



# The Royal Society of Victoria

Promoting science and science education



PATRON: The Hon Alex Chernov AC QC  
Governor of Victoria

PRESIDENT: Dr Bill Birch AM BSc (Hons) PhD

## March 2015 Newsletter

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# March Meetings

## Best Friends or Mortal Enemies? The Complex Ecological Roles of Australia's Predators

The first March meeting will be held on **Thursday 12<sup>th</sup> March 2015 at 7.00 pm.**

**Speaker: Dr Euan Ritchie**

Faculty of Science, Engineering & Built Environment, Deakin University



Why are feral animals running rampant? And why are some of our native species causing environmental headaches too? One significant reason is the lack of balance that now characterises our ecosystems. A clear way to improve this situation would be to return native top predators, in particular dingoes and Tasmanian devils, to landscapes where they once occurred. This would allow these species to resume their important ecological roles.

The resurgence of apex predators across Europe and North America (species such as wolves, bears, lynx and mountain lions), demonstrates that biodiversity change is not a one-way street. Indeed, few would have predicted a predator renaissance in Europe 50 years ago. Yet, European society has deemed that predators are important to conserve and they are actively restoring them to *rewild* their landscapes.

There are emerging signs that Australians are up to the task too. In this talk, Eureka Prize-winner Dr Euan Ritchie will describe the complex interactions between Australia's predators and their prey. This knowledge is vital if we are to address current and future biodiversity conservation issues.

## Celebrating Maxwell – and Scientific Curiosity

The second March meeting will be held on **Thursday 26<sup>th</sup> March at 7.00 pm.**

**Speaker: Dr Robyn Arianrhod**

Adjunct Research Fellow, School of Mathematical Science, Monash University



Einstein once stated “one scientific era ended and another began with James Clerk Maxwell.” Indeed, it's hard to imagine life without radio, TV, mobile phones, and wireless computers, so it's worth celebrating the fact that the wireless revolution was born of pure curiosity. This year marks the 150<sup>th</sup> anniversary of James Clerk Maxwell's theory of electromagnetism, the result of 'pure' research which predicted the very existence of electromagnetic 'wireless' waves and revealed the electromagnetic nature of light.

A century after Maxwell's prediction, radio waves underpin our sophisticated communications technologies. WiFi, an Australian invention, arose from research in radio astronomy and Australia's famous “Dish” played a crucial role in relaying images of those first human steps on the moon. Today, the immensely powerful square kilometer array radio telescope is being built in Australia and South Africa and radio waves have become a vital key to the cosmos.

Author of popular science and science history Dr Robyn Arianrhod will explore the contribution and legacy of James Clerk Maxwell's theoretical work to modern science and the rapid development of our civilization.

## Pre-Lecture Refreshments

If you plan to join us for refreshments prior to the lecture (6:15pm) on either 12<sup>th</sup> or 26<sup>th</sup> March (cost \$20 per person), please contact us to register your attendance so we can arrange appropriate catering (phone: 9663 5259 or email [rsv@sciencevictoria.org.au](mailto:rsv@sciencevictoria.org.au)).

## 2015 Royal Society Medal for Excellence in Scientific Research

**Nominations close on 31<sup>st</sup> March 2015** for the Society's Research Medal in Category III Earth Sciences. This category includes research in the disciplines of Geology, Geochemistry, Geochronology, Geophysics, Planetary Physics, Meteorology, Oceanography, Physical Geography, Palaeontology and related sciences for work published between 1st January 2005 and 31<sup>st</sup> December 2014.

See the 'Awards' page of the website at <http://www.royalsocietyvictoria.org.au/awards->

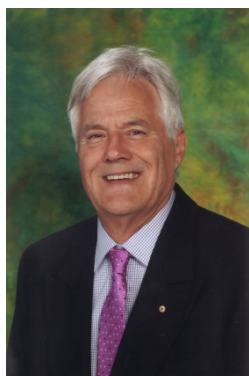
Members may have noticed an unusual construction on the lawns near the corner of La Trobe and Exhibition streets. The Executive has approved a trial of a 'pop-up' coffee outlet, from which the Society will receive 10% of the proceeds. As well as a revenue stream, we hope to encourage more casual enjoyment of the Royal Society's grounds and environs through the initiative.

