brings together leading researchers in thermochronology, geochronology, stratigraphy and geomorphology to discuss the timing and nature of uplift in southeast Australia.

Presenters:

Prof. Mike Sandiford, Melbourne University (Plenary address)
Dr. Guy Holdgate, Melbourne University
Prof Cliff Ollier, University of Western Australia
Prof Andrew Gleadow, Melbourne University
Dr Ian Duddy & Dr Paul Green Geotrack International
Mr Fons Vandenberg, DPI Victoria
Dr Graham Taylor, Canberra University
Prof Ian McDougall, Australian National University
Dr Max Brown, Canberra
Dr Ian Roach, Australian National University
Assoc Prof John Webb, Latrobe University
Dr Colin Pain, Geoscience Australia
Assoc Prof Bernie Joyce, Melbourne University

Preliminary Program:

8.30 am Registration
9.00–5.00 pm The Selwyn Symposium (morning coffee, lunch and afternoon tea included)
6.30–7.00 pm The Selwyn Medal Presentation and the Selwyn Lecture at the JH Michell theatre, Richard Berry Building, The University of Melbourne
Selwyn Lecture to be given by Professor Cliff Ollier, University of Western Australia

Stephen Gallagher, Guy Holdgate, Martin Norvick & Malcolm Wallace
Selwyn Symposium organizing committee

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30 July	TBA	
27 August	TBA	
24th September	Selwyn Symposium: Origin of the Australian Highlands Selwyn Lecture: Professor Cliff Ollier	

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

Some geo-environmental impacts of the Gulf Wars: Examples from Jordan and Kuwait

Fathi Shaqour
Geology Department, University of Jordan

Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne

Preceded at 5.30 p.m. by drinks and nibbles in the tea-room, 4th floor, cost \$2.

In addition to the many other problems, the Gulf wars have caused severe damage to the environment in Iraq, Kuwait and Jordan. This presentation will show examples of some of the environmental impacts in Jordan and Kuwait. Impacts on water resources in Jordan are presented. Among the impacts in Kuwait were on construction projects, where ground anchors have been subjected to corrosion.

Jordan is a small country of about 90000 Km², with about 4.5 million inhabitants. More than half a million used to work in Kuwait and other Gulf states. Most of these workers had to leave the Gulf States, and permanently settle in Jordan, in addition to hundreds of thousand flees who temporarily stayed in Jordan. This rapid flux of people imposed additional stresses on the water resources and treatment plants, leading to environmental problems such as decline in water table and deterioration of the groundwater quality as a result of overloads to treatment plants that became inefficient. The effluent of these plants caused contamination of groundwater systems. Groundwater modelling was carried to the main hydrological basins in Jordan. Different scenarios were adopted to simulate the imposed conditions and the remediation of the induced problems. Two scenarios were considered to simulate groundwater conditions up to year 2030, the first scenario was a Do nothing scenario: continue exploiting groundwater from aquifer systems as it is at present with consideration of the normal growth rates in population and their respective water demands. The second scenario was, Self-restoration scenario: complete stop of groundwater abstractions for all purposes, leaving a chance for the aquifer systems to recover its original conditions with time. This recovery would rely mainly on the rate of the natural annual groundwater recharge into

continued overleaf...

the aquifer systems. Both scenarios showed projected groundwater salinity of 5000 ppm and 3000 ppm in some areas respectively. Further influxes in 2003 (Gulf war2) worsened the status. The Gulf wars have resulted in un-restorable damages to water resources in Jordan. In Kuwait, the damages were severe and harsh to people and the environment. Construction projects were not exclusion. One of the high way projects included ground anchors to restrain the subsided road slabs against hydrostatic pressures. The ground anchors were designed for full marine protection. About 750 anchors were only partially completed at the time of the first Gulf war (not fully protected yet). Dewatering was in operation during construction, which came into hold due to the war, causing the saline water table to rise back to its original levels. This allowed the saline water to penetrate through the tendons of the anchors leading to corrosion. The infected anchors formed a unique case for testing the specifications for ground anchors. The case opened discussions on legal aspects as who takes the responsibility?!. It raised the question as to how such situations might be dealt with within the contract in the future and the advisability of insuring for such events.

Notes: 1) Data on Jordan presented in this lecture are extracted from the report on: Damages caused to water resources in Jordan due to the Gulf war , Section III, 2002; prepared by Geotech International and CC , submitted to the Ministry of Water and Environment – Jordan
2) Data on Kuwait are extracted from a paper published in Environmental Geology Journal, by Fathi Shaqour.

FORTHCOMING EVENTS

2009 AW Howitt Lecture

Thursday 25th June

Lecture to be held at the Royal Society of Victoria, 8 LaTrobe St Melbourne, 7:30pm



Roger Powell

Presented jointly by the Geological Society of Australia (Victoria Division) and The Royal Society of Victoria



The Royal Society of Victoria
PROMOTING SCIENCE SINCE 1854

Why are island arcs where they are?

The general story regarding island arc volcanism is well understood: fluid from the subducted slab fluxes partial melting in the mantle wedge above the subduction zone, and this then provides the magma to build the island arc. However there has not been a good explanation of why the volcanism is localised into an island arc, or why the arc is where it is. A recent compilation shows that the depth from island arc to the top of the subducted slab is in the range 65 to 130 km, but that there is no obvious correlation between this and for example angle of subduction or subduction rate. Up to now, the view has been that fluid is released from the subducted slab all the way down as it descends into the mantle, suggesting that such a slab process is not responsible for the localisation and position of the island arc. This view arose from experimental studies on the sort of rocks subducted. Our new work suggests that this experimental work is unreliable. Our approach has been to calculate what the mineral assemblages are in the subducted rocks, and to see when fluid is released from them. This shows that in fact fluid will be released from the slab at a depth where the temperature of the top of the slab enters a narrow window around 600C. Fluid is not predicted to be released from the slab all the way down. Slab processes look capable of accounting for the observations on localisation and position of island arcs.



Committee Reports from the 2009 Annual General Meeting of the Victoria Division of the Geological Society of Australia

CHAIRMAN'S REPORT FOR 2008-2009

GSAV Annual General Meeting Thursday 29th April, 2009

My first year as Chair of the Victorian division has been one of observation of what we do and how we do it. The year has seen a successful program of monthly talks and a very successful Selwyn Symposia – the flagship event for the years. The Selwyn Symposium on Neoproterozoic extreme climates and the origin of early life was a great success. Although this event generally runs at a small loss due to the subsidies provided to students it has proven to be a great event to profile the geological sciences. With help from the federal division we were able to get extensive media coverage for geological sciences and in particular the Giant cryogenian reefs as a window into pre-Ediacaran life. This year's Selwyn is shaping up as a block buster event where we will revisit the "Origin of the Australian Highlands".

All societies rely on member contributions and as with most societies the work is done by a few committed people. In order for the Geol Soc Vic Div to move forward we need more engagement from the membership. Attendance at the monthly meetings is generally low and in a similar vein the committee is thin and there are various vacancies. Does this reflect that the committee is not doing the job the membership wishes? We would welcome feedback and the chance to do things that members would find more relevant. It is only in coming together at events such as the monthly meetings and Selwyn Symposia that we can exchange ideas and stimulate interest in the Earth Sciences.

There are many people working in the background who deserve recognition and thanks for the works that they do to keep the division running. It is also worth noting that a number of people have or will be moving on. I would like to thank the newsletter editor (Kyle Rebryna) who moved to Canada several months ago and has agreed to continue to produce the newsletter until the AGM. The newsletter is one of the main vehicles we have for communication with the members and is an integral part of the division. Needless to say we are currently looking for a person or group of people that are willing to keep the newsletter running. I would also like to thank Stephen Gallagher who has taken over the role of treasurer and has spent a considerable amount of time getting the books in order. We now have a well run set of accounts (as tabled) thanks also to David and Lindsay and the advisors that the investments are looking in reasonable shape. Lindsay also keeps the web presence alive and sends out the newsletter. I would also like to thank Adele for all her hard work as secretary. As many of you will realise the Chair is not the person that does most of the work but many tasks fall to the secretary. I would also like to thank all the other active members of the committee and subcommittees for the work that they have put in over the last 12 months.

David Cantrill
29th April 2009

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 Peter Hoiles at p.hoiles@pgrad.unimelb.edu.au

We'd be glad to hear from you

Assoc. Prof. Stephen Gallagher
Treasurer
GSAV
The School of Earth Sciences
The University of Melbourne
Victoria 3010
Ph: 03 8344 6513
Email: sjgall@unimelb.edu.au

FINANCIAL REPORT FOR 2008-2009

Treasurers Report as at 25th April 2009

A challenging year for the GSAV member's fund.

1. Book stock: Our stock of books now includes in addition to GOV3: the Selwyn Symposium 2007 & 2008 abstracts volumes. These are on sale from myself or GSA Sydney on-line. The stock value is \$50,579.29 at end of 2008 with sales in of \$6386.90.
2. Share portfolio: The value of our shares has fallen from \$241,958.29 in 2007 to \$197,346.67. The loss in values of total assets & investments was \$39,548.79.
3. Income: In addition to capitation fees and Selwyn income, our main source of income remains the dividend from our share portfolio. This income is likely to be reduced in 2009.
4. Expenditure: The main expenses (\$12,265.46) were Conference fees, including the Selwyn Symposium, Victorian Geography Teachers Association Conference and the Victorian Science Teachers Conference. \$2,800 was given to students in awards and sponsorship.
5. Profit: Our profit for 2008 was \$8343.83 down from \$55,746.68 in 2007. One of the main reasons for the difference is the sale of investments in 2007 yielded a profit of \$18,256.51.

Sincerely
StephenG
Treasurer of the GSAV

Note: This represents the position of the 2008 accounts of the GSAV to the best of my accounting knowledge as a geologist. The final accounts are being audited at present, it is anticipated they may be completed in time to insert in the June edition of TVG newsletter.

To obtain a copy:

The current financial statements for the year ended 31 December 2008 are UNAUDITED and thus are not published in this months TVG. If you would like a copy of the unaudited financial statements for the year ended 31 December 2008, please contact Stephen Gallagher at the address above or via email. A copy of the 2007 AUDITED statements is available and may be obtained by contacting Stephen.

AWARDS COMMITTEE REPORT FOR 2008-2009

I wish to thank the members of the Awards Committee for their continued support during the year.
The following awards were given:

2008 Selwyn Medal

The **2008 Selwyn Medal** was awarded to **Dr Malcolm Wallace** of University of Melbourne in recognition of his significant contributions to the understanding of the geology of Victoria, in particular his continuing contribution to the understanding of Tertiary carbonates and tectonism in the southern margins of Victoria. This has significantly contributed to a new understanding and interpretation of recent tectonism and uplift in the Otway and Gippsland Basins.

2008 Canavan Prize

The **2008 Canavan Prize** was awarded to **Ashleigh Hood** (University of Melbourne) who achieved the highest marks for second year in 2007. This prize is given to the best second year student in an Earth Science related course in Victoria.

The D.E. Thomas Medal

The **D. E. Thomas Medal** was not awarded this year as no nominations were received for this category, which is very disappointing. This is perceived as a sign of the decline in field mapping in the traditional sense at post-graduate levels in Victorian universities

Ingrid Campbell

Chair, Awards Committee

HERITAGE SUBCOMMITTEE REPORT 2008-2009

The sub-committee has continued to work for geological heritage but has had a less busy year than last year. The sub-committee has currently 11 members with a wide range of geological expertise as well as others who support our activities.

The work for the year can be listed as follows:

A busy and successful year occurred and I sincerely thank all the other members of the subcommittee who have worked so hard to make it so.

- * Further advice on significance of sites was given to various organizations. The GSA system of significance and site numbering for sites of significance is used to assist in management decisions. There has been a steady increase in enquiries this past year from both government and non-government sources. More enquiries occur regarding the Western District than the rest of the state, but enquiries have been handled to do with a range of areas including Pykes Creek, Port Campbell, Volcanic Stony Rises, Jindivick basalt quarry, Moorabool Shire, The Sisters Windfarm proposal, Darebin City Heritage Study and others. It is not always possible to answer all enquiries, especially if the chair is away.
- * The GSA(V) database continued to be upgraded and is currently having sites added from published reports. We will need to upgrade the software for this some time soon. The need to add all type sections and type locations is currently being addressed.
- * Assessment of sites on various 250000 geological sheets continued.
- * Geoscience Victoria Sites of Significance has only published material on their website and refers enquiries to GSA. This has been for both direct enquiries and via a notice on the website. The confusion between excursion sites and sites of significance continues to be of concern.
- * The committee continues to be involved in the Committee of Management of the Council Trench Geological Reserve at Bacchus Marsh. This continues to be a significant exercise for GSA as we have often been critical of the management of important geological sites and this gives us an opportunity to make a positive contribution to and example of the best management of sites. We were involved in an activity at the reserve for Earth Science Week.
- * City of Melbourne Parks received advice on a proposed new sign for the Southern Royal Park Railway cutting. This is still to be completed.
- * The committee has also been involved in management and planning issues in a number of areas. Some have had reasonable outcomes, but others have not. Communication with the Landscape committee of the National Trust continues. Concern continues to be felt over consultation with some government departments especially Parks Victoria and VicRoads, but other agencies have been much more co-operative. We continue to work on such issues. There is potential to influence management of geological sites through Environmental and heritage planning overlays at local government level.
- * The subcommittee's guidelines on consulting work and advice to outside organizations by members of the subcommittee have been used. The website material on vegetation and geological sites is appreciated by several consultants and agencies.

Susan White
Heritage Committee Chairman

BICENTENNIAL GOLD 88 ENDOWMENT REPORT FOR 2008-2009

The trend towards diminishing returns on fund investments from 2007 onwards is likely to be seen to have continued through 2008 and into 2009 as a result of the global financial downturn.

Despite this unfavourable development, the sum of \$10,000 was again made available for distribution for the year 2009. Applications were received and assessed in the latter half of 2008 and finalised by year-end.

Following acceptance of our recommendations by The Director of the Endowment Fund and its Trustees, the above amount was distributed among three successful applicants in the areas of research, conference attendance and technical excursions as follows:

- Monash University
To assist with an honours project focused on aspects of the Morning Star Mine, Woods Point Dyke Swarm, Victoria.
- University of Ballarat
To assist with costs associated with an undergraduate technical field excursion to New Zealand's North Island
- The University of Queensland
Support for a Ph.D. graduate to attend and present an environmental geochemistry research paper on mine waste and sustainable development in Santiago, Chile.

During the year, an article from a previous grant recipient was published in the AusIMM Bulletin. Two submissions from recent recipients are awaited.

Di McQuay, who during 2007 and most of 2008 provided administrative support to this Endowment was replaced by Xanthus Weber and we thank these ladies for their secretarial input during the current term.

The contributions of Prof. David Gray and Ms. Ingrid Campbell of the GSA (Vic. Div.) to the assessment process are also gratefully acknowledged.

GERHARD K. KRUMMEI
Chairman – Working Group
BG88 Endowment

Business News



The Geological Society of Australia's business office has relocated.

The new office address is:

Suite 61, 104 Bathurst Street,
Sydney, NSW 2000, Australia

Phone and fax numbers remain the same:

Tel: 02 9290 2194

Fax: 02 9290 2198

Please update your records accordingly.



Promoting Victorian Earth Sciences Since 1953

Upcoming conferences...



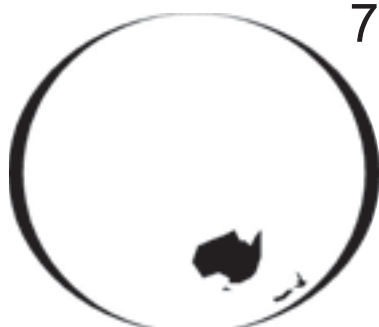
The Society for Geology Applied to Mineral Deposits (SGA) and the Economic Geology Research Unit (EGRU) at



James Cook University, in association with the Society of Economic Geologists (SEG), are delighted to invite all their members and others interested in economic geology to participate in the 2009 conference to be held in Townsville, North Queensland, Australia, 17–20 August 2009. Sessions include: ore-forming processes, specific mineral systems, and new and frontier areas.

