

The Royal Society of Victoria

Promoting Science.

PATRON: The Hon Linda Dessau AM
Governor of Victoria

PRESIDENT: Dr William Birch AM

Headlines...

14th July: Energy Storage for a Sustainable Environment

28th July: Ripping Yarns: Two Lives in Science
(lunchtime lecture)

August Advance Notice:

9th August: Field Trip – John Monash Science School &
Monash Earth Sciences Garden

11th August: 2016 Young Scientist Research Prizes

25th August: Forensic DNA Profiling: What does the
Future Hold? (lunchtime lecture)

July 2016 Newsletter

Print Post Approved 100009741



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July Meetings & Events

ENERGY STORAGE FOR A SUSTAINABLE ENVIRONMENT



The first July meeting of the Royal Society of Victoria will be held on
Thursday, 14th July 2016 at 7.00pm.

Speaker: **Professor Maria Forsyth**
Alfred Deakin Professor, Australian Laureate Fellow
Institute for Frontier Materials, Deakin University

Our reliance on fossil fuels must be constrained in the years ahead. The impact on our environment including the air we breathe, the temperatures we feel and the destruction of our natural heritage is clear and now, more than ever, we have the power to change the way we generate and use energy.

Renewable energy including solar, wind and wave sources are available today at competitive prices. However, our ability to use these sources around the clock relies on our ability to store energy when the sun doesn't shine and the wind doesn't blow.

Battery technologies already have revolutionised our lives through our use of portable electronics. It's now time to further develop these technologies to revolutionise the way we use renewables. Join Maria Forsyth to learn of new developments in energy storage and the science and technology breakthroughs that will support its broader implementation.

About the Speaker:

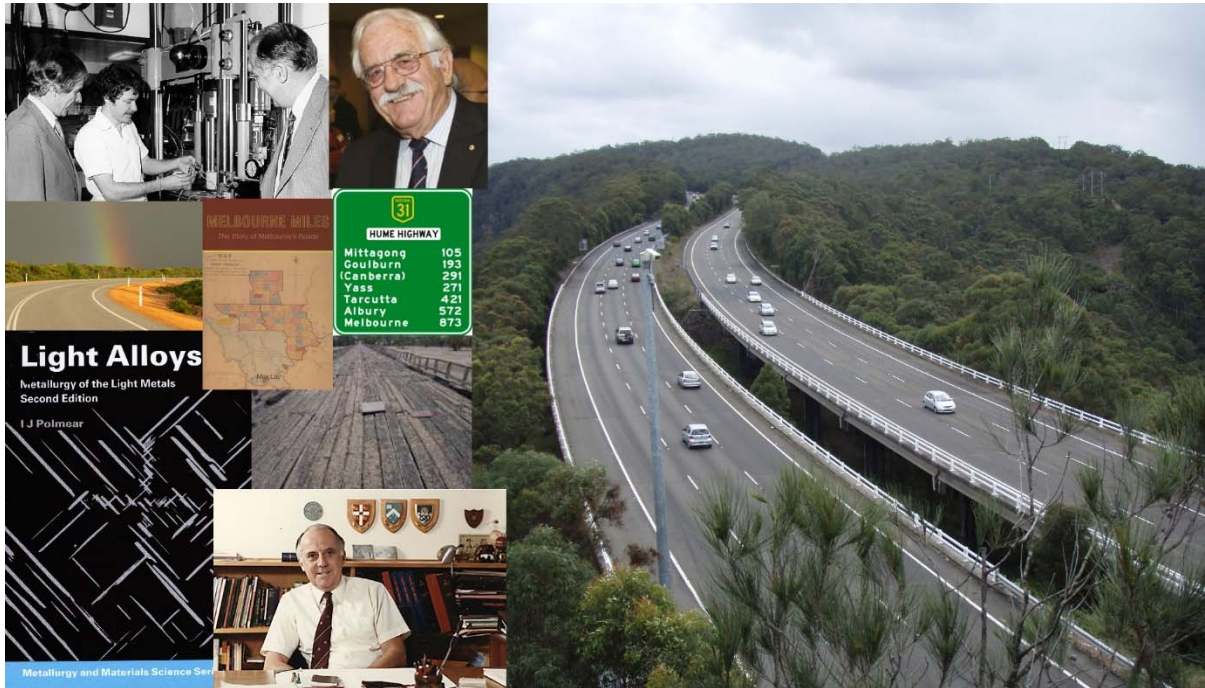
Australian Laureate Fellow, Professor Maria Forsyth is a Materials Scientist who has made major contributions to the research and development of novel materials that enable safer, higher performance battery technologies. She has been one of the leaders of the Australian Centre of Excellence in Electromaterials Science (ACES) since its inception over a decade ago and leads a team at Deakin University working on materials that can control ion and electron transport with applications in vast fields, from large scale energy generation and storage, to biocompatible devices and to control degradation of metal structures. Professor Forsyth is a Fellow of the Australian Academy of Sciences.