The Society has also prepared a policy statement on the need to protect a significant fossil site at Beaumaris, with which we have had a long historic involvement through scientific papers by members. You can find the statement on the RSV website. We have also provided our position to the new Minister for Environment, Climate Change and Water, the Hon Lisa Neville MP, seeking her leadership in this matter.

Bill Birch

### From the President

I'm pleased to let members know that the Society has reached an agreement with CSIRO Publishing which will see the Proceedings published online and in an open access format for the next three years. The Society will still need to encourage authors to submit papers, and we will be responsible for the refereeing and editing process before providing CSIRO with publishable-ready documents. It appears that there are enough papers already in the system to provide for two full issues for 2015, which is an encouraging start. The first issue, due for publication in June, will be the papers arising from the German science symposium last October.



After the 2014 volume, currently being printed, members will no longer receive the Proceedings in CD format. Instead, everyone will be able to download the journal from a link on the Society's website and can be alerted via email. Pre-ordered printed versions will also be available but at a cost of \$50. It is hoped that these arrangements will place the Proceedings on a more solid footing by making it more available to a wider readership and an attractive outlet for researchers.

### Publish in The Proceedings: Invitation to Members

To broaden the scope of our journal *The Proceedings of the Royal Society of Victoria* at the international level, we are inviting members to submit a paper as sole author or in collaboration with colleagues. In addition, we urge you to encourage your research students to submit a research article or review. We seek contributions in all areas of science.

### Australia Day Honour for RSV Member

**Professor Peter Robert Ebeling** was awarded Officer (AO) in the General Division of the Order of Australia for his distinguished service to medicine in the field of bone health through academic contributions and research initiatives in a range of administrative, executive and professional roles.

### Senior Posting Retained by RSV Member

The Royal Society of Victoria congratulates member **the Hon Bruce Atkinson MLC** on his re-election as President of the Legislative Council following the Victorian State Election.

## Nominations for RSV Membership

Nominations for membership of the Society have been received on behalf of:

**Robert Walter de GILLE**, Student

Mrs **Wendy Hai-Mudi HUE**, Business Analyst

**Benjamin James MOONEY**, Student

Unless Members request a ballot, they will be considered for election at the Council meeting on 12<sup>th</sup> March and if elected, will be announced at the Ordinary Meeting of the Royal Society of Victoria held that evening.

## VALE

Council extends condolences to the families of **George Farmer, Dianne Livett, Ron Ballantyne and John Spencer**, all of whom died recently.

## Inaugural CoderDojo Maintains Sustained Interest

The MELBOURNE RSV CODERDOJO CLASSES started on Sunday 7 December 2014 and, following an agreed short break in January, resumed on 8 February 2015.

Regular attendances average between 20 to 26 participants. The student ages range from 8 to 16. Approximately half the students are doing formal coding and simple program writing and others are occupied with various game designs. Some of these projects involve: Oculus Rift, Leap Motion, Drone Technology, Java, HTML5, Python and C++ Coding and Networking Technologies. Future projects include Unity coding and Google Drive API.

Parents and children are very enthusiastic, with two more signing up this week. Councillor Helen Gardiner has encouraged her colleague at VLSCI, Dr Vera Hansper, High Performance Computing Facility Manager, to attend with her two children and Vera has enjoyed contributing to the pool of volunteers in attendance. She would like to encourage more girls to attend.

We are extremely grateful to the Principal and staff at Wooranna Park Primary School in Dandenong North, where these classes have been hosted, for taking on this new activity.

Enquiries about the program may be sent directly to RSV Member Martin Harris via email - [martin.harris@biophotonics.com.au](mailto:martin.harris@biophotonics.com.au) or to

Science Outreach Committee Chair, Helen Gardiner [hg@unimelb.edu.au](mailto:hg@unimelb.edu.au).

## Donations

Council thanks all Members who have continued to support the Society; particularly those who have renewed their membership for the 2015 year promptly.

Members are reminded that donations made to the Royal Society of Victoria are tax deductible and we are particularly grateful to Members who have already donated to support the annual Young Scientist Research Prizes. Please consider doing the same when renewing your membership.

Donations are very welcome and can be made at any time.

## HELP STILL NEEDED

### Fundraising for Young Scientist Research Prizes

The Young Scientist Research Prizes are awarded to doctoral students on a competitive basis each year. They are supported by donations from members and the money we raise from allowing the public to park in the Society's grounds during the **Melbourne International Flower and Garden Show**.

