



## The Royal Society of Victoria

**Promoting Science.**

**PATRON:** The Hon Linda Dessau AM  
Governor of Victoria

**PRESIDENT:** Dr Bill Birch AM BSc (Hons) PhD

### Headlines...

**12<sup>th</sup> November:** Research Innovation & Impact: a New Path from CSIRO

**10<sup>th</sup> December:** RSV Medal Lecture: “Using Climate Science to Inform Decision Making” & **President’s Soiree**

### Advance Notice:

**18<sup>th</sup> March, 2016:** Symposium, “Conserving Eucalypts: the Why and the How”

# November 2015 Newsletter

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The Royal Society of Victoria Inc.  
8 La Trobe Street, Melbourne  
Victoria 3000  
Tel. (03) 9663 5259  
[www.royalsocietyvictoria.org.au](http://www.royalsocietyvictoria.org.au)



# November Meeting

## The 2015 Cummins Oration RESEARCH INNOVATION & IMPACT: A NEW PATH FROM CSIRO



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

### **Speaker: Associate Professor Matthew Hill**

Team Leader, Integrated Nanoporous Materials, CSIRO  
2014 Physical Scientist of the Year, Prime Minister's Prize for Science

Whilst Australia has a proud history of high quality scientific research, ranking top ten for research output, the nation's success in translating these breakthroughs into tangible outcomes is less rosy. In fact, Australia ranks 81<sup>st</sup> for innovation efficiency, compared to Germany at 19 or the UK at 29. Just 4% of Australian companies consume research and development, compared to 40% in Germany.

Join the 2014 Malcolm McIntosh Prize winner for Physical Scientist of the Year, Dr Matthew Hill, who will explore the path to impact of a new research concept, and highlight the new approaches being adopted by the CSIRO, Australia's Innovation Catalyst.

### **About the Speaker**

Dr Matthew Hill has developed a platform technology position in a group of materials known as Metal Organic Frameworks (MOFs). These materials, made up by joining metal atoms to one another with organic linkers to form an array similar to a building scaffold, are the world's most porous materials – they are almost entirely made of holes. One teaspoon of a MOF may have as much surface area as an entire football field hidden inside it. Like a sponge, the pore surfaces can store and release substances on demand, such as fertilisers or fuels, or, like a sieve, the pore sizes can be used to separate one thing from another, such as natural gas from impurities or carbon dioxide from an exhaust stream.

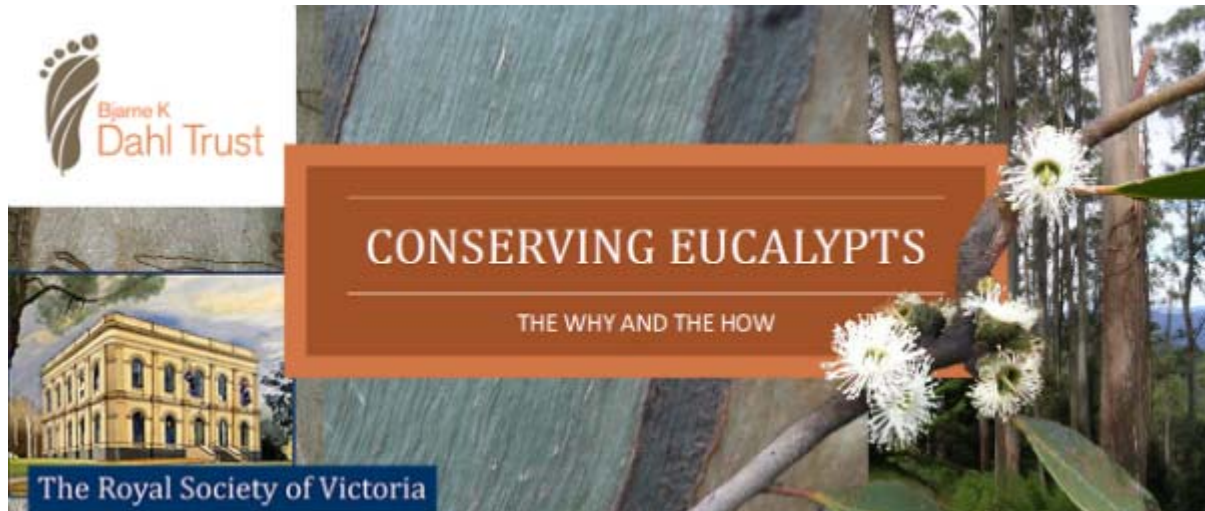
The theme of Dr Hill's work has been to promote maintaining our current lifestyles but reducing our footprint by becoming more efficient. For his work on the development of metal-organic frameworks for practical industrial application, Dr Matthew Hill, Australian Research Council Future Fellow and leader of the Integrated Nanoporous Materials team at the CSIRO, has been awarded the Prime Minister's Prize for Science – 2014 Malcolm McIntosh Prize for Physical Scientist of the Year.



