THE VICTORIAN GEOLOGIST

February 2010

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

First General Meeting for 2010

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

Sea Change in Deep Time: The Origin of Whales

Dr Erich Fitzgerald

Museum Victoria, Melbourne
&
Smithsonian Institution, Washington, DC

**Fritz Loewe Theatre, Earth Sciences Building,
University of Melbourne**

Ever since Charles Darwin penned his Origin of Species, scientists have been both intrigued and frustrated by the question of whale origins. Only recently has a combination of genetics, anatomy, and most dramatically, fossils, shed light on this long-standing mystery of evolution. And it is fossils from the Oligocene (25 million years ago) of Victoria that have added a compelling new twist to the whale's tale. For these remarkable fossils illuminate the early evolutionary history of the largest animals that have ever lived, the baleen whales.

A note from the Editors

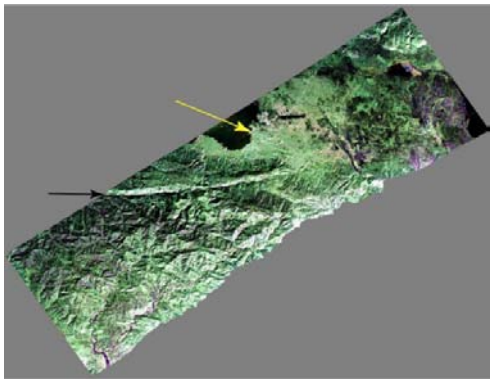
Welcome to the first edition of The Victorian Geologist for 2010! As always, we encourage our members to provide us with tid-bits of information such as photos and reports from field trips or holidays - anything geology related! If you have any ideas for the newsletter, including what you want to see printed (and what you don't!) please feel free to email either Peter or myself (email addresses on the back page). After all, the GSAV commiittee and newsletter editors are here to represent YOUR views and stories.

We look forward to the year ahead in 2010

Alison Fairmaid

Airborne Radar Captures Image of Post-Quake Haiti

Science Daily



JPL's Uninhabited Aerial Vehicle Synthetic Aperture Radar (UAVSAR) captured a false-color composite image of the city of Port-au-Prince, Haiti, and the surrounding region on Jan. 27, 2010. Port-au-Prince is visible near the center of the image. The large dark line running east-west near the city is the main airport.

Shortly before 5 p.m. local time on Jan. 12, 2010, a magnitude 7.0 earthquake struck southern Haiti. The earthquake's epicenter was about 25 kilometers (15 miles) west-southwest of Port-au-Prince, close to the west (left) edge of this image. The large linear east-west valley in the mountains south of the city is the location of the major active fault zone responsible for the earthquake: the Enriquillo-Plantain Garden fault. The fault extends from the western tip of Haiti past Port-au-Prince into the Dominican Republic to the east of this image. Historical records show that the southern part of Haiti was struck by a series of large earthquakes in the 1700s, and geologists believe those were also caused by ruptures on this fault zone.

Satellite interferometric synthetic aperture radar measurements show that the Jan. 12 earthquake ruptured a segment of the fault extending from the epicenter westward over a length of about 40 kilometers (25 miles), leaving the section of the fault in this image unruptured. The earthquake has increased the stress on this eastern section of the fault south of Port-au-Prince and the section west of the rupture. This has significantly increased the risk of a future earthquake, according to a recent report by the U.S. Geological Survey.

Reference:
NASA/Jet Propulsion Laboratory (2010, February 2). Airborne Radar Captures Image of Post-Quake Haiti. ScienceDaily.

Retrieved February 8, 2010, from http://www.sciencedaily.com¬ /releases/2010/02/100202112204.

Forthcoming Events

AESC australian earth sciences convention

Earth Systems:
change
sustainability
vulnerability

4-8 July 2010
National Convention Centre
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).

Early Registration is still available until April 2, 2010

visit: http://www.aesc2010.gsa.org.au/registration.html

The objective of the International Association on the Genesis of Ore Deposits (I.A.G.O.D.) is to promote international co-operation in the study of the genesis of ore deposits and to further the growth of knowledge in this field. These tasks are achieved in several ways. International symposia are organized by IAGOD, and a variety of meetings and symposia are held in conjunction with other organizations interested in the genesis of mineral deposits.

Registrations for the 2010 symposium is available now.

Visit: http://www.alloccasionsgroup.com/IAGOD2010

Dinosaur Had Vibrant Colors, Microscopic Fossil Clues Reveal

Science Daily

A recent study published in Science has revealed vibrant coloured feathers belonging to a 150 million year old dinosaur. By analysing melanosomes – colour-imparting cellular organelles – researchers at Yale University have been able to assign colours to an entire animal fossil. The analysis was so precise that the team was able to assign colors to individual feathers of Anchiornis huxleyi, a four-winged troodontid dinosaur that lived during the late Jurassic period in China. This dinosaur sported a generally gray body, a reddish-brown, Mohawk-like crest and facial speckles, and white feathers on its wings and legs, with bold black-spangled tips.

The new discoveries provide a wealth of insights into the compelling history of feather evolution in dinosaurs prior to the origin of modern birds. The study documents that color patterning within feathers and among feathers evolved earlier than previously believed. Further, these results indicate dinosaur feathers may have evolved for communication.

Journal Reference:

Quanguo Li, Ke-Qin Gao, Jakob Vinther, Matthew D. Shawkey, Julia A. Clarke, Liliana D'alba, Qingjin Meng, Derek E. G. Briggs, Long Miao, Richard O. Prum. Plumage Color Patterns of an Extinct Dinosaur. Science, Online February 4, 2010 DOI: 10.1126/science.1186290

Upcoming 2010 Annual General Meeting

The AGM will be held on the 29th of April. It is now time for all of our members to consider becoming involved in the GSAV for 2010/2011. We have a few committee positions that have been vacant for sometime, and are always welcoming and encouraging people of all ages to attend committee meetings to find out what goes on behind the scenes.

Nominations will open for executive positions in the committee, along with general committee member positions in the coming months. We encourage you to consider nominating yourself or someone else. If you have any questions about what the committee does and what the positions entail, please feel free to contact any of the committee members listed on the last page of this newsletter, or emailing our secretary Adele at adele.seymon@dpi.vic.gov.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

FORTHCOMING SEMINARS AND EVENTS

to be presented at

GSA (Victoria Division) meetings

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

March 25	TBA
April 29	**Annual General Meeting**

WELCOME TO OUR NEW MEMBERS

Monika Niessing
Nicholas Barker
Alan Aitken

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 (BH)
Treasurer:	Stephen Gallagher	8344 6513 (BH)

SUBCOMMITTEE	CONTACTS	
Awards:	Ingrid Campbell	9486 7160
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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Susan White	9328 4154

OTHER CONTACTS		
Geology of Victoria:	Bill Birch	9270 5049 (BH)

Newsletter deadline

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

Next General Meeting for 2010

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

Tectonic and palaeobiogeographic significance of Late Cretaceous-earliest Paleogene biotas of the Takatika Grit, Chatham Islands, SW Pacific

Dr Jeff Stilwell

School of Geosciences
Monash University

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

The outline of this talk has been kept secret so as to invoke mystery and intrigue! You have to come along and find out all about the biotas of the Chatham Islands on the 25th.

Instead, here is a small biography of Jeff: Jeffrey Stilwell's specialty is the Phylum Mollusca – bivalves, snails, and their kin. Stilwell has either led or participated in a number of remote area expeditions – to such places as Antarctica and India and most recently led a National Geographic Expedition to the Chatham Islands where another "crisis assemblage" is being studied by him and his collegues and students, in detail – a Cretaceous/Tertiary shallow marine assemblage of vertebrates, invertebrates, and associated flora – in an attempt to understand the climatic and palaeoenvironmental conditions across this boundary in the SW Pacific Basin at a time when the eastern part of Gondwana was still intact and movement of fauna between New Zealand, Australia and Antarctica was still possible. Stilwell is also interested in the history of geology and in public outreach, his editing and reproduction of the first shell book ever published, John Mawe's The Shell Collector's Pilot, is just one example.

MEMBER CONTRIBUTIONS

Feedback from February seminar:

"One of the best presentations at the GSAV I have heard and seen (with excellent Keynote slides), well-timed to allow discussion, and impressive responses to questions and comments, including a considered comment on the value of scientific whaling.

I give it 4 1/2 stars!"

Bernie Joyce.

Thursday 25th February 2010
Dr Erich Fitzgerald
"Sea Change in Deep Time: The Origin of Whales"

Free to Good Home

AJES Journals

A retired GSA member has volumes (1976 to 2003) of the Australian Journal of Earth Sciences surplus to his requirements. Any one who would like to augment their library can contact Adrian Power on 03 9598 7169 or email adrian_s_power@hotmail.com to arrange to collect journals.

Geological Society of Australia (Victoria Division) at STAVCON

La Trobe University, 27-28 November, 2009

Noel Schleiger

Noel reports that the GSAV made contact with many science teachers, and the factite sheets were very popular. On behalf of the GSAV committee, Noel wishes to thank the GSA head office for production of these factite sheets, and Stephen Gallagher for making these available. The GSAV committee also wishes to thank the two volunteers who helped out on the GSAV table, Marilyn Powell and Dorothy Mahler. Your help was greatly appreciated!

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I nominate: _____ For the position of: _____

Nominator: _____ Seconded by: _____

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Please detach and mail this completed form specifying your 2010-2011 GSAV Committee nomination no later than 23rd April to:

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Why did mammals survive the 'K/T Extinction'?

Science Daily

ScienceDaily (Jan. 31, 2010) — Picture a dinosaur. Huge, menacing creatures, they ruled the Earth for nearly 200 million years, striking fear with every ground-shaking stride. Yet these great beasts were no match for a 6-mile wide meteor that struck near modern-day Mexico 65 million years ago, incinerating everything in its path. This catastrophic impact -- called the Cretaceous-Tertiary or K/T extinction event -- spelled doom for the dinosaurs and many other species. Some animals, however, including many small mammals, managed to survive.

How did they do it?

"They were better at escaping the heat," said Russ Graham, senior research associate in geosciences at Penn State. "It was the huge amount of thermal heat released by the meteor strike that was the main cause of the K/T extinction." He said underground burrows and aquatic environments protected small mammals from the brief but drastic rise in temperature. In contrast, the larger dinosaurs would have been completely exposed, and vast numbers would have been instantly burned to death.

"Even if large herbivorous dinosaurs had managed to survive the initial meteor strike, they would have had nothing to eat," he said, "because most of the earth's above-ground plant material had been destroyed." Mammals, in contrast, could eat insects and aquatic plants, which were relatively abundant after the meteor strike. As the remaining dinosaurs died off, mammals began to flourish.

from http://www.sciencedaily.com/releases/2010/01/100131221348.htm

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Tectonic and palaeobiogeographic significance of Late Cretaceous-earliest Paleogene biotas of the Takatika Grit, Chatham Islands, SW Pacific

April 29 **Annual General Meeting**

Dr. Mark Kendrick, School of Earth Sciences, The University of Melbourne

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THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Annual General Meeting

Thursday 29th April at 6:15 p.m.
see inside for committee nomination form

Serpentinites, Mantle Convection and Gold Mineralisation

Dr Mark Kendrick
School of Earth Sciences, The University of Melbourne

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

Serpentinites form when mantle rocks are hydrated on the seafloor. Subduction of these rocks then provides a critical link between volatiles (H2O, Cl) in the Earth's surface hydrosphere and atmosphere, and primordial or recycled volatiles in the Earth's mantle. Serpentinites are of additional interest because together with altered-oceanic basalts they are a possible source of gold-related mineralising fluids in orogenic belts. The noble gas and halogen composition of serpentinites provides valuable insights that help resolve controversies concerning the nature of mantle convection and the origin of gold mineralisation.

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Victoria Division
GPO Box 2355 Melbourne, Victoria 3001
Web: www.vic.gsa.org.au/
Division Chairman: David Cantrill Phone (03) 9252 2301 david.cantrill@rbg.vic.gov.au

2010 Annual General Meeting
of the Victoria Division of the Geological Society of Australia

Notice of Meeting

The 2010 Annual General Meeting of the Victoria Division of the Geological Society of Australia will be held at 6:15 p.m. on Thursday 29th April 2010 in the Fritz Loewe Theatre at the University of Melbourne (to be followed by the regular monthly address).

David Cantrill will present his Chairman's Report for 2009 – 2010 and the meeting will elect a new Geological Society Victoria Division Committee for 2010 – 2011.

Agenda

1. Minutes from 2007–2008 of the GSA Victoria Division AGM on Thursday 30th April 2009.
2. GSA Victoria Division Chairman's Report for 2009–2010
3. GSA Victoria Division Financial Report for 2009–2010
4. Bicentennial Gold 88 Endowment Report for 2009–2010
5. Heritage Subcommittee Report for 2009–2010
6. Awards Committee Report for 2009–2010
7. Election of Committee Members for 2009–2010
8. Other business.

A. Seymon
Secretary of the Division, 9th April 2010

Minutes of the 2009 GSA Victoria Division Annual General Meeting

1. Opening: time and place

a. The meeting opened at 6.30 pm on Thursday 30th April 2009 in the University of Melbourne Fritz Lowe Theatre

2. Minutes of the previous meeting on Thursday 24th April 2008

a. Minutes were taken as read. Moved: Noel Schleiger; seconded: Gerhard Krummei.

3. Chairman's report for 2008-2009

a. David Cantrill presented his Chairman's Report for 2008 – 2009 and his report was accepted by the meeting. Moved: David Moore; seconded: Fons VandenBerg.