Thank you to those Members who have already offered to assist with the Flower Show parking. However, we are still desperately understaffed across the four days.

We need three to four people on duty if we are to cover each shift adequately – times are 9:00 am to 1:00 pm and 1:00 pm to 5:00 pm. At the moment we have only six volunteers!

If you can assist directing cars to parking areas on any of **26<sup>th</sup>, 27<sup>th</sup>, 28<sup>th</sup> or 29<sup>th</sup> March**, please contact the Society (03 9663 5259) and leave your details, contact number and preferred roster times.

## BURKE AND WILLS EXPEDITION ANNIVERSARIES 2014/2015

As a sequel to the Society's 150th commemoration of the Burke and Wills Expedition during 2010/2011, members will be interested to know about two significant overseas expedition-related anniversaries which were commemorated in 2014 and an important Melbourne commemoration which will occur in 2015.



The first commemoration occurred on 21 June 2014, with the Totnes Town Council in Devon commemorating the 150th anniversary of the unveiling of the Town's Wills Monument on 21 June 1864, erected in memory of William John Wills, Second in Charge of the Expedition who died on the Cooper in South Australia on or about 1 June 1861. Interestingly, the subscribers to the Monument included persons from Devon living in Melbourne and also Lady Franklin, in view of the fact that Wills' cousin, Lieut. Henry Visconte, was one of Sir John Franklin's Lieutenants on the H M S *Erebus*, lost in the Canadian Arctic, during the ill-fated Franklin Expedition in the attempt to discover the North West Passage.

The Totnes Memorial remains today in its original place, unlike our own Burke and Wills Statue, which has had successive moves around Melbourne to its present location on the footpath in Swanston Street.



**Totnes Mayor and Town Councillors at the Totnes Wills Memorial, 21 June 2014**

The second commemoration held on 10 December 2014 in Hochstadt un der Donau, Bavaria, to honour the 100th anniversary of the death of Dr Hermann Beckler, (the Expedition's Doctor and Botanical Collector) and the last surviving Officer of the Expedition. The Town's Mayor laid a wreath at the commemorative plaque erected in 1962 on the wall of the building on the site where Dr Beckler was born in 1828.

The Town is very proud of its connection with the Expedition and Australia and a copy of the recent re-mastered Burke and Wills Expedition DVD was screened and a second screening is being held by popular demand. The Australian Ambassador in Berlin sent a letter of greetings to the Mayor for the occasion and an article on Dr Beckler and his Australian legacy, especially written for the event appeared in the local newspaper.



**Mayor Stefan Lenz and Hochstadt Historical Society at Hochstadt, 10 December 2014**

In 2015 a major commemoration will be held on 21 April 2015, which will essentially bring to a close the range of commemorative anniversaries which have been associated with the Society's 150th anniversary of the expedition, in towns associated with the Burke and Wills expedition both in interstate and overseas.

This final commemoration will be the 150th anniversary of the unveiling of the Burke and Wills Statue, which occurred at the centre of the intersection of Collins Street and Russell Street at 4.00 pm on Friday 21 April 1865, an 'anniversary date' chosen to mark the return date of the Burke, Wills and King to the Cooper Creek Depot four years earlier on 21 April 1861. The Burke and Wills Historical Society is presently planning a simple commemorative ceremony at the Statue on Tuesday 21 April 2015 and members of the Royal Society will be cordially invited to attend. Further details will follow.

## CBD Parking

The cost for members to park at the Society remains very cheap - free for the first two hours and **\$15.00 for the day** for parking between **8.00am and 5.00pm**. Please just call into the office when you arrive so that we are aware of your vehicle.

**After hours or weekend parking is by arrangement only.**

Parking is **not available** on **Tuesday evenings** due to bookings for the entire building.

**Parking for non-members** is also available and the Society can accommodate daily, weekly, monthly or yearly arrangements at commercial competitive rates.

