



## The Royal Society of Victoria

**Promoting Science.**

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

**PRESIDENT:** Dr William Birch AM

### Headlines...

**11<sup>th</sup> February:** Imaging the Living Brain in Health and Disease: MRI and PET Scanning

**25<sup>th</sup> February:** Victoria's Threatened Species – Fighting Extinction

### 2016 Advance Notice:

**10<sup>th</sup> March:** From the Beginning to the End of HIV: the Great Successes & Remaining Challenges

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

**19<sup>th</sup> March:** Field Trip – Mt Rothwell Conservation & Research Centre

# February 2016 Newsletter

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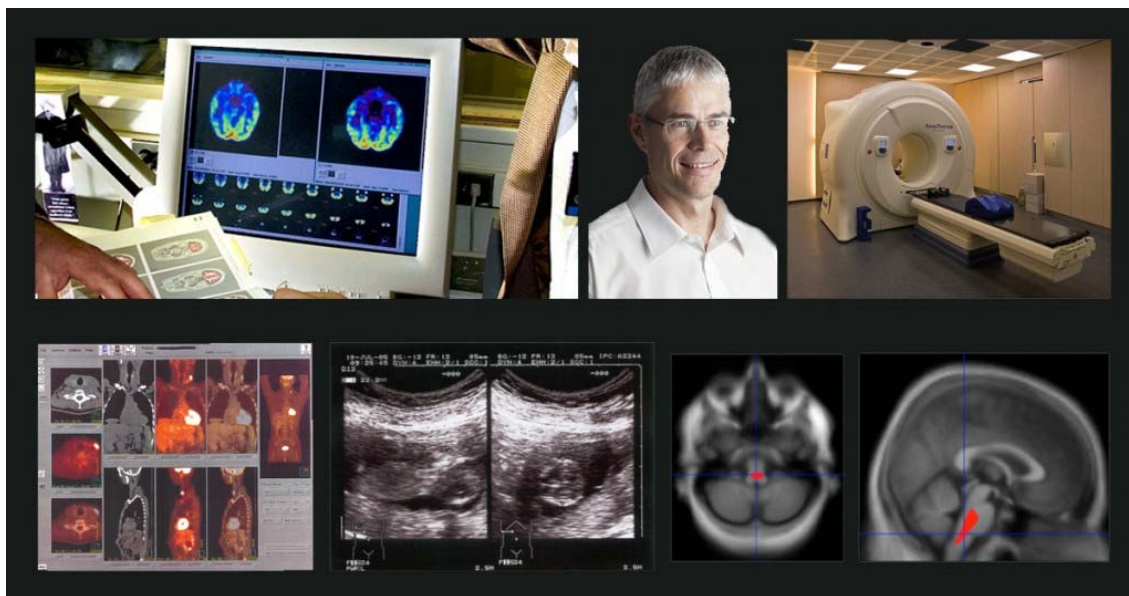


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## February Meetings & Events

### IMAGING THE LIVING BRAIN IN HEALTH & DISEASE: MRI & PET SCANNING



The first February meeting of the Royal Society of Victoria will be held on **Thursday, 11<sup>th</sup> February 2016 at 7.00pm.**

**Speaker:**      **Professor Gary Egan**  
Director, ARC Centre of Excellence for Integrative Brain Function  
Monash Biomedical Imaging, Monash University

Multi-modal Magnetic Resonance Imaging (MRI) is of great interest for the investigation and modelling of normal brain structural and functional connectivity, as well as connectivity changes in neurological and neurodegenerative diseases. Rapid advances in novel MR imaging techniques continues to provide new insights into brain function in neurological and neurodegenerative diseases.

Join the Director of the ARC Centre of Excellence for Integrative Brain Function, established in 2014 to gain insight to the application of multi-modal MRI to measure brain structural and functional changes in Huntington's disease and Friedreich's ataxia research. Learn more about the Brain Function Centre, which undertakes multi-scale brain research to understand how the brain integrates information in large-scale networks to yield complex behaviours including attention, prediction and decision making. The Brain Dialogue is the Centre's knowledge sharing program that actively disseminates and communicates recent findings in brain research to the public.