The general call for Abstracts has now closed, registration is now open

See the website for more details: <http://sga2009.jcu.edu.au/>



7th International Association of Geomorphologists (IAG) Conference

Be in Melbourne for 6–11 July 2009 for the 7th IAG conference – ANZIAG – which will be on the theme ‘Ancient Landscapes – Modern Perspectives’. For the first time in the history of the International Association of Geomorphologists the International Conference will be held in the Southern Hemisphere, on an ancient piece of Gondwanaland.

Topical sessions include:

- Southern Hemisphere/Gondwana Geomorphology
- River Management
- Fire Effects on Geomorphology and Environmental Processes
- Coastal Geomorphology and Management
- Geomorphological Impacts of Armed Conflict

... and many more.

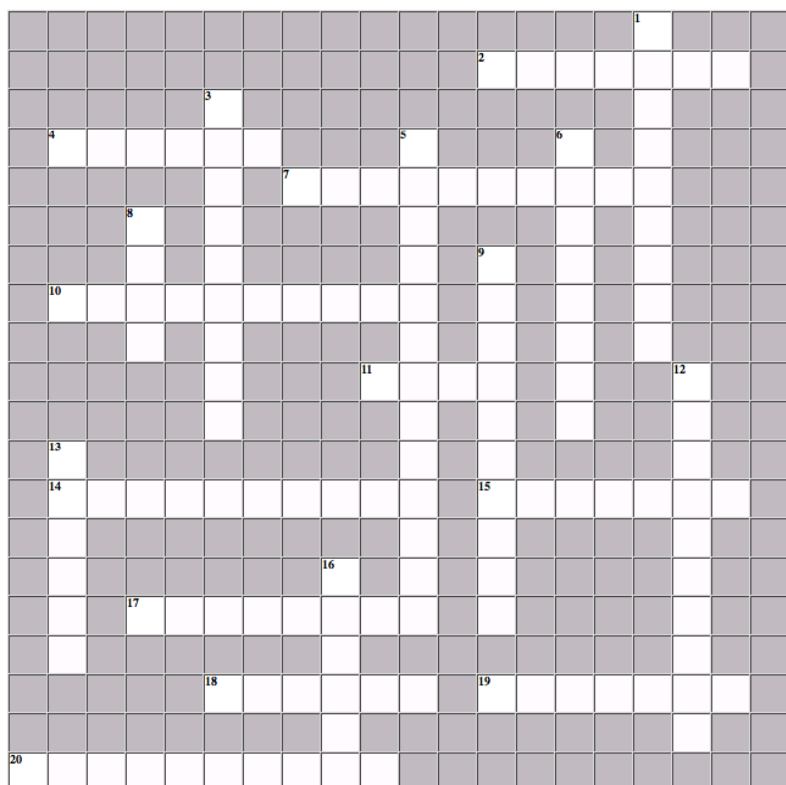
See the website for details: <http://www.geomorphology2009.com/>

WELCOME TO OUR NEW MEMBERS



Samantha Harris
Marilyn Powell
Evelyn Willrow
Shana Besanko
Viktor Taranov
Blake Tyrrell

VICTORIAN GEOLOGY CROSSWORD



Down

1. Formally known as the Strzelecki Basin
3. This rock type makes up the Grampians
5. This orogeny occurred in the Devonian
6. These holy men made of limestone
8. Along with Zinc, this is mined at Benambra
9. The name of the lecture theatre where the GSAV hold their monthly meetings (2 words)
12. Which meteorite, discovered in 1854, has 11 fragments
13. The main fault that runs through the Mornington Peninsula
16. The Snowy River Volcanics are located in this zone

Across

2. Mount Buffalo consists of this type of rock
4. This river forms the boundary between Victoria and New South Wales
7. The Rosette Rock is found in this National Park (2 words)
10. This fossil name means 'writing in rock'
11. This is mined at Lake Tyrrell in NW Victoria
14. This natural phenomenon occurred twice in Korumburra in early March 2009
15. What mineral you would find at Mt Shadwell
17. One of Victoria's open cut coal mines
18. These falls are found at Studley Park
19. On this promontory you would find Squeaky Beach
20. Mount Elephant is one of these (2 words)

For solution to this month's crossword see June issue

Joke of the month

Out in the field, one geologist managed to wander a little too far away from the group. After wandering aimlessly for several hours, hopelessly lost, running out of water, he found himself at the bottom of a canyon carved out of a certain foliated metamorphic rock. What did he realise then?

He was in deep schist!

** Have a geology joke to share? Please send in your geology jokes to us at TVG!*

WANTED: GENERATION Y

Attendance at the monthly meetings seems to have dropped off in recent times. There are over 300 members of the Victorian Division yet less than 5% of members actually attend! These meetings provide valuable networking opportunities and interaction with other members, not to mention getting to hear an interesting seminar. So come along, don't be shy!

All Welcome.

FORTHCOMING TALKS

to be presented at
GSA (Victoria Division) meetings

Note: unless otherwise indicated, all 2009 talks will be held in the
Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne.

30 April	David Cantrill AGM	Palaeontological Riches of Patagonia
28 May	Fathi Shaqour	Some geo-environmental impacts of the Gulf Wars: Examples from Jordan and Kuwait
25 June	2009 Howitt Lecture Professor Roger Powell	Why are island arcs where they are? <i>Lecture to be held at the Royal Society of Victoria, 8 LaTrobe St Melbourne</i>
30 July	TBA	
27 August	TBA	
24 September	Selwyn Symposium	Origin of the Australian Highlands 9 a.m. - 5:30 p.m. <i>Symposium to be held in the Fritz Loewe Theatre - McCoy Building</i>
	Selwyn Lecture Professor Cliff Ollier	6:30 p.m. Free public lecture Theories of the Earth and Mountain Building <i>Lecture to be held in the JH Mitchell Theatre - Richard Berry Building</i>

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	9658 4523
Treasurer:	Stephen Gallagher	8344 6513 (BH)

COMMITTEE

Alison Fairmaid	8344 7672 (BH)
Erin Matchan	8344 7672 (BH)
David Moore	9858 4513 (BH)
Peter Hoiles	8344 7672 (BH)
Noel Schleiger	9435 8408
Lindsay Thomas	0427 354 828
Susan White	9328 4154

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	Alison Fairmaid	8344 7672
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Newsletter deadline

First Friday of the month except Dec & Jan
p.hoiles@pgrad.unimelb.edu.au, or
a.fairmaid2@pgrad.unimelb.edu.au

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THE VICTORIAN GEOLOGIST



June 2009

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2009
Thursday 25th June at 7:30 p.m.

*The Geological Society of Australia (Victoria Division) and The Royal Society of Victoria
present **The Annual AW Howitt Lecture***

Why are island arcs where they are?

Roger Powell

School of Earth Sciences, The University of Melbourne

Royal Society of Victoria, 8 LaTrobe St Melbourne, 7:30pm

Pre-lecture refreshments 6:30pm, cost \$20

RSVP essential by 12 noon 23rd June 2009 (rsv@sciencevictoria.org.au) or (03)96635259

The general story regarding island arc volcanism is well understood: fluid from the subducted slab fluxes partial melting in the mantle wedge above the subduction zone, and this then provides the magma to build the island arc. However there has not been a good explanation of why the volcanism is localised into an island arc, or why the arc is where it is. A recent compilation shows that the depth from island arc to the top of the subducted slab is in the range 65 to 130 km, but that there is no obvious correlation between this and for example angle of subduction or subduction rate. Up to now, the view has been that fluid is released from the subducted slab all the way down as it descends into the mantle, suggesting that such a slab process is not responsible for the localisation and position of the island arc. This view arose from experimental studies on the sort of rocks subducted. Our new work suggests that this experimental work is unreliable. Our approach has been to calculate what the mineral assemblages are in the subducted rocks, and to see when fluid is released from them. This shows that in fact fluid will be released from the slab at a depth where the temperature of the top of the slab enters a narrow window around 600C. Fluid is not predicted to be released from the slab all the way down. Slab processes look capable of accounting for the observations on localisation and position of island arcs.

Dear Readers,

Welcome to the bumper June edition of TVG! Page 4 sees our first ever contribution from a member, in the form of a reply to a book review. There is information on the upcoming Selwyn symposium and SGA conference, and less exciting pages containing the finally audited financial reports from 2008 that didn't make it into last months newsletter.

Following rave reviews of our fun page, we have decided to put in another crossword and joke, with this month's crossword have a broader geology theme - found on page 10.

Enjoy!

Go-Green Campaign

The GSAV are doing their bit to help reduce paper use. If you would like to stop receiving a paper copy of The Victorian Geologist and instead receive your copy via email, simply log into your member profile at the Geological Society of Australia's website (www.gsa.org.au) and change your preferences. Visual instructions are given below:

The following steps illustrate how to change email preferences on the Geological Society of Australia website:

- Step 1: Member Area**
 The user is logged in as John Smith (Member No.: 123456). The "more info" link in the top right navigation bar is circled with an arrow pointing to it.
- Step 2: Edit Information**
 The "Member Info" link in the left sidebar is circled with an arrow pointing to it. The "more info" link from the previous step is also circled with an arrow pointing to it.
- Step 3: Member Info Form**
 The "Division Newsletter" dropdown menu is open, showing "Hard Copy" selected. The "Email Copy" option is circled with an arrow pointing to it. The "update" button is visible in the top right.

FORTHCOMING EVENTS

SELWYN SYMPOSIUM 2009

Thursday 24th September 2009
Fritz-Loewe Theatre, McCoy Building, Earth Sciences
The University of Melbourne



Origin of the Australian Highlands

The apparently quiescent continent of Australia lies near the middle of a plate yet there are many mountain ranges and highlands, in particular along the eastern seaboard. The origin and timing of these enigmatic features has been subject to considerable debate, ever since Andrews* (1910) assigned a Pliocene (5-2 million year old) age to the Southeastern Highlands - the "Kosciuszko Uplift event". Some researchers suggest that most highland relief was present by the Cretaceous. Others believe Cainozoic uplift created most of the mountains. This symposium brings together leading researchers in thermochronology, geochronology, stratigraphy and geomorphology to discuss the timing and nature of uplift in southeast Australia.

*Andrews E.C., 1910. Jl. of the Proc. Royal Soc. NSW 44, 420-480.

Program:

8.30 am Registration

9.00-5.30 pm The Selwyn Symposium - 20- to 25 minute presentations from invited speakers with morning coffee, lunch and afternoon tea (see detailed presenter list overleaf)

6.30 pm Selwyn Lecture (free public lecture) @ the JH Michell theatre - Richard Berry Building
by Professor Cliff Ollier, University of Western Australia, "Theories of the Earth and Mountain Building"

8:15 pm Selwyn Dinner at University House, The University of Melbourne

Cost:

Full delegate @ \$120.00 including GST

Retired delegate @ \$50.00 including GST

Student delegate @ \$20.00 including GST

(Cost includes: Lunch, morning/afternoon tea, abstract volume)

LETTERS TO THE EDITORS

From the editors:

In most issues of the Victorian Geologist, we put out a call for contributions from members. This month, we received an email from Peter Legge which included an article featured in The Weekend Australian and his response to it. The article is titled "No science in Plimer's primer" and was written by Professor Michael Ashley (University of NSW) in review of Professor Ian Plimer's new book "Heaven and Earth". Plimer's book challenges the view that human activity is causing climate to change and criticises the Intergovernmental Panel on Climate Change and its findings. Heaven and Earth has received strong criticism so far and will surely see more to come. We have reprinted Michael Ashley's article below and have included the response from Peter Legge. We now invite our readers to submit their own opinions and views on not only this issue, but on any other issue that you think other readers may find interesting. It is important to note here that although this newsletter provides a forum for discussion of these issues by the members, the opinions presented in no way represent those of the Geological Society of Australia.



Please send your comments/views/suggestions to p.hoiles@pgrad.unimelb.edu.au with subject heading 'Letters to the Editors.'

No science in Plimer's primer

The Weekend Australian
Michael Ashley | May 09, 2009

ONE of the peculiar things about being an astronomer is that you receive, from time to time, monographs on topics such as "a new theory of the electric universe", or "Einstein was wrong", or "the moon landings were a hoax".

The writings are always earnest, often involve conspiracy theories and are scientifically worthless.

One such document that arrived last week was Ian Plimer's *Heaven and Earth*. What makes this case unusual is that Plimer is a professor -- of mining geology -- at the University of Adelaide. If the subject were anything less serious than the future habitability of the planet Earth, I wouldn't go to the trouble of writing this review.

Plimer sets out to refute the scientific consensus that human emissions of CO₂ have changed the climate. He states in his acknowledgments that the book evolved from a dinner in London with three young lawyers who believed the consensus. As Plimer writes: "Although these three had more than adequate intellectual material to destroy the popular paradigm, they had neither the scientific knowledge nor the scientific training to pull it apart stitch by stitch. This was done at dinner."

This is a remarkable claim. If Plimer is right and he is able to show that the work of literally thousands of oceanographers, solar physicists, biologists, atmospheric scientists, geologists, and snow and ice researchers during the past 100 years is fundamentally flawed, then it would rank as one of the greatest discoveries of the century and would almost certainly earn him a Nobel prize. This is the scale of Plimer's claim.

Before reading any further, I examined Plimer's publication list on the University of Adelaide website to see what he has published in refereed journals. There are a scant 17 such papers since 1994, two as first author with the titles "Manganoan garnet rocks associated with the Broken Hill

Pb-Zn-Ag orebody" and "Kasolite from the British Empire Mine". Absolutely nothing on climate science.

Now, before I am accused of attacking the man and not the argument, let me point out that scientists regard peer-reviewed journal publications as fundamental for advancing science. They allow ideas to be exchanged, tested, improved on and, quite frequently, discarded. If Plimer can do what he claims, and can prove that human emissions of CO₂ have no effect on the climate, then he owes it to the scientific community and, in fact, humanity, to publish his arguments in a refereed journal.

Perhaps we will find a stitch-by-stitch demolition of climate science in his book, as promised? No such luck. The arguments that Plimer advances in the 503 pages and 2311 footnotes in *Heaven and Earth* are nonsense. The book is largely a collection of contrarian ideas and conspiracy theories that are rife in the blogosphere. The writing is rambling and repetitive; the arguments flawed and illogical.

He recycles a graph, without attribution, from Martin Durkin's *Great Global Warming Swindle* documentary, neglecting even to make the changes that Durkin made following an outcry over the fact that the past two decades of temperature measurements had been mysteriously deleted.

Plimer claims that scientists such as himself, who do not agree with the consensus, are labelled deniers, "yet their scientific doubts are not addressed". Nothing could be further from the truth. All of Plimer's arguments have been addressed ad nauseam by patient climate scientists on websites or in the literature.

To appreciate the errors in Plimer's book you don't have to be a climate scientist. For example, take the measurement of the global average CO₂ concentration in the atmosphere. This is obviously important, so scientists

measure it with great care at many locations across the world. Precision measurements have been made daily since 1958 at Mauna Loa Observatory in Hawaii, a mountain-top site with a clear airflow unaffected by local pollution. The data is in excellent agreement with ice cores from several sites in Antarctica and Greenland. Thousands of scientific papers have been written on the topic, hundreds of scientists are involved from many independent research groups.

Plimer, however, writes that a simple home experiment indoors can show that in a week, CO₂ can vary by 75 parts per million by volume, equal to about 40 years' worth of change at the present rate. He thinks this "rings alarm bells" on the veracity of the Mauna Loa data, which shows a smoothly rising concentration.

While it is undoubtedly true that if you measure CO₂ in your home it could vary by large amounts from day to day -- depending, for example, on whether you have the windows open or closed, or how many people are in the house at the time -- this is not the right way to measure a global average. That's why scientists go to mountain-tops or Antarctica or to the isolated Cape Grim on the Tasmanian coast rather than measuring CO₂ in their living rooms. Incredible as it may seem, this quality of argument is typical of the book. While the text is annotated profusely with footnotes and refers to papers in the top journals, thus giving it the veneer of scholarship, it is often the case that the cited articles do not support the text. Plimer repeatedly veers off to the climate sceptic's journal of choice, the bottom-tier *Energy and Environment*, to advance all manner of absurd theories: for example, that CO₂ concentrations actually have fallen since 1942.