## Youth Mental Health – Our Best Buy in Healthcare

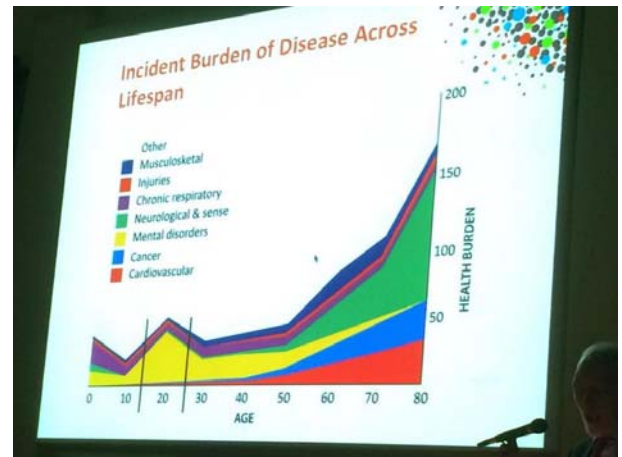
Professor Patrick McGorry, Executive Director of Orygen, the National Centre of Excellence for Youth Mental Health



A large audience turned out to hear Professor Patrick McGorry deliver a fascinating lecture at the Society's first meeting of 2015 on 12 February.

Professor McGorry explained that the transition from adolescence to adulthood has extended dramatically over the past century and demonstrated how the incidence of mental health illness spikes during the 20s over the whole lifespan. Of concern is how the age group with the highest need is also the most poorly served, with the lowest rate of seeking help without direct intervention.

Current tools, such as DSM V, are not very helpful at recognising or assisting in the diagnosis of the early stages of mental illness in youth; nonetheless, specialists can now predict the onset of youth psychosis as accurately as the early signs of heart attack. A major impediment to effective early intervention in youth mental health is the existence of different rules for different fields of medicine, which see physical ailments prioritised over behavioural symptoms. The “let children cry” mentality that often accompanies proponents of “resilience” is a seductive ideology, but is not supported by the evidence and has disastrous health consequences.



**Professor Patrick McGorry presents to the Royal Society of Victoria in the Ellery Theatre on 12 February.**

The Headspace initiative is now well underway and will soon see 100 primary care centres opening in community settings across Australia. Professor McGorry attributes the success of the Headspace initiative to embedding primary care in youth culture, which overcomes both social stigma and community resistance to centres in their neighbourhoods. Ultimately, the only way to sustain community support for any health reform is to demonstrate a sound foundation of evidence and translational research in action.

Serious issues still remain and need to be addressed. The Headspace initiative is a primary care model that engages youth directly, but access to specialists for patients and families remains very problematic. In particular, the comorbidity of mental illness with drug use and abuse requires a dual-diagnostic approach and treatment intervention to avoid patients “ping-ponging” between mental health and drug dependency health agencies.

It was a great pleasure to have such a vast, complex subject presented so accessibly and engagingly.

## The Royal Society of Victoria Hall Usage & Hire

Members are reminded the beautiful facilities in the Royal Society of Victoria's Hall are made freely available for use by members on RSV business, or for hire for private or professional functions at a reduced cost.

Full prices (for non-members) in 2015 are as follow:

| Rooms   | Daily Rate | Half Day Rate | Evening Rate* | Weekend Daily* |
|---|------------|---------------|---------------|----------------|
| Burke & Wills Room (multi-function space) – up to 80 people                       | \$840      | \$540         | \$580         | \$950          |
| Millis Room – 8 people board room style, or up to 20 theatre style                | \$500      | \$400         | \$450         | \$600          |
| Ellery Lecture Theatre – up to 120 audience members                               | \$960      | \$600         | \$780         | \$990          |
| Cudmore Heritage Library – Boardroom Style, up to 30 people                       | \$800      | \$600         | \$620         | \$880          |
| Von Mueller Seminar Room 10 people Boardroom Style, up to 30 people theatre style | \$620      | \$550         | \$570         | \$730          |

**\*Evening and Weekend functions attract an hourly rate of \$66 to cover building supervision costs.**

These rates provide a baseline and can be adjusted subject to discussion with RSV staff. For example, the use of two or more rooms in tandem will be offered at a much reduced combined rate.



**The Phillip Law Room** (above) is available to all members of the Society for casual use during business hours. Please drop in any time to relax, read, meet with a colleague or access the internet.