Places are limited, and bookings are essential. Book online now at <http://ow.ly/o0mL301yihD>, call or email the RSV office to secure your place: 9663 5259, 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.**

RIPPING YARNS: TWO LIVES IN SCIENCE

Lunchtime Lecture



The second July meeting of the Royal Society of Victoria will be held on
Thursday, 28th July 2016 at 12.00pm.

Speakers: Professor Maxwell Gordon Lay AM
Emeritus Professor Ian James Polmear AO

Our modern era is distinguished as a period of rapid change, particularly in technology, materials science and infrastructure engineering. Come join us over lunch as we hear from two giants of Australian engineering, Ian Polmear and Max Lay, reflecting on their careers as scientists applying their disciplinary expertise to academia and industry alike.

How was a career in engineering laid out before you in the 1960s? How did you find yourselves in positions of such influence and efficacy? If you had a chance to start out again, what would you do differently? How much has the game changed for a young engineer starting out today? We'll be putting the questions to Ian and Max, and you can ask them a few of your own.



Professor Maxwell Gordon Lay (AM)

Professor Max Lay is recognised world-wide as an eminent expert in the fields of structural engineering, road and transport engineering, the history of engineering, and information technology. One of his passions is the dissemination of information on roads and transport and, over the years, he has authored over 750 publications on a wide range of topics and has an entry in Encyclopaedia Britannica related to roads.

Max attained his PhD from the USA's Lehigh University in 1961. His early career development included positions with BHP, where he became an expert in the effects of welding on structural steel. In 1975 Max was appointed the Executive Director of the Australian Road Research Board, and over a thirteen-year period, provided the leadership to build the organisation into one of the world's leading road and traffic research organisations. In 1988 he moved to VicRoads as Director of Quality and Technical Services, where he was responsible for the introduction of quality management into the state's road authority as well as planning and design. In 1993 he was appointed Director Major Projects, a role with responsibility for major road developments in the state including the Eastern Freeway and the Western Ring Road.

Max joined consulting engineers SKM as the Independent Reviewer for the Melbourne City Link Project in 1996. This role had joint responsibilities to both the state and the City Link developer,

Transurban, to provide advice and assurance on the design and construction of this iconic public infrastructure project.

Max was Director of the RACV and became Chairman in 1999. He is a past President of the Australian Automobile Association, and Chairman of Intelematics Australia Pty Ltd. He served as President of the Royal Society of Victoria in 1995. Dr Lay is a notable author and has been awarded many prizes, including the Engineers Australia's Transport Medal and Monash Prize, the Warren Medal and the Mossieff Medal of ASCE. In 2015 Max received IEAust's Peter Nicol Russell Medal for his accomplishments in the welding of steel structures, the design and construction of highway infrastructure, and the maintenance of heritage roads.



Emeritus Professor Ian James Polmear (AO)

Professor Ian Polmear began his engineering career at the University of Melbourne. Graduating with a Bachelor of Metallurgical Engineering in 1949, he then went on to gain a Master of Science (1956) and Doctor of Engineering (1965).

In between his studies, Ian gained industrial experience, working as a metallurgist in the paper industry as well as the automotive and electroplating industries. For two years from 1951, he worked as a research investigator at the Fulmer Research Institute in the UK. Returning to Melbourne in 1953, he took up a post in the

Materials Division of the Aeronautical Research Laboratories, becoming Principal Research Scientist by 1967.

