

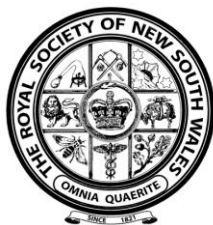


The Royal Society of New South Wales

ABN 76 470 896 415

"for the encouragement of studies and investigations in Science Art Literature and Philosophy"

Annual Report of Council for the year ending 31 December 2015



The Royal Society of New South Wales Annual Report of Council for the year ending 31 December 2015

ABOUT THE SOCIETY

The Society is the oldest learned society in the Southern Hemisphere, tracing its origin to the *Philosophical Society of Australasia*, founded in Sydney in 1821. It became *the Royal Society of New South Wales* by Royal Assent in 1866 and was incorporated by an Act of the NSW Parliament in 1881. The Society exists for ...*the encouragement of studies and investigations in Science Art Literature and Philosophy...*, in particular: publishing results of investigations in its *Journal and Proceedings*; conducting monthly meetings; awarding prizes and medals; and by liaison with other learned societies within Australia and internationally.

Membership is open to any person whose application is acceptable to the Society under guidelines that may be modified from time-to-time. The Society welcomes both members and non-members to its activities.

OFFICE-BEARERS

The members of the Council of the Society for 2015 were elected at the Annual General Meeting held on Wednesday 1 April 2015. They hold office from that date until the next Annual General Meeting. They are:

Patron	His Excellency the Hon General David Hurley AC DSC (Ret'd) Governor of New South Wales
President	Dr Donald Hector BE(Chem) PhD (Syd) FICHEM FIEAust FAICD FRSN
Vice Presidents	Mr John Hardie BSc (Syd) FGS MACE FRSN Em. Prof David Brynn Hibbert BSc PhD(Lond) CChem FRSC RACI FRSN Ms Judith Wheeldon AM BS (Wis) MEd (Syd) FACE FRSN
Hon. Secretary (Ed.)	Prof Michael Burton BA MA (Cantab) PhD (Edinb) FASA FAIP FRSN
Hon. Secretary (Gen.)	Prof Neil Foster FRSN (to July 2015) Dr Herma Buttner PhD (Heidelberg) (from October 2015)
Hon. Treasurer	(Vacant to April 2015) Mr Richard Wilmott (from May 2015)
Hon. Librarian	Dr Ragbir Bhathal BSc (Singapore) PhD (Qld) FSAAS
Councillors	Dr Erik W. Aslaksen MSc PhD FRSN Prof Richard Banati MD PhD FRSN Dr Desmond Griffin AM MSc PhD FRSN Em. Prof Heinrich Hora Dipl.Phys Dr.rer.nat DSc FAIP FInstP CPhys FRSN Prof James Kehoe BA (Lawrence) MA (Iowa) PhD (Iowa) FRSN Prof Bruce Milthorpe PhD (ANU) FRSN Em. Prof Roy MacLeod AB (Harvard) PhD Litt D (Cantab) FAHA FASSA FRSN

	Dr Frederick Osman BSc(Hons) PhD(UWS) Grad Dip Ed FACE MAIP MRSN SSAI JP
	Em. Professor Ian Sloan AO BSc (Melb) BA (Melb) PhD (Lond) FAA FRSN
	Hon. Professor Ian Wilkinson BSc (Hons) (Southampton) MSc (Warwick) PhD (NSW) FANZMAC FRSN
Southern Highlands Branch Chair	Mr Hubert Regtop BSc (NSW)
Executive Office	The Association Specialists
Honorary Auditor	Mr Richard J. Wilmott (to April 2015)

The Council met eleven times during the reporting period hosted by the Dean's office at the University of Technology Sydney and meetings of Council committees were held at various locations. The Council is most grateful for the use of the UTS facilities for its meetings. Committees for Awards, Events, Fellows, Finance and Risk and Publications were active during the reporting period. Under the guidance of the current committee, the branch in the Southern Highlands continues to thrive.

OFFICE LOCATION AND SERVICES

The Society has premises at 121 Darlington Road, University of Sydney. The Society is grateful to the University of Sydney for making this accommodation available to the Society.

Back-office services are provided under an outsourcing contract by The Association Specialists, 33-35 Atchison Street, Crows Nest NSW.

PRESIDENT'S REPORT

Several years ago, the Council concluded that in order to re-establish the Society to its proper leadership position in the intellectual life of NSW and the country it needed to focus on five areas: rebuilding the Society's membership; providing a stimulating programme of events that are both important and interesting in the current context; extending the Society's prestigious awards programme to the full range of disciplines; developing the editorial content of the *Journal and Proceedings of the Royal Society of NSW* and substantially modernising and improving the Society's back-office processes. In 2015, there was significant progress in all five of these areas.