Book online now at <http://ow.ly/TSwts>, call or email the RSV office to secure your place: 9663 5259, [rsv@sciencevictoria.org.au](mailto:rsv@sciencevictoria.org.au). Our lectures are free to members of the public with an optional gold coin donation to support our science programs. If you plan to join us for refreshments prior to our lecture, please register your attendance so we can anticipate catering requirements. **All most welcome.**

## 2016 SYMPOSIUM

# CONSERVING EUCALYPTS: THE WHY AND THE HOW



A symposium will be held on **18<sup>TH</sup> March, 2016**, in partnership with the **Bjarne K Dahl Trust**.

The [Bjarne K Dahl Trust](#) and the [Royal Society of Victoria](#) present a one day symposium highlighting eucalypt diversity and conservation. Providing scientific insights to the future of Australian forests, woodlands and biota, **Conserving Eucalypts** will engage scientists, forest managers and anyone interested in the response of eucalypt forests and woodlands to environmental threats in the 21st century.

*“I regard the forests as an heritage given to us by nature, not for spoil or to devastate, but to be wisely used, reverently honoured and carefully maintained. I regard the forests as a gift, entrusted to any of us only for transient care during a short space of time, to be surrendered to posterity again as an unimpaired property, with increased riches and augmented blessings, to pass as a sacred patrimony from generation to generation. “*

*BARON FERDINAND VON MUELLER (22 June 1871)*

Featuring leading researchers in forest ecology, the biosciences, and environmental and resource management:

**Associate Professor Peter Vesk**

*School of Biosciences, University of Melbourne ARC Centre of Excellence for Environmental Decisions*

**Associate Professor Patrick Baker**

*School of Ecosystem & Forest Sciences, University of Melbourne ARC Future Fellow, Silviculture & Forest Ecology*

**Professor David Lindenmayer AO FAA**

*Fenner School of Environment & Society, ANU Primary Investigator, ARC Centre of Excellence for Environmental Decisions*

**Dr Suzanne Prober**

*CSIRO Land & Water Flagship, Perth Principal Research Scientist*

**Professor Andrew Bennett**

*School of Life Sciences, La Trobe University Mallee Hawkeye Project*

**Professor Brad Potts**

*Plant Science, University of Tasmania, Professor of Forest Genetics*

**Dr Michael Bayly**

*School of Biosciences, University of Melbourne Plant Systematics & Evolution Research Group*

**Professor Michael McCarthy**

*School of Biosciences, University of Melbourne ARC Centre of Excellence for Environmental Decisions*

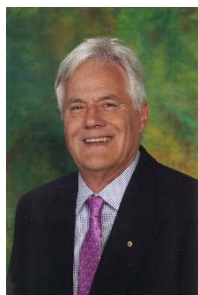
**Associate Professor Kevin Tolhurst**

*Ecosystem & Forest Sciences, University of Melbourne Past Bushfire CRC Project Leader*

**Eventbrite**

Book online now at <http://ow.ly/TSweO>, call or email the RSV office to secure your place: 9663 5259, [rsv@sciencevictoria.org.au](mailto:rsv@sciencevictoria.org.au). Student rate \$70, early bird registrations available **before 1 December** at \$95. Full registration for RSV members will be discounted from \$130 to \$120. Payment on registration please.

## From the President Policy & Communications Committee – A Call for Members



This new committee was established by the Royal Society of Victoria's Council in 2014, with the aim of developing policy positions on various science and technology issues of relevance to the Victorian community. Public advocacy for science is seen as an important role for the Society, and can utilise a variety of formats, including statements on the RSV website, media releases, formal submissions to government, symposia summaries, even social media feeds.