**The Burke & Wills Room** (above) is here configured for a wedding anniversary celebration.



## 2015 Meeting Program

| Lectures start at 7.00 pm unless otherwise stated, in the Ellery Lecture Theatre at 8 La Trobe Street, Melbourne |    |   |   |
|--|----|---|---|
| Date   |    | Speaker   | Title of Presentation   |
| February   | 12 | <b>Professor Patrick McGorry</b><br><i>Orygen, National Centre of Excellence in Youth Mental Health</i>                             | Youth Mental Health: Our Best Buy in Health Care  |
|  | 26 | <b>Professor Peter Taylor</b><br><i>Department of Mathematics &amp; Statistics University of Melbourne</i>                          | Queueing Theory and 'Ideal Hospital Occupancy'  |
| March  | 12 | <b>Dr Euan Ritchie</b><br><i>Faculty of Science, Engineering &amp; Built Environment, Deakin University</i>                         | Best friends or mortal enemies?: The complex ecological roles of Australia's predators  |
|  | 26 | <b>Dr Robyn Arianrhod</b><br><i>Adjunct Research Fellow, School Mathematical Science, Monash University</i>                         | Celebrating Maxwell – and scientific curiosity  |
| April  | 9  | <b>Professor Jenny Martin</b><br><i>School of Chemistry &amp; Molecular Bioscience; University of Queensland</i>                    | Crystallography: Australia's Bragging Rights  |
|  | 23 | <b>Annual General Meeting</b>   | <b>Starts at 6:30 pm</b>  |
| May  | 14 | <b>Mr Christian Wallis</b><br><i>Principal Scientist &amp; EPA appointed Auditor (Contaminated Land), Golder Associates Pty Ltd</i> | Beneath the Surface: Living with our Industrial Legacy through Urban Renewal  |
|  | 28 | <b>Dr Bill Birch</b><br><i>Retired Senior Curator, Geosciences at Museum Victoria</i>   | <b>A W Howitt Lecture</b><br>Victoria's Gemstones, much more than history   |
| June   | 11 | <b>Q&amp;A Panel Dr Gavin Mudd, Dr Graeme Weber, Chairman Mr Dennis O'Neill</b>   | Nuclear energy: should it be included in the mix?   |
|  | 25 | <b>Ms Leonie Walsh</b><br><i>Lead Scientist, State Government of Victoria</i>   | Science in my World Fundraising Lunch   |
| July   | 9  | <b>Professor Sharon Lewin</b><br><i>Director, The Doherty Institute for Infection &amp; Immunity</i>                                | Finding a cure for HIV – will it ever be achievable?  |
|  | 23 | <b>Dr Ivan Williams</b><br><i>Australian Radiation Protection and Nuclear Safety Agency</i>   | <b>12.15 pm Lunchtime meeting</b><br>Physics, Medicine, Radiation and culture: The Australian Dosimetry Service: progress and outcomes from the national radiation oncology dose audit. |
| August   | 13 | <b>Professor Jenny Marshall Graves AO FAA</b><br><i>Genetics Dept, La Trobe Institute for Molecular Science</i>                     | <b>Joint meeting with RHSV</b>  |
|  | 27 | <b>Dr Jillian Garvey</b><br><i>ARC DECRA Fellow Faculty of Humanities &amp; Social Sciences, La Trobe University</i>                | <b>12.15 pm Lunchtime meeting</b><br>Extinct megafauna, camels and the Australian desert: The 2014 Simpson Desert Palaeontology Expedition.   |
| September  | 10 | <b>Dr Alex Johnson</b><br><i>School of Botany, University of Melbourne</i>  | Fortifying for the future: micronutrient-enriched cereals to improve global health  |
|  | 24 | <b>Young Scientist Research Prizes</b>  | Note earlier start time of 6:30 pm  |
| October  | 8  | <b>Associate Professor Mark Mcconnell</b><br><i>Research Centre for Urban Ecology, Royal Botanic Gardens</i>                        | The role of the science of urban ecology in creating green, healthy, resilient and liveable cities and towns in the future.   |
|  | 22 | <b>The Phillip Law Postdoctoral Award</b>   | Winner to be announced  |
| November   | 12 | <b>Dr Anita Hill</b><br><i>Executive Director, CSIRO Manufacturing, Digital Productivity and Services</i>                           | CSIRO Delivering Positive Impact  |
|  | 28 | <b>Very Young Scientists</b><br><i>Event celebrating RSV sponsored Science Talent Search bursary winners</i>                        | Invitation only.  |
| December   | 10 | <b>RSV Research Medal Lecture</b><br>Earth Sciences   | Winner to be announced  |