From 1967 Ian took on the role of the inaugural Chair of Materials Science in the Department of Civil Engineering at Monash University, which led to the establishment of the Department of Materials Engineering in 1970, which he led as Head of Department until 1986. Ian had a keen interest in international developments in teaching as well in courses in Materials Science and Materials Engineering. His research interests – which include precipitation hardening in aluminium alloys, development of high strength alloys for aircraft, metal fatigue and weldable light alloys – led to collaborations with laboratories and industries in Australia, Britain, Switzerland, USA and Germany. His work with the Department is considered a leading Australian transition within the engineering curriculum from the field of metallurgy to the field of materials science.

Ian took on the role of Deputy Vice-Chancellor at Monash University from 1987 to 1990, after which he pursued further research, consulting and other interests in the fields of materials engineering and energy.

Ian was awarded the IMMA (AusIMM Minerals Institute) Silver Medal in 1988, and appointed an Officer of the Order of Australia in 1993 for services to materials science and engineering. In 2002 he became the second Australian elected as an Honorary Fellow of the British Institute for Materials, Minerals and Mining.



Places are strictly limited, **bookings essential!** Book online now at <http://ow.ly/jqRC301yiCL>, call or email the RSV office to secure your place: 9663 5259, 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.**



RSV Outreach Program

The Field Trip: Journeys in Science



Registrations are coming in for **The Field Trip: Journeys in Science**, offering a metaphoric journey here at the Royal Society as participants aged 10-17 learn how to engage with the scientific method, identify an evidence base, then act upon it as a tool for decision making and deliver a group project, all with mentoring from young scientists engaged in the “next step” of tertiary education and industry participation.



YSA (Melbourne) Executive Committee members Timothy Newport, Jessica Soares, Monique McLennan and Ricardo Cannizzaro



*Paul Kooperman,
Field Trip Director*

This is a great opportunity for **grand-parents** and **parents** with budding young science enthusiasts on their hands to offer an extension activity and a fun cohort experience – check out our website, under “Science Outreach,” for more information, or follow the link if you’re reading this [online](#).

Correction re Churchill Fellowship – Mrs Teresa Mitchell

We wish to correct an announcement made in error last month. Mrs Teresa Mitchell’s submission for a Churchill Fellowship has been accepted, but not yet approved. Apologies to Teresa for pre-empting the outcome!

An Evening with Ben Goldacre



We’ve been awaiting Ben’s Australian visit for years now, and are delighted to finally have a chance to see him live in action. A dynamic, uncompromising and controversial critic of “Bad Science,” come delight in his infamous evisceration of the “factoid” in real time!

We are partnering with [Think Inc.](#) to promote this exciting Australian event, coming to Melbourne on **23 September**.

More information and tickets are available [online](#) (link text below). The Royal Society of Victoria’s **Members are eligible for a 10% discount** – please check your email for instructions, or contact us in the office for the discount code if your email address isn’t registered with us.
<https://www.thinkinc.org.au/events/ben-goldacre/>

RSV AWARDS & PRIZES

RSV Medal for Excellence in Scientific Research



2015 RSV Research Medal winner Professor David Karoly (right) with RSV President Dr William Birch AM and Her Excellency the Hon Linda Dessau AM, Governor of Victoria

A reminder submissions are now open for the **2016 RSV Medal for Research Excellence**. This year, nominations are invited for **Category IV: Physical Sciences**, which includes research in the disciplines of Astronomy, Astrophysics,

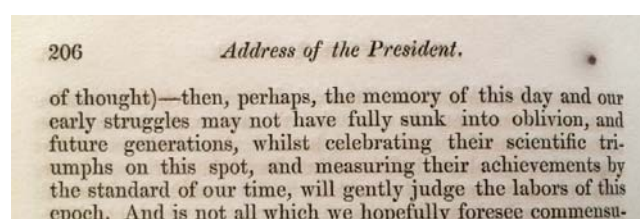
Chemistry, Engineering, Mathematics, Physics and related sciences.