4. Treasurer's report for 2008-2009

a. Stephen Gallagher was not in attendance. Have audited accounts for 2007. Unaudited financial statements for the year end December 2008. A proper set of audited accounts will go into the next newsletter. This was

accepted by the meeting. Moved: Fons VandenBerg; seconded: Neil Philips.

b. Fons VandenBerg congratulated the advisors on keeping losses so low in such dire economic circumstances.

c. Gerhard Krummei congratulated the Treasurer for the first set of accounts presented at the AGM in years. GK also questioned the benefit of imputation credits. DC replied that franking credits are the tax benefit claimed back as imputation credits. These are handled at the level of the Federal Division.

d. Neil Philips questioned whether there was the right balance between expenditure and banking, and whether there was scope for a major project? DC commented that the finances are sitting healthy. The committee would look at the potential for a major project, keeping in mind that the Geology of Victoria needs updating when stock runs down.

e. GK commented that there were two options for funds. Live off earnings; or hoe into capital. Need to view in terms of long term survival. DC replied that the organization does largely live off earnings.

5. Bicentennial Gold 88 Working Group report for 2008-2009

a. Gerhard Krummei presented the Bicentennial Gold 88 report for the year ended 2008. Have allocated another $19k for distribution, and will be advertising these funds in TAG and AusIMM bulletin from the end of June. The report was accepted by the meeting. Moved: David Moore; seconded: Noel Schleiger.

6. Geological Heritage Subcommittee report for 2008-2009

a. Sue White was absent for this meeting, however DC tabled the geological heritage subcommittee report for the year ended 2008. This was accepted by the meeting. Moved: Bernie Joyce; seconded: Leon Costermans.

7. Division Awards Subcommittee report for 2008-2009

a. Ingrid Campbell was absent for this meeting. DC tabled the awards subcommittee report for the year ended 2008. The report was accepted by the meeting. Moved: Fons VandenBerg; seconded: John Webb.

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 2009 – 2010:

Division Officers

Chairman	David Cantrill
Vice chairman	
Secretary	Adele Seymon
Treasurer	Stephen Gallagher

Division Committee Members

David Cantrill	Division Chairman
Vacant	Division Vice chairman
Adele Seymon	Division Secretary
Stephen Gallagher	Division Treasurer
Ingrid Campbell	Division Awards Subcommittee Chairman
Vacant	Division Membership Subcommittee Chairman
David Moore	Division Investments Administrator
Vacant	Division Newsletter Editor
Alison Fairmaid	Melbourne University, ESPG (Earth Sciences Postgraduate Group) Representative, Newsletter Assistant
Lindsay Thomas	Division Webmaster
Noel Schleiger	Division Education Subcommittee Chairman
Sue White	GSA Heritage Committee Chairman

Affiliates

Gerhard Krummei	Bicentennial Gold 88 Working Group Chairman

b. DC commented that the committee intends to look at superfluous committee positions over the next 12 months.

9. Other business

a. Gerhard Krummei observed that the AGM attendees consisted of 99% old stalwarts of the organisation. There were various societies at the universities in Victoria; could these be brought into the organisation in some way?

Could the committee think about this?
AF commented that the University of Melbourne post-graduate group didn't hold regular meetings. The same kind of group should exist at Monash University.
DC raised the point that GSAV has over 300 members – yet it struggles to get 10% of its members at the monthly meetings.
LC wondered if the society was truly representing its members. There is a need to have up-to-date and relevant speakers to attract industry members.
John Webb commented that the hydrogeologists committee organise a breakfast in the city, which attracts a different demographic.

10. Closure
a. The meeting closed at 7.10 pm.

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Alternatively you can bring your form along to the meeting!

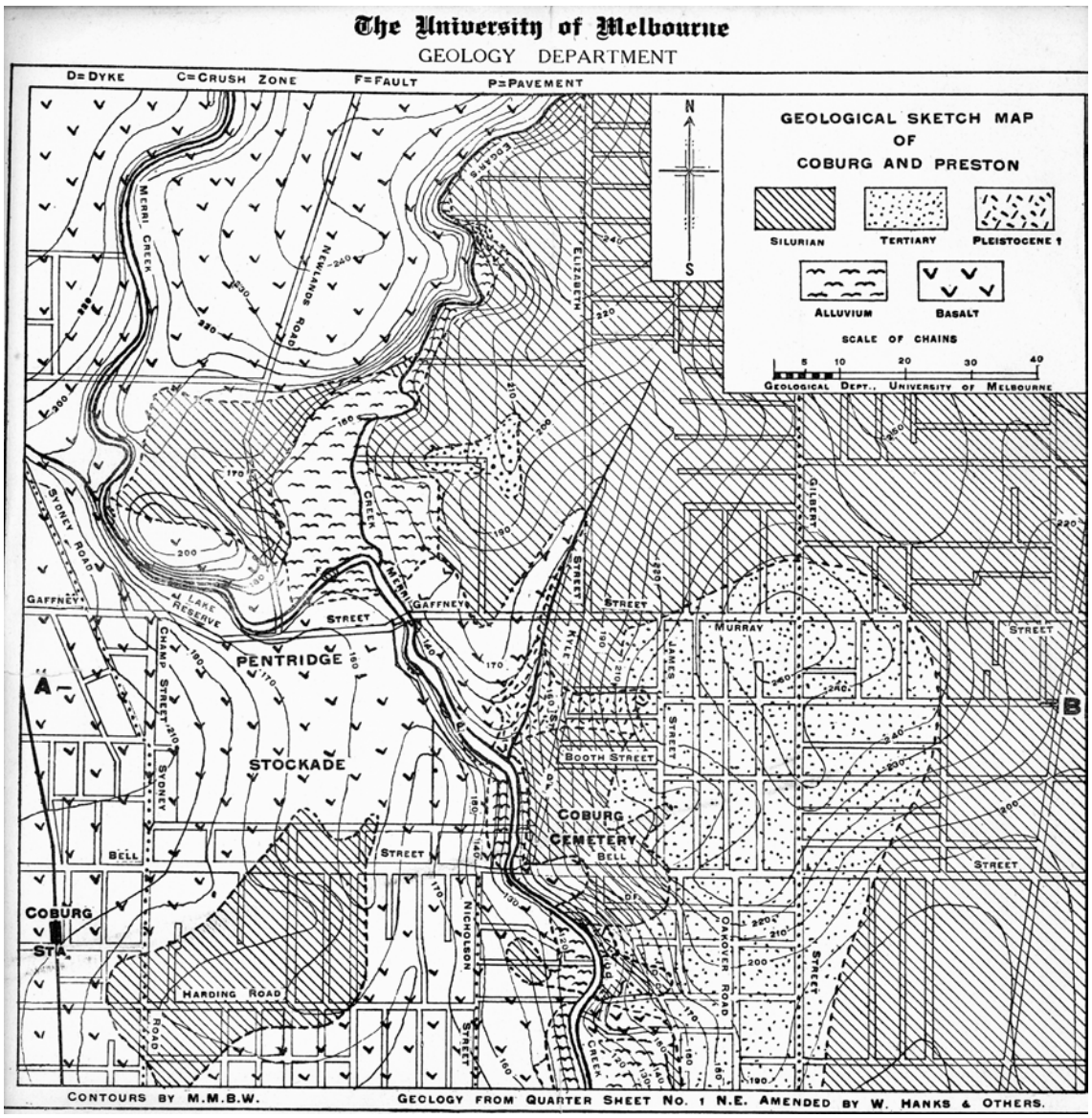
Member Contributions

An artefact unearthed

The simple geological map shown here was part of the teaching armory of The University of Melbourne in the early days of last century. The image was scanned from an original found among papers by Lindsay Thomas, but he recollects these maps only as a material stored but no longer used.
It was presumably used as an exercise to construct a cross-section between A and B, but with the bonus that the ground was familiar northern suburbs territory, not an anonymous textbook location.

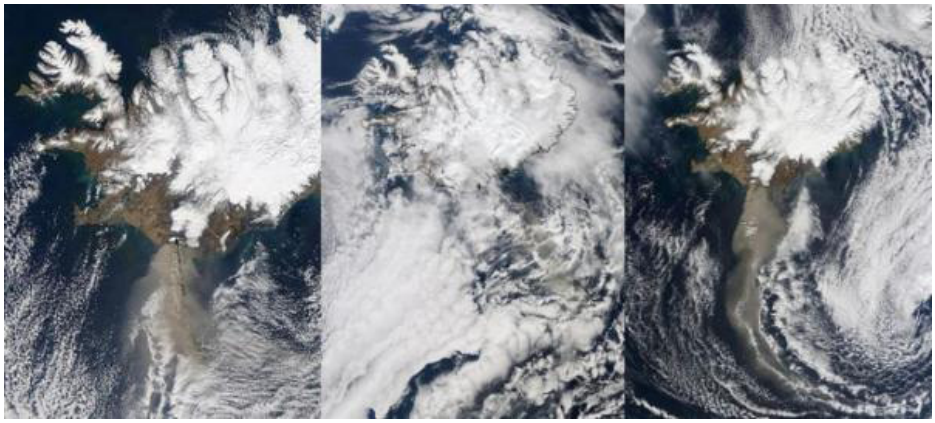
The “editor”, W. Hanks, was a foundry owner in Coburg - coincidentally, his son Bill and Lindsay were members of the same smallbore rifle club during the 1960s - and reportedly carried out experiments on melting of basalts by heating them up in his foundry crucibles!

Does anyone out there recall using this teaching aid? There were certainly others stored on the shelves back then - does anyone out there have other examples (new or used)?



Two NASA Satellites Capture Eyjafjallajokull's Ash Plume

ScienceDaily



ScienceDaily (Apr. 19, 2010) — NASA's Aqua and Terra satellites fly around the world every day capturing images of weather, ice and land changes. Over the last three days these satellites have provided visible and infrared imagery of the ash plume from the Eyjafjallajökull volcano in Iceland.

Eyjafjallajökull is pronounced similar to "EYE-a-fyat-la-yu-goot," and it is still spewing ash into the atmosphere. Volcanic eruptions are important sources of gases, such as sulphur dioxide (SO_2) and volcanic ash (aerosols) in the atmosphere.

On Saturday, April 17 at 13:20 UTC (9:20 a.m. EDT), Aqua captured a visible image of the ash plume so clearly that in the satellite image a viewer could see the billowing cloud spewing from the volcano and blowing almost due south before turning east over the Atlantic Ocean.

On Sunday, April 18 at 12:05 UTC (8:05 a.m. EDT), NASA's Terra satellite flew over the volcano and captured an image of the brown ash cloud mostly obscured by higher clouds. The brown plume was partly visible underneath the high clouds.

By Monday morning, April 19 at 12:50 UTC (8:50 a.m. EDT) the high clouds had cleared, and the brown line of spewed volcanic ash was visible once again blowing south, then turning east toward the United Kingdom.

The ash cloud basically consists of fine particles of pulverized rock. Volcanic ash is a rare but potentially catastrophic hazard to aviation. Encounters with volcanic ash while in flight can result in engine failure from particulate ingestion and viewing obstruction of the cockpit widescreen from etching by the acidic aerosols. Volcanic Ash Advisory Centers were established to monitor the air space in areas prone to eruptions and to issue volcanic ash warnings.

from: http://www.sciencedaily.com/releases/2010/04/100419162314.htm

Volcanic Ash Research Shows How Plumes End Up in the Jet Stream

A University at Buffalo volcanologist, an expert in volcanic ash cloud transport, published a paper recently showing how the jet stream -- the area in the atmosphere that pilots prefer to fly in -- also seems to be the area most likely to be impacted by plumes from volcanic ash. See:
"Volcanic plumes and wind: Jet stream interaction examples and implications for air traffic" in the Journal of Volcanology and Geothermal Research.

FORTHCOMING SEMINARS AND EVENTS

to be presented at

GSA (Victoria Division) meetings

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

April 29	**Annual General Meeting** **Dr. Mark Kendrick**, Serpentinites, mantle convection and gold mineralisation
May 27	TBA
June	Royal Society of Victoria and the Geological Society of Australia (Victoria Division) present: The **ANNUAL AW HOWITT LECTURE** **more details in the next newsletter**

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

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 (BH)
Treasurer:	Stephen Gallagher	8344 6513 (BH)

SUBCOMMITTEE	CONTACTS	
Awards:	Ingrid Campbell	9486 7160
Bicentennial Gold:	Gerhard Krummei	9820 2595
Education:	Noel Schleiger	9435 8408
Heritage:	Susan White	9328 4154
Newsletter:	Peter Hoiles	8344 9980
	Alison Fairmaid	8344 9980
Webmaster:	Lindsay Thomas	0427 354 828

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Susan White	9328 4154

OTHER CONTACTS		
Geology of Victoria:	Bill Birch	9270 5049 (BH)

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:
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Melbourne VIC 3001

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THE VICTORIAN GEOLOGIST

May 2010

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2010

Thursday 27th May at 6:15 p.m.

Serpentinites, Mantle Convection and Gold Mineralisation

Dr Mark Kendrick
School of Earth Sciences, The University of Melbourne

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

Serpentinites form when mantle rocks are hydrated on the seafloor. Subduction of these rocks then provides a critical link between volatiles (H2O, Cl) in the Earth's surface hydrosphere and atmosphere, and primordial or recycled volatiles in the Earth's mantle. Serpentinites are of additional interest because together with altered-oceanic basalts they are a possible source of gold-related mineralising fluids in orogenic belts. The noble gas and halogen composition of serpentinites provides valuable insights that help resolve controversies concerning the nature of mantle convection and the origin of gold mineralisation.