#### ***About the Speaker:***

Gary Egan is Director of the Australian Research Council Centre of Excellence for Integrative Brain Function, which is an Australian flagship research centre funded from 2014-2020 to understand how the brain interacts with the world. He is also Professor and Director of the Monash Biomedical Imaging (MBI) research platform at Monash University, Melbourne, Australia. The MBI facilities include a high field strength MRI scanner and a MR-PET scanner for human and large animal imaging research, an ultrahigh field MRI scanner and a PET-SPECT-CT scanner for small animal imaging research. He leads the development of advanced MRI methods to investigate integrative brain function, and the application of novel MR biomarkers in neuroscience research.

**Eventbrite**

Book online now at <http://ow.ly/XtwkU> call or email the RSV office to secure your place: 9663 5259, [rsv@sciencevictoria.org.au](mailto:rsv@sciencevictoria.org.au). If you plan to join us for refreshments prior to our lecture from 6.15pm, please register your attendance so we can anticipate catering requirements. **All most welcome.**

## VICTORIA'S THREATENED SPECIES: FIGHTING EXTINCTION



The second February meeting of the Royal Society of Victoria will be held on **Thursday, 25<sup>th</sup> February 2016 at 7.00pm.**

**Speaker: Dr Marissa Parrott**  
**Reproductive Biologist, Wildlife Conservation & Science, Zoos Victoria**

Zoos Victoria is committed to Fighting Extinction, working locally and globally to deliver tangible conservation outcomes. They have a commitment to ensure that no Victorian terrestrial vertebrate species goes extinct. Through in depth analyses, they have identified 20 species that are on the brink of extinction due to threats including habitat loss, feral animals, landscape fragmentation, disease and climate change; species they are committed to protect and recover in the wild.

Maintaining an animal's natural behaviours is critically important in captive breeding programs, particularly when breeding threatened species for reintroduction. Allowing animals to choose their own mates not only preserves behaviours that are essential for successful release and re-establishment of wild populations, but can increase the number and genetic quality of young, the genetic viability of a population and improve the success and survivorship of young. Zoos Victoria's research has shown that female mate choice can significantly increase breeding success in a variety of marsupials and may be an important tool in the conservation a variety of endangered taxa. Maintaining natural social structures, activity patterns and understanding of natural predators is also crucial in successful reintroduction of species.

Join reproductive biologist Marissa Parrott, who will describe how her team are fighting extinction for these 20 threatened species and how research into mate choice, maintaining natural behaviours and predator avoidance training is used to increase conservation outcomes for Zoos Victoria's endangered species programs including the Mountain Pygmy-possum, Eastern Barred Bandicoot, Helmeted Honeyeater and Tasmanian Devil.

### **About the Speaker:**

Dr Marissa Parrott's PhD research focused on mate choice, genetics and breeding success in a carnivorous marsupial, the Agile Antechinus; the first published research into mate choice in a marsupial. She then built on her findings through post-doctoral research with **Professor Lynne Selwood**, examining novel techniques to maximise breeding success in captive breeding colonies of marsupials across Australia; research that continues today. Dr Parrott has more than fifteen years' experience in wildlife field work, five years in molecular genetics laboratories, and ten years in research and zoo captive breeding programs. She has also been involved in a variety of wildlife and conservation programs across Australia, Asia, Africa and the Americas.