Plimer believes "global warming" occurring on Mars, Triton, Jupiter and Pluto proves human emissions of CO₂ don't affect Earth's climate. He believes that once CO₂ levels reached 200ppmv (about half of today's

value) the CO₂ had absorbed almost all the infrared energy it could, and further increases will not have much effect. He believes global warming does not lead to biological stress. He believes volcanoes emit significant quantities of chlorofluorocarbons. He believes the sun formed on the collapsed core of a supernova. All these ideas are so wrong as to be laughable: they do not offer an "alternative scientific perspective".

Plimer probably didn't expect an astronomer to review his book. I couldn't help noticing on page 120 an almost word-for-word reproduction of the abstract from a well-known loony paper entitled "The Sun is a plasma diffuser that sorts atoms by mass". This paper argues that the sun isn't composed of 98 per cent hydrogen and helium, as astronomers have confirmed through a century of observation and theory, but is instead similar in composition to a meteorite.

It is hard to understate the depth of scientific ignorance that the inclusion of this information demonstrates. It is comparable to a biologist claiming that plants obtain energy from magnetism rather than photosynthesis.

Plimer has done an enormous disservice to science, and the dedicated scientists who are trying to understand climate and the influence of humans, by publishing this book. It is not "merely" atmospheric scientists that would have to be wrong for Plimer to be right. It would require a rewriting of biology, geology, physics, oceanography, astronomy and statistics. Plimer's book deserves to languish on the shelves along with similar pseudo-science such as the writings of Immanuel Velikovsky and Erich von Daniken.

Michael Ashley is professor of astrophysics at the University of NSW.


*Reprinted with permission of Michael Ashley

Comment by Peter Legge

Michael Ashley's article in *The Australian* 9th May 2009 is a disgraceful attack on Ian Plimer and his book *Heaven and Earth*. Plimer makes the entirely valid point that geology teaches us that the Earth's atmosphere has been extremely variable over time, and that CO₂ levels have been high in cold periods and is suspect as the prime driver of global warming. Further, episodes of activity and inactivity on the Sun are of critical importance in determining Earth's climate and that man has only a minor role in the whole process. The arguments offered by Plimer are not "nonsense", or "scientifically worthless". They offer an alternative view that must be heard and properly assessed. The book is not intended as a pure science thesis but rather a book that is written to jerk the attention of all of us, especially the policy makers, into consideration of other material that is available and includes the key element of geological time. The debate has gone beyond the normal processes of scientific review because the issue is one of huge public importance that will affect many people's livelihoods. Plimer's argument needs to be heard and I congratulate *The Australian* for giving each side print "time". May the next article by Ashley address Plimer's key points of argument rather than being dogmatically condemning.

- Peter Legge

WELCOME TO OUR NEW MEMBERS



Alex Pattison
Will Nunn
Timothy Rees
Brendan Long
Antoinette Stryk
Stephanie Ludekens

WANTED: GENERATION Y

Attendance at the monthly meetings seems to have dropped off in recent times. There are over 300 members of the Victorian Division yet less than 5% of members actually attend! These meetings provide valuable networking opportunities and interaction with other members, not to mention getting to hear an interesting seminar. So come along, don't be shy!

All Welcome.

2008 Audited financial statements

The next three pages contain the audited financial statements for 2008 that were unavailable at the time of printing the May newsletter with the other AGM documents. For those members who own a magnifying glass, please read on. For those members who don't own a magnifying glass and would like a full version of the statements, please contact Stephen Gallagher (sjgall@unimelb.edu.au or 8344 6513). For those members who don't give a hoot about the financials, please continue to the crossword and fun stuff on page 10.

AUDIT REPORT Geological Society of Australia (Victorian Division)

Report on the Financial Report

I have audited the attached financial report being a special purpose of the Geological Society of Australia (Victorian Division) for the year ended 31st December 2008, comprising Balance Sheet, Trading Statement, Profit & Loss Statement and Statement of Appropriations.

Committee's Responsibility for the Financial Report

The committee is responsible for the preparation and presentation of the financial report and has determined that the financial report is consistent with the financial reporting requirements of the Society and are appropriate to meet the needs of the members. The committee's responsibilities also include establishing and maintaining internal control relevant to the preparation and fair presentation of the financial report that is free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

My responsibility is to express an opinion on the financial report based on our audit. No opinion is expressed as to whether the accounting policies used are appropriate to meet the needs of the members.

I conducted my audit in accordance with Australian Auditing Standards. These Auditing Standards require that I comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures depend on the auditor's judgment, including assessment of risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity and that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates, as well as evaluating the overall presentation of the financial report.

The financial report has been prepared for distribution to members. I disclaim any assumption of responsibility for any reliance on this report other than the members, or for any purpose other than that for which it was prepared.

I believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for my audit opinion.


Independence

In conducting my audit I have complied with the independence requirements of Australian professional ethical pronouncements.

Audit Opinion

In my opinion the accompanying financial report presents fairly in accordance with applicable Accounting Standards and other mandatory professional reporting requirements the financial position of the Geological Society of Australia (Victorian Division) as at 31st December 2008, and the results of its operations for the year then ended.

Dated at Balwyn North, this 22nd day of May 2009.


Timothy Paul Meehan CA
Registered Company Auditor (Reg. No. 163898)

Prospect Accountants



**Prospect
Accountants**

Principal: Tim P. Meehan
Chartered Accountant Registered Company Auditor

AUDIT ENGAGEMENT LETTER

The Committee,
Geological Society of Australia
(Victorian Division)
C/- Mr Stephen Gallagher,
GPO Box 2355,
Melbourne Vic 3001

10th April 2009

Dear Sirs,

I have consented to my appointment as auditor for the Geological Society of Australia (Victorian Division) - "GSAV" to audit the financial statements and now set out my understanding of the terms of this engagement.

My audit will be undertaken in accordance with the Australian Auditing Standards with the objective of expressing an opinion on the financial report, as presented by the committee of the GSAV.

I direct your attention to the fact that the responsibility for the preparation of the financial report, including adequate disclosure, is that of the committee of the GSAV. This includes the maintenance of an adequate internal control structure and accounting records, the selection and application of accounting policies, and the safeguarding of the assets of the GSAV.

In forming my opinion on the financial report, I will perform sufficient tests to obtain reasonable assurance as to whether the financial report gives a true and fair view of the state of the affairs of the GSAV at the end of the reporting period and the results for the period then ended, and is in accordance with the Statements of Accounting Concepts and any applicable Accounting Standards.

I direct your attention to the fact that it is the committee's responsibility to design, document and maintain appropriate systems, including internal controls.

My audit of the financial report is undertaken with the objective of expressing an opinion upon the results. While this will include obtaining an understanding of the internal control structure and the performance of such tests as I consider necessary for that purpose, it is not designed to enable me to express an opinion on the compliance and adequacy of the systems.

Due to the inherent limitations of an audit, together with the inherent limitations of an internal control structure, there is always a possibility that a properly planned and executed audit may not detect a material misstatement in the financial report breakdowns or deficiencies in the internal control structure.

Office 4, 321 Balwyn Road, North Balwyn 3104
Telephone: 03 9857 3300 Fax: 03 9816 3720 Email: tim@prospectaccountants.com.au
PO Box 354 North Balwyn 3104

I may provide a management letter at the completion of the audit detailing any concerns arising out of the audit.


In addition, as part of my audit process, I may request from the Committee written confirmation concerning representations made to me in connection with the audit. I look forward to full co-operation with you and trust that you will make available to me any records, documentation and other information requested in connection with my audit.

My fees are based on the time required by the engagement plus direct out-of-pocket expenses.

This letter will be effective from the 2008 year end and for future years unless I advise you of any change in our arrangements.


Please sign and return the attached copy of this letter to indicate that this is in accordance with your understanding of our agreement.

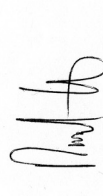
Yours Faithfully


Tim P Meehan
Prospect Accountants

Date: 10/4/09

X
.....
For the Geological Society of Australia
(Victorian Division)


STEPHEN GALLAGHER
Treasurer


CHARLES GSAV

GSAV BALANCE SHEET 2008

26/05/2009 9:00 AM

Balance Sheet
As at 31 December 2008

	2008	2007
	\$	\$
CURRENT ASSETS		
Cash at Bank NAB	17,982.49	23,607.38
Cash at Bank JB Were 440966	44,986.81	16,259.81
Trade Debtors		5,329.39
Other Debtors - Franking Credits Receivable	4,464.93	13,380.35
Interest Receivables		
Goldman Sachs JB Weir Deposits		238.40
Trust Distribution Receivable		
CFS Commonwealth Property Office Trust	1,150.00	1,150.00
Goodman Group	1,132.88	566.44
Australian Infrastructure Fund	380.88	299.36
Macquarie Communications Infr Group	337.26	337.26
Stock on Hand		
Extended abstracts: Selwyn Symposium 2008	608.00	
Selwyn Symposium 2007 (w/colour plates & figures)	1,530.00	114.00
Roadside Geology Melb-Ballarat	66.29	54,680.00
Geology of Victoria	48,375.00	54,680.00
	121,024.54	115,962.39
Investments (At Cost)		
NAB National Income Securities	15,355.41	21,287.50
Commonwealth Property Office Fund		25,045.00
Goodman Sach St Sec		15,262.92
St George Unsecured	19,266.00	20,108.79
Australian Infrastructure Fund Stapled Securities	22,454.83	10,467.00
Macquarie Communications Infr Group Stapled Securities		10,724.00
Shares in listed Companies		
Bendigo Bank Limited	22,968.00	22,480.88
Telstra Limited	27,993.47	24,158.28
BHP Billiton Ltd	34,945.12	28,039.50
AFC Ltd	23,008.75	25,824.41
Westpac	18,667.00	
Fosters Limited		12,348.09
National Australia Bank Ltd	12,688.09	26,211.92
	197,346.67	241,958.29
TOTAL ASSETS - NET ASSETS	318,371.21	357,920.68
Loss in value of investments/assets 2008	(39,548.79)	
MEMBERS FUND		
Member's fund	318,371.21	357,920.68

GSAV BALANCE SHEET 2008

26/05/2009 9:00 AM

Trading Statement for the Year ended 31 December 2008

	2008	2007
	\$	\$
SALES		
Sales and Publications	6386.9	5,144.39
	6386.9	5,144.39
Less Cost of Sales		
Opening Stock	54,794.00	61,939.00
	54,794.00	61,939.00
Closing Stock		
	50,579.29	54,794.00
	4,214.71	7,145.00
	2,172.19	(2,000.61)
Gross (Loss)/Profit	2,172.19	(2,000.61)

GSAV BALANCE SHEET 2008

26/05/2009 9:00 AM

Profit and Loss Statement for the Year ended 31 December 2008

	2008 \$	2007 \$
Income		
Advertising TVG	75	3,975.00
Capitation fees	4,170.00	9,953.54
Conference - Selwyn Symposium	7,293.13	
Dividends Received		
Macquarie Communications Infra Group	32.12	2,345.88
Bendigo Bank Limited	2,753.32	2,037.00
Teistra Ltd	2044.00	18,692.86
BHP Billiton Ltd	857.18	915.60
AFIC Ltd	944.89	5,539.34
Fosters	509.75	1,067.95
NAB	1,177.58	534.83
St George	1,189.13	
Westpac Bank Ord	792.00	
Franking Credits	4,484.93	13,380.35
Interest Received		
JB Were Deposit Notes	1,100.72	1,744.79
NAB National Income Securities	1,843.41	1,254.20
PBL Pans		429.50
Trust Distributions		
CFS Commonwealth Property Office Fund	1,150.00	2,367.50
Goodman Group	1,132.88	2,149.59
Australian Infra Fund	380.06	591.36
Macquarie Communications Infra Group	337.26	662.76
Profit (Loss) on Disposal of Investments	2,172.19	18,286.51
Gross Profit (Loss) from Trading	34,419.55	83,897.95
Expenditure		
Selwyn 2007	1631.93	
Auditors Remuneration		2,360.00
Audit @ review of financial reports	3,612.95	304.88
Bank Charges	475.20	16,552.78
Conference Expenses	12,265.46	2,024.23
Consultancy Fees (JB Were)	1,343.76	150.00
Database & website costs		881.18
Meeting Supplies etc.	322.71	1,882.00
Newsletter Printing	1,548.63	1,339.60
Newsletter Posting & Disbursements	1826.64	172.00
Postage, Printing @ Stationary	248.44	2,485.00
Prizes to students & grants	2,800.00	
	26,075.72	28,151.67
Profit before income tax	8,343.83	55,746.28
Profit after income tax	8,343.83	55,746.28

Page 3 of 4

GSAV BALANCE SHEET 2008

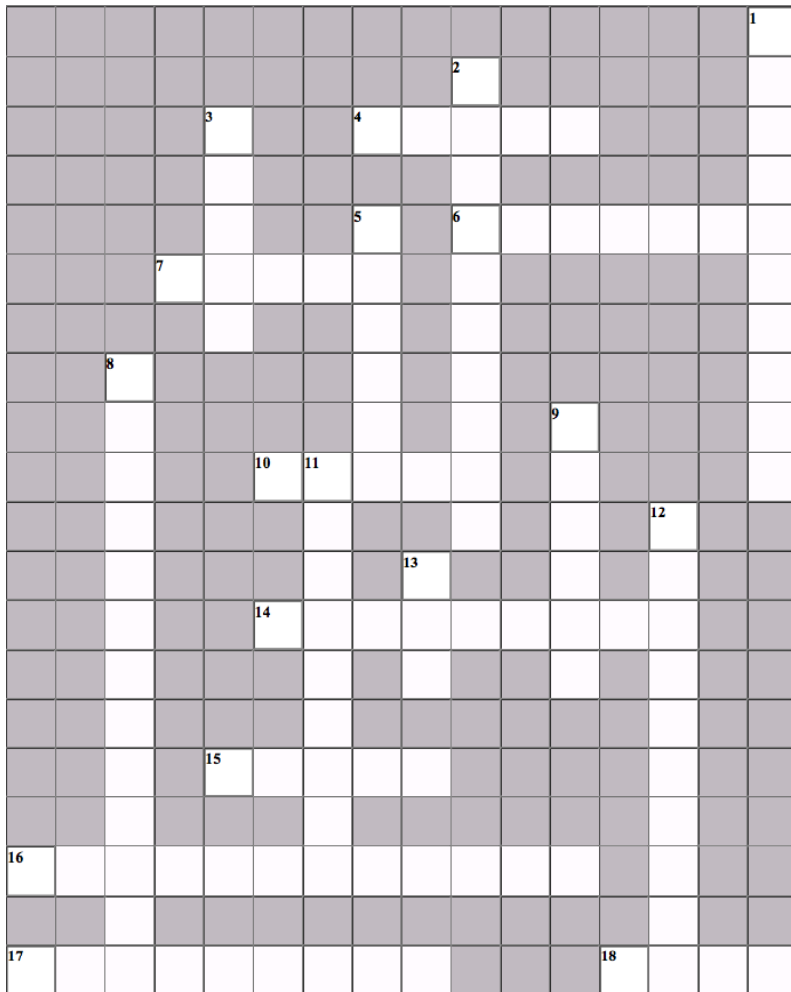
26/05/2009 9:00 AM

Statement of Appropriations
For the Year Ended 31 December 2008

	2008 \$	2007 \$
Member's funds - Beginning of Year	357,920.68	302,174.40
Loss in value of investments/assets 2008	(39,548.79)	
Profit before income tax	8,343.83	55,746.28
Income tax expense		
Profit after income tax	8,343.83	55,746.28
Member's Fund at 31 December 2008	326,715.72	357,920.68

Page 4 of 4

VICTORIAN GEOLOGY CROSSWORD



Down

1. The opal capital of the world (2 words)
2. The world's largest uranium mine (2 words)
3. Number 8 on the Moh's Hardness Scale
5. Lava Blisters found in the Harman Valley, western Victoria
8. Recreated 1850s Victorian Goldfields Township in Ballarat (2 words)
9. This mountain is Victoria's highest peak
11. The 'newest' period-level interval of geological time
12. This speleothem likes to hang around
13. GSA's quarterly magazine (initials)

Across

4. Whose gap is located in the Grampians?
6. The epoch between the Oligocene and Pliocene
7. Smallest natural island nation in the world known for its phosphate deposits
10. Bauxite is mined in this Far North Queensland location
14. Australia's first geopark
15. Marginal sea off the coast of Queensland
16. Striations commonly found along faults
17. The plain immediately north of the Great Australian Bight
18. The Hawaiian goddess of fire and volcanoes

For solution to this month's crossword see July issue

Joke of the month

A man goes into a restaurant, sits down and starts reading the menu. The menu says:

Broiled Accountant \$5.95 per plate
Fried Engineer \$7.95 per plate
Toasted Teacher \$7.95 per plate
Grilled Geologist \$25.95 per plate

The man calls a waiter over and asks "Hey, why does the Grilled Geologist cost so much more?"