FORTHCOMING EVENTS

2010 AW Howitt Lecture

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

Thursday 17th June

RICK SQUIRE

Supermountains Superlife: clues from Victoria's geology on the rise of animals, humans and human civilisation

Abstract:
Victoria's geology has influenced our lives in more ways than we realise. When our state was only a few months old, the discovery of huge and abundant gold nuggets lying in river beds like potatoes in a field triggered one of the greatest gold rushes in history. The Victorian Gold Rush not only drove an explosive rise in the states population, attracting hordes of young enthusiastic and hard-working people from around the world, but it also generated immense wealth and prosperity.
And it was on the back of that prosperity that The Royal Society of Victoria was founded in 1854.

But what is less known about our state's geology, is how the same rocks that played a crucial role in the Victorian Gold Rush played an even more important role in three of the most-remarkable events in Earth's history: the rise of animals between 575 and 520 million years ago; the rise of humans some 6 to 8 million years ago and the rise of human civilisation in the last 14.5 thousand years. In my talk I will show how the ancient sedimentary rocks that contain the unusually large gold deposits of the Bendigo-Ballarat-Stawell region played a key role in generating the conditions necessary for the rise of animals and humans, as well as influencing several of the key technological and cultural innovations associated with the rise of human civilisation. Come along and find out how.

Lecture to be held at the Royal Society of Victoria, 8 La Trobe Street Melbourne, 7:30pm

Two Geologists are walking across a granite outcrop one day. The first says to the second "Hey, this terrain is unmetamorphosed". Replies the second one, "No Schist".

AESC australian earth sciences convention

Earth Systems:
change
sustainability
vulnerability
4-8 July 2010
National Convention Centre
Canberra

Committee Reports from the 2010 Annual General Meeting of the Victoria Division of the Geological Society of Australia

Chairman's Report

David Cantrill

GEOLOGICAL SOCIETY OF AUSTRALIA
VICTORIA DIVISION
2009-10 Annual Report

Report from the Chair

I would firstly like to thank the members of the committee for all the work through the year. In particular Alison Fairmaid who has taken up the role of putting together the newsletter often at very short notice and very ably assisted by Peter Hoiles. You will have noticed that the newsletter has more content and several new sections of interest. As our main means of communication this is welcome and I would invite members to contribute content, indeed the editorial group is keen to get as many submissions as possible. This has seen a good set of monthly talks and many have been well attended however, like most small societies it is difficult to get good attendance consistently. Perhaps this reflects the talk selection by the committee and we would welcome feedback on whether the talks fulfil the needs of the members.

This years Selwyn Symposium on "Origin of the Australian Highlands" provided a series of entertaining and enlightening talks highlighted the long-running debate about the origin of the highlands along the eastern seaboard of Australia. There was much discussion and the symposium was sold out. We are also thankful for the support from GSA Head Office in providing the services of Patrick Daly to publicise the event. Several media outlets picked up stories related to the symposium and the also for the Selwyn Medallist Bernie Joyce. The treasurer Stephen Gallagher should also be thanked, not only for his organization of the Selwyn Symposium but also for getting the accounts finalised and audited by March. The investment group of David Moore and Lindsay Thomas also should be thanked for an excellent job of managing the share portfolio. As mooted at the last meeting GSAV have decided to move to a new investment house to ensure better independent advice. This process has taken some time to complete but the final monies should be moved across in the next few days. All of this endeavour has been ably supported by the secretary Adele Seymon whose email reminders have kept me on my toes. There are several other people involved behind the scenes and my thanks goes to all of them for the work on the committee over the past year.

David Cantrill
29th April 2010

Treasurer's Report

Stephen Gallagher

Trading summary through 2009

Cash at Bank, 01/01/10	$22,052.30
Income to date	$-
Expenditure to date	$1,067.50
Cash at bank	$20,984.80 (end march)

Overview of total capital position

Assets as at 01/01/10	$269,165.46
Bookstocks as at 01/01/10	$47,632.88
Estimated total assets as at 01/01/10	$316,798.34
Assets as at latest statement	$296,538.69 (end April 2010)
Estimated current bookstock	$47,382.88 (end April 2010)
Approximate current assets	$343,921.57

		stocks @ end December 2009		
		Value	Stock	Total
SP23	Geology of Victoria 3	$125.00	355	$44,375.00
VIC5	Roadside Geology	$9.47	4	$37.88
AB79	Selwyn Symposium 2007 (w/colour plates & figures)	$17.00	94	$1,598.00
AB91	Extended abstracts: Selwyn Symposium 2008	$16.00	27	$432.00
AB57	Selwyn Symposium 1999	$10	5	$50.00
AB94	Selwyn Symposium 2009 (w/colour plates & figures)	$30	38	$1,140.00
	Total SAV			$47,632.88

		stocks @ April 2010		
		Value	Stock	Total
SP23	Geology of Victoria 3	$125.00	353	$44,125.00
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AB94	Selwyn Symposium 2009 (w/colour plates & figures)	$30	38	$1,140.00
	Total SAV			$47,382.88

Balance Sheet
As at 31 December 2009

	2009	2008
CURRENT ASSETS	$	$
Cash at Bank NAB	22,052.30	17,982.49
Cash at Bank JB Were 440966	23,033.93	44,996.81
Trade Debtors		
Other Debtors - Franking Credits Receivable	3,993.90	4,464.93
Interest Receivables		
Goldman Sachs JB Weir Deposits		
Trust Distribution Receivable		
CFS Commonwealth Property Office Trust		1,150.00
Goodman Group		1,132.88
Australian Infrastructure Fund	867.44	380.88
Macquarie Communications Infr Group		337.26
Stock on Hand 2009 figures readjusted after stock take		
Extended abstracts: Selwyn Symposium 2008	432.00	608.00
Selwyn Symposium 2007 (w/colour plates & figures)	1,598.00	1,530.00
Extended abstracts: Selwyn Symposium 2009	1,140.00	
Selwyn Symposium 1999	50.00	
Roadside Geology Melb-Ballarat	37.88	66.29
Geology of Victoria	$ 44,375.00	48,375.00
	97,580.45	121,024.54
Investments (At Cost)		
NAB National Income Securities	16,443.00	15,355.41
Commonwealth Property Office Fund		
Goodman Sach St Sec		
St George Unsecured		19,266.00
Australian Infrastructure Fund Stapled Securities	31,554.06	22,454.83
Macquarie Communications Infr Group Stapled Securities		
MQG Converible PS	5,375.00	
Westpac SPS II	20,494.50	
Shares in listed Companies		
CSL Ltd Ord fp	5,198.40	
Bendigo Bank Limited	20,545.92	22,968.00
Telstra Limited	30,437.82	27,993.47
BHP Billiton Ltd	49,501.76	34,945.12
AFIC Ltd	43,290.00	23,008.75
Westpac	27,830.00	18,667.00
Fosters Limited		
National Australia Bank Ltd	18,495.00	12,688.09
	269,165.46	197,346.67
TOTAL ASSETS - NET ASSETS	366,745.91	318,371.21
Loss in value of investments/assets 2008		(39,548.79)
MEMBERS FUND		
Member's fund	366,745.91	318,371.21

GSAV BALANCE SHEET 2009 24/03/10 6:16 PM

Trading Statement for the Year ended 31 December 2009

	2009	2008
	$	$
SALES		
Sales and Publications	9,370.93	6386.9
	9,370.93	6386.9
Less Cost of Sales		
Opening Stock	$ 50,579.29	54,794.00
Adjustment to end 2008 stock after stock take	$ 3,645.00	
Opening Stock	$ 54,224.29	54,794.00
Closing Stock	47,632.88	50,579.29
	6,591.41	4,214.71
	2,779.52	2,172.19
Gross (Loss)/Profit	2,779.52	2,172.19

Balance Sheet
As at 31 December 2009

	2009	2008
CURRENT ASSETS	$	$
Cash at Bank NAB	22,052.30	17,982.49
Cash at Bank JB Were 440966	23,033.93	44,996.81
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TOTAL ASSETS - NET ASSETS	366,745.91	318,371.21
Loss in value of investments/assets 2008		(39,548.79)
MEMBERS FUND		
Member's fund	366,745.91	318,371.21

Statement of Appropriations
For the Year Ended 31 December 2009

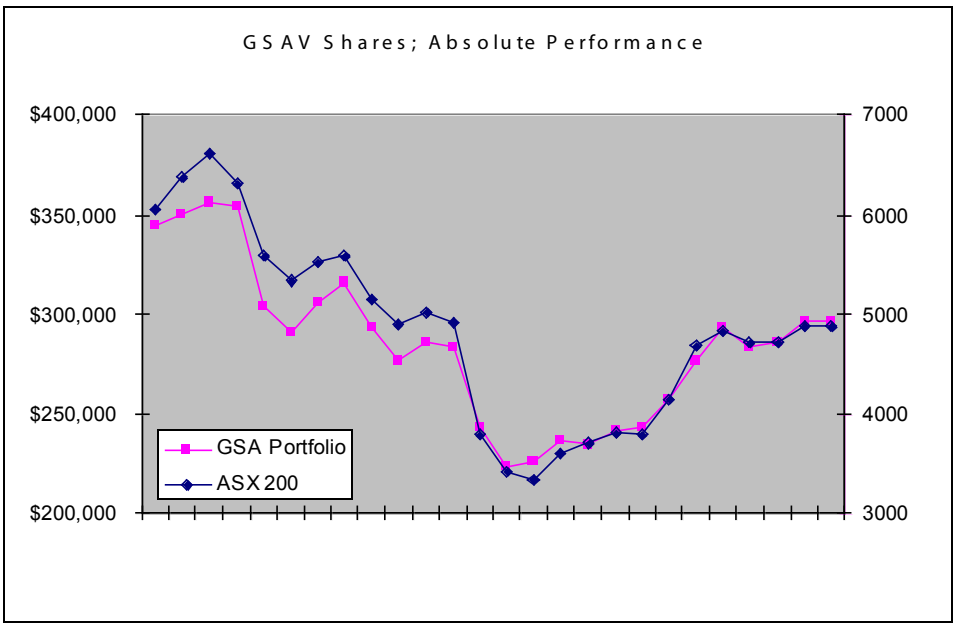
	2009	2008
	$	$
Member's funds - Beginning of Year	326,715.72	357,920.68
Loss in value of investments/assets 2008		(39,548.79)
Profit before income tax	11,209.59	8,343.83
Income tax expense	-	-
Profit after income tax	11,209.59	8,343.83
Member's Fund at 31 December 2009	337,925.31	326,715.72

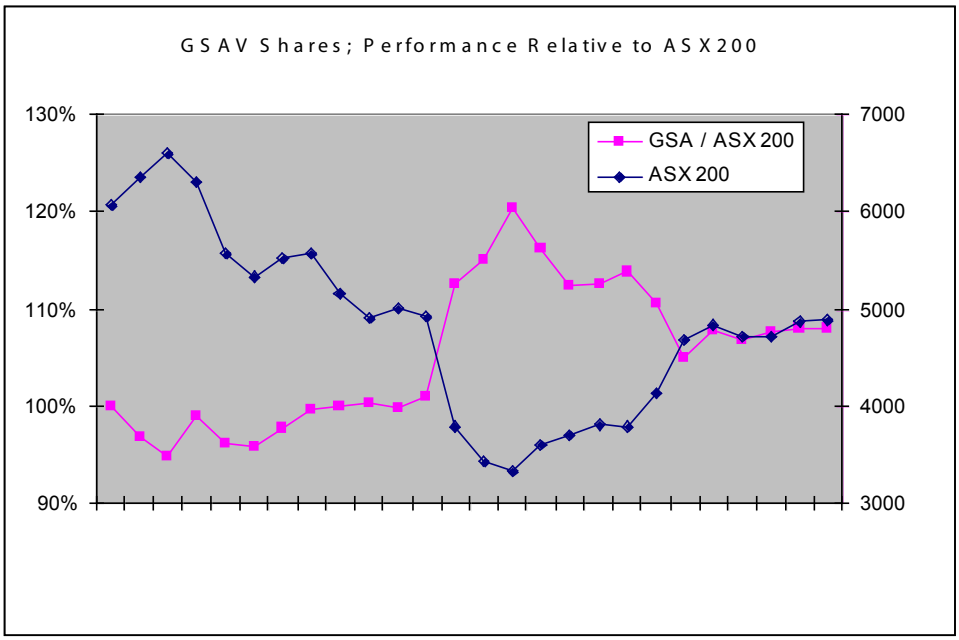
Investment Portfolio Report

David Moore

GSAV Share summary

Cash		$27k
'Fixed' interest		$42k
Shares		$227k
	BHP	$47k
	Banks (BEN, NAB, WBC)	$69k
	Others (AFI, AIX, CSL, TLS)	$111k
TOTAL		**$297k**





Awards Committee Report

Ingrid Campbell

GSA VICTORIA DIVISION AWARDS COMMITTEE
2009 ANNUAL REPORT

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

The 2009 Selwyn Medal was awarded to Associate Professor E.B. (Bernie) Joyce of University of Melbourne in recognition of his significant contributions to the understanding of the geology of Victoria, in particular his outstanding contribution to the understanding of Tertiary volcanism and volcanic and highlands landforms of Victoria. His professional career teaching geology and geomorphology in conjunction with his long-standing interdisciplinary involvement in areas such as the History of Earth Sciences, Heritage Geology, Regolith, Geomatics and Archaeology have had far-reaching impact and helped in our understanding of all aspects of the Earth Sciences in this State and beyond.This has significantly contributed to a new understanding, appreciation and interpretation of recent and ancient landforms and the geology in Victoria.

The 2009 Canavan Prize was awarded to Helen Dulfer (University of Melbourne) who achieved the highest marks for second year in 2008. This prize is given to the best second year student in an Earth Science related course in Victoria.