During 2015 the Council embarked on a major strategic planning process, providing a Green Paper for the membership to consider and discuss at a meeting prior to the AGM in April 2015. After further work, the resulting White Paper that charts the direction for the Society over the next several years was released.

The Events Committee, chaired by Ian Wilkinson, put together an excellent programme of events for the year this will be further developed in 2016.

The awards programme continues to attract very high-calibre nominations and we were particularly pleased with the entries this year. The Awards Committee, chaired by Professor Brynn Hibbert, seeks advice from an advisory panel, chaired by Professor Mary O'Kane, Chief Scientist and Engineer of NSW, and consisting of the Deans of Science of the NSW-based universities. The 2015 awards will be presented at the annual dinner in May 2016.

The Fellows Committee, chaired by Professor Ian Sloan AO, has done an excellent job in improving the process for considering nominations for fellowship. The growth in membership numbers has continued over the year and it is anticipated that this momentum will continue.

The Bulletin was edited this year by Professor Jim Kehoe whose experience in publishing came to the fore with a number of changes to editorial policy and layout that improve the publication very considerably.

The Society was pleased that Mr Richard Wilmott volunteered to become Honorary Treasurer, after he had completed the audit of the 2014 accounts that were presented at the AGM last year. The Society anticipates appointing new Honorary Auditor at the AGM or a subsequent general meeting.

After a long vacancy, the Society is fortunate that Dr Ragbir Bhathal volunteered to become the Honorary Librarian. Dr Bhathal has made an excellent start at cataloguing the collection, and exploring ways in which the library (much of which is currently in storage) might be able to be open once again to members and the public.

Professor Michael Burton has continued to develop the editorial content of the *Journal and Proceedings* that attracts a wide range of interesting papers and invited discourses that are important in promoting the Society both within Australia and internationally. Unfortunately, due to Professor Burton accepting an appointment as the Director and CEO of the Armagh Observatory and Planetarium in Northern Ireland, he is unable to continue as editor. A replacement for Professor Burton has not yet been identified.

In September, in collaboration with the NSW-based chapters of the four Australian learned Academies, the Society hosted a forum, the topic of which was *The future of work*. The Society was grateful that the Vice-Regal Patron, the Governor, offered to host the event at Government House. The forum was an outstanding success and planning is under way for a similar event at about the same time in 2016.

As my term as President draws to a close I would like to thank the members of Council for the commitment and hard work that they have devoted to the Society over the last year (and much longer in some cases) – it is been a privilege working with you! I would also like to wish Brynn Hibbert, President-elect, every success in guiding the Society in the next phase of its renaissance. There is still much more to be done!

TREASURER'S REPORT

In August 2014, the Society engaged The Association Specialists to handle its accounting and back-office administration. Previously, this work was undertaken in-house, by a part-time employee. The 2015 year was the first full year of operations under this new arrangement.

As is often the case when administration systems are changed, some initial process issues were experienced. However, the new outsourcing arrangements have been successful overall and there has been a gradual but significant improvement in the Society's financial

management. Members can expect to see further changes and improvements in the coming year, including the addition of formalised budgeting and more informative reporting.

The increase in membership continues to improve our financial position and the losses of the last decade or more have been stemmed. A small surplus is expected in the current 2016 year.

The Society appreciates a number of donations received during the year.

EVENTS AND LECTURES

The Society's Events Committee comprised:

Chair	Professor Ian Wilkinson
	Em. Prof Brynn Hibbert
	Em. Prof Heinrich Hora
	Dr Fred Osman
	President (<i>ex officio</i>)
	Honorary Secretary (<i>ex officio</i>)

The Society held a full program of eleven monthly lectures in Sydney, which included the Royal Society of NSW and Four Academies Forum, in addition to special named lectures and events during the reporting period. Details of the monthly lecture series, for the most part held at the Union Universities and Schools Club, 25 Bent Street, Sydney, are published in the *Journal and Proceedings*.

The Society is grateful to the Union Universities and Schools Club for providing an excellent venue for our monthly meetings.

The annual Four Societies Lecture was held on Monday, 16 February 2015 in conjunction with the Nuclear Engineering Panel of the Sydney Branch of Engineers Australia, the Australian Nuclear Association and the Australian Institute of Energy. This year's lecture was delivered by Dr AT Paterson FRSN, Chief Executive officer, Australian Nuclear Science and Technology Organisation (ANSTO). The topic was *latest developments in small modular reactors*.

The second Distinguished Fellows Lecture was delivered by the Hon Professor Dame Marie Bashir AD CVO Dist FRSN at the annual dinner held at the Union University and Schools Club on 6 May 2015. The topic was *Lachlan Macquarie, 5th Governor of New South Wales: his Life and Legacy to Australia*.

