



The Royal Society of Victoria

Promoting Science and Science Education



THE ROYAL SOCIETY OF VICTORIA INC.

2013 Annual Report

THE ROYAL SOCIETY OF VICTORIA INCORPORATED

ABN 62 145 872 663

ANNUAL REPORT FOR THE YEAR ENDING 31st DECEMBER 2013

Council has the honour to present its report to Members upon the activities of the Society during its 156th year of operation.

PATRON

The Hon Alex Chernov AC QC
Governor of Victoria

COUNCIL

OFFICE BEARERS

President	Dr W. D. Birch AM, BSc(Hons), PhD
Vice-President	Prof P. Y. Ladiges AO, FAA, PhD, MSc, DipEd
Immediate Past President	Prof L. Selwood , MSc, PhD
Honorary Secretary	Dr M. Williams , BSc, MSc, PhD
Honorary Treasurer	Mr N. P. Kennedy , BEng(ComEng), MSc(Comp)
Honorary Librarian	Dr T. A. Darragh , MSc, PhD, GradDipEd
Honorary Editor	Dr M. Familiar , BSc(Hons), PhD, DipEd
Honorary Archivist	Mr M. A. C. Carkeek , BA
Honorary Research Secretary	Prof S. M. Rees , BSc(Hons), MSc, MPhil, PhD, DSc

MEMBERS

Dr M. J. Ackland, MBBS, MPH FAFPHM (Resigned December 2013)
Prof G. D. Burrows AO, CJCJ, BSc, MB, ChB, DPM, MD GradDipMHlthSc(Clinical Hypnosis), DSc, FRANZCP, FRCPSych, MRACMA, FACHAM
Dr D. M. Churchill, BSc, MA, IPAA, PhD
Mrs H. J. Gardiner, BA, Cert IV Workplace Training
Dr D Lightfoot, DipMedLabTech, MSc, PhD
Lt Col R. M. Lightfoot (Ret), LLB, LLM, DipCivEng, DipElecEng, DipMechEng, BEMining (Hons), RFD, FIEAust
Mr J. S. Link, MechEngDip
Prof J. F. Lovering AO, FAA, FTSE, FGSAus, FGSAmerica, FRSV
Dr J. L. McBride, BSc(Hons), DipMeteor, MSc, PhD (Resigned July 2013)
Dr P. G. Thorne, BSc, PhD, DipPubPol, HonDEng(Melb), FACS

TRUSTEES

Dr D. M. Churchill, BSc, MA, IPPA, PhD
Dr A. S. Finkel AM, PhD, FTSE
Em Prof T. F. Smith AM, BSc(Hons), PhD, FTSE, FAIP, FInstPhys
Em Prof J. W. Warren, MA, PhD

RETURNING OFFICER

Mr I. D. Endersby, BSc

FELLOWS OF THE ROYAL SOCIETY OF VICTORIA

1995	David H. Ashton*
	Herbert H. Bolotin
	Phillip G. Law*
	Dewar W. Goode*
1996	Jerry M. Adams
	Clive K. Coogan*
	Suzanne Cory
	Sir Gustav Nossal
	Sir Arvi Parbo
	Graeme I. Pearman
	John A. Talent
1999	James M. Bowler
	Nancy F. Millis*
2001	Yvonne Aitken*
	Martin R. Harris
	Barry O. Jones
	John F. Lovering
2004	Thomas A. Darragh
	Joyce R. Richardson
2005	Hilary J. Harrington
	Murray J. Littlejohn
2008	David V. Boger
2010	Milton T. W. Hearn

* Deceased

PRESIDENT'S REPORT

Reporting to you at the end of my first year as President, I will start by repeating a few words I used at the Soiree in December; "this year the Society has taken some big strides forward and perhaps a shuffle or two backwards; a bit like doing an old-style dance". The big steps forward have been the appointment in April of our new Executive Officer, Dr Jillian de Araugo, and the signing up of a new tenant, Federation University (formerly the University of Ballarat), to replace our long-term leasing partner, RANZCOG, who departed in June. To have secured the Federation University is a major achievement, not just for the potential benefits of an alliance with a major tertiary educational institution, but also for the rental income generated for the Society. The University has already taken up residence in the former RANZCOG rooms and are reported to be very pleased with the arrangements. Other significant advances have been finalising a contract licensing Umbrella Entertainment to distribute the Burke and Wills film, for which the Society owns copyright, and, after some protracted discussions, obtaining approval from Heritage Victoria to commence renovation of the car park and front steps. The small shuffles backwards are reductions in membership and in overall rental income, meaning we are not as financially comfortable as we'd like to be. However, our accumulated investments, the Sciences Fund, under the management of Equity Trustees, have done quite well and have generated a useful income for us. Nevertheless, we need to look at strategic ways to improve our financial situation and to increase our membership.

The Society's scientific programme, co-ordinated by the Activities Committee chaired by Sandra Rees, provided a wide variety of expert speakers on diverse topics for our fortnightly lectures, which were very well supported by members and guests. In particular, the Howitt Lecture held in conjunction with the Geological Society in June attracted a capacity audience to hear Erich Fitzgerald discuss the evolutionary implications arising from Victoria's diverse whale fossils. In July, Professor Andrew Holmes delivered the J E Cummins Oration, entitled *Organic Electronic Materials: a licence to print money*, as he entertained the audience with experiments to illustrate some of

the principles. The annual symposium, *Victoria's Energy Future: prospects and challenges*, held in October, unfortunately did not attract the audience that its content and level of organisational effort merited, although the free public forum, generously supported by Museum Victoria, was well attended. Nearly 20 invited speakers for the symposium and lecture are to be congratulated and thanked for the excellent quality of their presentations. The Young Scientists' Research Prize presentations in September once again formed an evening of impressive talks and provided the assessment panel with some very difficult decisions.