The waiter says, "Are you kidding? Do you know how hard it is to clean one of them!?"

** Have a geology joke to share? Please send in your geology jokes to us at TVG!*

May Crossword Answers: Down. 1. Gippsland 3. Sandstone 5. Tabberabberan 6. Apostles 8. Lead 9. Fritz Loewe 12. Cranbourne 13. Selwyn 16. Buchan. Across. 2. Granite 4. Murray 7. Organ Pipes 10. Graptolite 11. Salt 14. Earthquake 15. Ollivine 17. Yallourn 18. Dights 19. Willson's 20. Scoria Cone

FORTHCOMING TALKS

to be presented at
GSA (Victoria Division) meetings

Note: unless otherwise indicated, all 2009 talks will be held in the
Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne.

-
- | | |
|--------------|---|
| 25 June | <p>2009 Howitt Lecture
Professor Roger Powell Why are island arcs where they are?</p> <p><i>Lecture to be held at the Royal Society of Victoria, 8 LaTrobe St Melbourne</i></p> |
| 30 July | TBA |
| 27 August | TBA |
| 24 September | <p>Selwyn Symposium Origin of the Australian Highlands
9 a.m. - 5:30 p.m.
<i>Symposium to be held in the Fritz Loewe Theatre - McCoy Building</i></p> <p>Selwyn Lecture 6:30 p.m. Free public lecture
Professor Cliff Ollier Theories of the Earth and Mountain Building
<i>Lecture to be held in the JH Mitchell Theatre - Richard Berry Building</i></p> |
| 29 October | <p>Peter G Baines Ash Clouds and climate consequences from
supervolcanic eruptions</p> |

FORTHCOMING CONFERENCES



The Society for Geology Applied to Mineral Deposits (SGA) and the Economic Geology Research Unit (EGRU) at James Cook University, in association with the Society of Economic Geologists (SEG), are delighted to invite all their members and others interested in economic

geology to participate in the 2009 conference to be held in Townsville, North Queensland, Australia, 17–20 August 2009. Sessions include: ore-forming processes, specific mineral systems, and new and frontier areas.

The general call for Abstracts has now closed, registration is now open

See the website for more details: <http://sga2009.jcu.edu.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	9658 4523
Treasurer:	Stephen Gallagher	8344 6513 (BH)

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Alison Fairmaid	8344 7672 (BH)
Erin Matchan	8344 7672 (BH)
David Moore	9858 4513 (BH)
Peter Hoiles	8344 7672 (BH)
Noel Schleiger	9435 8408
Lindsay Thomas	0427 354 828
Susan White	9328 4154

SUBCOMMITTEE

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Bicentennial Gold:	Gerhard Krummei	9820 2595
Education:	Noel Schleiger	9435 8408
Heritage:	Susan White	9328 4154
Newsletter:	Peter Hoiles	8344 7672
	Alison Fairmaid	8344 7672
Webmaster:	Lindsay Thomas	0427 354 828

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

First Friday of the month except Dec & Jan
p.hoiles@pgrad.unimelb.edu.au, or
a.fairmaid2@pgrad.unimelb.edu.au

GSA Inc - for membership and subscription enquiries or change of address, please contact Ms Sue Fletcher
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Melbourne VIC 3001

PRINT POST APPROVED



**The Royal Society of
Victoria**

And

**Geological Society of
Australia (Vic)**

**Joint Annual
AW Howitt Lecture**

Prof Roger Powell

BSc (*Dunelm*), DPhil (*Oxon*)

School of Earth Sciences
The University of Melbourne

**Why are island
arcs where they
are?**

**Thursday 25th June 2009
7.30pm**

**The Royal Society of Victoria
8 La Trobe Street
Melbourne**

**Pre-Lecture Refreshments from 6.30pm
Cost of refreshments \$20 pay on the night
RSVP essential by 12 noon 23rd June 2009**

to

rsv@sciencevictoria.org.au

or telephone (03) 96635259

ABSTRACT

The general story regarding island arc volcanism is well understood: fluid from the subducted slab fluxes partial melting in the mantle wedge above the subduction zone, and this then provides the magma to build the island arc. However there has not been a good explanation of why the volcanism is localised into an island arc, or why the arc is where it is. A recent compilation shows that the depth from island arc to the top of the subducted slab is in the range 65 to 130 km, but that there is no obvious correlation between this and for example angle of subduction or subduction rate. Up to now, the view has been that fluid is released from the subducted slab all the way down as it descends into the mantle, suggesting that such a slab process is not responsible for the localisation and position of the island arc. This view arose from experimental studies on the sort of rocks subducted. Our new work suggests that this experimental work is unreliable. Our approach has been to calculate what the mineral assemblages are in the subducted rocks, and to see when fluid is released from them. This shows that in fact fluid will be released from the slab at a depth where the temperature of the top of the slab enters a narrow window around 600C. Fluid is not predicted to be released from the slab all the way down. Slab processes look capable of accounting for the observations on localisation and position of island arcs.

A. W. HOWITT LECTURE, THURSDAY 25th JUNE, 2009 at 7.30 pm

SPEAKER: **PROFESSOR ROGER POWELL**, BSc (*Dunelm*), DPhil (*Oxon*)
School of Earth Sciences, The University of Melbourne

TOPIC: **WHY ARE ISLAND ARCS WHERE THEY ARE?**

RSVP 23rd JUNE A. W. HOWITT LECTURE

PRE-LECTURE REFRESHMENTS BOOKING Thursday, 25th June 2009

*I/we wish to attend the pre-meeting refreshments and enclose a cheque for \$.....
(\$20.00 per person). Credit Card payment below if preferred.*

Visa/Mastercard payment: Card No.

Name on card:

Expiry Date...../..... **Signature:**

Name: **Tel :**

THE VICTORIAN GEOLOGIST



July 2009

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2009
Thursday 30th July at 6:15 p.m.

The amazing Gogo fish fossils: 380 million year old fish fossils solving major problems in vertebrate evolution

Dr John Long

Museum Victoria

Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne

Preceded at 5.30 p.m. by drinks and nibbles in the tea-room, 4th floor, cost \$2.

The 380 million year old Gogo fish fossils of the Gogo Formation (Lennard Shelf, Western Australia) are preserved in 3-D perfect preservation, some including unique biomineralisation of muscles, nerve cells, microcapillaries and umbilical structures never before found in fossils of this age. The fauna is not only the world's best preserved but also the most diverse fish assemblage of this age, containing a wide range of armoured placoderms (ptyctodontids, antiarchs and arthrodirens), early ray-fins (actinopterygians), stem sarcopterygians (onychodont, coelacanth, dipnoans) and early tetrapodomorphs (fishes most closely related to land animals). Recent field work by Museum Victoria has turned up 3 new fish groups not previously found at the site: sharks, acanthodians and a coelacanth. Research on the fauna has in recent years given new insights into the evolution of lobe-finned fishes to land animals (Long et al., 2006), and on the origins of early vertebrate reproduction (Long et al., 2008, 2009, Ahlberg et al., 2009). Using the latest advanced imaging techniques (XCT tomography, synchrotron radiography) the Gogo fossils are taking palaeontology into a bold new era of cutting edge research. Current work focusses on muscle reconstruction in these extinct animals using synchrotron imagery and microhistology of Gogo placoderm bones.

Long, J., Young, G.C., Holland, T., Senden, T. & Fitzgerald, E.H. 2006. An exceptional Devonian fish from Australia sheds light on tetrapod origins. *Nature* 444: 199-201.

Long, J., Trinajstić, K., Young, G.C. & Senden, T. 2008. Live birth in the Devonian period. *Nature* 453: 650-652.

Long, J., Trinajstić, K. & Johanson, Z. 2009. Devonian arthrodire embryos and the origin of internal fertilisation in vertebrates. *Nature* 457: 1124-1126.

Ahlberg, P.E., Trinajstić, K., Johanson, Z. & Long, J. 2009. Pelvic claspers confirm chondrichthyan-like internal fertilisation in arthrodirens. *Nature*, AOP, July 13th 2009.

Dear Readers,

Welcome to the July edition of TVG! Consider lending a hand at the GSAV booth at the Geography Teacher's Conference - see the advertisement on page 3. Test your knowledge of the geological timescale with the crossword this month which can be found on page 6. Some of our members have written in to ask about geological items to buy and sell. Can you help them out? Check out the advertisements on page 4.

Enjoy!

Go-Green Campaign

The GSAV are doing their bit to help reduce paper use. If you would like to stop receiving a paper copy of The Victorian Geologist and instead receive your copy via email, simply log into your member profile at the Geological Society of Australia's website (www.gsa.org.au) and change your preferences. Visual instructions are given below:

The following steps illustrate how to change email preferences on the Geological Society of Australia website:

- Step 1: Welcome to the GSA Member area**
 The user is logged in as John Smith (Member No.: 123456). The 'more info' link in the top right navigation bar is circled with an arrow pointing to it.
- Step 2: Edit Information**
 After clicking 'more info', the 'Edit Information' page is shown. The 'Member Info' link in the left sidebar is circled with an arrow pointing to it.
- Step 3: Member Info**
 The 'Member Info' page is displayed. The 'Division Newsletter' dropdown menu is circled with an arrow pointing to it. The menu options are 'Hard Copy', 'Email Copy', and 'Hard Copy'.
- Step 4: Confirmation**
 The 'Email Copy' option is selected in the dropdown menu.

Geography Teacher's Association of Victoria Conference

CALL FOR VOLUNTEERS TO HELP WITH GSAV BOOTH



43rd ANNUAL CONFERENCE

23-25 August, 2009

Sacred Heart Girl's College
113 Warrigal Rd
Oakleigh

The GTAV conference is aimed at assisting teachers in exploring many key issues and topics and the theme of this year's conference is 50 years on: Geography has the world in focus. The Victorian Division of the GSA will have a table displaying rock specimens and fact sheets, with the aim of promoting geology (and the GSAV!) and making it feature more prominently in schools.

Delegates will be at the venue on Sunday and Monday (Tuesday is a field trip day).

If you would like to lend a hand at the table on either Sunday or Monday (or both), or would like more information, please contact Noel Schleiger on (03) 9435 8408 or email secretary@vic.gsa.org.au

See also GTAV website: <http://www.gtav.asn.au/index.htm>

BICENTENNIAL GOLD 88 ENDOWMENT

The Trustees of the Australasian Institute of Mining and Metallurgy Education Endowment Fund are pleased to announce that the twenty-first round of financial awards from **The Bicentennial Gold 88 Endowment** will be made in the year 2010 for the advancement of education and research in Earth Sciences for the benefit of Economic Geology in Australia.

AusImm
AUSTRALASIAN INSTITUTE OF MINING & METALLURGY

In the year 2010, 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 and 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.

Please address your applications to:

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



Applications close on Wednesday 30th September 2009

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

MEMBER CONTRIBUTIONS

Wanted to buy:

Second-hand Sensor Head for a Geometrics G856 Magnetometer

GSAV member Steven Cooper is seeking to purchase second-hand **Sensor Head** for a **Geometrics G856 Magnetometer**. If any fellow member can help out in locating this piece of equipment please contact Steven.

Email: StevenACooper@orogenic.com.au

Phone: 0428 100 995.

We hope you can help!

For Sale:

Map cabinet and map collection

GSAV member Nick Kempton has a collection of maps for sale:

PLANEX vertical map storage cabinet with hangers and safety feet, including miscellaneous geological maps and more than 100 lithographed parish geological maps of Victoria at 40 chains: 1 inch mostly surveyed in the 1920's by such State geologists as Dunn, Caldwell, Foster, Easton, Selwyn, Krause, Ferguson and RAF Murray.

Included in the sale are numerous Mines Department reports, key maps and private geological reports.

Contact Nick Kempton for further information:

Phone: 98172700

Mobile: 0412 106 150

Email: nkempton@optusnet.com.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 Peter Hoiles at p.hoiles@pgrad.unimelb.edu.au

We'd be glad to hear from you

For those of you interested in global data mapping...

Tracking the progress of H1N1 ‘swine’ flu

A map showing the distribution of worldwide swine flu cases and the data behind it were compiled by Dr. Henry Niman, a biomedical researcher in Pittsburgh, Pennsylvania, using technology provided by Rhiza Labs and Google. The map is compiled using data from official sources, news reports and user-contributions and updated multiple times per day.

Check it out at <http://flutracker.rhizalabs.com/>

FORTHCOMING CONFERENCES AND EVENTS

Museum Exhibition

A day in Pompeii

Currently on display at the Melbourne Museum is an exhibition exploring daily life in Pompeii, before the devastating eruption of Mount Vesuvius in 79AD.



“The catastrophic eruption of Mount Vesuvius on 24 August 79 AD produced a vast storm of pumice and volcanic ash that buried the town of Pompeii. Like a time capsule, the town – its businesses and homes, gardens and shops – was encased for almost 2,000 years.”

The exhibition is on until the 25th of October 2009.

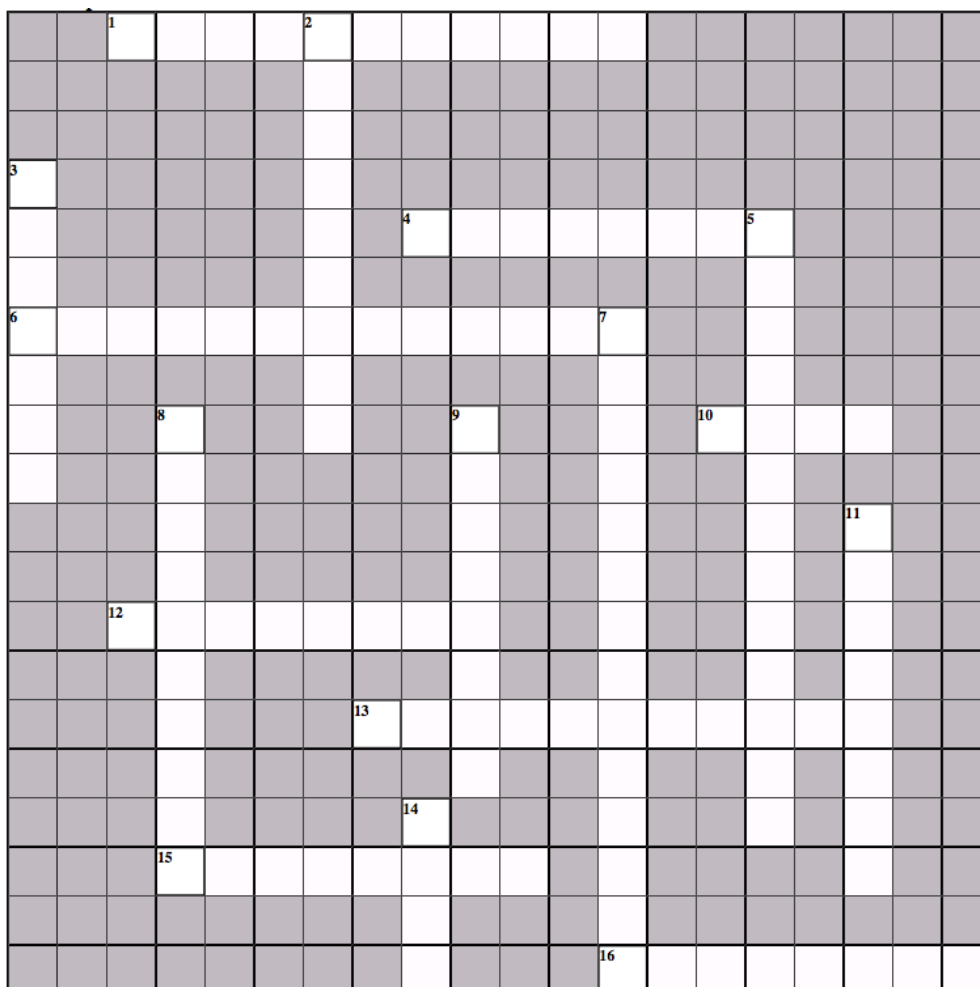
Visit the Melbourne Museum at www.museumvictoria.com.au



The Society for Geology Applied to Mineral Deposits (SGA) and the Economic Geology Research Unit (EGRU) at James Cook University, in association with the Society of Economic Geologists (SEG), are delighted to invite all their members and others interested in economic geology to participate in the 2009 conference to be held in Townsville, North Queensland, Australia, 17–20 August 2009. Sessions include: ore-forming processes, specific mineral systems, and new and frontier areas. Registration is now open

See the website for more details: <http://sga2009.jcu.edu.au/>

GEOLOGICAL TIMESCALE CROSSWORD



For solution to this month's crossword see August issue

Down

2. The end of the Cretaceous occurred approximately how many years ago? (2 words)
3. The last epoch of the Palaeozoic
5. The 'Mississippian' is an epoch of this Period
7. The Marinoan and Sturtian glacials occurred in which Era?
8. This Period is often abbreviated to 'K' for the German word 'Kreide'
9. The age of the fishes
11. The most recent of Epochs
14. What does the suffix '-zoic' mean?