The Clarke Memorial lecture was delivered by Distinguished Professor Bill Griffin FRSN, Professor of Geology, Macquarie University. His topic was *From the solar nebula to the deep Earth – a geological journey*.

The Society was pleased to hold the Dirac Lecture in conjunction with the University of New South Wales and the Australian Institute of Physics. The lecture was delivered on Tuesday, 1 September 2015 by Professor Subir Sachdev, Professor of Physics, Harvard University. His topic was *Quantum entanglement and superconductivity*.

The Society held its Christmas Party at the Union Universities and Schools Club on Wednesday 2 December 2015. The event was preceded by the presentation of the 2015 Jak Kelly Award.

FELLOWS

In the year ending April 2015, the Society's Fellows Committee comprised:

Chair	Em Prof Ian Sloan AO FRSN
Secretary	Ms Judith Wheeldon AM FRSN
	Prof Michael Archer AM Dist FRSN
	Mr John Hardie FRSN
	Em Prof Brynn Hibbert FRSN
	Em Prof Heinrich Hora FRSN
	Dr Fred Osman MRSN

President (*ex officio*)
Honorary Secretary (*ex officio*)

The Fellows Committee worked diligently throughout the year on the assessment of candidates nominated for Fellowship and also gave much attention to the streamlining of procedures, so as to avoid unnecessary delays and mitigate the risk of errors. During the year, the Committee recommended to Council the election of 43 new Fellows. The Committee's recommendation was accepted in all cases. The Committee also recommended and Council subsequently approved, the elevation of The Hon Professor Peter Baume AC to Distinguished Fellow. Late in the period covered by this report, Council decided that nominations for Membership and Associate Member nominations would no longer be considered by the Fellows Committee.

It was noted with sadness that Distinguished Fellow David Craig died during the year.

As at 31 December 2015, the total number of Fellows was 92 and the total number of Distinguished Fellows was 15.

AWARDS

The Awards Committee of Council was constituted as follows:

Chair	Em Prof Brynn Hibbert FRSN
	Mr John Hardie FRSN
	Em Prof Heinrich Hora FRSN
	Assoc Prof Bill Sewell
	President (<i>ex officio</i>)
	Honorary Secretary (<i>ex officio</i>)

As in previous years, the Chief Scientist and Engineer of NSW, Professor Mary O'Kane and the Deans of the Science faculties of NSW universities were invited to form an Advisory Panel to assist the Committee. This year, Deans of Engineering were also invited. The Awards Committee received fourteen nominations for four awards and seven nominations for the three Scholarships to be awarded. When nominations for the awards of the Society were all received, a meeting of the Advisory Panel, with Prof Hibbert in attendance, ranked

the candidates and gave advice on their merits. This was communicated to the Awards Committee who made final recommendations to the Council.

At its November meeting the Council made three awards. They were:

Clarke Medal (Zoology)	Professor Chris Dickman
Edgeworth David Medal	Associate Professor Simon Ho
History and Philosophy of Science Medal	Professor Warwick Anderson FRSN

It was decided not to award the James Cook Medal.

The awards will be presented at the Annual Dinner in 2016.

The winner of the Jak Kelly award made by the Royal Society of NSW in conjunction with the Australian Institute of Physics was James Colless, who gave a presentation on his work at the ordinary general meeting held in December.

The Society's Scholarships for 2015 were awarded to Adrian Dudek, Charles Foster and Yevgeny Stadnick. Each of the scholarship winners made presentations on their research work at the ordinary general meeting held in February 2016.

JOURNAL AND PROCEEDINGS

Two editions of the *Journal and Proceedings of the Royal Society of NSW* were published in 2015; Volumes 148-1 and 148-2, with a total of 192 pages.

Volume 148, Part 1, published online on 30 June 2015, contained one invited discourse together with six refereed papers. The former, by Council member Dr Erik Aslaksen, considered the relationship between engineers and society. The refereed papers included two feature articles by Society medal winners (Professor Martin Green – James Cook Medal and Professor Robert Park – Clarke Medal), the Jak Kelly award winner Linh Tran, and the three RSNSW Scholarship winners, Melanie Laird, Ruth Wells and Stephen Parker.

Volume 148, Part 2, published online on 31 December 2015, featured an invited discourse from former Society Patron and NSW Governor, the Hon Dame Marie Bashir, on the life and legacy to Australia of the 5th Governor, Lachlan Macquarie, as well as papers from the Society's Forum at Government House on the Future of Work. This included papers from the current Governor, the Hon General David Hurley, as well as the Presidents of the Australian Academies of Science (Andrew Holmes) and Technological Sciences (Alan Finkel, now the Chief Scientist), the President of the society and a further six papers from participants.