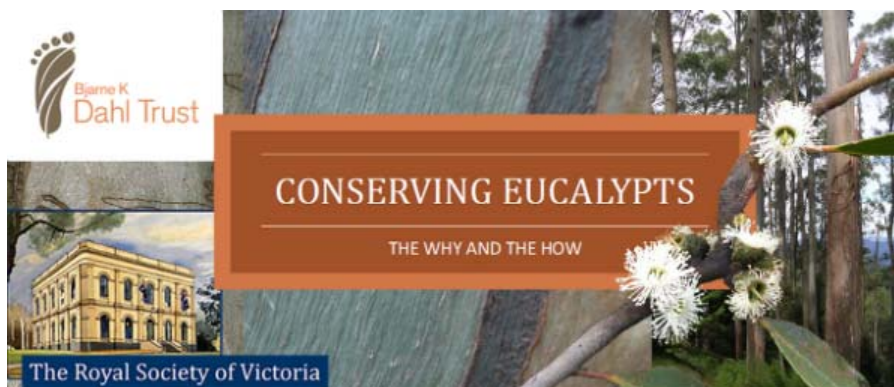
In 2007, she joined Zoos Victoria to work on the breeding program for the critically endangered Mountain Pygmy-possum, before joining the department of Wildlife Conservation and Science in 2008. As the Reproductive Biologist for Zoos Victoria, she works across Healesville Sanctuary, Werribee Open Range Zoo, Melbourne Zoo and a variety of field locations to improve sustainable zoo populations, reintroduction techniques and captive breeding success, and lead reproductive and behavioural research projects. She has also been involved with Zoos Victoria's international conservation projects, including key projects with Fauna and Flora International and the Royal University of Phnom Penh, Cambodia. She is involved in strategic planning, reintroduction and recovery for a number of endangered native marsupial, rodent and frog species.



Book online now at <http://ow.ly/Xty4j> call or email the RSV office to secure your place: 9663 5259, [rsv@sciencevictoria.org.au](mailto:rsv@sciencevictoria.org.au). If you plan to join us for refreshments prior to our lecture from 6.15pm, please register your attendance so we can anticipate catering requirements.  
**All most welcome.**



## 2016 SYMPOSIUM



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

### CONSERVING EUCALYPTS: THE WHY AND THE HOW

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.

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

The Symposium will conclude with an optional field trip to the **Mt Rothwell Conservation & Research Centre** the following day, **Saturday, 19<sup>th</sup> March**: separate registration is offered on the ticketing page, details of which are below.

**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. Full registration for RSV members is discounted from \$130 to \$120. Payment in full on registration please.

### An RSV Supported Event

### Supporting Women in STEMM: How do we Reach Gender Equity?



**Monday, 15<sup>th</sup> February 2016 at 6.30pm**

**Speaker: Professor Hilary Lappin-Scott**  
Senior Pro Vice-Chancellor, Swansea University, United Kingdom

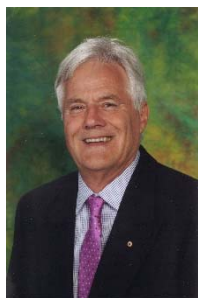
**Supporting Women in Science (SWIS)** and **Women in Science and Engineering (WISE)**, in conjunction with the **Royal Society of Victoria** are proud to present a unique opportunity to hear from a senior proponent of the **Athena SWAN charter**, in which 32 institutes across Australia are now involved (known here as Science in Australia Gender Equality (SAGE)). Come along and learn about the successes and the challenges the program has faced as we consider how to work together to achieve gender equity in STEMM – Science, Technology, Engineering, Medicine and Mathematics.

**Professor Hilary Lappin-Scott** is the senior Pro Vice-Chancellor of Swansea University (UK) renowned for her high level implementation of gender equality initiatives, including her involvement in the Athena SWAN charter. Professor Lappin-Scott is the current chair of the Athena SWAN Strategic Group (ASSG) at Swansea University and has been an invited speaker at Athena SWAN best practice conferences across the UK. She is an active science communicator and can be found on Twitter as @lappinScott.

**Eventbrite**

A free event. Book online now at <http://ow.ly/Xzycp>.