Across

1. The Jaramillo reversal belongs in this Epoch
4. The world's largest mass extinction event forms the start of this Period
6. What is the last stage of the Mesozoic?
10. The Cisuralian is divided into how many Stages?
12. The 'explosion of life' occurred in this Period
13. The current eon
15. This Period is named after a Celtic tribe of Wales
16. Meaning 'recent life', what is the Cainozoic also known as?

THOUGHT-PROVOKING QUOTE: "volcanoes are mountains with the hiccups"

June Crossword Answers Down: 1. Coober Pedy 2. Olympic Dam 3. Topaz 5. Tumuli 8. Sovereign Hill 9. Bogong 11. Ediacaran 12. Stalactite 13. TAG. **Across:** 4. Halls 6. Miocene 7. Nauru 10. Weipa 14. Kanawinka 15. Coral 16. Shickensides 17. Nullabor 18. Pele

FORTHCOMING TALKS
to be presented at
GSA (Victoria Division) meetings

Note: unless otherwise indicated, all 2009 talks will be held in the
Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne.

30 July	Dr John Long	The amazing Gogo fish fossils: 380 million year old fish fossils solving major problems in vertebrate evolution
27 August	TBA	
24 September	Selwyn Symposium	Origin of the Australian Highlands 9 a.m. - 5:30 p.m. <i>Symposium to be held in the Fritz Loewe Theatre - McCoy Building</i>
	Selwyn Lecture Professor Cliff Ollier	6:30 p.m. Free public lecture Theories of the Earth and Mountain Building <i>Lecture to be held in the JH Mitchell Theatre - Richard Berry Building</i>
29 October	Peter G Baines	Ash Clouds and climate consequences from supervolcanic eruptions

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

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Chair:	David Cantrill	9252 2301 (BH)
Vice-chair:	position vacant	
Secretary:	Adele Seymon	9658 4523 (BH)
Treasurer:	Stephen Gallagher	8344 6513 (BH)

COMMITTEE

Alison Fairmaid	8344 7672 (BH)
Erin Matchan	8344 7672 (BH)
David Moore	9858 4513 (BH)
Peter Hoiles	8344 7672 (BH)
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SUBCOMMITTEE

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Bicentennial Gold:	Gerhard Krummei	9820 2595
Education:	Noel Schleiger	9435 8408
Heritage:	Susan White	9328 4154
Newsletter:	Peter Hoiles	8344 7672
	Alison Fairmaid	8344 7672
Webmaster:	Lindsay Thomas	0427 354 828

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

First Friday of the month except Dec & Jan
p.hoiles@pgrad.unimelb.edu.au, or
a.fairmaid2@pgrad.unimelb.edu.au

GSA Inc - for membership and subscription enquiries or change of address, please contact Ms Sue Fletcher

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Email: sue@gsa.org.au Tel: (02) 9290 2194 Fax: (02) 9290 2198

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Melbourne VIC 3001

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THE VICTORIAN GEOLOGIST



August 2009

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2009
Thursday 27th August at 6:15 p.m.

Magma recharge and ascent preceding the supervolcanic Cerro Galan eruption, Argentina

Dr Heather Wright

Monash University

Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne

Preceded at 5.30 p.m. by drinks and nibbles in the tea-room, 4th floor, cost \$2.

The eruptibility of magma is a fundamental question in volcanology. For large, highly crystalline silicic magma bodies, we are prompted to ask – what critical factors trigger an eruption? Distinct pumice populations in the ~2.56 Ma Cerro Galan ignimbrite, Argentina, may hold a clue to the onset of eruptive activity. We interpret compositional and textural variations to indicate distinct magma batches, where grey magma is an originally deeper, more volatile-rich dacite recharge magma that ascends through and mingles with the volumetrically dominant, more highly crystalline white chamber. Shortly before eruption, the grey magma stalled within shallow fractures, forming a vanguard magma phase whose ascent may have provided a trigger for eruption of the highly crystalline rhyodacite magma. Thus we suggest that, at least in the case of the Cerro Galan eruption, grey pumice provides evidence not only for cryptic silicic recharge in a large caldera system but also a probable trigger for the eruption.

Geography Teacher's Association of Victoria Conference

CALL FOR VOLUNTEERS TO HELP WITH GSAV BOOTH



43rd ANNUAL CONFERENCE

23-25 August, 2009

Sacred Heart Girl's College
113 Warrigal Rd
Oakleigh

The GTAV conference is aimed at assisting teachers in exploring many key issues and topics and the theme of this year's conference is 50 years on: Geography has the world in focus. The Victorian Division of the GSA will have a table displaying rock specimens and fact sheets, with the aim of promoting geology (and the GSAV!) and making it feature more prominently in schools.

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See also GTAV website: <http://www.gtav.asn.au/index.htm>

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Please address your applications to:

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



Applications close on Wednesday 30th September 2009

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

FORTHCOMING EVENTS

Melbourne Museum Science Week Seminar

Science Matters: collections, research and the public

Museums Australia (Victoria) in partnership with Museum Victoria, is presenting a full day seminar on the significance of our diverse science collections and how they impact a broad audience.

The purpose of this seminar is to bring together scientists, curators and educators from collecting and research organisations to discuss the diversity of science collections and they can be used to foster a greater understanding and awareness of the relevance of science to the wider community. Guest speakers include our very own Prof David Cantrill

Date: Friday 21 August

Time: 9.30am-5pm

Venue: Treetops room, Melbourne Museum, First Floor

Cost: \$50 members, \$100 non-members

Morning tea, lunch and afternoon tea included

Events can be booked by downloading a booking form on www.mavic.asn.au or contact Dimity on 03 8341 7344

Melbourne Museum, Carlton Gardens

PO Box 385, Carlton South, VIC, 3053

web: www.mavic.asn.au

Upcoming University Open Days**The University of Melbourne:**

16 August 2009 10-4pm

<http://openday.unimelb.edu.au/>**La Trobe University:**Melbourne (Bundoora) - Sunday 30 August,
10am-4pm<http://www.latrobe.edu.au/openday/bundoora>**RMIT:**

Sunday 9 August

<http://www.rmit.edu.au/programs/openday>**University of Ballarat**

Sunday August 30

[http://www.ballarat.edu.au/aasp/student/
recruitment/open_day](http://www.ballarat.edu.au/aasp/student/recruitment/open_day)**Swinburne University of Technology:**

16 August 2009

<http://www.swinburne.edu.au/openday/>**Deakin University (Burwood):**

Sunday 23 August

<http://www.deakin.edu.au/openday/>

WELCOME TO OUR NEW MEMBERS

Mark Kendrick

Peter Arditto

Mark Rynhoud



INTERESTING TID-BITS

World's Biggest Cave Found in Vietnam*James Owen*

for National Geographic News

July 24, 2009

A massive cave recently uncovered in a remote Vietnamese jungle is the largest single cave passage yet found, a new survey shows. At 262-by-262 feet (80-by-80 meters) in most places, the Son Doong cave beats out the previous world-record holder, Deer Cave in the Malaysian section of the island of Borneo.

Deer Cave is no less than 300-by-300 feet (91-by-91 meters), but it's only about a mile (1.6 kilometers) long. By contrast, explorers walked 2.8 miles (4.5 kilometers) into Son Doong, in Phong Nha-Ke Bang National Park, before being blocked by seasonal floodwaters—and they think that the passage is even longer.

In addition, for a couple of miles Son Doong reaches more than 460-by-460 feet (140-by-140 meters), said Adam Spillane, a member of the British Cave Research Association expedition that explored the massive cavern. Spillane was in the first of two groups to enter the cave. His team followed the passage as far as a 46-foot-high (14-meter-high) wall. "The second team that went in got flooded out," he said. "We're going back next year to climb that wall and explore the cave further."

A local farmer, who had found the entrance to the Son Doong cave several years ago, led the joint British-Vietnamese expedition team to the cavern in April. The team found an underground river running through the first 1.6 miles (2.5 kilometers) of the limestone cavern, as well as giant stalagmites more than 230 feet (70 meters) high.

See <http://news.nationalgeographic.com/news/2009/07/090724-biggest-cave-vietnam.html>

Photograph from BARM/Fame Pictures

**Museum Exhibition - A day in Pompeii**

Currently on display at the Melbourne Museum is an exhibition exploring daily life in Pompeii, before the devastating eruption of Mount Vesuvius in 79AD.



"The catastrophic eruption of Mount Vesuvius on 24 August 79 AD produced a vast storm of pumice and volcanic ash that buried the town of Pompeii. Like a time capsule, the town – its businesses and homes, gardens and shops – was encased for almost 2,000 years."

The exhibition is on until the 25th of October 2009.

Visit the Melbourne Museum at www.museumvictoria.com.au



In September 2007, Capricorn Tourism, the Regional Tourism Organisation, was successful in its Australian Tourism Development Program (ATDP) federal funding grant for the 'Dig the Tropic; Outback to the Reef' project. This project aims to position the region as a world leader in Geotourism – defined as tourism that sustains or enhances the geographical character of a place – its environment, culture, aesthetics, heritage and the well-being of its residents.

The purpose of the Dig the Tropic ATDP project is to extend the length of stay and distance travelled by existing domestic travellers along the Tropic of Capricorn from Yeppoon to Boulia; and use the geotourism experiences and overall geotourism theme as a unique selling point for encouraging visitation to the region and create motivation to travel between points of interest.

About the Tropic of Capricorn:

The Tropic of Capricorn is one of Earth's major circles of latitude, running through Australia, Chile, Southern Brazil, and South Africa. It lies 23.5 degrees south of the equator and marks the most southerly latitude at which the sun can appear directly above at midday. Sweeping through Queensland, the Tropic of Capricorn reveals a host of geological wonders showcasing the results of drastic climate change over times.

Take a geo journey back to Gondwanaland, when Australia was part of a colossal southern continent crawling with extraordinary creatures. As the earth shifted in a gradual, sensational, evolution of the land, Queensland edged closer to its current position along the Tropic of Capricorn. Discover spectacular landscapes that whisper of another world- reminding us that true beauty does indeed come from beneath.

Visit <http://www.digthetropic.com.au/> for more information



Earth Science Week 2009

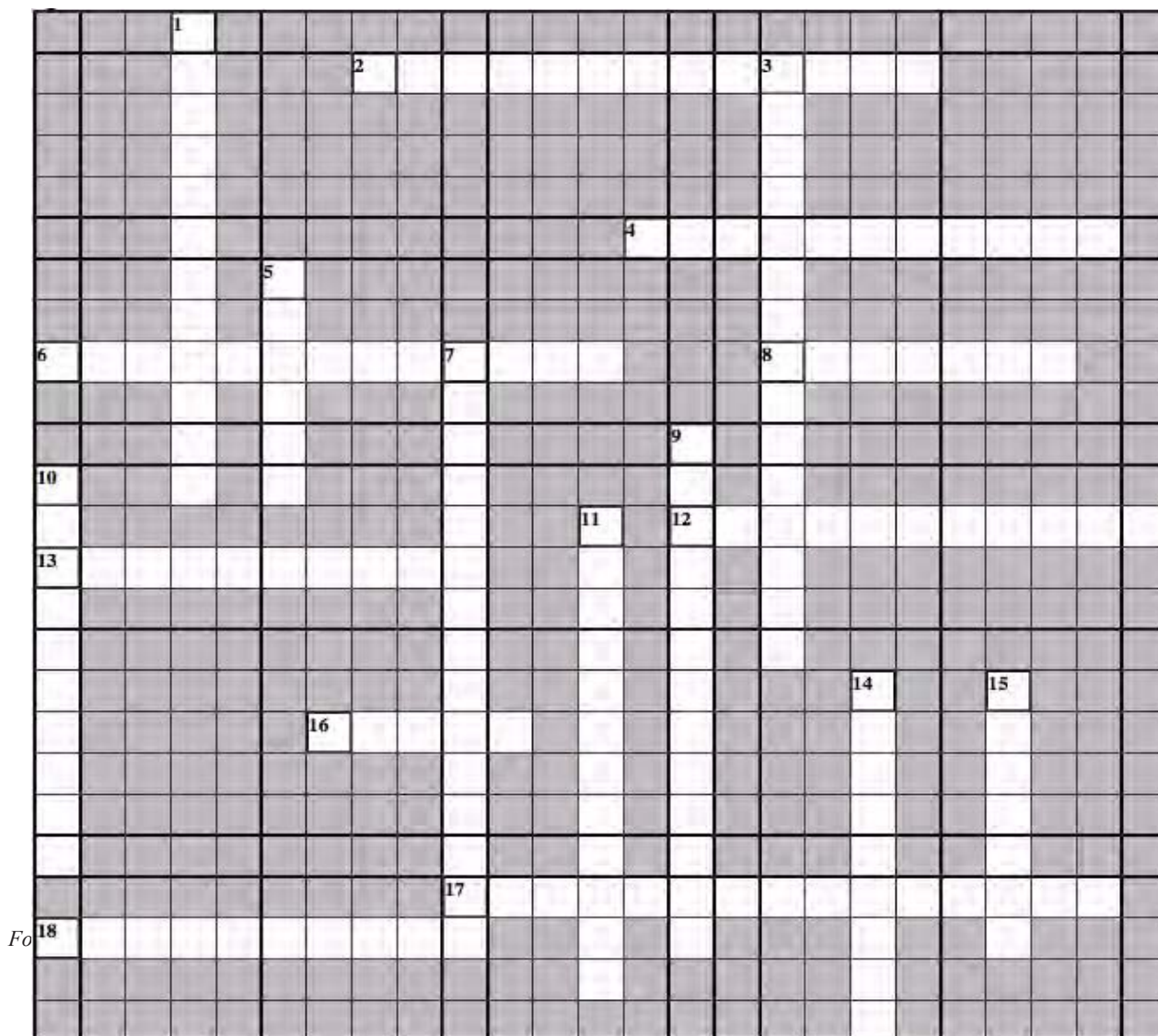
AGI invites you to take part in Earth Science Week 2009! Being held October 11-17, Earth Science Week 2009 will encourage people everywhere to explore the natural world and learn about the geosciences.

“Understanding Climate,” the theme of Earth Science Week 2009, will promote scientific understanding of a timely, vital topic: Earth's climate.