Award criteria are based on demonstration of the candidate's excellence and leadership in scientific research. The work shall have been carried out in Australia, or about Australia, with preference for work conducted in Victoria, or about Victoria.

Members and friends are strongly encouraged to consider the high achievers in their networks and submit nominations. **Submissions close at 5pm on 31 August, 2016.** Full details are available [online](http://www.royalsocietyvictoria.org.au/awards-and-prizes/research-medal/):

<http://www.royalsocietyvictoria.org.au/awards-and-prizes/research-medal/>.

Science Communication Award



May marked the inaugural call for submissions to our **Undergraduate Prize for Science Communication**, a \$500 prize for Victorian university students in their final undergrad year, of any discipline, for an outstanding essay communicating science in a clear and exciting way for a lay audience. **Applications close on Sunday, 31 July.** Full details are available [online](http://royalsocietyvictoria.org.au/awards-and-prizes/undergraduate-award-for-science-communication/) from: <http://royalsocietyvictoria.org.au/awards-and-prizes/undergraduate-award-for-science-communication/>

The Phillip Law Postdoctoral Award for Physical Sciences



Applications for the Phillip Law Postdoctoral Award are now open for suitably qualified, postdoctoral candidates in the area of the Physical Sciences, which include Astronomy, Astrophysics, Chemistry, Mathematics, Physics, all

branches of Engineering, and related sciences. Candidates must be Australian Citizens, or have Australian Resident status, and must have completed their doctorate at a Victorian university within the last seven years (reasonable exemptions apply for parental leave, please enquire on application).

Candidates should nominate themselves. Applications close on **29 July, 2016.** Full details are available [online](http://royalsocietyvictoria.org.au/awards-and-prizes/postdoctoral-award-for-physical-sciences/) from:

<http://royalsocietyvictoria.org.au/awards-and-prizes/dr-phillip-law-ac-post-doctoral-award/>

Nominations for RSV Membership

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

Dr Justin Leigh **BOURKE**, research fellow (synthetic biosystems)

Mr Matthew Lloyd Findlay **COLLER**, university lecturer

Professor Nicholas Ralph **LOMB**, astronomer

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 14th July.

Recently elected members who have not yet signed the Society's membership book are invited to attend the 14th July meeting to be formally welcomed as members. Please inform the office if you plan to attend.

The Order of Australia



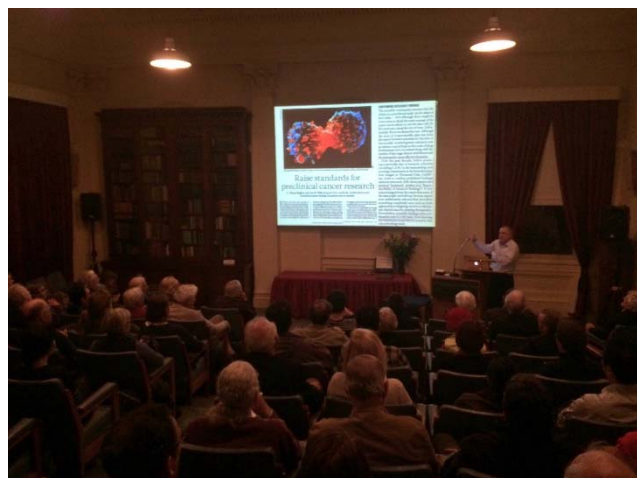
Brian and Nanette Cumming, January 2015

While reviewing this year's Queen's Birthday honours, it has come to our attention we have omitted to acknowledge the award of a Medal of the Order of Australia to RSV member Dr Brian Cumming OAM and wife Nanette Cumming OAM on Australia Day, 2015. Sincere apologies, and belated congratulations Brian and Nanette! A wonderful acknowledgement of your long dedication to environmental conservation and the commercialisation of native Australian plants and flowers.

In Review – Researchers Behaving Badly

Members and friends were treated to an incredible presentation from the Walter and Eliza

Hall Institute's Professor David Vaux to a packed Ellery Theatre on the evening of 9th June, as he provided insight to his long crusade against "Bad Science," doggedly holding authors and leading journals to account like an absolute champion!