## From the President



It was anything but a happy start to the New Year for the Society when we received the shock news about the death of Professor Graham Burrows on January 10, following a disastrous fall on New Year's Day. Graham's loss is a very sad occasion for his family, his extensive network of friends and colleagues, and of course, the Society. Graham provided us with great leadership during his presidency from 2007-2008 when we were going through a difficult period and, as a Council member ever since, he continued to provide wise advice in his customary, cheery manner. As President, I will miss him greatly and I'm sure all Councillors feel the same way. The Society has extended its condolences to Barbara and the family, and many Society members attended the commemorative service for Graham held at Melbourne University last week.



**RSV members were among the many to attend a moving memorial service to Graham Burrows at the University of Melbourne's Grand Buffet in Union House.**

On a happier note, 2016 promises to be a big year for the Society. In the coming months we hope to be making a significant announcement to members about the future of the former Bureau of Meteorology site, our so-called 'grassy triangle'. Council will finalise the strategic directions document that Mike Flattley has been assiduously working on, based on much of the feedback we've received from members about what they want the Society to be. We will continue to strengthen and expand our network with other organisations in the science outreach field. Then there's the exciting lecture programme, commencing in just a few weeks.

A group of members has been developing a plan of excursions for the year, as an addition to our

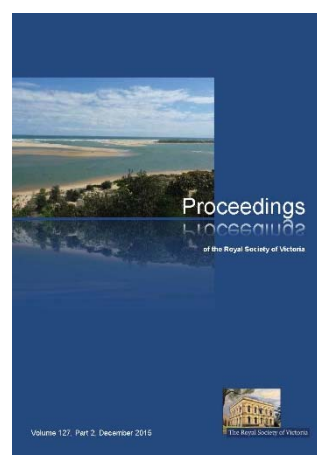
lecture programme. The first of these will be to the Mt Rothwell Biodiversity Discovery Centre in March, in conjunction with the Eucalypt Symposium. For details, see the notice elsewhere in the newsletter.

I'm sure Graham would want us to see our way through the melancholy and get on with doing things. So in that spirit, I wish everyone a Happy New Year.

**Dr Bill Birch, President**

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## Proceedings of the Royal Society of Victoria



The second 2015 issue of the Proceedings is now available [online](http://ow.ly/XtYYv) from CSIRO Publishing. This issue features two palaeontology papers focussed on Victoria's fossil records from the early Devonian era, an analysis of mercury use and loss from 19<sup>th</sup> century goldmining, and a look at the ecological response of the Snowy River Estuary to two different environmental flows.

The soft copy can be accessed from CSIRO Publishing at <http://ow.ly/XtYYv>. Hard copies will be distributed to members who have registered through their 2015 subscription with the March 2016 newsletter (late February).

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## Field Trips in 2016

Following deliberations at last November's Members' Forum, a group convened by Brigadier Bob Slater has settled on **four field trips** to be planned and offered to RSV members over the course of this year. These will follow, where possible, presentations by leading scientists at the RSV as a component of our science program, and will present convivial opportunities to gain first-hand experience of Victorian science, ecology, geology and education with other Society members. Our first trip for the year will be:



## Mt Rothwell Biodiversity Discovery Centre, Saturday 19<sup>th</sup> March 2016



An Eastern Quoll (*Dasyurus Viverrinus*), otherwise extinct on the mainland since 1963, at Mt Rothwell Conservation & Research Centre

A day trip to the **Mt Rothwell Biodiversity Discovery Centre** on **Saturday, 19<sup>th</sup> March**. This dovetails neatly with this month's "**Fighting Extinction**" lecture on the 25<sup>th</sup> by Dr Parrott and also the "**Conserving Eucalypts**" symposium to be held on 18<sup>th</sup> March. However, while attendance at both is strongly encouraged, they are not a prerequisite for attending the field trip.

