



# 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

## Headlines...

**9<sup>th</sup> April:** Prof Jenny Martin, School of Chemistry & Molecular Bioscience, University of Queensland will present a lecture titled:  
**Crystallography: Australia's Bragging Rights**

**23<sup>rd</sup> April:** Annual General Meeting at 6:30 pm

Please make every effort to attend. If for some reason you can't attend, be sure to submit a completed proxy form included with this Newsletter.

This year's AGM papers are circulated with this newsletter. All AGM papers can be found online at <http://www.royalsocietyvictoria.org.au/news-events/annual-general-meeting/>

## Advance notice...

**25<sup>th</sup> June:** Science in my World Fundraising Lunch

# April 2015 Newsletter

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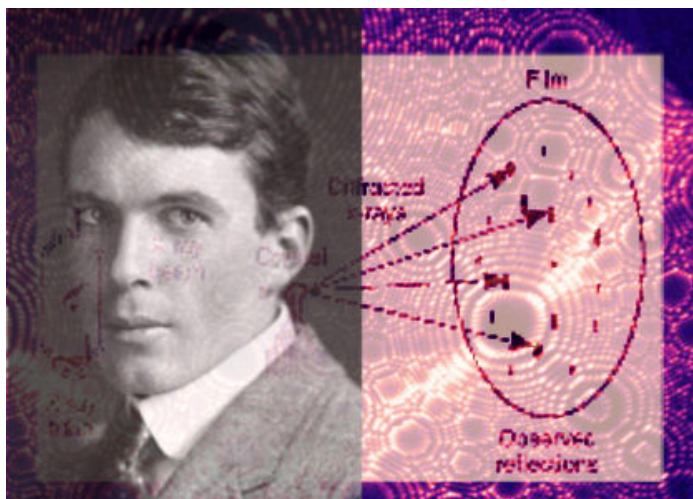


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# April Meeting

## Crystallography: Australia's Bragging Rights

The April meeting will be held on **Thursday 9<sup>th</sup> April 2015 at 7.00 pm.**



**Speaker: Professor Jenny Martin**

School of Chemistry & Molecular Bioscience, University of Queensland

Crystallography impacts on almost every aspect of our life, from the food we eat, the jewellery we wear, the smartphones we use, the medicines we take, and the art that inspires us. It's even being used on the Curiosity Rover to analyse Martian soil samples.

Recently we celebrated the centenary of crystallography's founding as a field of science, which holds accomplished Australian William Lawrence Bragg at its foundation. Together with his father William Henry, Bragg published various seminal scientific papers on crystal structure following their joint publication of 1915: *The Crystalline State* (1934), *Electricity* (1936), and *Atomic Structure of Minerals* (1937).

This collegial family jointly won the Nobel Prize for Physics in 1915 for their work X-rays and Crystal Structure. The youngest ever Nobel Prize winner at 25 years of age, William Lawrence Bragg continued a full life of discovery in the area of X-ray analysis on minerals and proteins that have become fundamental to a range of diagnostic and analytical settings today.

Join Professor Jenny Martin from the University of Queensland's Faculty of Science to learn more about Bragg, this unique field of science and how Australians have celebrated the centenary of crystallography.



This month we have started to take online bookings for our lectures to better plan and publicise the Society's events. To book your seat, you can still call or email our office on the details below, or register online via our website: <http://ow.ly/KETNF> will take you there.

### Pre-Lecture Refreshments

If you plan to join us for refreshments prior to the lecture (6:15pm) (cost \$20 per person), please register your attendance so we can arrange appropriate catering.

Register along with your seat at <http://ow.ly/KETNF>, or phone 9663 5259, or email [rsv@sciencevictoria.org.au](mailto:rsv@sciencevictoria.org.au).

## NOTICE OF ANNUAL GENERAL MEETING

The AGM is to be held at 6.30pm on Thursday, 23 April 2015 at the Hall of the Royal Society of Victoria.

All members are welcome. Papers have been circulated with this newsletter.