Four high-level themes were suggested for these policy statements:

1. Early and ongoing support for collaborative scientific research and development ('the precompetitive space').
2. Environmental issues, including threats to biodiversity.
3. Climate change; adaptation and mitigation.
4. Energy use in Victoria.

The members of the PACC are Dr Peter Baines, Mr Dennis O'Neill, Associate Professor Roslyn Gleadow and Mr Bernie Mace. Dr Baines is the Council member chairing the committee, and as President, I am an ex officio member.

The original intention of the PACC was to set up subcommittees under the four identified themes, composed of interested members of the Society. This has not yet been implemented; rather the current members have acted in concert to review and revise draft policy statements submitted to them. Once these statements have been finalised, they are submitted to the Executive for comment, then finally to Council for approval. This process has generally worked quite well to date, as can be seen from the various position statements placed on the Society's website.

Council now wishes to move towards the original intended structure of this important committee. To this end, **I invite members of the Society with expertise and/or interests in the four themes who may wish to join the PACC** to contact Dr Baines, Mike Flattley or me. In addition, members are encouraged to suggest topics that the PACC could consider for the development of position statements.

**Bill Birch, President**

# INNOVATION WEEK 2015

**30 November – 4 December**



This year the Australian Science & Innovation Forum (ASIF) has partnered with the Academy of Technological Sciences & Engineering (ATSE) to launch Innovation Week, bringing together people from science, technology and business sectors to promote putting good science and research to use.

The Royal Society of Victoria is supporting this vibrant week of public talks, conversations and online activities through hosting a panel discussion on the evening of **Thursday, 3 December**, convened by ASIF with Startup Health Tech, titled **Finding Strategic Partners in HealthTech and MedTech**, chaired by Victorian Lead Scientist Leonie Walsh.

Full program details and ticketing are available from <http://www.innovationweek2015.org/>.

## A New Fellowship for Victorian Early Career Scientists



A new one year, \$10,000 fellowship is now available for an early career scientist based at a Victorian university through the Club Melbourne Ambassador Program, with the objective of supporting the next generation of Melbourne's research leaders.

The fellowship provides funding to support research costs, including attendance at an international conference that enables access to a program of research, along with valuable profiling through and access to the Club Melbourne network.

Information on eligibility, criteria and application procedures are available online from <http://clubmelbourne.com.au/fellowship/>

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## Nominations for RSV Membership

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

Dr **Eroia BARONE-NUGENT**, Science Educator & Engagement Director  
Professor Keith Alexander **NUGENT**, Deputy Vice-Chancellor (Research), Latrobe University  
Mr Alexander Keith **PRIOR**, Education Program Development & Marketing Manager

Unless Members request a ballot, they will be considered for election by Council and if elected, will be announced at the Ordinary Meeting of the Royal Society of Victoria held on 8<sup>th</sup> October.

Recently elected members who have not yet signed the Society's membership book nor received their certificate are invited to attend the 8<sup>th</sup> October meeting to be formally welcomed as members.

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## Donations & Bequests

Donations to the RSV Science Foundation are very welcome and can be made at any time. As we continue to build our Foundation in support of science literacy, activity, engagement and promotion in Victoria, we would be grateful if you could consider a contribution to this future fund as a component of your enduring legacy. This can be made as a **general bequest**, or be purposed towards a **specific activity**. To discuss **making a bequest** to the RSV Science Foundation, please contact Mike Flattley in the office.

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## Cruden Farm "Family Fun Day" 22 November, 2015 from 11 to 3



The Royal Society of Victoria is once again joining the Mental Health Foundation of Australia (MHFA) in holding the annual Cruden Farm Family Fun Day at the Langwarrin property of the late Dame Elisabeth Murdoch. This great day out

benefits various charitable programs at the discretion of the MHFA (Victoria), including the RSV.

In 2015 the Family Fun Day will include the Festival of Cars, supported by the RACV. Come and enjoy an exciting display of cars from yesterday, today and tomorrow, including new generation electric vehicles. The RSV will be hosting a marquee featuring the talents of the kids from the **Wooranna Park CoderDojo**, science experiments led by **Martin Harris** and the MC talents of science performer Owen Collins (TBC).

All in all, it should be a fantastic Sunday out! Bring along the children in your life to have some fun and inspiration together. \$20 per adult, children under 15 free, all proceeds to worthy causes (including us!).