The trip will depart by bus from the Royal Society of Victoria at 2.30pm to take in an afternoon tour of indigenous plant species on site, particularly eucalypts, with insight to Mt Rothwell's remarkable rewilding program and, following dinner, a night walk to encounter some of the increasingly rare native species making a comeback thanks to the efforts of the Centre and its volunteers. We aim to be back at the RSV by 10pm.

To join us, **please register online with Eventbrite** at <http://ow.ly/XzMFu>, call the office on 9663 5259, or email us at [rsv@sciencevictoria.org.au](mailto:rsv@sciencevictoria.org.au). Payment in full on registration please.

### Nominations for RSV Membership

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

Ms **Emma Grace BAWDEN**, University Student  
Mrs **Patrizia Lori KELLY**, Primary School Teacher  
Mr **Albert PAGNIN**, Self-Employed

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 10<sup>th</sup> March.

Recently elected members who have not yet signed the Society's membership book are invited to attend the 11<sup>th</sup> February meeting to be formally welcomed as members. Please inform the office if you plan to attend.

### 2016 RSV Council Election

As we have received seven excellent nominations for the five positions of ordinary member of Council, an election will be held. Electoral materials accompany this newsletter in the hard copy mail-out to all RSV members with voting rights. Please carefully consider the candidates and their statements, then place a **SINGLE TICK** against your preferred candidate **ONLY**.

All Ballot Papers must be returned to the Returning Officer, care of the Royal Society of Victoria, sealed in the envelope provided. Ballot Papers must be received by no later than 3.30pm on **Monday, 7<sup>th</sup> March 2016** to be considered valid.

### Burke, Wills, King & Yandruwandha National Heritage Place



The Dig Tree (*E. Microtheca*)

The Society was delighted to welcome the Minister for Environment and Heritage, the Hon Greg Hunt MP along with members of the National Heritage Council to its Hall on Friday, 22<sup>nd</sup> January to announce the inclusion of sites significant to the legacy of the Victorian Exploring Expedition and its interaction with local Indigenous peoples along Cooper Creek.

Dr David Dodd, Professor Bernie Joyce, Dr Doug McCann and Vice-President Mr David Zerman joined President Dr Bill Birch in representing the Royal Society of Victoria, which commissioned the ill-fated expedition with the aim of 'unlocking the mysteries of the arid interior'.

The expedition left Royal Park in August 1860. Over the ensuing 13 months, seven men –

including Robert O'Hara Burke and William John Wills - lost their lives. The sole surviving expedition member, John King, was saved when the Yandruwandha cared for him while waiting to be found by Howitt's rescue party. A number of Yandruwandha families claim King as a direct ancestor, including their representative Leslie Harris, who attended and addressed the media at the announcement.

Media coverage included [Fairfax News](#), the ABC and Channel 9.



**Minister Greg Hunt MP announcing the inclusion of the Burke, Wills, King & Yandruwandha National Heritage Place as an entry on the National Heritage List.**

Also present was a fifth great-grandnephew of William John Wills, Brendan Wills, whose attendance marked an auspicious meeting between the Indigenous descendants of King and the Wills family. Those interested in the Indigenous history of the Expedition might explore the subject further in [The Aboriginal Story of Burke & Wills: Forgotten Narratives](#) (eds. Clark & Cahir).



**From left: Minister Hunt with Leslie Harris of the Yandruwandha people (a descendent of John King), Brendan Wills (a descendant of William Wills) and RSV President Bill Birch.**

The National Heritage listing comprises five important sites along the banks of the Cooper

Creek, near Innamincka, that represent the key events of the Burke and Wills Expedition.

Dr Birch emphasised the tragedy of the expedition could not discount the important knowledge it surfaced and presented the Minister with a copy of [Burke & Wills: The Scientific Legacy of the Victorian Exploring Expedition](#) (eds. Joyce & McCann).

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## Valete

### Graham D Burrows AO KCSJ



**Professor Graham Burrows**

Members and Councillors of the Royal Society of Victoria are saddened by the sudden passing of their friend and colleague, Professor Graham Dene Burrows AO CJSJ on Sunday, 10 January 2016.