Visit the website for more information: <http://www.earthsciweek.org/>

See what Geoscience Australia has planned: <http://www.ga.gov.au/education/events/science-week/index.jsp>

GEOLOGIST'S CROSSWORD



Down

1. This person loves to find hidden things using gadgets
3. This person loves things that are dead
5. This geologist extracts minerals and ore from rock!
7. This type of person studies landforms
9. This person studies currents and loves to go on cruises
10. This type of geologist loves a good strike and dip in the morning
11. This geologist studies the propagation of seismic waves in geological materials
14. This geologist loves oil
15. This type of geologist loves mining in open spaces (2 words)

Across

2. This geologist studies temporal and physical relationships between layers
4. This type of geologist loves mining in dark and warm places
6. This geologist specialises in volcanoes!
8. This geologist educates people about the wonders of geology
12. This geologist relates geological sciences to engineering
13. This geologist spends a lot of time figuring things out - or at least pretends to
16. This type of geologist spends a lot of time with drilling rigs and exploring
17. This geologist studies depositional processes of sediments
18. This person studies the chemistry of rocks

July Crossword Answers Down: 2. Sixty Five 3. Permian 5. Carboniferous 7. Neoproterozoic 8. Cretaceous 9. Devonian 11. Holocene 14. Life Across: 1. Pleistocene 4. Triassic 5. Maastrichtian 10. Four 12. Cambrian 13. Phanerozoic 15. Silurian 16. Cenozoic

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to be presented at
GSA (Victoria Division) meetings

Note: unless otherwise indicated, all 2009 talks will be held in the
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- | | | |
|--|---|---|
| 27 August | Heather Wright | Magma recharge and ascent preceding the
supervolcanic Cerro Galan eruption, Argentina |
| 24 September Selwyn Symposium | | |
| | | Origin of the Australian Highlands
9 a.m. - 5:30 p.m.
<i>Symposium to be held in the Fritz Loewe Theatre - McCoy Building</i> |
| | Selwyn Lecture
Professor Cliff Ollier | 6:30 p.m. Free public lecture
Theories of the Earth and Mountain Building

<i>Lecture to be held in the JH Mitchell Theatre - Richard Berry Building</i> |
| 25 September *Special Seminar* Combined GSA and SEG Seminar | | |
| | Graham Begg | Connecting Geodynamics with Copper and Gold
Ore Systems.
<i>Lecture Theatre S11, Building 25, Monash University, Clayton</i> |
| 29 October Peter G Baines | | |
| | | Ash Clouds and climate consequences from
supervolcanic eruptions |

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Newsletter deadline

First Friday of the month except Dec & Jan
p.hoiles@pgrad.unimelb.edu.au, or
a.fairmaid2@pgrad.unimelb.edu.au

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Melbourne VIC 3001

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The Geological Society of Australia Victoria Division
invites you to the

SELWYN SYMPOSIUM 2009

Thursday 24th September 2009

the Fritz-Loewe Theatre, McCoy Building, Earth Sciences
at the University of Melbourne

www.vic.gsa.org.au

Origin of the Australian Highlands

The apparently quiescent continent of Australia lies near the middle of a plate yet there are many mountain ranges and highlands, in particular along the eastern seaboard. The origin and timing of these enigmatic features is subject to considerable debate. This symposium brings together leading researchers in thermochronology, geochronology, stratigraphy and geomorphology to discuss the timing and nature of uplift in southeast Australia.

PROGRAM

Selwyn Symposium @ the Fritz-Loewe Theatre (8-9.00 am registration; 9.00 am-5.30 pm symposium)

Presenters: Prof. Mike Sandiford, Melbourne University (Plenary address), Dr. Guy Holdgate, Melbourne University, Prof Cliff Ollier, Univ. of Western Australia, Prof. Andrew Gleadow, Melbourne University, Dr Ian Duddy & Dr Paul Green Geotrack International, Dr Fons Vandenberg, DPI Victoria, Prof Graham Taylor, Canberra University, Prof Ian McDougall, ANU, Dr. Max Brown, Canberra, Dr. Ian Roach, ANU, Assoc. Prof. John Webb, Latrobe University, Dr. Colin Pain, Geoscience Australia.

Selwyn Lecture @ the JH Mitchell theatre – Richard Berry Building @ 6.30 pm

by Professor Cliff Ollier, University of Western Australia:

“Theories of the Earth and Mountain Building”

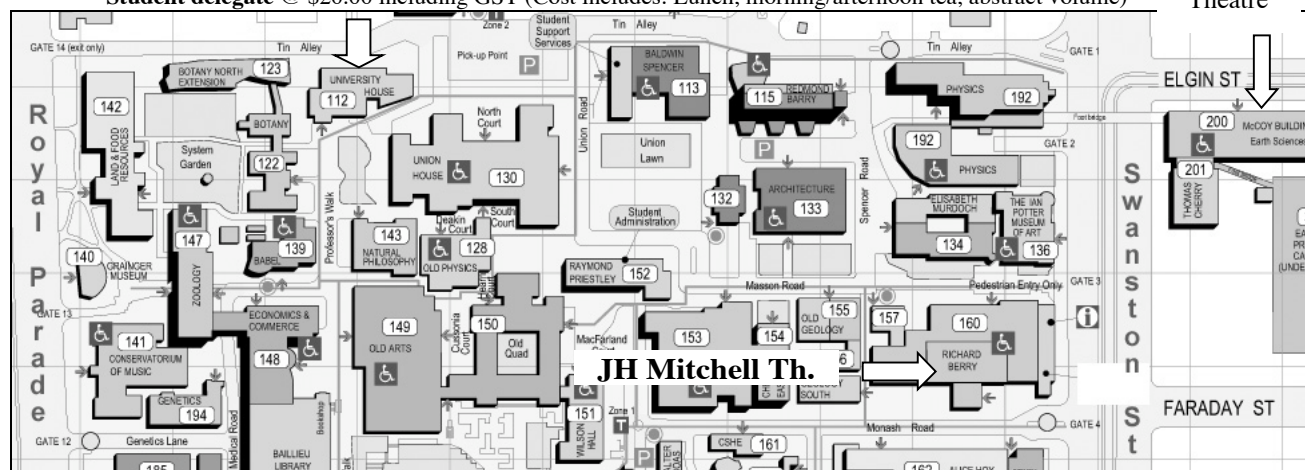
Symposium Conveners: Assoc. Prof Stephen Gallagher, Assoc. Prof. Malcolm Wallace, Dr Guy Holdgate & Dr Martin Norvick, the University of Melbourne.

Email: sjgall@unimelb.edu.au (RSVP)

Cost: Full delegate @ \$120.00 including GST Retired delegate @ \$50.00 including GST

Student delegate @ \$20.00 including GST (Cost includes: Lunch, morning/afternoon tea, abstract volume)

Fritz
Loewe
Theatre



The Selwyn Symposium of the Geological Society of Australia (Victoria Division)

c/- Assoc Prof Stephen Gallagher School of Earth Sciences, University of Melbourne, Victoria 3010.

BOOKING FORM for the Selwyn Symposium on Thursday 24 September 2009: I/we wish to attend & enclose a cheque for \$..... payable to The Geological Society of Australia (Victoria Division). Credit Card payment below if preferred. Cost: \$120 for full delegates; \$50 retirees; \$20 for full time students. (all costs GST inclusive)

VisaCard / Mastercard No. _____

Name on card: _____

Expiry Date: ____ / ____

Signature: _____

Name & affiliation: _____ email: _____ Tel: _____

Please select the event you wish to attend:

I/we will be attending the Selwyn Symposium []

I/we will be attending the FREE Selwyn Lecture [] (RSVP: sjgall@unimelb.edu.au to guarantee a seat)

I/we wish to go to the Selwyn Dinner @ 8.15pm [] for \$65 (GST inclusive); 3 course dinner at University House (includes beverages), places limited, booking essential.



The Geological Society of Australia Victoria Division

SELWYN SYMPOSIUM 2009

Thursday 24th September 2009

Fritz-Loewe Theatre, McCoy Building, Earth Sciences

University of Melbourne

Origin of the Australian Highlands

PROGRAM

8.00-9.00	Symposium registration	
9.00-9.05	Introduction: Assoc Prof Malcolm Wallace, The University of Melbourne	
9.05-9.10	Opening address: Professor Peter Rathjen, Deputy Vice Chancellor (Research) The University of Melbourne	
9.10-9.50	Plenary Address: Prof Mike Sandiford The University of Melbourne	Tectonic signals in an ancient landscape
9.50-10.15	Prof Ian McDougall Australian National University	Constraints on the evolution of the SE Australian Highlands from K-Ar dating of basalts
10.15-10.40	Dr Ian Roach Australian National University	Mesozoic-Cenozoic volcanism in eastern Australia and its implications for long-term landscape evolution
10.40-11.10	Morning Tea	
	Chairs of session: Dr Max Brown & Dr Colin Pain	
11.10-11.35	Prof Andrew Gleadow The University of Melbourne	Low temperature thermochronology and the origin SE Australian Highlands – seeing an elephant in the dark?
11.35-12.00	Prof Cliff Ollier University of Western Australia	Overseas Analogues of Eastern Highland Morphotectonics
12.00-12.25	Dr Paul Green Geotrack International, Melbourne	Why are there mountains in southeastern Australia, or Norway, or West Greenland, or Brazil, or Scotland, or ?
12.25-12.50	Assoc Prof John Webb Latrobe University	The significance of peneplains in the uplift history of the Southeastern Australian Highlands
12.50-2.00	Lunch	
	Chairs of session: Prof Ian McDougall & Dr Paul Green	
2.00-2.25	Mr Fons Vandenberg, DPI Victoria	Evidence for major mid-Cretaceous uplift of the Eastern Uplands
2.25-2.50	Dr Guy Holdgate The University of Melbourne	No mountains to snow on – palaeoenvironments of the deep lead valleys in a low-altitude peneplain – today Victoria's highlands
2.50-3.15	Dr Max Brown Canberra	Cenozoic tectonics and volcanism and major changes in drainage and divides in southeast Australia - the Shoalhaven catchment and other examples
3.15-3.40	Prof Graham Taylor Canberra University	Geomorphic evidence for highland movement from the Monaro and far north Queensland
3.40-4.10	Afternoon tea	
	Chairs of session: Dr Guy Holdgate & Mr Fons Vandenberg	
4.10-4.35	Assoc Prof Bernie Joyce The University of Melbourne	The origin and development of the West Victorian Uplands: a different story to the rest of the Australian Highlands
4.35-5.00	Dr Ian Duddy Geotrack International, Melbourne	Origin of the Australian Highlands
5.00-5.25	Dr Colin Pain Geoscience Australia	Morphology of the Eastern Highlands and Implications for Landscape Evolution
5.25-6.30	Drinks & refreshments	
6.30-6.45	Selwyn Medal presentation to E.B. Joyce, at the JH Mitchell Theatre – Richard Berry Building, The University of Melbourne	
6.45-8.00	GSA VIC SELWYN LECTURE By Prof Cliff Ollier University of Western Australia	Theories of the Earth and Mountain Building
8.15-	Selwyn Dinner	At University House, The University of Melbourne

Symposium Summary: The apparently quiescent continent of Australia lies near the middle of a plate yet there are many mountain ranges and highlands, in particular along the eastern seaboard. The origin and timing of these enigmatic features has been subject to considerable debate, ever since Andrews* (1910) assigned a Pliocene (5-2 million year old) age to the Southeastern Highlands – the “Kosciuszko Uplift event”. Some researchers suggest that most highland relief was present by the Cretaceous. Others believe Cainozoic uplift created most of the mountains. This symposium brings together leading researchers in thermochronology, geochronology, stratigraphy and geomorphology to discuss the timing and nature of uplift in southeast Australia.

*Andrews E.C., 1910. *Jl of the Proc. Royal Soc. NSW* **44**, 420-480.

THE VICTORIAN GEOLOGIST



September 2009

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

The Selwyn Symposium 2009

Origin of the Australian Highlands

Thursday 24 September

9:00 am-5:00 pm (registration commences at 8:00 am)
Fritz-Loewe Theatre, The University of Melbourne

followed by

The Selwyn Lecture

Professor Cliff Ollier
University of Western Australia

Theories of the Earth and Mountain Building

6:45 pm, JH Mitchell Theatre – Richard Berry Building,
The University of Melbourne

Cost (includes lunch, morning and afternoon tea, abstract volume, and GST)

Full delegate: \$120

Retired delegate: \$50

Student delegate: \$20

to download registration form go to: <http://www.vic.gsa.org.au/Selwyn/symposium.htm>



2009 Selwyn Symposium

24th September

Origin of the Australian Highlands

Detailed Program

- 8:00-9:00 Symposium Registration
 9.05 Introduction and opening address: Assoc Prof Malcolm Wallace and Prof Peter Rathjen
 9.10-9.50 **Plenary Address:** Prof Mike Sandiford, The University of Melbourne
Tectonic signals in an ancient landscape
 9.50-10.15 Prof Ian McDougall, Australian National University
Constraints on the evolution of the highlands of southeast Australia from K-Ar dating of volcanic rocks
 10.15-10.40 Dr Ian Roach, Australian National University
Mesozoic-Cainozoic volcanism in eastern Australia and its implications for long-term landscape evolution
 10.40-11.10 Morning Tea

Chairs of session: Dr Max Brown & Dr Colin Pain

- 11.10-11.35 Prof Cliff Ollier, University of Western Australia
Overseas Analogues of Eastern Highland Morphotectonics
 11.35-12.00 Dr Paul Green, Geotrack International, Melbourne
Why are there mountains in southeastern Australia, or Norway, or West Greenland, or Brazil, or Scotland, or ?
 12.00-12.25 Assoc Prof John Webb, Latrobe University
The significance of peneplains in the uplift history of the Southeastern Australian Highlands
 12.25-12.50 Mr Fons Vandenberg, DPI Victoria
Palaeogene basalts prove early uplift of Victoria's Eastern Uplands
 12.50-1.10 Discussion & forum
 1.10-2.00 Lunch

Chairs of session: Prof Ian McDougall & Dr Paul Green

- 2.00-2.25 Dr Guy Holdgate, The University of Melbourne
No mountains to snow on: palaeoenvironments of the deep lead valleys in a low-altitude peneplain –today's Victorian Highlands
 2.25-2.50 Dr Max Brown, Canberra
Cainozoic tectonics and volcanism and major changes in drainage and Divides in southeast Australia - the Shoalhaven catchment & other examples
 2.50-3.15 Prof Graham Taylor, Canberra University
Some geomorphic and geological evidence for the age of the eastern Australian

-
- Highlands*
- 3.15-3.40 Assoc Prof Bernie Joyce, The University of Melbourne
The origin and development of the West Uplands of Victoria: a different story to the rest of the Australian Highlands
- 3.40-4.00 Discussion & forum
- 4.00-4.30 *Afternoon tea*
- Chairs of session: Dr Guy Holdgate & Mr Fons Vandenberg**
- 4.30-4.55 Dr Ian Duddy, Geotrack International, Melbourne
Origin of the Australian Highlands
- 4.55-5.20 Dr Colin Pain, Geoscience Australia
Morphology of the Eastern Highlands of Australia
- 5.20-5.40 Discussion & forum
- 5.40-6.30 *Drinks & refreshments*
- 6.30-6.45 Selwyn Medal presentation to Associate Professor Bernie Joyce at the JH Mitchell Theatre – Richard Berry Building, The University of Melbourne for nominations
- 6.45-8.00 GSA VIC SELWYN LECTURE By Prof Cliff Ollier, University of Western Australia
Theories of the Earth and Mountain Building
- 8.15- *Selwyn Dinner* University House, the University of Melbourne

REPORTS FROM MEMBERS

GSAV at the 2009 GTAV Conference

Noel Schleiger

The Annual conference of the Geography Teacher's Association of Victoria was held at the Sacred Heart Girl's Secondary College at 113 Warrigal Rd, Oakleigh on the weekend 23-24th August. The Geological Society of Australia (Victoria Division) staffed a booth, offering teachers advice and assistance.

Most popular were the "factite" sheets on Earthquakes, Tsunamis, Volcanoes, Gold, Silver, Iron etc. Some teachers showed interest in the local geology where they lived or taught, especially the geomorphology.

The Society thanks Leon Costermans and Russell Wilk for their help on Sunday. Tony Morey and I staffed the booth on Monday. I also appreciated Tony's help in setting up on the Saturday and again for packing up on the Monday after lunch. Dr. Stephen Gallagher supplied several boxes of most useful handout material for the conference, which was very much appreciated.

