THE VICTORIAN GEOLOGIST



THE GEOLOGICAL SOCIETY OF AUSTRALIA

Victoria Division

General Meeting

Thursday 29th May at 7:00 p.m.

The pioneering work in seismography of John Milne

Dr William Twycross

CHANGE OF VENUE:

Mueller Hall, Royal Botanical Gardens, at 7 pm

Dress warmly for the Night Sky Tour at 8pm: see page 9 for registration

Dr Will Twycross is the great nephew of Professor John Milne, the father of the modern science of seismology. Will is a GP in Mansfield, and has also worked in Antarctica, England, Kenya, Liberia and India. For the centenary of Milne's death (1913), he made a documentary about Milne's life, which has featured at three international conferences, in Gothenburg, Manchester and Yokahama, and has recently been reviewed in "Nature".

At the midpoint of his twenty years in Japan, Milne visited Melbourne, and the Observatory became the home for two successive models of the Gray-Milne seismograph, one of which was bequeathed to Museum Victoria in 1945. Thus, the Melbourne Observatory became one of the sixty stations which made up the first worldwide network of seismographs, all reporting back to Milne on the Isle of Wight. In 1902, Milne gained backing to send a seismograph south with Scott's Discovery expedition, extending the network to every continent and ocean. It was housed in the magnetic shed, and monitored by Louis Bernacchi.

Dr Twycross will show excerpts from his documentary, and talk about the connection between Melbourne, the Melbourne Observatory and the father of seismology.

...ABSTRACT CONTINUED



As highlighted in "The maverick founder of modern seismology" by George Helffrich (*Nature* 503, 216-217; 2013), John Milne was eduacated at King's College London and the Royal School of Mines, and was involved in expeditions to Newfoundland, Egypt and Japan, amongst others. He has published work in *Transactions of the Asiatic Society of Japan* and was elected a fellow of the Royal Society of London in 1887. John Milne's obituary was published in *Nature* (91, 587–588; 1913).

Photo courtesy of Dr William Twycross

ANNUAL GENERAL MEETING

2014/15 GSAV Committee:

The results of the committee nomination from the AGM, held on the 24th of April, are presented below:

- Chairman: Vice Chairman: Secretary: Treasurer: Investments Administrator: Awards Subcommittee Chairman: Heritage Subcommittee Chairman: Education Subcommittee Chairman: Newsletter Editor: Melbourne University Student Representative: Monash University Student Representative: GSAV Committee:
- David Cantrill Vacant Adele Seymon Barbara Wagstaff David Moore Ingrid Cambell Susan White Shannon Burnett Kieran Iles Kieran Iles Hamed Aghaei Karen Kapteinis

VALE PETER PRITCHARD

Peter Pritchard: 10 March 1933 - 25 April 2014

Peter Pritchard, a long-time member of the GSA passed away on 25 April 2014. He was 81. Although born in Sydney, much of his early life was spent at his grandparents' property near Ivanhoe in western NSW, and it was here he acquired an interest in geology. While at university, work in a holiday job with Sam Carey in southwest Tasmania further set him on the course to become a geologist.

An honours year cadetship with the Bureau of Mineral Resources lead to a position there, and so to mapping in the Northern Territory, Queensland and PNG. At this time, he married Jan and the two of them saw a world remote from that of today's, where communication is expected to be instant no matter where you are, and fly-in-fly-out was only for the most senior management and perhaps once a year.

Work at the BMR lead him to an interest in phosphate geology and so to the University of Sydney for 3 years. In turn, this lead to positions at ICI and International Minerals Corporation (IMC). IMC took him to Florida, where he and Jan lived, and also to Senegal, Morocco, Siberia, Mongolia, China and South Africa looking at phosphates and back to PNG for porphyry exploration. He then joined Mobil Energy Minerals looking for uranium in Australia, and also lived in Denver whilst working in the northern North West Territories of Canada and Texas.

Back in Perth, Peter set up the UK Central Electricity Board's Australian uranium exploration company and spent much time in the field. It was great preparation for running a roof tile company in Wyee on the NSW central coast. When this was taken over, they came to Melbourne, where Peter worked as a consultant for many years, much of it looking at Madagascar for gold and gemstones and Victoria for gold. Here he was a great contributor to the GSA, serving as treasurer on the Federal Executive from 1992 to 1994, and on the Victorian committee until 2004. He is survived by his wife, Jan, and three daughters.