Council has entered into an agreement with Informit, part of RMIT Publishing, in order to provide the content of the Journal online through their web portal. In particular, this provides for indexing of the Journal, thereby making its content more readily accessible to a researcher. While individuals need a subscription to access Informit, most higher education and government institutions in Australia subscribe, so for those members affiliated with these organisations the Journal can be obtained without charge. The direct link for accessing the Journal on Informit

is: <http://search.informit.com.au/browseJournalTitle;res=IELHSS;issn=0035-9173> (and is directly linked from the Journal pages on the Society website). The Journal continues to be

freely available through the RSNSW website for those without a subscription to Informat. A small royalty payment (about \$68) has been received.

Council is also extremely grateful to the Biodiversity Heritage Library in the USA who have taken on the task of scanning all past issues of the Journal (i.e. back to 1862) and making them accessible via a searchable archive (including the text itself translated through optical character recognition). They have taken on this task gratis, and provide an invaluable resource for researchers interested in past material that the RSNSW has published over its long history. Direct links to the archived Journal on BHL website are given from the Journal pages of the Society website, and are:

<http://www.biodiversitylibrary.org/bibliography/52324/#/summary> (from 1868, for the J&P of the RSNSW) and <http://www.biodiversitylibrary.org/bibliography/29666/#/summary> (from 1862-67, for the preceding *Transactions of the Philosophical Society of NSW*).

The printing of the hard copy version of the Journal during 2015 has, unfortunately, stalled due to issues connected with the transfer of the database to Currinda at TAS. It is currently being printed for RSNSW member subscribers and will shortly be distributed. The electronic copy (PDF files) is also freely available via the Society's website, at http://www.royalsoc.org.au/publications/journal_2000_on.php.

The Editor stepped down following publication of V148-2. He is shortly to begin a new appointment as the Director and CEO of the Armagh Observatory and Planetarium in Northern Ireland.

LIBRARY

The Library has a valuable, diverse and rich collection of books, journals, pictorial material and other memorabilia which go back to the 18th century or earlier. The Library's holdings are securely housed at the Society's Darlington Road Office, the State Library of NSW and a warehouse courtesy of Clive Wilmot. The Society thanks Clive Wilmot, the State Library of NSW and the University of Sydney for their generous contribution of space to house the collection.

The Darlington Office has about 750 items housed on metal book shelves or in cupboards. Arising from the fact that the Society may be asked by the University to move to a new location in the near future, a detailed list of the items is being prepared and the items are being placed in archival boxes for the impending move. About 30% of the collection at Darlington has been listed and placed in the boxes. The work is still in progress.

The Society continues to operate a journal exchange program with a number of overseas organisations. The exchanged journals are housed in the Dixson Library at the University of New England, which maintains and provides full access to this material. This programme is currently being re-evaluated in light of the technological change that has taken place over the last few decades, with peer-reviewed journals largely being available on-line.

THE BULLETIN

The Bulletin of the Society was published monthly during the year, except for December. The Council thanks the authors of short articles and for information submitted to the

Bulletin and to members who assisted in its preparation and distribution, particularly the editor of the Bulletin, Professor Jim Kehoe.

SOUTHERN HIGHLANDS BRANCH

The Southern Highlands Branch Committee for 2014/2015 was:

Chairman	Mr Hubert Regtop
Vice chairman	Dr John Wright
Honorary Secretary	Ms Anne Wood
Honorary Treasurer	Dr Mike Jonas
Committee members	Mr Ted Smith Ms Andrea Talbot

Royal Society of NSW Southern Highlands (RSSH) has had another very successful year. Lectures have attracted large audiences as in previous years but NSW school holiday periods generally see slightly lower attendances. Although there are consistently large audiences, the audience representation from lecture to lecture varies greatly, depending on the topic.

Promotion of events is working very well in the Southern Highlands community. The local newspaper, Chevalier College and ABC Radio Illawarra all conduct interviews with speakers concerning their upcoming lectures, where possible. There are also featured articles from time-to-time in the regional publication *High Life*. The Branch maintains an extensive database of contacts and at each meeting requests new attendees to provide email details so that we can keep the community well informed of the branch's activities.

The Branch is conscious that the Society advocates for Art, Science, Literature and Philosophy, and endeavours to offer a varied schedule throughout the year. The Branch enjoys support from the Southern Highlands Opera Appreciation Group (SHOAG) and the Australian Decorative and Fine Arts Society (ADFAS).

The goal for the coming year is to continue to present to the people of the Southern Highlands a high-quality and varied selection of speakers and topics to promote the ideals of the Society.

Details of the monthly lecture series, usually held at Chevalier College, Bowral, are published in the *Journal and Proceedings*.

ANNUAL GENERAL MEETING

The annual general meeting of the Society will be held on Wednesday 6 April 2016 at 5:45 pm at the Union University and Schools Club, 25 Bent Street, Sydney.



Donald Hector

PRESIDENT

On behalf of the Council of the Royal Society of NSW