### AGENDA

- Apologies and recognition of Proxies.
- Receipt and confirmation of the Annual General Meeting Minutes held 24th April 2014 and Minutes of the Special General Meeting held 9<sup>th</sup> October 2014.
- Receipt of the Annual Report of the Society for the year ended 31st December 2014, including the President's Report.
- Receipt of the Financial Report of the Treasurer and Auditor's statements for the year ended 31st December 2014.
- Appointment of an Honorary Auditor for the 2015 financial year.
- Any other business as advised.

The following will take up their positions as Ordinary Members of Council for 2015-2016 after the Annual General Meeting:

Peter Baines  
Graham D. Burrows  
Helen Gardiner  
Sandra Rees  
Mark Williams

In accordance with the Rules, meeting papers and proxy forms were distributed to financial voting members on 26th March 2015, in print or electronically, as requested by Members.

*\*Student Members are not voting members.*

### From the President

I'm sure our members who have attended the first three lectures this year will agree that the 2015 programme has got off to a flying start. To see a 'full house' at Euan Ritchie's talk in early March was very rewarding and it's especially encouraging to see so many guests coming along. Let's hope this translates into new members.

This newsletter is accompanied by the 2014 Annual Report, as well as papers for the AGM, and I encourage you all to not just read the report but also to come along to the meeting on

23 April. This is a significant occasion for the Society and an opportunity for members to find out more about the Council's plans for the future. As you know, the new Council will start work immediately after the AGM.

Bill Birch

### Nominations for RSV Membership

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

Dr **Frank Robert BURDEN**, Retired scientist

Miss **Ashleigh Ren-yi POH**, PhD Student

Unless Members request a ballot, they will be considered for election at the Council meeting on 9<sup>th</sup> April and if elected, will be announced at the Ordinary Meeting of the Royal Society of Victoria held that evening.

### 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.

### 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 commercially competitive rates.



## Queuing Theory and 'Ideal Hospital Occupancy'

Professor Peter Taylor, Department of Mathematics & Statistics, The University of Melbourne

We were treated to a fascinating talk by a natural teacher on the evening of 26 February, even for the innumerate among us! Professor Peter Taylor made the case for due rigour in process via an isolated piece of research in the UK that gave rise to an influential global policy movement across the health and hospital sector over the past decade.

Professor Taylor's talk was an illustration of how policy-makers often require reductive formulas from complex scenarios to effect change in highly-charged, political contexts. In demonstrating the broad field that would need to be taken into consideration through a suitably robust research project – such as that undertaken by his research group with the emergency department at the Royal Melbourne Hospital – Professor Taylor effectively illustrated why seizing upon isolated studies with data constrained to local conditions is a poor platform for rolling out system-wide change.

Professor Taylor could not support the science of a reductive "85% occupancy rate" in hospitals - this is not queueing theory at its best - but emphasised that the 1999 paper by Bagust, Place and Posnett had at least succeeded in gaining traction where the more robust, yet less accessible research has thus far failed.

Redundancy in any service system is not "wastage," but necessary to ensure availability at hand - however, the hard-and-fast "85%" figure is an artefact of political convenience and an appetite for simplicity. Professor Taylor recommended health policy and administration professionals reference the more robust approach outlined in a paper by Gorunescu, McClean and Millard (available online at <http://ow.ly/JFFbM>). Insightful questions from an audience of health professionals and policy makers made for a stimulating discussion to follow.

## Friend or Foe?: the Complex Ecological Roles of Australia's Predators

Dr Euan Ritchie, Centre for Integrative Ecology, Deakin University

Dr Euan Ritchie delivered a content-rich lecture on the evening of 12 March to a packed Ellery Theatre on the crucial role of apex predators in local ecosystems. A clear, well-reasoned demonstration of how apex predators affect everything from controlling pest species, to improving soil health to the rate of carbon capture by kelp forests.

Dr Ritchie urged a controlled reintroduction of apex predators like the dingo and Tasmanian devil to key Victorian landscapes, demonstrating the benefits not just to biodiversity, but also agriculture and forest fuel load management.

Particularly instructive was Dr Ritchie's observation that "a complex system brings stability," which is applicable across so many fields, here ably demonstrated in ecology with diverse species competing and working to keep each other in check.

A wonderful evening enjoyed by a highly-engaged gathering, with great questions and discussion to follow.