Further information:

<http://mentalhealthvic.org.au/index.php?id=89>

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## Kids' Science: Experimentation & Investigation at the Royal Society of Victoria, Sunday 8 November



**Martin Harris** will be running hands-on science experiments, investigations and demonstrations for kids on the grounds of the Royal Society of Victoria on Sunday, 8 November between 10am and 4pm. All members are encouraged to come along with their kids or grandkids to join in the fun and perhaps contribute some suggestions for experiments of their own!

Demonstrations will include:

1. Why a baby should never be left alone in a car
2. Making a non-Newtonian fluid from potatoes and investigating its strange properties

3. Demonstrations and investigations regarding forces and air pressure
4. Chinese singing bowls and stiction
5. Making a solar furnace and billy tea
6. Novel ways of pulling a car out of a bog

Save the date and come along! Bookings and queries at [martin.harris@biophotonics.com.au](mailto:martin.harris@biophotonics.com.au) or on 0412 342 846.

## Membership Matters

### Members' Forum, 25<sup>th</sup> November

This month we'll be convening a members' discussion and consultation forum at 2pm on Wednesday, 25<sup>th</sup> November to canvass the range of activities, roles and goals our members would like to be a part of in the year ahead. It will be an informal afternoon over tea and coffee in the Burke and Wills Room. **Please save the date** - I'll be sending out invitations to all our current members to register over the coming week, along with a short survey to seek your views ahead of time – we can share the results at the forum to inform and guide our discussion.

It would be particularly rewarding to see members from across the age groups and career spectrum in attendance so we can gain insight to the needs of each cohort and respond accordingly.

### Renewal Season

Forewarning that time is almost here to renew your annual membership to the Royal Society of Victoria. As always, your prompt renewal would be greatly appreciated. In the year ahead, we will be trialling online subscription and membership profile management thanks to the expertise and support of coding whiz and RSV member Helen Vorrath. Thanks Helen!

- **Mike Flattley, Executive Director**

## The Next Chief Scientist: Dr Alan Finkel AO FTSE



We are delighted to congratulate Dr Alan Finkel, one of the Trustees of the Royal Society of Victoria and Chancellor of Monash University, on his appointment as the next Chief Scientist of Australia, at the conclusion of the remarkable tenure of incumbent Professor Ian Chubb in December this year.

Dr Finkel is a passionate, long-term advocate for the important role of science in society and we wish him every success in this important role.

## Research Spotlight

By Priya Mohandoss

**Featuring: Dr Anna Flanagan-Moodie**

**2015 YSRP Prize Winner for the Biological Sciences (Non-human)**



### “Prescribed burning decreases den site habitat of the yellow-footed antechinus”

For her PhD thesis, Anna investigated the effect of prescribed burning of the den sites of *Antechinus Flavipes*, commonly known as the Yellow-footed Antechinus (a small, native, nocturnal marsupial resembling a mouse and comprising of canine teeth) in a dry box-ironbark forest of Central Victoria.

Prior to her PhD, Anna worked as an Environmental Education consultant, and also in the areas of Forest Management and Water Management on the Murray River. Her zeal for the environment through nature documentaries, bushwalking and camping, along with her role as a firefighter in Deniliquin, NSW, led her to pursue a PhD in Fire Management with Deakin University. In particular, she was driven towards Environmental Science in terms of caring for and improving the natural environment.

Her findings will equip forest managers in making more informed decisions about prescribed burning and animal habitat, and predominantly

when to plan for fires in dry forests to avoid impact on the breeding seasons of native animals. The Yellow-footed Antechinus and other hollow-dependent mammals, reptiles and birds will reap the benefits.

Dr Flanagan-Moodie has set her sights on pursuing postdoctoral opportunities or exploring roles with state or local government.



Anna Flanagan-Moodie with RSV President Bill Birch

## Crowdsourcing the BoM Site: Polling Results

We had thousands of visitors to our website over the past month following the [article in The Age](#) on October 8, showcasing some of the concepts we've received as submissions to our call for Expressions of Interest.



Chris Mugeli and James Bickford, from architectural firm Studio 505. Chris and James submitted a playful "Drone Launch Facility" concept.

Using an online polling tool called Pollcaster, we were able to record the preferences of visitors to our website. Here are the top results:



### Simple Studio – "STEAM Gallery"

This agency proposed to explore the formal idea of activating the site by creating public open space, housing a subterranean gallery space. Polled **first** at 32%.