The D. E. Thomas Medal was awarded to David A Doutch (Monash University) for his honours thesis entitled: ":Stratigraphic and structural controls on Archaean andesite gold deposits in the Argo-Lut region at St. Ives Western Australia". The committee agreed that this project is a well integrated work that co-ordinates mapping, borehole and field geology data and conforms to the guidelines for the Thomas Medal.

Ingrid Campbell
Chair, Awards Committee

Heritage Committee Report

Susan White

HERITAGE SUBCOMMITTEE GSA (Vic)
REPORT 2009 -2010

The Geological Heritage subcommittee continues to work towards better understanding of geological heritage in the state. The past year has seen a continuation of the work we have been doing for some years. This includes maintenance of the data base of sites and addition of new sites. Some new sites were added this year from previously published geological significance site reports and some recent consultancy reports.

The committee has continual input to the Bacchus Marsh Council Trench management

committee and has given advice to consultants and people wishing to object to particular development projects. This last has been some quarrying, a development at Port Campbell and some windfarm developments. We are always very careful regarding objections as the GSA is not opposed to development per se. However some advice on the significance of particular sites is useful.

The committee was involved with organising the GeoHeritage sessions of the International Geomorphology Congress held in Melbourne in July 2009. Several papers were given and a Western district and an urban sites excursion was organised by committee members, especially Bernie Joyce, Mel Mitchell, Neville Rosengren and Roger Pierson.

Dr Susan White
Convenor: Standing Committee Geological Heritage (GSA Inc)
Convenor: Geological Heritage Subcommittee (Victoria Division)
Geological Society of Australia Inc
Ph/fax +61 3 93284154

Bicentennial Gold 88 Endowment Report

Gerhard Krummei

BICENTENNIAL GOLD 88 ENDOWMENT
Report for the Year 2009

The years 2009 and 2010 are significant milestones in the life of this Endowment. The former year marks the 20th anniversary of the establishment of the Endowment, while the latter represents the 20th year of award distribution. Considering projections for the duration of the currently re-emerging mining boom, it is most likely that this Endowment will maintain its relevance well into the future.

Guided by the Endowment's mission to provide funds for the advancement of education and research in Earth Sciences for the benefit of economic geology in Australia, grants have been awarded to assist geoscience students with costs of study and research in topics of economic geology, environmental geology, mineral economics and mineral law, teaching, technical visits and travel to present at conferences.

To-date, some $188,000 have been distributed to a total of 84 recipients throughout Australia comprising geoscience-focused tertiary institutions and individuals within them

There was a significant increase in the number of applications for support in 2010, many of which were last-minute submissions. These were assessed in the final quarter of 2009, with recommendations submitted to the Director and Trustees by year end for approval. The sum of $10,000 was again made available for distribution for the year 2010.

The successful recipients for 2010 projects were:

- *The University of Melbourne*
  To assist with a research goup with costs of palynology studies relating to the

hydrocarbon prospective Early Cretaceous strata of the Gippsland Basin.

- *The University of Melbourne*
  Partial assistance with costs to present a course on the Geology of Gold.

- *James Cook University*
  Support for an honours graduate to present a technical paper at the AESC Conference, Canberra, July 2010.

The contribution of Prof. David Gray and Ms.Ingrid Campbell GSA (Vic Div), long term members of this Working Group, to the assessment process is gratefully acknowledged.

Ms Xan Weber of the AusIMM is thanked for her efficient secretarial support. The ongoing commitment of The Director and Trustees to this Endowment is also appreciated.

GERHARD K. KRUMMEI
Chairman – Working Group
BG88 Endowment 26.02.2010

Forthcoming Events

Monash University upcoming seminars

Fri 11th June 2011, 12 noon, S10, Building 25, Clayton Campus:
Dr. Margarete Jadamec (Postdoctoral Research Fellow, Monash University) will be presenting a seminar on *"Reconciling Surface Plate Motions with Rapid Three-dimensional Mantle Flow"*.

Fri 16th July 2011, 12 noon, S10, Building 25, Clayton Campus:
Dr Hamish Campbell (Senior Scientist, Institute of Geological and Nuclear Sciences, New Zealand) will be presenting a seminar on *"The sinking of Zealandia: a significant geological constraint on the antiquity and origin of the native terrestrial biota of New Zealand?"*
Abstract: Landis et al. (2008, Geological Magazine 145: 173-197) drew attention to the possibility that the New Zealand region of Zealandia may have been totally submerged 23 million years ago. This geological suggestion has proved somewhat contentious, especially within the biological world. For various reasons, this idea is not easily tested but molecular biological research does seem to support it. The overwhelming DNA evidence from modern studies of diverse New Zealand native terrestrial biota indicates an Australian origin, not a Gondwanan origin. This talk will explain the geological basis for daring suggest possible total submergence of Zealandia, and will also attempt to address some of the biological concerns such a suggestion raises.

For more information please contact **Simon Jowitt**.
Email: simon.jowitt@monash.edu
Office: +61 3 9905 1119

You know you are a Geochronologist when:
you get lots of dates!

FORTHCOMING SEMINARS AND EVENTS

to be presented at

GSA (Victoria Division) meetings

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

THIS IS NOT A MISPRINT!

May 27	**Dr. Mark Kendrick**, Serpentinites, mantle convection and gold mineralisation
June 17	Royal Society of Victoria and the Geological Society of Australia (Victoria Division) present: The **ANNUAL AW HOWITT LECTURE** **Rick Squire,** Supermountains Superlife: clues from Victoria's geology on the rise of animals, humans and human civilisation ***Please note this is NOT the last Thursday of the month***
July 29	TBA

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

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

If there are any events, happenings, news, or views that would be of interest to the membership, please send your details and information to Alison Fairmaid (a.fairmaid2@pgrad.unimelb.edu.au)

We'd be glad to hear from you

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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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Lindsay Thomas	0427 354 828
Susan White	9328 4154
Lucy Ross	0431 094 188
Gemma Prata	0422 866 208

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Geology of Victoria:	Bill Birch	9270 5049 (BH)

Newsletter deadline

First Friday of the month except Dec & Jan
a.fairmaid2@pgrad.unimelb.edu.au or
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PRINT POST APPROVED

THE VICTORIAN GEOLOGIST

June 2010

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2010

Thursday 17th 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**

Supermountains Superlife: clues from Victoria's geology on the rise of animals, humans and human civilisation

Rick Squire
School of Geosciences, Monash University

Royal Society of Victoria, 8 La Trobe Street Melbourne, 7:00pm
Pre-lecture refreshments 6:15pm, cost $20
RSVP essential by 12 noon, 15th June 2010
(rsv@sciencevictoria.org.au) or (03) 96635259

Victoria's geology has influenced our lives in more ways than we realise. When our state was only a few months old, the discovery of huge and abundant gold nuggets lying in river beds like potatoes in a field triggered one of the greatest gold rushes in history. The Victorian Gold Rush not only drove an explosive rise in the states population, attracting hordes of young enthusiastic and hard-working people from around the world, but it also generated immense wealth and prosperity. And it was on the back of that prosperity that The Royal Society of Victoria was founded in 1854.

But what is less known about our state's geology, is how the same rocks that played a crucial role in the Victorian Gold Rush played an even more important role in three of the most-remarkable events in Earth's history: the rise of animals between 575 and 520 million years ago; the rise of humans some 6 to 8 million years ago and the rise of human civilisation in the last 14.5 thousand years. In my talk I will show how the ancient sedimentary rocks that contain the unusually large gold deposits of the Bendigo-Ballarat-Stawell region played a key role in generating the conditions necessary for the rise of animals and humans, as well as influencing several of the key technological and cultural innovations associated with the rise of human civilisation. Come along and find out how.

Forthcoming Events

12-14 July 2010

Resources Victoria Conference and Technical Forum
Melbourne Hilton on the Park
Hosted by GeoScience Victoria, the MCA - Victorian Division and PESA
Day 3 (Technical Forum) is FREE
http://www.resourcesvictoriaconference.com/

5-9 September 2010

5ias Evolving Early Earth
5th International Archean Symposium
Burswood Entertainment Complex Perth, WA
Presented by Geoconferences (WA) Inc
Final submission date for Abstracts is 12 February 2010. Authors informed of acceptance by 30 April 2010
http://www.5ias.org/

Monash University upcoming seminars

Fri 11th June 2011, 12 noon, S10, Building 25, Clayton Campus:
Dr. Margarete Jadamec (Postdoctoral Research Fellow, Monash University) will be presenting a seminar on *"Reconciling Surface Plate Motions with Rapid Three-dimensional Mantle Flow"*.

Fri 16th July 2011, 12 noon, S10, Building 25, Clayton Campus:
Dr Hamish Campbell (Senior Scientist, Institute of Geological and Nuclear Sciences, New Zealand) will be presenting a seminar on *"The sinking of Zealandia: a significant geological constraint on the antiquity and origin of the native terrestrial biota of New Zealand?"*
Abstract: Landis et al. (2008, Geological Magazine 145: 173-197) drew attention to the possibility that the New Zealand region of Zealandia may have been totally submerged 23 million years ago. This geological suggestion has proved somewhat contentious, especially within the biological world. For various reasons, this idea is not easily tested but molecular biological research does seem to support it. The overwhelming DNA evidence from modern studies of diverse New Zealand native terrestrial biota indicates an Australian origin, not a Gondwanan origin. This talk will explain the geological basis for daring suggest possible total submergence of Zealandia, and will also attempt to address some of the biological concerns such a suggestion raises.

For more information please contact **Simon Jowitt**.
Email: simon.jowitt@monash.edu
Office: +61 3 9905 1119

GEOLOGIST AT LUNCH

©1993 Tom Swanson

What did the boy volcano say to the girl volcano?

I Lava You!

Earth Systems:
change
sustainability
vulnerability
4-8 July 2010
National Convention Centre
Canberra

The Saltiest Body of Water on Earth - A Pond in Antarctica that Never Freezes!

Don Juan Pond, Antarctica could serve as a model for liquid water on other planets.

In so many ways, Don Juan Pond in the Dry Valleys of Antarctica is one of the most unearthly places on the planet. An ankle-deep mirror between mountain peaks and rubbled moraine, the pond is an astonishing 18 times saltier than the Earth's oceans and virtually never freezes, even in temperatures of more than 40 degrees below zero Fahrenheit.

The pond, which is a roughly 1,000- by 400-meter basin, is the saltiest body of water on Earth by far, some eight times saltier than the Dead Sea. While researchers more than 30 years ago reported finding abundant and varied microflora of fungi, bacteria, blue-green algae and yeasts, since then and during the Joye team's work, such life has been non-existent. Since the depth level and area covered by the pond (which is fed by hypersaline groundwater) have demonstrably varied over the years, this wasn't unexpected. What did surprise the team was that even with no life-forms present, they were able to measure nitrous oxide, perhaps best known to most people as the "laughing gas" used in dental procedures. (The amounts measured in the air were beneath a level that could make a person light-headed or giddy, as "laughing gas" can). "What we found was a suite of brine-rock reactions that generates a variety of products, including nitrous oxide and hydrogen," said Joye. "In addition to Don Juan Pond, this novel mechanism may occur in other environments on Earth as well and could serve as both an important component of the Martian nitrogen cycle and a source of fuel [hydrogen] to support microbial chemosynthesis."

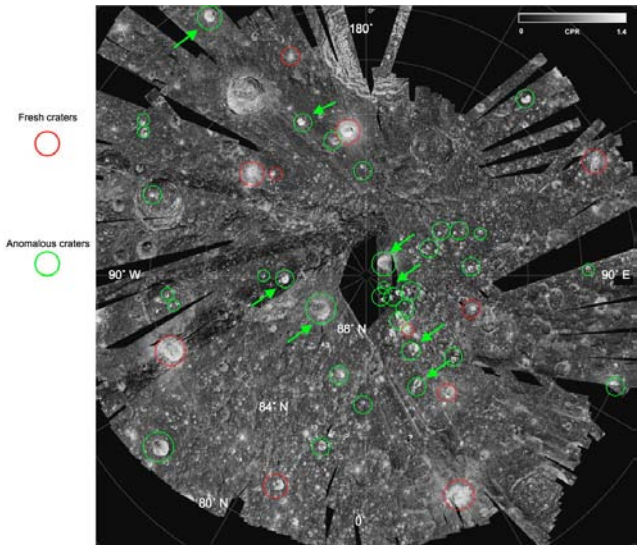
http://geology.com/press-release/don-juan-pond/ Republished from an April, 2010 press release by The University of Georgia.

Water Ice Discovered at the Moon's North Pole

The ice is in craters protected by permanent sun shadow

At Least 40 Small Craters Contain Ice

Using data from a NASA radar that flew aboard India's Chandrayaan-1 spacecraft, scientists have detected ice deposits near the moon's north pole. NASA's Mini-SAR instrument, a lightweight, synthetic aperture radar, found more than 40 small craters with water ice. The craters range in size from 1 to 9 miles (2 to15 km) in diameter. Although the total amount of ice depends on its thickness in each crater, it's estimated there could be at least 1.3 trillion pounds (600 million metric tons) of water ice.



The Mini-SAR has imaged many of the permanently shadowed regions that exist at both poles of the Moons. These dark areas are extremely cold and it has been hypothesized that volatile material, including water ice, could be present in quantity here. The main science object of the Mini-SAR experiment is to map and characterize any deposits that exist.