Professor David Vaux holds forth in the Ellery

Launching from pharmaceutical company Amgen's case of only being able to reproduce 11% of results from landmark papers in leading journals, even with the help of the authors, David provided myriad examples of sloppy research and outright misconduct, from inherent bias to inexcusable breaches of experiment animal ethics, all published in high ranking publications without being called to account by co-authors, editors, peer-review or governing institutes. Indeed, he criticises the low rate of prosecution for research misconduct as an artefact of institutions protecting their own reputation and status – Professor Vaux declared that universities and institutes are "in denial" about human nature, particularly as research funding decreases concurrent with increased pressures on scholars to publish.

All this led to a recommendation: we need an Australian Office of Research Integrity. Not to act as police service, but as fire brigade, protecting the integrity of the scientific process and confidence in scientific outcomes. Such organisations already exist in the USA and Europe - could this be a function of the Australian Academy of Science? Australia's Chief Scientist? Members considered this well worth exploring, and will be referred to the Policy and Communications Committee for consideration.

RSV Lectures – Registration and Attendance

With two sold-out lectures in June – David Vaux's (above) and the wonderful presentation from Dr Erin Matchan on "The Age of Victoria's Volcanoes" - it's clear we need to carefully manage the limited capacity of the Ellery Theatre to avoid disappointing members and guests who either arrive without registering, or arrive late to find the theatre full.

Accordingly, could we please urge everyone to book as far in advance as possible for lectures to avoid missing out on a place? We appreciate online bookings are not for everyone, so a call to the office on 9663 5259 during business hours will secure you a seat.

With space at a premium, and people waiting in chilly Melbourne conditions for a place, we are releasing seats to those on standby at the commencement of lectures, generally at 7pm sharp. So please arrive on time to avoid disappointment! We hate turning people away.

Melbourne Open House – Call for Volunteers



On **Saturday 30th July**, the Royal Society of Victoria will be opening its building once again to the general public for guided tours.

We are seeking RSV members to volunteer a morning or afternoon to showing people around while telling them a little about our history and purpose. We have some helpful material prepared to assist our knowledgeable tour guides!

If you can spare a few hours on the day, we'd be grateful for your help with this important and fun public engagement activity. Please call the RSV office if you're interested in joining in: rsv@sciencevictoria.org.au or 9663 5259.



The Royal Society of Victoria

Ordinary Meetings & Lecture Schedule, from June 2016

Ellery Theatre, The Royal Society of Victoria, 8 La Trobe St, Melbourne

All lecture details and bookings are available online from:

<http://www.royalsocietyvictoria.org.au/lecture-program/>

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| 14 th July – | Dr Maria Forsyth, “Energy Storage for a Sustainable Environment” (Joint ATSE Lecture) |
| 28 th July – | Emeritus Professor Ian Polmear, Professor Max Lay, “Ripping Yarns: Two Lives in Science” (lunchtime lecture) |
| 11th August – | 2016 Young Scientist Research Prizes (National Science Week) |
| 25 th August – | Dr Linzi Wilson-Wilde, “Forensic DNA Profiling – what does the future hold?” (lunchtime lecture) |
| 8 th September – | Professor Jonathan Stone, “Alzheimer’s Disease: Is the Brain Destroyed by the Pulse?” |
| 22 nd September – | Panel & Debate, “Keeping Melbourne Marvellous: People, Place & Environment.” |
| 13 th October – | Professor Elisabetta Barberio, “The Hunt for Dark Matter: Stawell’s Underground Physics Lab” |
| 27th October – | Phillip Law Postdoctoral Award for the Physical Sciences & Lecture |
| 10th November – | Science Communication Graduate Prize & Lecture with Dr Andi Horvath |
| 24th November – | Very Young Scientists (Science Talent Search Bursary Recipients) |
| 8th December – | RSV Research Medal Lecture & President’s Soiree |

The 2017 Program is now under construction! Have an idea for a great science talk, or know of a terrific presenter? Please forward your ideas to ed@sciencevictoria.org.au for consideration by the Science Programme Committee.