### Chan, Dibley, Rowe – Lecture Theatre & Café

This team proposed to reposition the Royal Society with a modern remake; a state of the art lecture theatre and ground floor café. Polled **second** at 28%.



### Barnes, Jerliu, Jiang – "The Bureau"

This team proposed a "brand new science & learning facility" with a flexible, multipurpose layout. Polled a close **third** at 28%.

Plainly there is a strong appetite for the land to be developed not just in keeping with the Royal Society of Victoria's traditional role, but also in a reinvigorated and future-focussed capacity for science promotion and engagement that takes in a strong cultural and public utility function.

The question remains, of course, how to fund a concept on this site? Council have been deliberating on this issue and our Executive Committee continues to explore the potential of this site with the State Government, the City of Melbourne and industry stakeholders. It will be important to work closely with Heritage Victoria and obtain approval from UNESCO for anything that happens on this site. Accordingly, it will be some time before we have anything definitive to report, but early conversations are proving worthwhile and cautiously optimistic in terms of securing an enduring revenue source for promoting science in and for Victoria.

## A Strategy for the Royal Society of Victoria

As we seek to broaden our sources of revenue to support our programs, it is vitally important that we maintain our relevance to the contemporary science community and our purpose to promote the practice and standing of science in the State of Victoria.

The RSV Council has been working through a new draft Strategy to guide our work in the coming years and help us to focus on setting priorities, targets and goals. With a creative community of members and friends it can be a challenge to balance long-term intentions with emergent opportunities. A clear strategy, articulated with budgets and resources, will be important if we are to maintain both focus and agility.

Over the coming month we will be sharing our work thus far with members for review, comment and discussion. This will be a working document that will strengthen and take form through the input and commitment of our members. The upcoming Members' Forum will provide a good opportunity to reflect on the RSV Strategy, bearing in mind the focus will be on member activity in the year ahead; we will also provide opportunity to submit comments either by email, online or through focus groups, depending on the level of interest and feedback.

Thus far, our headline statements are as follow:

### Our Role

The Royal Society of Victoria convenes a community of science practitioners, adherents and enthusiasts, providing a locus for science literacy, engagement and promotional activities in Victoria.

### Our Mission

The Royal Society of Victoria will promote universal engagement with the sciences as a valuable basis for objective reasoning and action in the State of Victoria.

### Our Strategy

- 1. Increase visibility, value and prestige for science in Victoria**  
Raise the profile and status of scientific endeavour and achievement in Victoria
- 2. Foster growth and innovation in STEM education, training and participation**  
Promote the development and practice of STEM disciplines and industries in Victoria

### 3. Identify and promote a Victorian legacy of achievement and excellence in the sciences

Celebrate the history and heritage of science in Victoria

### 4. Establish a secure foundation for growth

Sustain and develop the program and agenda of the Royal Society of Victoria

Next we must consider specific goals under each of these headings, determine the actions and resources required to meet them, the time it will take to achieve them and how best to measure our progress. Stay tuned for more; we look forward to your input.

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## 2015 President's Soirée

Places are filling fast for our annual end of year dinner, the 'President's Soirée,' to be hosted by Dr William Birch AM in the Burke and Wills Room immediately following the 2015 Royal Society of Victoria Research Medal Lecture by Professor David Karoly on **Thursday 10<sup>th</sup> December, 2015.**

We warmly invite members and guests to the lecture and Soirée, a convivial evening of celebration for science in Victoria and reflection on the achievements of our Society. Tickets for the three course, sit down, buffet meal with beverages cost \$90.00 per head. Numbers are strictly limited to the first 50 paid bookings, so please act soon to secure your place!

To book, either return the booking form below to the Royal Society of Victoria **with full names of all guests** and your cheque or credit card details, or contact Malourie Crawford on 96635259 or at [malourie@sciencevictoria.org.au](mailto:malourie@sciencevictoria.org.au).

#### BOOKING FORM:

#### 2015 RSV PRESIDENT'S SOIREE

I/we wish to attend the **President's Soirée** following the **2015 Medal Lecture** on **10<sup>th</sup> December, 2015**

*Cheque enclosed for \$.....(\$90.00 per person)  
or fill in the **Visa or MasterCard** Credit Card authority below*

**Card No.** .....

**Name on card:**.....

**Expiry Date** ...../.....

**Signature:**.....

**Tel No.** .....

**Email** .....@.....