Graham's energetic contributions spanned many activities and affected many people from all walks of life, in particular his patients, the research and therapeutic community, and associated philanthropies. He campaigned to increase the public understanding of mental health, the rights of sufferers and the funding of adequate services.

At the Royal Society of Victoria, Graham displayed great leadership during his presidency (2006-08) and has continued to provide valuable advice and support for our goals and initiatives as an active member of Council. His courage, wisdom, enthusiasm, good humour and generosity will be greatly missed by all.

A grateful Society extends condolences to Graham's wife Barbara and all the Burrows family, and also to his long-standing personal assistant Linda Davey.

### Mr John A Dawson AM

The President and Council of the Royal Society of Victoria sadly acknowledge the passing of Mr John Albert Dawson AM on 1<sup>st</sup> October 2015, an RSV member of 15 years standing. John was a solicitor and farmer, a former President of the Law Institute of Victoria and was appointed a Member of the Order of Australia for his contributions to farm safety as Chairman of Farmsafe Australia and other roles with the National Farmers Federation and the



Commonwealth Ministerial Advisory Group on Farm Safety.

We extend our sincere condolences to John's wife Judith and their large family.

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## RSV Outreach Program – Members' and Volunteers' Meeting

**Monday, 8 February, 6.00pm**

The RSV Outreach Committee will be convening an evening of discussion for our volunteers and anyone interested in focussing the Society's efforts through providing their time and expertise for the benefit of the community.

Through CSIRO's excellent Scientists in Schools program, the Outreach Committee has created a channel for scientist members to be matched with teachers looking for specific help. The Committee is now focussed on helping primary schools more directly through the Science in my World program, with a focus on disadvantaged schools.

It is time to refine our approach. Monday's meeting will be led by RSV member Pam Borger, who has a great deal of experience in the school sector. We will work out our 'script,' have introductory letters to circulate and a list of schools we would like to target. Please join us and help build the impact of the Society's work in Victorian schools. Call the RSV office on 9663 5259 to register your attendance.

We look forward to meeting you and introducing our new Committee members; Pam Borger, Renee Beale and Amy Nisselle.

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## Innovation Week 2015 Event 3 December 2015

**By Priya Mohandoss**

As part of the inaugural Innovation Week, RSV hosted a panel discussion on the topic: **Finding Strategic Partners: Who Says Australia Cannot Commercialise** on Thursday 3<sup>rd</sup> December.

Co-founder of The Social Science, **Ms Michelle Gallagher** opened the forum in lively style with the three panel discussion members: CEO, Medical Developments International and speaking on behalf of StarPharma technology, world leader in dendrimer (synthetic polymer with tree-like structure) development, **Mr John Sharman**; CEO, Hatchtech, **Mr Hugh Alsop**; and Business Development Director, Life Sciences, University of Melbourne, and former CEO of Sienna Cancer Diagnostics, **Dr Kerry Hegarty** imparting their knowledge, success and

experience from the initial stages of idea generation through to product fruition, and subsequently, market availability.



**Victorian Lead Scientist Leonie Walsh with panellists and guests, including Australian Chief Scientist Dr Alan Finkel.**

Victorian Lead Scientist and panel convener, **Ms Leonie Walsh** quizzed the panel on business modelling in innovation, funding from investors and the demand for skills development and programs, particularly at the tertiary level.

Audience questions ranged from the need for partnering companies, to how to improve links between academia and industry within Australia in relation to entrepreneurship and commercialization.

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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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## Australia Day Honours 2016

The Council of the Royal Society of Victoria extends warm congratulations to RSV member **Dr Patricia Vickers Rich AO**, recognised as an Officer of the Order of Australia for distinguished service to the earth sciences, particularly palaeontology, as an academic, to education curriculum development, and to international scientific organisations.