Read more at: http://geology.com/press-release/water-on-the-moon/ (Republished from a March, 2010 press release by NASA)

WELCOME TO OUR NEW MEMBERS

Student membership:

Julie Boyce
Amy Cockerton
Ebony Hill
Kathryn Owen
Dean Baker
Mark Grujic
Ken McLean
Joanna Kowalczyk
Jackson van den Hove
Katherine Fox
Courtney Brown
Shannon Burnett

Member:

Barbara Wagstaff

FORTHCOMING SEMINARS AND EVENTS

to be presented at

GSA (Victoria Division) meetings

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

June 17	Royal Society of Victoria and the Geological Society of Australia (Victoria Division) present: The **ANNUAL AW HOWITT LECTURE** **Rick Squire,** Supermountains Superlife: clues from Victoria's geology on the rise of animals, humans and human civilisation ***Please note this is NOT the last Thursday of the month***
July 29	TBA

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

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

If there are any events, happenings, news, or views that would be of interest to the membership, please send your details and information to Alison Fairmaid (a.fairmaid2@pgrad.unimelb.edu.au)

We'd be glad to hear from you

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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Vice-chair:	position vacant	
Secretary:	Adele Seymon	9658 4523 (BH)
Treasurer:	Barbara Wagstaff	8344 6537 (BH)

SUBCOMMITTEE	CONTACTS	
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OTHER CONTACTS		
Geology of Victoria:	Bill Birch	9270 5049 (BH)

Newsletter deadline

First Friday of the month except Dec & Jan
a.fairmaid2@pgrad.unimelb.edu.au or
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GSA Inc - for membership and subscription enquiries or change of address:
Business Office: Geological Society of Australia, Suite 61, 104 Bathurst Street, Sydney NSW 2000
Email: info@gsa.org.au Tel: (02) 9290 2194 Fax: (02) 9290 2198

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Registered Publication No. VBH 2135

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GPO Box 2355
Melbourne VIC 3001

PRINT POST APPROVED

THE VICTORIAN GEOLOGIST

July 2010

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2010

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

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

Dr. Peter Betts
School of Geosciences, Monash University

Fritz-Loewe Theatre, Earth Sciences Building, The University of Melbourne
Preceded at 5:30 p.m. by drinks and nibbles in the tea-room, 4th floor. Cost $2

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

Forthcoming Events

12-14 July 2010

Resources Victoria Conference and Technical Forum
Melbourne Hilton on the Park
Hosted by GeoScience Victoria, the MCA - Victorian Division and PESA
Day 3 (Technical Forum) is FREE
http://www.resourcesvictoriaconference.com/

5-9 September 2010

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Fri 23rd July 2010, 12 noon, S1, Building 25, Clayton Campus:
Prof Michael Manga (UC Berkeley, seismo.berkeley.edu/~manga/rsch.html) will be presenting a seminar on: *"Earthquakes and water (and why the LUSI mud volcano was not triggered by an earthquake)"*

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

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

If there are any events, happenings, news, or views that would be of interest to the membership, please send your details and information to Alison Fairmaid (a.fairmaid2@pgrad.unimelb.edu.au)

We'd be glad to hear from you

STUDENT FUNDING OPPORTUNITIES

Geological Society of Australia (Victoria Division) Student Research Scholarships

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

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

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

BICENTENNIAL GOLD 88 ENDOWMENT

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

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

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

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

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

Some conditions may apply.

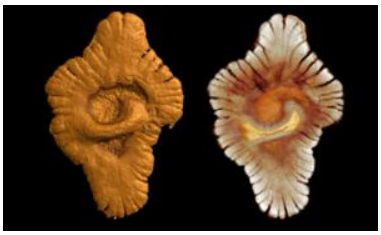
The decision of the Trustees regarding these awards is final and no further communication will be entered into.

Applications close on Wednesday, 29 September 2010

AusIMM
THE MINERALS INSTITUTE
Education Endowment Fund

Complex, Multicellular Life from Over Two Billion Years Ago Discovered

from ScienceDaily



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

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

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

Geo-related Podcasts - For those tech-savvy geologists

- *ideas for student and teacher resources*

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

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

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

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

iPhone/iPad 'apps'

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

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

Or, some more wide-reaching science based apps that may be of interest include:
Nature: Stay in touch with the latest scientific news and research, anytime, anywhere

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

FORTHCOMING SEMINARS AND EVENTS

to be presented at

GSA (Victoria Division) meetings

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

July 29	Dr Peter Betts:
August 26	TBA
September 30	**SELWYN LECTURE** and presentation of Selwyn Medal *More details in next months newsletter*

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THE VICTORIAN GEOLOGIST

August 2010

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2010

Thursday 26th August at 6:15 p.m.

South-directed oroclinal folding in the Lachlan Fold Belt: unravelling Mid-Late Silurian fold belt assembly to solve apparent Ordovician–Early Silurian complexity

Ross Cayley
GeoScience Victoria

Fritz-Loewe Theatre, Earth Sciences Building, The University of Melbourne
Preceded at 5:30 p.m. by drinks and nibbles in the tea-room, 4th floor. Cost $2

Recent models for the Lachlan Fold Belt (LFB) attribute geometry (vergence changes between west, central and eastern portions), sedimentary relationships, width and magmatic history to several coeval subduction zones of opposing polarity, or to large-scale horizontal movement along the mid- to Late Silurian Baragwanath Transform. Aeromagnetic data shows that the Baragwanath Transform does not occur in western New South Wales, but there remains compelling evidence that the Tabberabbera Zone was not contiguous with the Melbourne Zone until the Early Devonian.

The model presented here provides a solution that involves mid- to Late Silurian oroclinal folding adjacent to dextral strike-slip faults. This solves the geometrical puzzle and apparent great width of the LFB, and simplifies its Late Cambrian–Early Silurian configuration, allowing closer ties with the Ross Orogen along the east Gondwana margin.

Continued on next page...

Talk details

Abstract (continued)

At the onset of the Late Ordovician Benambran Orogeny, Tasmania and the Selwyn Block are located outboard of the Gondwana margin, separated by the undeformed proto-Bendigo Zone ocean basin. A continent-directed subduction system was active along the entire eastern edge of the LFB. The Benambran Orogeny involved west-directed accretion associated with ongoing subduction that produced predominantly east-verging structures in the adjacent accretionary complex, including the Mallacoota Zone and Tabberabbera Zone. The Bendigo Zone, then along strike from the Tabberabbera Zone, was separated from subduction–accretion by the Selwyn Block.

The Late Silurian Bindian Orogeny marked the beginning of an interval where the evolution of the Lachlan and Ross orogens were markedly different. Bindian Orogeny movements in the LFB were south-directed and reminiscent of lateral escape tectonics, possibly in response to the southward movement of the Thompson Fold Belt. The LFB became progressively fragmented, with one portion, the western LFB, including the Selwyn Block, remaining attached to the Gondwana margin, protected from south-directed movements behind the broad promontory of the Curnamona Craton. A para-autochthonous portion—the Tabberabbera Zone, Hay-Booligal Zone and northern Stawell Zone—was peeled away from the Delamerian margin and oroclinally folded. An allochthonous portion comprising much of the central and eastern LFB, Wagga-Omeo Metamorphic Complex, and Macquarie Arc, detached from the margin and moved south along major strike-slip faults.

The main fault may be the Kiewa-Kancoona Fault System, interpreted to underlie the Bootheragandra Fault in NSW. This dextral strike-slip fault system initiated in northern NSW and propagated southeast, cutting across the Stawell Zone into the interior of the Lachlan Orogen. Faulting was focussed into the hot weak back-arc west of the Macquarie Arc: the Wagga-Omeo Metamorphic Complex. As the Kiewa-Kancoona Fault cut across the arc it began to founder in low-grade forearc terranes (Tabberabbera and Mallacoota zones). Instead these regions deformed by oroclinal folding.

The Selwyn Block and the Macquarie Arc acted as rigid indentors. Their oblique convergence during the Bindian Orogeny controlled the locus of oroclinal folding of intervening zones. As the Macquarie Arc moved southeast past the Selwyn Block along the Kiewa-Kancoona Fault System, the Tabberabbera Zone underwent more than 90° clockwise rotation to form the middle limb of a Z-shaped oroclinal fold of ~400km amplitude, arriving against the eastern margin of the Selwyn Block in the Early Devonian. There was concomitant clockwise rotation of the Hay-Booligal Zone and northern portion of the Stawell Zone as they were peeled out from their former position along the Delamerian craton margin. The Hay-Booligal Zone may restore as part of the Macquarie Arc. The western limb of the Z-fold includes the Bendigo Zone. The eastern limb includes the Mallacoota Zone. Hinge regions are the east–west trending portions of the northern and southeastern Tabberabbera Zone, and southwest Kuark Zone.

This is a powerful new model. It does not require multiple subduction zones to explain reversals in vergence and observed complex distribution of sedimentary packages, explaining them by subsequent oroclinal folding developed ahead of strike-slip faults. It also fits new aeromagnetic data, and explains the palaeogeographic relationships without need of the Baragwanath Transform concept.

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Funding for travel within Australia is capped at $500 and funding for international travel is capped at $700.

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

Completed application forms can be scanned and emailed to: secretary@vic.gsa.org.au
or mailed to:

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

Applications forms will be available on the website soon or can be requested from Barbara Wagstaff (wagstaff@unimelb.edu.au). More information including eligibility criteria can be found on the form and by contacting Barbara.

The Future of Cities in the Low Carbon Economy - FREE PUBLIC SEMINAR

What will cities look like in a low carbon economy? Should we expect a radically different way of life? What role will information technology play in the future city and the process of transformation; will there be enough power to run the internet? In light of these, and other important questions regarding the future of cities, experts will discuss challenges and innovation in areas such as building design, heating and cooling, lighting, transport, and information/communication technologies.

When: Wednesday 18th August, 6.15pm – 8.15pm
Where: Carrillo Gantner Theatre, Sidney Myer Asia Centre, University of Melbourne

Chaired by: Mr Peter Mares (ABC Radio National, Swinburne University of Technology)

Speakers: Professor Rob Adams AM (Director, City Design, City of Melbourne), Professor Chris Ryan (Director, Victorian Eco-Innovation Lab, University of Melbourne), Mr Michael Ambrose (Group Leader, Urban Dynamics and Transition group, CSIRO), Professor Rod Tucker (Director, Institute for a Broadband-Enabled Society, University of Melbourne)

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AusIMM
THE MINERALS INSTITUTE
Education Endowment Fund

An Ancient Earth Like Ours: Geologists Reconstruct Earth's Climate Belts Between 460 and 445 Million Years Ago

Science Daily

An international team of scientists has reconstructed the Earth's climate belts of the late Ordovician Period, between 460 and 445 million years ago. The findings have been published online in the Proceedings of the National Academy of Sciences -- and show that these ancient climate belts were surprisingly like those of the present.

The team of scientists looked at the global distribution of common, but mysterious fossils called chitinozoans -- probably the egg-cases of extinct planktonic animals -- before and during this Ordovician glaciation. They found a pattern that revealed the position of ancient climate belts, including such features as the polar front, which separates cold polar waters from more temperate ones at lower latitudes. The position of these climate belts changed as the Earth entered the Ordovician glaciation -- but in a pattern very similar to that which happened in oceans much more recently, as they adjusted to the glacial and interglacial phases of our current (and ongoing) Ice Age.

See full text for more information:

Vandenbroucke, T.R.A., Armstrong, H.A., Williams, M., Paris, F., Zalasiewicz, J.A., Sabbe, K., Nolvak, J., Challands, T.J., Verniers, J. & Servais, T. Polar front shift and atmospheric CO2 during the glacial maximum of the Early Paleozoic Icehouse. Proceedings of the National Academy of Sciences, 2010; DOI: 10.1073/pnas.1003220107

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August 26 **Ross Cayley**, Geoscience Victoria: South-directed oroclinal folding in the Lachlan Fold Belt: unravelling Mid-Late Silurian fold belt assembly to solve apparent Ordovician–Early Silurian complexity

September 30 6:15pm **SELWYN LECTURE** and presentation of Selwyn Medal

see website for further details in the coming weeks

October 28 **Robyn Pickering**, The University of Melbourne: South African early hominin evolution

WELCOME TO OUR NEW MEMBERS

Chris Medlin
Yvonne Ormesher
Jessica Blosser
Kellie Cooper
Tamar Scholte
Dilip Prankumar

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Please send your news to: tag@gsa.org.au

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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THE VICTORIAN GEOLOGIST

GEOLOGICAL SOCIETY OF AUSTRALIA Incorporated

September 2010

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2010

Thursday 30th September at 6:15 p.m.

SELWYN LECTURE 2010
Climate Change - a view from the Quaternary

Brad Pillans
Chair
Geological Society of Australia

Fritz-Loewe Theatre, Earth Sciences Building, The University of Melbourne
Preceded at 5:30 p.m. by drinks and nibbles in the tea-room, 4th floor. Cost $2

The Quaternary Period, or the last 2.6 million years of earth history, is characterised by the episodic growth and decay of massive ice sheets that covered large areas of Scandinavia, North America and Russia. There is strong evidence to suggest that these glacial-interglacial climate changes were driven by changes in the earth's orbital parameters – precession, obliquity and eccentricity – and amplified by complex feedback mechanisms operating through ocean and atmospheric changes. In this talk I will argue that our understanding of Quaternary climate changes allows us to better assess anthropogenic impacts on the global climate system.

The Selwyn lecture will be preceded by the Selwyn medal presentation. In 2010 the Selwyn Medal is awarded to **Professor Mike Hall**

Selwyn Dinner

The Selwyn dinner will be held at Cafe Italia following the seminar at approximately 7:30pm.
RSVP essential by COB Monday 27th September to
Adele Seymon at Adele.Seymon@dpi.vic.gov.au or 9658 4523 (BH)

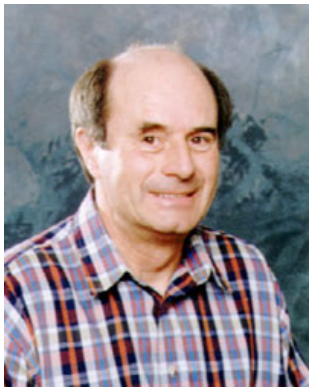
No RSVP required for the Selwyn Lecture

AWARDS

2010 Selwyn Medal Winner

Prof W.D.M. (Mike) Hall

Monash University



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 paragraphs contain some excerpts from the citation support statement submitted by Martin Norvick and Ray Cas. The full statement can be read at www.vic.gsa.org

Over a distinguished geological career spanning 50 years, Mike has worked for the international and domestic minerals and petroleum industries, for governments, and also for academia. During this time he has made significant geological discoveries in all of the world's continents, as well as all states within Australia. He as also served the Geological Society of Australia as a former chairman of the WA division and as a committee member in Victoria.