AWARDS

2009 Selwyn Medal Winner

E. B (Bernie) Joyce



The Selwyn Medal is named in honour of Sir Alfred Selwyn, an eminent Victorian pioneering geologist and founder of the Geological Survey of Victoria. It is awarded, usually yearly, to recognise significant ongoing or former contributions of high calibre to any field of Victorian geology. A candidate for this medal should have made a major contribution to new knowledge of the geology of Victoria, or a significant reinterpretation of it based on critical observations, or has contributed importantly to a major mineral or oil discovery, or have produced important geological publications or have been involved successfully in the development of the geological profession.

The following paragraph contains some excerpts from the citation support statement submitted by Douglas McCann and Roger Pierson. The full statement can be read in the Selwyn Symposium Abstracts Volume.

Bernie Joyce has made significant fresh contributions to Victorian geology – including geomorphology, regolith, volcanology, natural disaster assessment, geological heritage and history of geology – over a career spanning some 45 years. For 40 years he has studied the Newer Volcanics of Victoria, producing a number of research papers and field guides and supervising many student projects. He has also worked on regolith landform mapping of the Western Victorian volcanic plains, and produced an assessment of volcanic risk and hazard in southeastern Australia.

He is the former Chair of the Australian Heritage Commission Natural Evaluation Panel (Victoria), and is currently a member of the National Trust (Victoria) Landscape Committee. He was the Convenor of the national Standing Committee for Geological Heritage of the geological Society of Australia from 1983 to 2004.

Recently he has made contributions to historical studies in geology coordinating the “History of the Geology Department Project” at the University of Melbourne, taking over as chair of the GSA’s Earth Sciences history Group (ESHG), writing historical articles, and setting up a history website. He proposed, organised and coordinated the ESHG Conference in November 2007. He is currently studying the landforms of Western Victoria to see what they tell us about future volcanic risk, and also how best to look after the landscape heritage of the Plains. Following Bernie’s recommendation in 2004 the United Nations Educational, Scientific and Cultural Organisation in 2008 declared the Kanawinka Global Geopark, the first geopark in Australia.

This year, the Selwyn medal will be awarded at a presentation prior to the GSAV’s 2009 Selwyn Memorial Lecture by Prof. Cliff Ollier at 6:30pm in the JH Mitchell Theatre (see program on previous pages)

2009 D.E. Thomas Medal Winner

David Douth (Monash University)

This medal commemorates David Evan Thomas, the well known former head of the Victorian Geological Survey who was famous for his detailed and precise mapping. The silver Thomas Medal is offered each year for the best geological map produced by a Victorian Honours level student in Victoria.

The Geological Society of Australia (Victoria Division) is pleased to announce that the winner of the D.E. Thomas Medal in 2009 is David Douth from Monash University

2009 Frank Canavan Award Winner

Helen Dulfer (University of Melbourne)

The Frank Canavan Award was set up in 1996 by Mrs Canavan in honour of her late husband Frank, a well known Victorian geologist who was very active in promoting geological education and was a member of the Education Subcommittee of the Division. The Award is a cash sum for the purchase of geological textbooks, and is awarded to the most promising student who has finished second year geology at a Victorian university, as judged by the student's academic performance.

The Geological Society of Australia (Victoria Division) is pleased to announce that the winner of the Canavan Prize in 2009 is Helen Dulfer from the University of Melbourne



Earth Science Week 2009

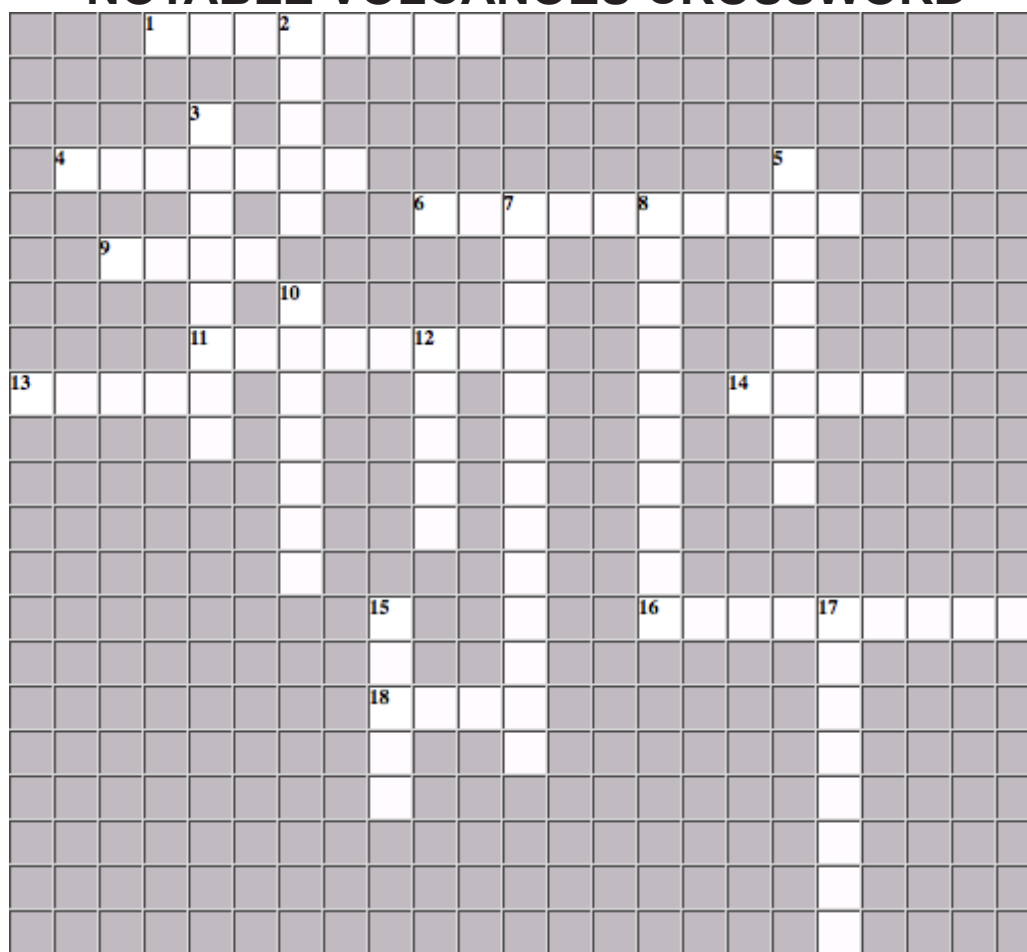
AGI invites you to take part in Earth Science Week 2009! Being held October 11-17, Earth Science Week 2009 will encourage people everywhere to explore the natural world and learn about the geosciences.

“Understanding Climate,” the theme of Earth Science Week 2009, will promote scientific understanding of a timely, vital topic: Earth’s climate.

Visit the website for more information: <http://www.earthsciweek.org/>

See what Geoscience Australia has planned: <http://www.ga.gov.au/education/events/science-week/index.jsp>

NOTABLE VOLCANOES CROSSWORD



Down

2. In 1792, one of this volcano's several lava domes collapsed and triggered a tsunami that killed ~15,000 people in Japan's worst-ever volcanic-related disaster
3. The world's tallest mountain, taller than Mount Everest, when measured from its base on the ocean floor (2 words)
5. This volcano's ultra-Plinian eruption in June 1991 produced the second largest terrestrial eruption of the 20th century
7. Northernmost volcano of the Andean Volcanic Belt (3 words)
8. This volcano's catastrophic eruption on May 18, 1980, was the deadliest and most economically destructive volcanic event in the history of the United States (3 words)
10. Composite volcano located on Sumbawa island, Indonesia
12. This volcano is responsible for New Zealand's largest eruption during the last 20,000 years ejecting 30 cubic kilometres of material in the space of a few minutes
15. East Javan volcano which last erupted in 2007
17. The largest volcano on Earth in terms of area covered (2 words)

Across

1. This volcano erupted in 79AD destroying the cities of Pompeii and Herculaneum
4. Lava from this volcano has been issuing continuously at the Pu'u O'o vent since January 1983
6. This volcano is located in the area where the Cocos plate is being subducted under the Caribbean plate (2 words)
9. This volcano is the second largest active volcano in Europe, and the highest mountain in Italy south of the Alps
11. This volcano's eruption in 1883 was equivalent to 200 MT of TNT: ~13,000 times more than the bomb that devastated Hiroshima, Japan during World War II
13. This volcano's deadly pyroclastic flow killed about 30,121 people in 1902
14. Japan's most photographed volcanic peak
16. This volcano is famous for its pattern of eruption: long-lasting, mildly explosive at discrete but fairly regular intervals of seconds to minutes.
18. This Icelandic volcano killed ~25% of the population in a famine following eruption of clouds of poisonous HF acid and SO₂ gases

FORTHCOMING TALKS

to be presented at
GSA (Victoria Division) meetings

Note: unless otherwise indicated, all 2009 talks will be held in the
Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne.

-
- 24 September **Selwyn Symposium** Origin of the Australian Highlands
9 a.m. - 5:30 p.m.
Symposium to be held in the Fritz Loewe Theatre - McCoy Building
- Selwyn Lecture 6:30 p.m. Free public lecture
Professor Cliff Ollier Theories of the Earth and Mountain Building
Lecture to be held in the JH Mitchell Theatre - Richard Berry Building
- 25 September ***Special Seminar* Combined GSA and SEG Seminar**
- Graham Begg** Connecting Geodynamics with Copper and Gold
Ore Systems.
Lecture Theatre S11, Building 25, Monash University, Clayton
- 29 October **Peter G Baines** Ash Clouds and climate consequences from
supervolcanic eruptions

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. •

WELCOME TO OUR NEW MEMBERS

Leonor Sorrentino-Mariconda
Jozua van Otterloo

August Crossword Answers Down: 1. Geophysicist 3. Palaeontologist 5. Mining 7. Geomorphologist 9. Oceanographer 10. Structural 11. Seismologist 14. Petroleum 15. Open pit Across: 2. Stratigrapher 4. Underground 6. Volcanologist 8. Teacher 12. Engineering 13. Researcher 16. Field 17. Sedimentologist 18. Geochemist.

GSA (VICTORIA DIVISION) COMMITTEE

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GPO Box 2355, Melbourne, VIC, 3001
Internet address: www.vic.gsa.org.au

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Vice-chair:	position vacant	
Secretary:	Adele Seymon	9658 4523 (BH)
Treasurer:	Stephen Gallagher	8344 6513 (BH)

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	Alison Fairmaid	8344 7672
Webmaster:	Lindsay Thomas	0427 354 828

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Newsletter deadline

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THE VICTORIAN GEOLOGIST



October 2009

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2009
Thursday 29th October at 6:15 p.m.

Ash Clouds and Climate Consequences from Supervolcanic Eruptions

Peter G. Baines

Dept. of Civil and Environmental Engineering, University of Melbourne
and
QUEST, Dept. of Earth Sciences, Bristol, UK

Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne

Preceded at 5.30 p.m. by drinks and nibbles in the tea-room, 4th floor, cost \$2.

Very large magnitude explosive volcanic eruptions can produce giant ash clouds with diameters of hundreds to thousands of kilometres. These ash clouds are controlled by gravity and rotational forces, leading to a more radially constrained shape than clouds produced by smaller eruptions. A description is given of the geological record of some of the largest of these eruptions, together with the properties of the resulting ash clouds from both Plinian and co-ignimbrite sources. A recent example (at the bottom end of the range of magnitudes) is the eruption from Mount Pinatubo in 1991. These ash clouds can produce dramatic effects on climate through altering the radiative and chemical properties of the atmosphere. Much depends on the latitude of the eruption, and these effects and consequences will be described.

OBITUARY

Vale Professor Allan White

It is with sadness that we write to tell you of the passing of Allan White. Allan died on Tuesday 15th September 2009, peacefully, in his sleep.



Professor Allan White grew up on a dairy farm in the Adelaide Hills and he retained a love of the countryside and the Australian bush throughout his life. He commenced his career in Adelaide under Professor Sir Douglas Mawson and was Mawson's last honours student. He was awarded the Tate Memorial Medal by the University of Adelaide in 1952. After completing his PhD in London in 1956, Allan was appointed a lecturer at the University of Otago. He returned to Australia in 1960, to the new Geology Department at the ANU, where he quickly established himself with publications on a wide range of petrological topics. His interests eventually focussed on the origins of granite and he became a world leader on those rocks as a result of integrating detailed fieldwork with their petrography and chemical compositions. After moving to La Trobe University as the Foundation Professor of Geology in 1971, Allan published a number of widely cited landmark papers on granites. After his retirement, he continued his research on granites and was a regular contributor at field and scientific conferences, publishing regularly in leading journals. He taught at The University of Melbourne and was a regular reviewer/examiner of theses, papers and books. He was the best-known granite petrologist in the world. Allan was awarded the Browne Medal by the Geological Society of Australia in 1994 and in 2002 was the recipient of the Mawson Lecture and Medal from the Australian Academy of Science. He received that honour exactly fifty years after his honours degree with Sir Douglas Mawson. In 2007 he was awarded the Geological Society of Japan Medal. Throughout his career, Allan made enormous contributions to the Earth Sciences at all levels, which touched the lives and careers of so many of his students and colleagues. He was well known as an inspiring enthusiastic teacher. In recognition of his contribution to education, and as a past Director of VIEPS, the "Allan White Medal" was established. This will continue to be awarded to honours graduates of outstanding calibre and demonstrated excellence each year. Allan was a hard working and dedicated man. He had great humour and was a dearly loved friend and colleague of many people.

A Memorial service for Allan will be held at 11.30 am Saturday 24th October 2009. It will be held in the Fritz Loewe Theatre, McCoy Building, School of Earth Sciences at The University of Melbourne and will be followed by a light lunch.

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 Peter Hoiles at p.hoiles@pgrad.unimelb.edu.au

We'd be glad to hear from you

REPORTS FROM MEMBERS

Report from the 2009 Selwyn Symposium

Alison Fairmaid

The Geological Society of Australia Victoria Division presented a highly successful Selwyn Symposium on the “Origin of the Australian Highlands”. This year’s symposium was held at the School of Earth Sciences at the University of Melbourne, on the 24th of September 2009. The symposium attracted a full house of delegates – around 120 – including many who travelled from interstate to attend. The day began with an interesting plenary address by Prof. Mike Sandiford who set the tectonic scene of the Australian Highlands. Many interesting talks followed over the course of the day, and each session concluded with a discussion forum which provided the opportunity for lively debate. The GSAV would like to thank all the invited speakers: Mike Sandiford (UniMelb), Ian Roach (ANU), Cliff Ollier (UWA), Paul Green (GeoTrack), John Webb (LaTrobe), Fons Vandenberg (DPI), Guy Holdgate (UniMelb), Max Brown (Canberra), Graham Taylor (Canberra), Bernie Joyce (UniMelb), Ian Duddy (GeoTrack), and Colin Pain (GA).



The Symposium was followed by the annual Selwyn Medal Award ceremony, which was presented to Bernie Joyce. Following the ceremony the annual Selwyn Lecture was held in the J.H. Mitchell Theatre at the University of Melbourne. Prof. Cliff Ollier presented his views on Mountain Building, complete with many spectacular photos of mountain ranges around the world. The presenters and many others then attended the Selwyn Dinner at University House.

The GSA(Vic) would like to thank the following people of the Selwyn organising committee for their hard work in making the day a success:

Assoc. Prof Stephen Gallagher
 Assoc. Prof Malcolm Wallace
 Dr Guy Holdgate, and
 Dr Martin Norvick

and the registration sub-committee:

Peter Hoiles
 Adele Seymon



To purchase copies of the Selwyn Symposium extended abstracts (\$25 each, with many colour figures) please contact Stephen Gallagher: sjgall@unimelb.edu.au or the GSA

MEMBER CONTRIBUTIONS

Hawai'i

After several bumper issues of the TVG, your trusty editors (and our support crew) decided it was time for a short getaway! So naturally where do a bunch of geologists go? HAWAII!!!!!! Several days were spent marching up and down the volcanoes of the Big Island, however Pele and her volcanoes were not very active. Still, it was fantastic to see some real volcanoes up close and personal!