By David Moore



CROSSWORD: IGNEOUS GEOLOGY



Across:

- 9. Mafic mineral that looks like
- quartz in thin-section
- 10. Having grains too small to see
- 11. Component of SiO₂-
- undersaturated rocks

12. Large crystals set within finer grains

- 13. Alteration of feldspar
- 14. Hole in basalt
- 15. Like a latite, but less quartz
- 17. Lava of Ol Doinyo Lengai
- 18. Pillows on the sea-floor
- 21. Model involving solid-melt
- 'unmixing' (7.5)
- 22. Host of large emeralds
- 26. Gets inverted
- 29. Common felsic intrusive rock

Down:

2.

3.

- 1. CaFeSi₂O₆
 - Green mineral in mantle xenoliths (2,8)
 - Granite from Italy
- 4. Triclinic (K,Na)AlSi₃O₈
- 5. Double-chain silicate
- 6. Fe³⁺-poor epidote
- 7. Tectonic process related to andesite
- 8. Olivine, garnet and aluminosilicates, for example
- 12. Mantle rock
- 16. Rock composed mostly of plagioclase and

orthopyroxene

- 19. They come in islands and chains
- 20. Not fresh
- 23. Coarse-grained trachyte
- 24. Titanite
- 25. Foxy red-brown or chocolate brown mineral in granite
- 27. Fe-Ti oxide
- 28. Common to Earth and zircons





**** New Fellows & Medalists Symposium *** Australian Academy of Science

Dr Julie Arblaster - 2014 Anton Hales Medal Australian Bureau of Meteorology *The Ozone hole and climate change*

Professor John Bowman FAA School of Biological Studies, Monash University *Evolution of the cycles of life*

Dr Kieran Harvey - Gottschalk Medal Peter MacCallum Cancer Centre *Control of organ size - lessons from the Fly*

Professor Barbara Howlett FAA School of Botany, University of Melbourne *Controlling Plant Disease: from Genome to Paddock*

Professor Ivan Marusic FAA Department of Mechanical Engineering, University of Melbourne *Order in the chaos: Towards taming turbulence*

Professor Margaret Reid FAA CAOUS Centre, Swinburne University of Technology *Einstein versus Quantum Mechanics*

Professor Jamie Rossjohn FAA School of Biomedical Sciences, Monash University Immunity to vitamin B metabolites

Professor Ingrid Scheffer FAA University of Melbourne and Florey Institute of Neuroscience Understanding the sacred disease – epilepsy

Thursday, 12 June

5.30 - 7.00 pm

Auditorium Melbourne Brain Centre Kenneth Myer Building 30 Royal Parade Parkville

At this symposium, the newly elected Victorian Fellows of the Australian Academy of Science together with this year's medal winners will give brief presentations on their work. The symposium, of special interest to students and scientists of all ages and fields, is open to the public.







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







Coalfield Geolozy Council of New South Wales

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

NEWCASTLE, NSW, AUSTRALI

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

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

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

Plan your trip to Newcastle

Call for Abstracts: October 2013

Abstracts Deadline: March 2014

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

Presentation: Oral and poster

Registration: early 2014

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

Exhibition:

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

Supporters:

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

Expressions of interest: info@gsa.org.au

Convention location: Newcastle City Hall

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

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



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

THEMES

Energy

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





Coalfield Geology Council of New South Wales

Resources

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

Environment

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

Service and Community

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

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

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

Dynamic Planet

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

Living Earth

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

SYMPOSIA

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

Comparisons & Contrasts in Circum-Pacific Orogens

STUDENT FUNDING OPPORTUNITIES

Geological Society of Australia (Victoria Division) Student Research Scholarships

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

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



Eligibility

Applicants must be members of the GSA and enrolled in a full-time degree at a Victorian Tertiary institution and undertaking research in Geology. The scholarship will be awarded to assist with conference travel for honours and postgraduate students, who are presenting (either poster or talk) at the conference.

Honours and postgraduate students that receive this scholarship will be required to submit a report for publication in 'The Victorian Geologist' newsletter following to 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.

Students who have previously received a GSAV research scholarship are not eligible. Scholarships and bursaries from other sources are acceptable.

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 can be found 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 Kieran Iles at kiles@student.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



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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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