One of his major scientific successes in recent years has been to rejuvenate the structural and stratigraphic understanding of the Otway Basin via detailed outcrop mapping and integration with industry seismic data, and regional gravity and magnetic data. He has helped to promulgate the geological understanding of the Otway Basin by leading numerous field trips to the Otway coastal outcrops for industry, academic conferences and students. Even now, this work is entering a new phase via his acquisition of new outcrop and geophysical data.

He continues to be active both in the petroleum and geothermal industries in Victoria through his association with the 3D-Geo geological consultancy, and also through supervision of further honours and postgraduate students at Monash University. In addition to research in the Otway Basin, he has ongoing structural geological projects in northern and southwestern Tasmania and New Zealand, particularly the Wanganui and Wairarapa basins. In recent years he has expanded his research portfolio to include sedimentological and basin analysis studies in the Late Tertiary basins of New Zealand, Cretaceous break-up basins in Brazil and sedimentological studies on the palaeoenvironmental context of newly discovered Edicaran fossils in Namibia.

Obituaries

RAYMOND GEORGE (RAY) SANDERS
13th November 1940 – 4th July 2010

Ray was an enthusiastic GSA member, regularly attending the technical meetings of the Victorian Branch. He was also a member of the Australian Geomechanics Society and Australian Tunnelling Society. Ray died on 4 July 2010 of prostate cancer aged 69 years.

Ray was born in Melbourne and during his childhood lived at Hawthorn where he attended Hawthorn West Primary School and then Richmond Technical College. He undertook tertiary studies at the Royal Melbourne Institute of Technology graduating in geology. In 1968 he moved to Park Orchards where he lived for 42 years.

1961 to 1965 Ray worked for the Country Roads Board as an assistant experimental officer field testing soil and gravel materials; and 1965 to 1967 Ray spent two years in UK working for Marconi as a scientific officer testing crystals.

1967 to 1991 Ray was employed as an engineering geologist/senior engineering geologist with Melbourne & Metropolitan Board of Works (MMBW) later known as Melbourne Water. These were the golden years of sewer and water supply development for Melbourne and much geological work was required for major tunnels and dam construction. At its peak strength the Geology Section employed a dozen engineering geologists and geology trained technical officers.

Ray was involved as site geologist at major infrastructure projects that included Sugarloaf Reservoir construction, Silvan Dam wall strengthening and large boring machine tunnels: South Eastern Trunk Sewer, Western Trunk Sewer and Dandenong Valley Trunk Sewer.

1991to 2000, Following government action resulting in privatisation and wholesale dismantling of engineering and technical services at Melbourne Water, Ray moved to Coffey Geosciences as a Senior Engineering Geologist. There he continued with work on the construction of the North Western Trunk Sewer (a Melbourne Water project) and then on a variety of other projects including Crafers Road Tunnel, nr Adelaide; Mercury Tunnel for high voltage cables, Penrose, New Zealand; and Northside Storage Tunnel, Manly, NSW.

Ray retired from full-time work in late 2000 on his 60th birthday. In retirement he worked as a volunteer with several landcare organisations and was Vice-President of the Andersons Creek Catchment Area Landcare Group. He also coordinated the walks program for the Park Orchards Learning Centre.

Through his life, Ray had many outdoors interests. He was a Queen's Scout, Scout Leader and founding member of the Scout First Aid Service. He bushwalked in Victoria and Tasmania and was a member of the Victorian Climbing Club and the Victorian Caving Club. In the late 1970's he was a member of the St John Ambulance Brigade.

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Obituaries

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Ray enjoyed the camaraderie of the workforce at construction sites. His ever polite demeanour earned him the prefix "Mild Mannered Ray" but that's not to say he couldn't get fired up when occasion demanded. For extended periods Ray artfully avoided being under the thumb and evil eye of general office management. He was a quiet achiever, providing on the spot advice, performing testing and meticulously mapping and recording geological conditions. For tunnels this information was used to study construction support requirements, TBM performance and excavation progress.

During a private visit to the UK in 1989 Ray was invited underground (Russell Cutler) to inspect the construction of the Channel Tunnel near Dover, Kent. (Ray said the Chief Geologist told him "The geology down here is very boring – chalk, chalk and more chalk".)

From extensive firsthand knowledge of tunnelling conditions in the network of major sewer tunnels beneath Melbourne, Ray contributed sections on the Palaeozoic bedrock in *Engineering Geology of Melbourne* published by Australian Geomechanics Society, Victorian Group in 1992.

Ray is survived by his wife Sylvia, to whom he was married for 45 years, daughter Robyn and son David. He had one grandson, Aedan. Ray is sadly missed by family and colleagues.

In the photo: Ray inspecting the exposed tunnel crown behind the head of a TBM in one of Melbourne Water's major sewer tunnels. He is wearing his trademark white overalls that were a safety measure (before the days of reflective stripes) particularly to help be seen by tunnel locomotive drivers.

OWEN PEMBER SINGLETON

(death notice from The Age)
"SINGLETON. - Owen Pember. Died peacefully in his sleep at the Alfred Hospital on Sunday Aug. 29, 2010 aged 85 years Eldest son of the late Frederick Alexander and Collwyn Singleton (both dec.). Loved brother of Patrick Singleton. A dedicated teacher of Geology in particular as seen in the field."

Dr Owen Singleton was, for 47 years, a member of the Geology Department (University of Melbourne) which later became the School of Earth Sciences. Owen Singleton worked on many aspects of geology, with an emphasis on the field geology of Victoria. He had an exceptionally detailed knowledge of the state and a remarkable memory for locations, passing his knowledge on to younger geologists. His father's work on fossils, particularly of the Tertiary, formed Owen's own

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Obituaries

CONTINUED FROM PREVIOUS PAGE...

initial interest in palaeontology. In the 1960s and 1970s he published a series of field-based articles which became the basis for local field teaching over many years.

He was Secretary of the Victorian Division of The Geological Society of Australia for five years, from 1955-1959, and an invited speaker to the Division on many occasions. He was also a Life Member of the Royal Society of Victoria.

Owen was a regular attendee at the School Christmas parties, and most Thursdays he could be found dining in Carlton with colleagues and past students, often discussing the origin and evolution of the landscape of the planet Mars.

In retirement, Owen and his brother Patrick continued to maintain their large garden in Croydon, specialising in small bulbs of the Middle East and other regions, as well as rare exotic trees. Their garden has been part of the Victorian Open Gardens scheme, and in 1998 they appeared in on the television garden program Burke's Backyard, where their Greek amphitheatre was featured.

Earth Science Week 2010

AGI invites you to take part in Earth Science Week 2010! Being held October 10-16, Earth Science Week 2010 will encourage people everywhere to explore the natural world and learn about the geosciences.

"Exploring Energy," the theme of Earth Science Week 2010, will engage young people and the public in learning about Earth's energy reources.

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

Forthcoming Events

IUGG2011:***" Earth on the Edge: Science for a Sustainable Planet"***

Melbourne Convention and Exhibition Centre, 28th June – 7th July, 2011

- ***Registrations opened 16th August, 2010***
- ***Abstract submission period 16th August, 2010 – 17th January, 2011***
- ***Conference website now open: http://www.iugg2011.com***
- ***Scientific program of symposia, workshops, fieldtrips, together with symposia convenors, plenary and keynote speakers already available on website***

The major, international IUGG2011 General Assembly conference will be held at the new Melbourne Convention and Exhibition Centre from 28th June to 7th July, 2011. IUGG (or the International Union for Geodesy and Geophysics) is a collaborative grouping of eight scientific learned societies or associations, as follows:

- International Association for **Cryospheric Sciences** (IACS)
- International Association of **Geodesy** (IAG)
- International Association of **Geomagnetism and Aeronomy** (IAGA)
- International Association of **Hydrological Sciences** (IAHS)
- International Association of **Meteorology and Atmospheric Sciences** (IAMAS)
- International Association for the **Physical Sciences of the Ocean** (IAPSO)
- International Association of **Seismology** and Physics of the Earth's Interior (IASPEI)
- International Association of **Volcanology and (geo)Chemistry** of the Earth's Interior (IAVCEI)

Each association has organised its own comprehensive, discipline specific program of symposia, which is already available on the conference website at www.iugg2011.com In addition, there will be many joint symposia organized by two or more associations on topical, inter-disciplinary themes, there is a conference plenary speakers program, most symposia will have invited keynote speakers, and some associations are organizing **fieldtrips** (e.g. volcanology fieldtrips to Philippines, Indonesia, Rabaul, PNG, Vanuatu, New Zealand and Australia), and **workshops** on topical issues. Details are again available on the website.

The general conference theme for the IUGG2011 conference is ***" Earth on the Edge: Science for a Sustainable Planet".*** IUGG2011 will be the largest multi-disciplinary geophysical meeting to be held in Australia, and in excess of 3,000 delegates are expected to attend. So, in addition to the discipline specific program of symposia that each association has organised, the scientific program will address many of the environmental, sustainability and hazard issues facing Australia,

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Forthcoming Events

CONTINUED FROM PREVIOUS PAGE...

New Zealand and the Earth at large, including climate change, extreme weather events, melting glaciers and ice-caps, rising sea-levels, water in arid countries, earthquake hazards and tsunamis, and volcanic hazards, processes and natural resources.

The conference website is now open at http://www.iugg2011.com, with information about the conference, the scientific program of symposia, workshops and fieldtrips. On-line registration for the conference opened on the website on 16th August, as well as for fieldtrips, social touring, and accommodation.

The call for abstract submission has also now opened, with the deadline for abstract submission being 17th January, 2011.

Six reasons to come to IUGG2011:

1. Opportunity to participate in an exciting, multi-disciplinary conference on cutting edge geoscience.
2. Take part in an outstanding Scientific Program of plenary speakers, keynote speakers, symposia, fieldtrips and workshops.
3. Participate in the dedicated, interactive poster presentations, exhibitions and sponsors displays that will be valuable and stimulating.
4. The new Melbourne Convention Centre, completed in late 2009, is one of the most modern convention centres in the world. The whole conference will be held under the one roof, in a building that is purpose built for large conferences and conventions.
5. Visit one of the most live-able cities in the world. Melbourne is a beautiful city with fine buildings and spacious parks. Immigrants from many, many countries have given Melbourne a multi-cultural, cosmopolitan outlook, and the city has developed as the cultural, fashion, shopping, sporting and culinary centre of Australia.
6. Take that holiday in Australia and New Zealand that you've always wanted to take. Visit the rugged coastal scenery, vineyards and ski fields of southern Australia and New Zealand, or the warm beaches, the Great Barrier Coral Reef system and arid inland of the "Red Centre" of northern, tropical Australia, at the most perfect time climatically to visit the tropical north.

The Joint Australia and New Zealand Organising Committee of IUGG2011 looks forward to welcoming international geoscientists to the 2011 IUGG General Assembly in Melbourne.

(Professor) Ray Cas,
On behalf of the Joint Australian and New Zealand Organising Committee,
IUGG2011 General Assembly,
Melbourne, Australia,
28th June – 7th July, 2011.

BE THERE !

FORTHCOMING EVENTS

Monash University upcoming seminars

Fri 24th September 2010, 12 noon, S1, Building 25, Clayton Campus:

Dr Fred Prata, Norwegian Institute for Air Research:
"Transport and aviation hazard from the Eyjafjallajökull volcanic ash determined from satellites and dispersion modelling"

Fri 8th October 2010, 12 noon, S1, Building 25, Clayton Campus:

Prof Chris Wilson, University of Melbourne:
"Deformation of calcite-muscovite: reactions and role of stress at grain boundaries"

Fri 15th October 2010, 12 noon, S2, Building 25, Clayton Campus:

Dr David Jones, Univeristy of Bristol / Monash University:
"Synchrotron-based Paleontology"

For more information contact:
Simon Jowitt (simon.jowitt@monash.edu) or Ph: 9905 1119

Or go to:
http://www.geosci.monash.edu.au/seminar/index.html

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

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

If there are any events, happenings, news, or views that would be of interest to the membership, please send your details and information to Alison Fairmaid (a.fairmaid2@pgrad.unimelb.edu.au) or Gemma Prata (gemma.prata@monash.edu)

We'd be glad to hear from you!

STUDENT FUNDING OPPORTUNITIES

Geological Society of Australia (Victoria Division) Student Research Scholarships

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

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

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

BICENTENNIAL GOLD 88 ENDOWMENT

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

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

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

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

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

Some conditions may apply.