After the 'geology' segment of the trip, we flew over to Oahu for a few days of languishing in the sun at Waikiki Beach. We took in a show and feast at an Hawaiian Luau, did some shopping, sampled some American cuisine and lifestyle and took in the sights of Pearl Harbor. However, no trip to Honolulu would be complete without visiting Diamond Head Crater! We managed to reach the top and were glad we did so because the views were amazing! For those of you considering going to Hawaii - you must! Oh, and don't forget to sample some 'shave ice', but make sure it is made on an old-fashioned type of machine which shaves the ice, rather than the new ones which crush the ice! There is a difference—trust us!



If you have been on any great trips lately, why not send us in a photo and a caption?

World Premiere *Leonardo Da Vinci* 'Anatomy to Robots'



From the 17th of October 2009 to the 31st January 2010, Melbourne will host the World Premiere of one of the most extraordinary and unique Leonardo Da Vinci exhibitions ever presented. Leonardo Da Vinci, acclaimed as the greatest artist of all time, dedicated himself with passion to the study of Nature gaining fundamental knowledge in Anatomy, Biology, Physics and Mechanics in a way that was revolutionary at the time.

In all, the exhibition comprises of 30 anatomical panels and models, 15 interactive robotics and machines inspired by anatomy, 15 machines and panels inspired by nature, optics, theatre and art, 30 artworks and frescoes. Rare limited edition Da Vinci Codices, computer programs and animations, explanatory notes and illustrative panels enhance scientific, cultural and educational experiences.

Open daily from 9:00am until 9:00pm, last entry 8:00pm
Open public holidays except Christmas Day

Da Vinci Pavillion
Queensbridge Square
Southbank, Melbourne

FORTHCOMING EVENTS



AESc
australian earth sciences
convention

Earth Systems:

change
sustainability
vulnerability

4-8 July 2010

**National Convention Centre
Canberra**

The Geological Society of Australia (GSA) invites you to participate in the Australian Earth Sciences Convention 2010 in Canberra.

In July 2010, an outstanding selection of national and international speakers, industry leaders, and key decision makers will meet in Canberra in the scenic Eastern Highlands, just a few hours drive from Australia's major ski fields.

Canberra is not only the nation's capital and heart of policy development, but it is also home of two of Australia's premier geoscience organisations Geoscience Australia and the Australian National University's Research School of Earth Sciences (birthplace of the famous SHRIMP mass spectrometer that has revolutionised Earth Science research over the past two decades).

Abstracts are invited for both oral and poster presentations for the Australian Earth Sciences Convention 2010, with electronic submission open until 15 January 2010.

STAVCON - CALL FOR VOLUNTEERS

STAVCON is the annual conference of the Science Teachers' Association of Victoria. The conference is open to any person involved or interested in science education; this includes student teachers, laboratory technicians, primary, secondary and tertiary educators.

26 - 27 November 2009 at La Trobe University, Bundoora

Theme: Into the Future



The Victorian Division of the GSA will have a table displaying rock specimens and fact sheets, with the aim of promoting geology (and the GSAV!) and making it feature more prominently in schools.

If you would like to volunteer some time at this conference on either day, please contact Noel Schleiger on (03) 9435 8408 or email secretary@vic.gsa.org.au

For more information, see the STAVCON website: <http://www.sciencevictoria.com.au/STAVCON.html>

MINERAL WORDSEARCH

FIND 20 COMMON MINERALS

(and to make it difficult we are not telling you what they are!)

O	H	E	M	A	T	I	T	E	X	X	G	H	F	U
R	U	O	F	P	P	G	Z	E	N	Q	M	S	Q	C
T	S	L	N	Y	K	C	O	R	U	N	D	U	M	I
H	Y	I	P	R	V	A	D	U	G	A	R	N	E	T
O	C	V	F	I	H	O	I	A	G	G	O	L	D	B
C	A	I	L	T	F	Y	V	R	G	A	L	E	N	A
L	L	N	U	E	T	I	S	K	F	T	A	L	C	E
A	C	E	O	D	I	A	M	O	N	D	J	B	G	A
S	I	A	R	L	A	B	R	A	D	O	R	I	T	E
E	T	V	I	I	H	Z	Q	U	A	R	T	Z	V	L
X	E	I	T	I	A	P	A	T	I	T	E	S	P	T
D	G	P	E	H	O	R	N	B	L	E	N	D	E	O
Z	I	T	A	X	R	N	B	G	Y	P	S	U	M	P
M	U	S	C	O	V	I	T	E	T	R	E	L	W	A
K	C	M	M	A	G	N	E	T	I	T	E	D	I	Z

Recent Earthquakes

For those of you who have watched on helplessly as our earth cracks and grinds and devastates the region along our northern plate boundary, or those who have experienced the ground shaking under your feet a little closer to home, you might want to check out Geoscience Australia's earthquake information page.

Listing recent earthquakes and their magnitude, depth and other interesting bits of information, this website can keep you up-to-date!

Go to www.ga.gov.au/earthquakes

September Notable Volcanoes Crossword answers
 Down: 2. Unzen 3. Mauna Kea 5. Pinatubo 7. Nevado del Ruiz 8. Mt St Helens 10. Tambora 12. Taupo 15. Kelud 17. Mauna Loa Across: 1. Vesuvius 4. Kilaeua 6. Santa Maria 9. Etna 11. Krakatoa 13. Pelee 14. Fuji 16. Stromboli 18. Laki!

FORTHCOMING TALKS
to be presented at
GSA (Victoria Division) meetings

Note: unless otherwise indicated, all 2009 talks will be held in the
Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne.

-
- | | | |
|-------------|-----------------------|--|
| 29 October | Peter G Baines | Ash Clouds and climate consequences from supervolcanic eruptions |
|
 | | |
| 26 November | Peter Arditto | A Historical walk through the Paleocene to Eocene Wangerrip Group, Eastern Otway Basin, Victoria |



Followed by the 2009 GSAV Christmas Party BBQ!
More details in November newsletter!

2-3 December The Royal Society of Victoria regional symposium

North Central Victoria: A golden era, a changed ecosystem forever?
La Trobe University, Bendigo Campus

Registration is currently open at <http://www.icms.com.au/ncv/register.asp>

WEDDING CONGRATULATIONS!

Congratulations to our Secretary Adele Seymon who was married on the 3rd of October. The GSAV wish you and Laurent all the best for the future!

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



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Heritage:	Susan White	9328 4154
Newsletter:	Peter Hoiles	8344 7672
	Alison Fairmaid	8344 7672
Webmaster:	Lindsay Thomas	0427 354 828

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Newsletter deadline

First Friday of the month except Dec & Jan
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THE VICTORIAN GEOLOGIST



November 2009

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division



Next General Meeting for 2009
Thursday 26th November at 6:15 p.m.



A Historical Walk through the Paleocene to Eocene Wangerrip Group, Eastern Otway Basin, Victoria

Peter Arditto

SEDSTRAT Pty. Ltd.

Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne

Followed by the GSAV Christmas BBQ. 4th Floor. Cost \$5 - More details page 2

Coastal outcrop sections of the siliciclastic Wangerrip Group are well developed to the west of Cape Otway, within the Otway National Park. This was an isolated and rugged area to access when GSV geologists Wilkinson (1965) and Murray (1877) made early geological surveys for the Victorian Government. Fossiliferous Tertiary siliciclastic and carbonate successions, resting unconformably on Mesozoic siliclastics, were documented by these geologists and their work was still quoted well into the 19th Century. At this stage Baker (1943 & 1950) first introduced the term Wangerrip Group which, based on extensive macrofossil collections, he deduced to be Eocene in age. Later work by McGowran (1965) on outcrop collections of microfossil material (forams) suggested a Paleocene age for the Wangerrip Group.

Layercake stratigraphy still prevailed when Bock and Glennie (1965), Holdgate (1981) and Holdgate, et al (1981) undertook subsurface correlations of the Wangerrip Group

based on wireline log motifs which, while being a fair approximation in a depositional strike trend, fails in correlations of log motifs in a depositional basinward dip trend. Lavin and Naim (1995) demonstrated using reflection seismic data for the Portland Trough that the Wangerrip Group is composed of laterally overlapping sigmoidal stratal bundles best termed genetic sequences. Only when an integrated approach to subsurface stratigraphy, combining detailed palaeontological data (palynology), with well log motifs tied to reflection seismic data can the detailed deposition of the Wangerrip Group be evaluated and more meaningful subsurface correlations be made.

The speaker will present an overview of past work on the Wangerrip Group and some of his more recent work on that unit integrating outcrop, well log, palynology and seismic scales of observation to stratigraphically unravel what he terms the Wangerrip Megasequence.

Speaker Biography:

Peter Arditto graduated from the University of New South Wales with a BSc (Applied Geology) in 1973, a Dip Ed in 1974 and an MSc in 1981. Peter started his petroleum industry career in 1980 with the then ESSO Australia Ltd in Sydney, and subsequently gained 20 years exploration and appraisal experience in both Australian and international petroliferous sedimentary basins with several multinational exploration and production companies before entering private consulting.

In 1999 Peter formed his own petroleum geological consulting company, SEDSTRAT Pty Ltd, specializing in integrated high-resolution sequence stratigraphic studies of siliciclastic reservoir facies, from outcrop to seismic scale, and has since been actively employed by the Australian petroleum industry. He has published in a number of national and international journals on siliciclastic sedimentology, sequence stratigraphy, reservoir diagenesis and basin petroleum prospectivity.



GSAV Christmas BBQ

To celebrate 2009, the GSAV is pleased to host a Christmas BBQ party following the seminar on the 26th November. Please join us to bring to a close this year's calendar of successful events!

Time: approx. 7:15pm (following the seminar)

Place: 4th floor balcony and tea room
School of Earth Sciences, The University of Melbourne
Cnr Swanston and Elgin Sts, Carlton

Cost: \$5 for food and drinks

*please note that this event will replace the refreshments that normally precede the talk

REPORTS FROM MEMBERS

Report from VUEESC 2009

Adele Seymon

Winners of the GSAV award of a copy of 'Geology of Victoria' at the 2009 Victorian Universities Earth and Environmental Science Conference were:

Best overall presentation: **Kerrie Taylor-Jones** (University of Melbourne) for a talk titled 'Calculated phase equilibria in FeO-MgO-Al₂O₃-SiO₂-TiO₂-O (FMASTO), relating to the stability of sapphirine + quartz'

Best overall poster: **Robin Armit** (Monash University) for a poster titled 'Modeling the 4D architecture of the Mount Painter Inlier, SA: Constraints from structural field observations and chrono-stratigraphy'

Ed's note: The committee would like to thank Adele for representing the GSAV at this year's VUEESC!!

STAVCON - CALL FOR VOLUNTEERS

STAVCON is the annual conference of the Science Teachers' Association of Victoria. The conference is open to any person involved or interested in science education; this includes student teachers, laboratory technicians, primary, secondary and tertiary educators.

26 - 27 November 2009 at La Trobe University, Bundoora

Theme: Into the Future



The Victorian Division of the GSA will have a table displaying rock specimens and fact sheets, with the aim of promoting geology (and the GSAV!) and making it feature more prominently in schools.

If you would like to volunteer some time at this conference on either day, please contact Noel Schleiger on (03) 9435 8408 or email secretary@vic.gsa.org.au

For more information, see the STAVCON website: <http://www.sciencevictoria.com.au/STAVCON.html>

MEMBER CONTRIBUTIONS

**Glaciers, folds and penguins!****David Moore**

The above picture shows an isoclinal fold, the result of the Scotia Plate being driven east into the Atlantic Ocean and dragging fragments of continental crust from South America along with it. The photo to the right, including penguins, has the same fold in the background. The beach where the latter photo was taken can be seen as a thin strip in the first one.



The pictures were taken on a 19 day cruise to The Falklands, South Georgia and the Antarctic Peninsula. The wildlife was even more extraordinary than the geology, and that is saying something. Tame isn't the word for it. This is part of a small colony of King penguins, just a few thousand. Others reached into the hundreds of thousands. The brown, fluffy penguins (hard to see) are chicks that have not moulted.

MEMBERSHIP RENEWAL

Don't forget to renew your GSA membership for 2010! Fill out your renewal form or login online at <http://www.gsa.org.au/>

Alternatively, phone the GSA office on 02 9290 2194 or email: info@gsa.org.au

FORTHCOMING EVENTS



AESC
australian earth sciences
convention

Earth Systems:

change
sustainability
vulnerability

4-8 July 2010

**National Convention Centre
Canberra**

The Geological Society of Australia (GSA) invites you to participate in the Australian Earth Sciences Convention 2010 in Canberra.

In July 2010, an outstanding selection of national and international speakers, industry leaders, and key decision makers will meet in Canberra in the scenic Eastern Highlands, just a few hours drive from Australia's major ski fields.

Canberra is not only the nation's capital and heart of policy development, but it is also home of two of Australia's premier geoscience organisations Geoscience Australia and the Australian National University's Research School of Earth Sciences (birthplace of the famous SHRIMP mass spectrometer that has revolutionised Earth Science research over the past two decades).

Abstracts are invited for both oral and poster presentations for the Australian Earth Sciences Convention 2010, with electronic submission open until 15 January 2010.

World Premiere
Leonardo Da Vinci
'Anatomy to Robots'



From the 17th of October 2009 to the 31st January 2010, Melbourne will host the World Premiere of one of the most extraordinary and unique Leonardo Da Vinci exhibitions ever presented. Leonardo Da Vinci, acclaimed as the greatest artist of all time, dedicated himself with passion to the study of Nature gaining fundamental knowledge in Anatomy, Biology, Physics and Mechanics in a way that was revolutionary at the time.

In all, the exhibition comprises of 30 anatomical panels and models, 15 interactive robotics and machines inspired by anatomy, 15 machines and panels inspired by nature, optics, theatre and art, 30 artworks and frescoes. Rare limited edition Da Vinci Codices, computer programs and animations, explanatory notes and illustrative panels enhance scientific, cultural and educational experiences.

Open daily from 9:00am until 9:00pm, last entry 8:00pm
Open public holidays except Christmas Day

Da Vinci Pavillion
Queensbridge Square
Southbank, Melbourne

WELCOME TO OUR NEW MEMBERS



Selene De Bree

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 Peter Hoiles at p.hoiles@pgrad.unimelb.edu.au

We'd be glad to hear from you

EarthTrek and the Gravestone Project

The Geological Society of Australia in conjunction with the Geological Society of America is calling on individuals, schools and community groups across Australia to visit their local graveyards—and measure the weathering rates of old marble headstones—as part of an international project to track shifts in world pollution levels climate change.

Visit:

EarthTrek: <http://www.goeearthtrek.com/> and the

Gravestone Project: <http://www.goeearthtrek.com/Gravestones/Gravestones.html>

Walking around an old graveyard may seem more like the stuff of horror movies...but it could actually help save the planet. In the Gravestone Project, participants will visit their local graveyard, determine its location using a GPS and add this location to a global graveyard map on the EarthTrek website (www.goeearthtrek.com). The aim is to measure the weathering rate of the headstones using micrometer callipers. By measuring the distance that the lead lettering sits out from the eroded marble on weathered gravestones, and relating this to the date of death on the gravestone, scientists can determine by how much the gravestone has eroded over time.

FORTHCOMING TALKS
to be presented at
GSA (Victoria Division) meetings

Note: unless otherwise indicated, all 2009 talks will be held in the
Fritz Loewe Theatre, Earth Sciences Building, University of Melbourne.

26 November Peter Arditto

A Historical walk through the Paleocene to Eocene
Wangerrip Group, Eastern Otway Basin, Victoria



Followed by the 2009 GSAV Christmas Party BBQ!
Details on page 2!

2-3 December The Royal Society of Victoria regional symposium

North Central Victoria: A golden era, a changed ecosystem forever?
La Trobe University, Bendigo Campus

Registration is currently open at <http://www.icms.com.au/ncv/register.asp>

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

tag

GSA (VICTORIA DIVISION) COMMITTEE

Please address all correspondence to the GSA Victoria Division
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Vice-chair:	position vacant	
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