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

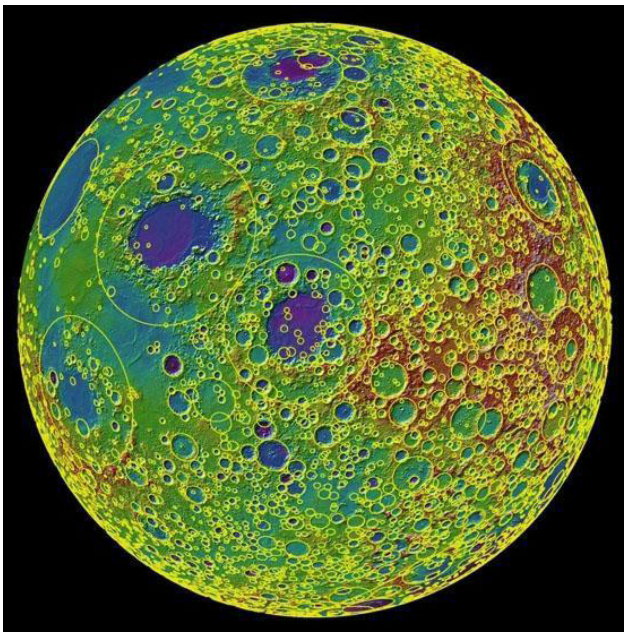
Applications close on Wednesday, 29 September 2010

AusIMM
THE MINERALS INSTITUTE
Education Endowment Fund

Science News

Moon's Craters Give New Clues to Early Solar System Bombardment

from Science*Daily*
17 Sep 2010



Take a cursory look at the moon, and it can resemble a pockmarked golf ball. The dimples and divots on its surface are testament that our satellite has withstood a barrage of impacts from comets, asteroids and other space matter throughout much of its history. Because the geological record of that pummeling remains largely intact, scientists have leaned on the moon to reconstruct the chaotic early days of the inner solar system.

Now a team led by Brown University planetary geologists has produced the first uniform, comprehensive catalog of large craters on the moon that could shed light on the full-scale, planetary bombardment that characterized the inner solar system more than 4 billion years ago. In a paper appearing on the cover of Science, the team used data from the Lunar Orbiter Laser Altimeter, one of a suite of instruments aboard NASA's Lunar Reconnaissance Orbiter, to identify and map 5,185 craters that are 20 kilometers in diameter or larger.

Journal Reference:
James W. Head, III, Caleb I. Fassett, Seth J. Kadish, David E. Smith, Maria T. Zuber, Gregory A. Neumann, and Erwan Mazarico. **Global Distribution of Large Lunar Craters: Implications for Resurfacing and Impactor Populations.** *Science*, 2010; 329 (5998): 1504-1507 DOI: 10.1126/science.1195050

The Biggest Crash on Earth: India Slides Under Tibet, but How?

from Science*Daily*
17 Sep 2010

During the collision of India with the Eurasian continent, the Indian plate was pushed about 500 kilometers under Tibet, reaching a depth of 250 kilometers. The result of this largest collision in Earth's history is the world's highest mountain range. But even more recently, the collision could be felt -- for example, the earthquakes that created the 2004 tsunami in the Indian Ocean.

The clash of the two continents is very complex. The Indian plate, for example, is compressed where it collides with the very rigid plate of the Tarim Basin at the northwestern edge of Tibet. On the eastern edge of Tibet, the Wenchuan earthquake in May 2008 claimed over 70,000 lives.

Scientists at the GFZ German Research Center for Geosciences report in the latest issue of the journal Science on the results of a new seismic method which was used to investigate the collision process.

Journal Reference:
Rainer Kind and Xiaohui Yuan. **Seismic Images of the Biggest Crash on Earth.** *Science*, 2010; 329 (5998): 1479-1480 DOI: 10.1126/science.1191620

FORTHCOMING SEMINARS AND EVENTS

to be presented at

GSA (Victoria Division) meetings

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

September 30	**SELWYN LECTURE** and presentation of Selwyn Medal	
	Brad Pillans Chair Geological Society of Australia	Climate Change – a view from the Quaternary
October 28	**Robyn Pickering** The University of Melbourne	South African early hominin evolution
November 25	TBA	

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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THE VICTORIAN GEOLOGIST

October 2010

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2010

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

Dating human origins in South Africa: caves, cliffs and clean labs

Robyn Pickering

Fritz-Loewe Theatre, Earth Sciences Building, The University of Melbourne
Preceded at 5:30 p.m. by drinks and nibbles in the tea-room, 4th floor. Cost $2

All the earliest human fossil (hominin) remains are found in Africa, from the very beginnings of our own genus Homo around 2 million years ago through to the first sign of modern human behaviour at around 164 thousand years ago. The caves near Johannesburg known as the 'Cradle of Humankind' and the caves in the cliffs near Mossel Bay along the southern coast of South Africa are the two richest sources of this evidence. An accurate method of dating the fossil remains of our earliest human ancestors is vital in understanding the chronology and exact location within Africa of mankind's development. Uranium-Lead dating of the cave deposits themselves, particularly the speleothem or flowstone layers, sandwiched between the fossil bearing sediments, is currently the best method for this. Sophisticated laboratory facilities are needed for this dating and only recently have the methods become routine. New dates for cave from these two areas have had profound impacts on the placement of the South African material within the African fossil record, as well as in our own human 'family tree'. Uranium-Lead dating was also used to provide an age of 1.95 million years to the new species of hominin, *Australopithecus sediba*.

The new species *Australopithecus sediba* announced in Science in April 2010

TALK DETAILS CONTINUED

Biography of Dr Robyn Pickering

Robyn Pickering is a McKenzie post-doctoral fellow in the School of Earth Sciences at Melbourne University. Originally from South Africa, Robyn undertook her undergraduate and MSc studies at the University of the Witwatersrand, Johannesburg. She completed a PhD at the University of Bern, Switzerland in May 2009 and moved on to Australia to take up a position in the Isotope Group at Melbourne University. Robyn's research interests lie in using isotope geochemistry to investigate the age and palaeo-environment of mainly carbonate rocks. She uses U-Pb and U-Th dating methods to provide ages for cave deposits (speleothems) associated with early human fossils and is particularly interested in the development of the associated laboratory and analytical techniques, as well as the chronology of human evolution and the connection between Pleistocene climate change and the early hominin fossil record.

Dr Robyn Pickering

2010 Selwyn Medal Awards Ceremony

Presentation of the Selwyn Medal and Selwyn Lecture by Brad Pillans

By Gemma Prata

This year the Selwyn Medal was awarded to Prof. Mike Hall of Monash University. Mike has had a distinguished career spanning 50 years making significant geological discoveries on each of the world's continents and throughout Australia. One of the highlights of his career has been his contribution to the rejuvenation of the structural and stratigraphic understanding of the Otway Basin. Although technically retired from academia, he continues to supervise numerous honours

Prof. Mike Hall with the Selwyn Medal

From left to right: Prof. Mike Hall, Prof. David Cantrill (Chair of the Vic Division), Ingrid Campbell (Chair of the Awards Committee)

Previous Selwyn Medal winners
From left to right: Fons VandenBerg, Guy Holdgate, Bernie Joyce, Mike Hall and Andrew Gleadow

CONTINUED ON NEXT PAGE...

Member Contributions

CONTINUED FROM PREVIOUS PAGE...

and postgraduate students at Monash University and is active in both the petroleum and geothermal industries through his 3D-Geo geological consultancy. A summary of his support statement can be found in last month's TVG or the full statement can be read online at www.vic.gsa.org. The award ceremony on the evening of 30th of September was followed by the Selwyn Lecture, which this year was given by the new Chair of the Federal Division of the GSA, Prof. Brad Pillans. Brad gave an excellent presentation on palaeoclimate change through the Quaternary highlighting the effects of the Earth's orbital patterns on the climate system. He concluded by emphasizing the importance of understanding how the climate behaved in the past in order to better asses anthropogenic influences on today's climate. His talk was followed by some interesting discussion and debate from the audience.

In the photo:
Prof. David Cantrill thanking Prof. Brad Pillans for his talk entitled: "Climate change – a view from the Quaternary"

A Summary of the AASP Pollen and Spore Master Class

August 16-20, 2010, Utrecht, The Netherlands

By Chris Mays
Monash University

The Spore and Pollen Master Class, held in the beautiful town of Utrecht amid canals and cobblestone roads, was the first such workshop in the world. It was a global meeting of minds, with representatives from all continents, even Antarctica - one of the presenters, Jim Riding, is a member of the British Antarctic Survey! I, along with a fellow postgraduate student Jess Taglieri, represented the Australasian contingent. Having such a disparate group of researchers opened my eyes to the diversity of research techniques being applied, localities being investigated and opportunities being presented in the field of palynology. These applications include environmental interpretations, floral biodiversity, biozonation and hydrocarbon exploration. Of course, this diversity of research and researchers also raises its own challenges, especially in taxonomy ("You call THAT *Classopollis*?!");

CONTINUED ON NEXT PAGE...

Member Contributions

CONTINUED FROM PREVIOUS PAGE...

this is one reason why such open discussions are vital - to level the playing field and prevent any divergence in jargon.

Much of the content was dedicated to examining the index pollen and spore taxa throughout geological history, ever since plant colonization of the land in the Ordovician. These index taxa are not only important for biostratigraphy and biozonation, but they also reflect the fluctuating conditions of the environment and the long-term evolutionary trends of land plants. The presenters, including Carlos Jaramillo, Thomas Demchuk, Andy Lotter, Robert Morley and Jim Riding, were almost as diverse as the taxonomy, each with their own specialty within the field. However, there is a major trend in the palynological community to apply the techniques of Quaternary palynology as a key to the past. By analyzing abundance and diversity data through an array of statistical approaches, a dazzling amount of detail can gleaned for all aspects of sedimentary geology, especially in regards to past environments.

The workshop included a trip to Maastricht, a town best known in geological circles as the namesake for the latest stage of the Cretaceous, the Maastrichtian. Here we visited the Natural History Museum, featuring a range of fossils, most notably the exquisite Mosasaurs that have been found in the nearby Late Cretaceous fossil beds. After this, we headed underground into some of the extensive limestone caves that riddle the region. This is where we were shown a newly discovered locality of the Cretaceous-Paleogene boundary, as well as given a brief summary of the research undertaken on the sequence.

One of the shortcomings of the workshop was an overall lack of students, and the content tended to be aimed at folks with a few years of palynological research under their belts. This makes it hard for entry-level students in the field to gain a foothold, although the emerging consensus from the workshop was that this issue will be addressed in future meetings. As mentioned above, this was the first workshop of its kind, and feedback for improvements was graciously accepted. Most researchers recognise the need to promote interest in the next generation. That being said, this shouldn't be a reason for the young ones to shy away from these meetings; on the contrary, a greater interest by students would sway the organizers and presenters to cater the content accordingly. I heartily recommend this master class to any students interested in sedimentary basin studies, terrestrial biodiversity and palaeoenvironmental interpretations.

As all students realise, it's not cheap to attend such events, and it was only through the kind financial contributions by the Geological Society of Australia (Victoria), the Palynological Society (AASP) and The Society for Organic Petrology (TSOP) that I could afford the trip. The trip was also partly funded by a Research Initiatives grant awarded to Dr. Jeffrey Stilwell, Monash University. Once again, this goes to show how researchers in palynology, and geology in general, are eager to promote science through the students in the field, and I'm inspired by their generosity and their long-term scope.

Chris's trip was partially funded by the GSAV Student Research Scholarship

Forthcoming Events

IUGG2011:***" Earth on the Edge: Science for a Sustainable Planet"***

Melbourne Convention and Exhibition Centre, 28th June – 7th July, 2011

- ***Registrations opened 16th August, 2010***
- ***Abstract submission period 16th August, 2010 – 17th January, 2011***
- ***Conference website now open: http://www.iugg2011.com***
- ***Scientific program of symposia, workshops, fieldtrips, together with symposia convenors, plenary and keynote speakers already available on website***

The major, international IUGG2011 General Assembly conference will be held at the new Melbourne Convention and Exhibition Centre from 28th June to 7th July, 2011. IUGG (or the International Union for Geodesy and Geophysics) is a collaborative grouping of eight scientific learned societies or associations, as follows:

- International Association for **Cryospheric Sciences** (IACS)
- International Association of **Geodesy** (IAG)
- International Association of **Geomagnetism and Aeronomy** (IAGA)
- International Association of **Hydrological Sciences** (IAHS)
- International Association of **Meteorology and Atmospheric Sciences** (IAMAS)
- International Association for the **Physical Sciences of the Ocean** (IAPSO)
- International Association of **Seismology** and Physics of the Earth's Interior (IASPEI)
- International Association of **Volcanology and (geo)Chemistry** of the Earth's Interior (IAVCEI)

Each association has organised its own comprehensive, discipline specific program of symposia, which is already available on the conference website at www.iugg2011.com In addition, there will be many joint symposia organized by two or more associations on topical, inter-disciplinary themes, there is a conference plenary speakers program, most symposia will have invited keynote speakers, and some associations are organizing **fieldtrips** (e.g. volcanology fieldtrips to Philippines, Indonesia, Rabaul, PNG, Vanuatu, New Zealand and Australia), and **workshops** on topical issues. Details are again available on the website.

The general conference theme for the IUGG2011 conference is ***" Earth on the Edge: Science for a Sustainable Planet".*** IUGG2011 will be the largest multi-disciplinary geophysical meeting to be held in Australia, and in excess of 3,000 delegates are expected to attend. So, in addition to the discipline specific program of symposia that each association has organised, the scientific program will address many of the environmental, sustainability and hazard issues facing Australia,

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Forthcoming Events

CONTINUED FROM PREVIOUS PAGE...

New Zealand and the Earth at large, including climate change, extreme weather events, melting glaciers and ice-caps, rising sea-levels, water in arid countries, earthquake hazards and tsunamis, and volcanic hazards, processes and natural resources.

The conference website is now open at http://www.iugg2011.com, with information about the conference, the scientific program of symposia, workshops and fieldtrips. On-line registration for the conference opened on the website on 16th August, as well as for fieldtrips, social touring, and accommodation.

The call for abstract submission has also now opened, with the deadline for abstract submission being 17th January, 2011.

Six reasons to come to IUGG2011:

1. Opportunity to participate in an exciting, multi-disciplinary conference on cutting edge geoscience.
2. Take part in an outstanding Scientific Program of plenary speakers, keynote speakers, symposia, fieldtrips and workshops.
3. Participate in the dedicated, interactive poster presentations, exhibitions and sponsors displays that will be valuable and stimulating.
4. The new Melbourne Convention Centre, completed in late 2009, is one of the most modern convention centres in the world. The whole conference will be held under the one roof, in a building that is purpose built for large conferences and conventions.
5. Visit one of the most live-able cities in the world. Melbourne is a beautiful city with fine buildings and spacious parks. Immigrants from many, many countries have given Melbourne a multi-cultural, cosmopolitan outlook, and the city has developed as the cultural, fashion, shopping, sporting and culinary centre of Australia.
6. Take that holiday in Australia and New Zealand that you've always wanted to take. Visit the rugged coastal scenery, vineyards and ski fields of southern Australia and New Zealand, or the warm beaches, the Great Barrier Coral Reef system and arid inland of the "Red Centre" of northern, tropical Australia, at the most perfect time climatically to visit the tropical north.

The Joint Australia and New Zealand Organising Committee of IUGG2011 looks forward to welcoming international geoscientists to the 2011 IUGG General Assembly in Melbourne.

(Professor) Ray Cas,
On behalf of the Joint Australian and New Zealand Organising Committee,
IUGG2011 General Assembly,
Melbourne, Australia,
28th June – 7th July, 2011.

BE THERE !

FORTHCOMING EVENTS

Monash University upcoming seminars

Fri 22nd October 2010, 1pm, S2, Building 25, Clayton Campus:

> **Dr Mark Quigley**, Univeristy of Canterbury, New Zealand:
> *"The September 4th Canterbury Earthquake: What happened and what next?"*

Fri 29th October 2010, 12 noon, S10, Building 25, Clayton Campus:

> **Dr David Jones**, Univeristy of Bristol / Monash University:
> *"Synchrotron-based Paleontology"*

For more information contact:
Simon Jowitt (simon.jowitt@monash.edu) or Ph: 9905 1119

Or go to:
http://www.geosci.monash.edu.au/seminar/index.html

STAVCON - CALL FOR VOLUNTEERS

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Theme for 2010: Understanding science in a changing world

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Funding for travel within Australia is capped at $500 and funding for international travel is capped at $700.

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

Applications forms can be scanned and emailed to: secretary@vic.gsa.org.au

or mailed to:

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

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

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

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

If there are any events, happenings, news, or views that would be of interest to the membership, please send your details and information to Gemma Prata (gemma.prata@monash.edu)

We'd be glad to hear from you!

FORTHCOMING SEMINARS AND EVENTS

to be presented at

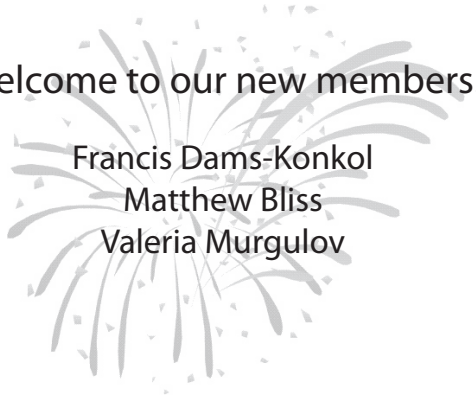
GSA (Victoria Division) meetings

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

October 28	**Robyn Pickering** The University of Melbourne	Dating human origins in South Africa: caves, cliffs and clean labs
November 25	TBA	

Talk on November 25th will be followed by the 2010 GSAV Christmas Party!

More details in the November issue of TVG



Welcome to our new members!

Francis Dams-Konkol
Matthew Bliss
Valeria Murgulov

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. •

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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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Vice-chair:	position vacant	
Secretary:	Adele Seymon	9658 4523 (BH)
Treasurer:	Barbara Wagstaff	8344 6537 (BH)

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

November 2010

THE GEOLOGICAL SOCIETY OF AUSTRALIA
Victoria Division

Next General Meeting for 2010

Thursday 9th December at 5:30 p.m.

The Geological Society of Australia Victoria Division would like to invite you to our annual Christmas Function at Museum Victoria

A short presentation will be given by Dr Bill Birch (Senior Curator, Geology)

Biography

Bill was born and educated in Melbourne, and after graduating from the University of Melbourne with a PhD in geology was appointed Curator of Minerals at the then National Museum of Victoria in 1974.

His work has taken him to many far-flung places in Australia and the rest of the world, such as Greenland, Pakistan and Canada, where he has collected rocks and minerals for the museum. He has described nearly 30 new minerals and published about 180 papers.

He has been involved with international mineralogical organisations for over 20 years and his contributions to geological knowledge and to scientific organisations have been recognised by the award of the Selwyn Medal by the Geological Society of Australia in 1999 and an AM (Member of the Order of Australia) in 2006.

Source: www.museumvictoria.com.au

Awards

FRANK CANAVAN AWARD

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 2010 Canavan Prize was awarded to Kathryn Owen from Monash University for the best second year student in Earth Sciences in Victoria.

DE THOMAS MEDAL

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. Submissions are sought by the selection committee from Geology or Earth Science Departments of Victorian universities.

The 2010 Thomas Medal was awarded to Ashleigh Hood from University of Melbourne for the best honours mapping thesis in Victoria. Ashleigh did her honours project on the newly discovered Oodnaminta Reef in the Flinders Ranges, South Australia. The reef is of Neoproterozoic (Cryogenian) age and contains evidence of pre-Ediacaran multicellular organisms. Ashleigh's project was to study the field geology and petrology of the Oodnaminta Reef. She produced a detailed map of the reef and surrounding sediments. Her mapping and petrology were outstanding and she gained a mark of 97% for her thesis. Ashleigh was awarded the GSA Canavan Prize in 2009 for the best second year student in Earth Sciences in Victoria.

Ingrid Campbell (Chair, Awards Committee)

From left to right: Ingrid Campbell (Chair, Awards Committee) and Kathryn Owen (Monash University), winner of the Frank Canavan Award

From left to right: Ashleigh Hood (University of Melbourne), winner of the DE Thomas Medal, and Ingrid Campbell (Chair, Awards Committee)

Member Contributions

Student Research Scholarship Article

Peter Hoiles, University of Melbourne, September/October 2010

With the help of the GSAV's Student Research Scholarship, I was fortunate enough to be able to travel to and present my research at the 2010 International Symposium on Foraminifera. The conference was held at the University of Bonn, Germany from 5-10th September and was attended by several hundred people from many different countries around the world. For those of you who don't know, foraminifera are single-celled protists which can be useful in biostratigraphy and palaeoceanography amongst other things. I've been using benthic foraminifera to chart the fine scale evolution of the Tsushima Current in the Sea of Japan and the Leeuwin Current which flows along the western coastline of Western Australia. My talk was held in the morning of the Tuesday session and although I was extremely nervous, I think it went well. If one can measure success by the number of people who didn't fall asleep, then I would have to say I was highly successful! Well, at least I didn't hear any snoring! Having my talk early in the week meant that I was able to concentrate on the rest of the sessions for the week and I learned quite a lot. It was great to be able to meet and discuss with people who I know of by name and reputation only! Putting a face to a name is always good. There was a choice of mid-conference field trips and I decided to visit the Messel Pit. The Messel Pit is a UNESCO World Heritage site that hosts amazingly well-preserved Eocene fossils and a recently finished visitor's centre displays some of these. From fossilised bats and fish to birds and even a caiman, this is definitely worth a visit if you are ever in the area! We went on a tour of the pit, met some of the palaeontologists who are searching for fossils and even got to look for some fossils ourselves. I wasn't successful, but that is okay since you aren't allowed to take things from the pit anyway. All in all, attendance at the conference was a valuable opportunity to meet other researchers in my field, expand my knowledge of the field and to see where the future lies. Presentation of research at an international conference is a major milestone for any PhD research student and I wish to thank the GSAV for making it possible.

Figure 1: The University of Bonn's Main Building, a 17th Century Baroque Palace.

Figure 2: *Palaeochiropteryx tupaiodon* – a fossil bat in the Visitor's Centre at the Messel Pit.

MEMBER CONTRIBUTIONS

A summary of the 2010 International School of Volcanology

September 27th – October 2nd 2010, Nicolosi, Catania, Italy

By Julie Boyce
Monash University

Participants of the school on the 1792-1793 lava flow field

The 2010 International School of Volcanology was the first of its kind, held by the AIV (Associazione Italiana di Volcanologia) in collaboration with INGV (Istituto Nazionale di Geofisica e Vulcanologia). The workshop focused on explosive basaltic volcanism, with case studies of Mt. Etna and the Hyblean plateau. The workshop took place in Nicolosi, a small town with gorgeous views of Mt. Etna, and included representatives from research institutes in Europe, Oceania and America. The Monash University presence included myself and three other postgraduate students - Jozua van Otterloo, Simone Jordan and Matthew Edwards.

The workshop was split into three lecture days and three field trips. Introductory lectures focused on a wide range of topics including volatiles and degassing, dynamics of magma ascent, fragmentation processes and transport and deposition of pyroclasts. The geology of the Hyblean Plateau and Mt. Etna was then described in detail in order to prepare us for the field trips.

Stratigraphy of the Loddiero valley

The first field day took us to the Hyblean Plateau. In the Loddiero valley can be seen a complete section of the Plio-Quaternary Hyblean Forelands northern margin, such as conglomerates and packstones; and Plio-Pleistocene tholeiitic and alkalic lavas. After a beautiful sunny morning, we were rained-off the Sortino Diatremes, but were amused to see so many geologists with umbrellas in the field!

During the second field day, we examined the pyroclastic deposits of Mt. Etna. Among other deposits, we examined the Monti Rossi scoria cone, which we took a scenic stroll

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Member Contributions

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around while looking at the fallout deposits of the 1669 eruption. Then it was off to the 1792-1793 lava flow field, composed of a'a and toothpaste lavas, and featuring several lava tubes. The Cassone lava tube featured beautiful lava stalactites and horizontal step marks indicating past levels of the molten lava.

The third field day was an optional excursion to Mt. Etna's summit craters, which unfortunately were too active on the day for the trip to take place. Instead, we took the cable car from Rifugio Sapienza and descended the Valle del Bove (Valley of the Oxen). The valley is a 5 km diameter depression on the eastern flank of Mt. Etna, over 1000 m deep. Origins of the valley remain unclear, but may be due to collapse of older volcanic centres of the volcano. The day offered spectacular and stunning views of Mt. Etna, as we walked over a lunar-esque landscape of scattered volcanic bombs lying in ash, past eroded sheeted dykes, 'skied' down steep ash slopes and walked over the lava flows.

'*Valle del Bove*'

Overall, the workshop was a great experience, allowing us to interact with international researchers and make important contacts, as well as meeting other postgraduate students of volcanology from around the world. Examining and learning about these deposits was important, as it allowed us to think about our own PhD projects and other possible directions we could take our research, and also about the similarities and differences between our volcanoes and Mt. Etna.

For myself, this trip was partly funded by both a Monash University travel grant, and a GSAV Student Research Scholarship, for which I am very thankful.

Member Contributions

38th IAH Congress "Groundwater Quality Sustainability" September 12th-17th 2010, Krakow, Poland

Sarah Hagerty, La Trobe University

I was recently lucky enough to attend the 38th Congress of the International Association of Hydrogeologists in Krakow, where the conference theme was "Groundwater Quality Sustainability." It was a pleasure and a privilege for me to meet expert hydrogeologists from around the world, and to put faces to names I have read repeatedly in journal articles. The standard of presentations at the conference was very high and topics included dealing with heterogeneity in hydrogeological systems, ecohydrology, using environmental tracers, surface water-groundwater interactions and management of transboundary aquifers.

I presented some of my PhD research in a paper entitled "Salt accumulation and groundwater recharge on granite slopes in southeastern Australia". Despite being the last presentation in a long session just before lunch, a long and interesting discussion was sparked that went over question time, and I finished up feeling freshly inspired to come back to Melbourne and finish writing my thesis!

The 520 delegates from around 70 countries (including around 20 people from Australia) had a good taste of Polish hospitality while at the conference. One highlight was a night at the Juliusz Słowacki Theatre where a gala dinner was proceeded by a performance from the spectacular KHW Symphony Orchestra. I can safely say a good time was had by all!

Thank you to the Victoria Division of the Geological Society of Australia, the Australian Institute of Nuclear Science and Engineering and La Trobe University for their financial support, which allowed me to attend the conference.

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

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New strat logging app for iPhone!

iGeoLog is the first iPhone App for drawing geological sections in the field. Forget your fieldbook, iGeoLog includes all the tools necessary to draw beautiful geological sections within minutes. It includes:

- *a geological section editor, letting the user set classical information such as thickness, bulge, horizontal offset, comments and numbering.*
- *the Feature Library lets you add textures to beds: limestone, dolomite, cross-bedded sandstone for example. The library contains > 40 textures for sedimentary rocks, > 30 textures for igneous rocks.*
- *the Feature Library also contains > 60 fossil classes/orders, enabling you to define the fossil content of a given bed with a few taps.*
- *the Feature Library follows FGDC Digital Cartographic Standard for Geologic Map Symbolization. More on www.fgdc.gov.*
- *the section editor lets you add the GPS coordinates when you are in the field (iPhone only). No additional GPS unit is required.*
- *a standard metric scale*

The sections can be sorted and listed with a standard list or with the geoFlow function.

See: http://itunes.apple.com/us/app/igeolog/id395150115?mt=8# for more information

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Date: Thursday December 9th

Time: 5:30pm til 7:30pm

Venue: Museum Victoria

Welcome to our new members!

Henry Renou

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