Nobel Laureate Professor Peter Doherty was an entertaining speaker at the second in our series of fundraising lunches, held in April at 'Morgan's @ 401 Collins Street', in support of the Society's Science in my World project, dedicated to providing assistance to primary school teachers of science. Our thanks are extended to Gary Morgan for his support of this annual event. Once again the Society was a major sponsor of the annual Science Talent Search, conducted by the Science Teachers' Association of Victoria, thereby providing the Society with another avenue for promoting science in schools.

The Society was fortunate to have the Governor of Victoria, the Honourable Alex Chernov AC QC and our patron, visit us twice, firstly in August to launch *The Aboriginal Story of Burke and Wills: forgotten narratives*, the second book arising from the Burke and Wills sesquicentennial commemoration, and secondly, to present the Society's Research Medal to Professor Mark Burgman in December. The Society also awarded the inaugural Dr Phillip Law post-doctoral prize to Dr Marcus Kitchen in October.

As has been the case over the past few years, maintaining good governance and stringent financial management has been at the core of Council business. Both the Executive and the Finance and Audit Committee have been instrumental in ensuring that the Society adhered to these goals. Council has worked well and meetings have been efficient and convivial, if slightly rushed at times. We will lose three Council members this year through retirement; Michael Ackland, John Lovering and Peter Thorne, all of whom have served the Society wonderfully for many years.

Members will be well aware that maintaining the Society's 1859 building in prime condition is a major challenge, especially in an era when government support has dried up. More and more we will depend on income from rental as well as from donations and bequests. We are hoping that several new initiatives, namely the modernising of our website, thanks in large part to the voluntary efforts of Helen Vorrath, and the promotion of the building through an online venue-hire organization, will bring positive results. The go-ahead from Heritage Victoria to enable the renovation of the car-park, including the provision of several commercial spaces, was a welcome, if somewhat delayed development. Another potential fund-raising initiative was the printing of a 2014 calendar illustrated with wonderful sketches by Ludwig Becker, artist on the Burke and Wills expedition. Our thanks go to Doug McCann for co-ordinating this substantial production. A welcome initiative from the Future Directions Committee was the production of a video of interviews with local scientists, who highlight the significance of the Society's role in promoting science. Member Rob Gell and his team committed considerable time and effort to the recording, editing and production of the video and the Society intends to make good use of it. The Society received notice from the Bureau of Meteorology that its century-old lease on the instrument site at the corner of La Trobe and Victoria Streets would be relinquished at the end of 2014, a decision which will also have financial repercussions for the Society.

During the year the Society had to confront major problems over the future of our major historical asset — the library. The extensive journal and monograph collections formerly stored at Deakin University at Burwood, then at Geelong, have been transferred to secure warehouse storage, thanks to the generosity of member Clive Wilmot, but this is only a temporary solution. The endeavours of Librarian Tom Darragh and Archivist Malcolm Carkeek in cataloguing the collections made this move possible.

The Publications Committee, chaired by Mary Familiar, has been reviewing the future, in an online age, of another icon of the Society, our journal. Volume 125, published late this year, includes the papers and abstracts from the 2012 symposium on Victoria's adaptation to climate change. However, the Society faces a significant challenge in ensuring the viability of *The Proceedings*.

This brings me to our loyal and hardworking staff members, who ensure the Society runs smoothly and who carry out the requests of the Executive, and in particular the President, to the letter! Executive Officer Jillian de Araugo has

proved to be an inspired appointment, bringing new ideas, enthusiasm and incredible energy to the position and I'm sure the Society will make great advances under her watch. Alex Tsakmakis efficiently deals with the challenges of maintaining our financial recording and reporting system, as well as trouble-shooting various IT and other issues as they inevitably arise. James McArthur continues to promote and manage the rental bookings and look after all our assets in his inimitably cheerful manner, while Janet Jackson provides essential support for membership records and general administration. The Society is very fortunate to have retained our staff for another year and I thank them sincerely for the support they have given to me.

Next year will be just as challenging, as we plan some new strategies to have the Society's view on selected scientific issues more 'out there' in the public arena. In this regard, we have already advocated both publicly and to the government our opposition to cattle-grazing and development in national parks. We also plan to bring in changes to make Council more efficient and to find ways to involve more of our members in some of the activities that perhaps have traditionally been seen as being solely for discussion and decision by Council. We will be canvassing some of these changes in a Members' Forum to be held early in 2014, so I'd encourage all members to contribute their views and suggestions.

Bill Birch, President

THE HALL

Numerous organisations conducted over 168 meetings during the year. Long standing tenants RANZCOG did not renew their lease and moved out of the first floor offices in January. The University of Ballarat signed a licence agreement for use of the offices and what has been known as the John Green Room, effective from 1st October 2013.

METEOROLOGICAL OBSERVING SITE

The Commonwealth Bureau of Meteorology continued to rent the area at the corner of La Trobe and Victoria Streets adjoining the Society's Caretaker's cottage.

CITY OF MELBOURNE

The Council wishes to acknowledge with gratitude the continued maintenance and refurbishment of the grounds of the Society as part of The City of Melbourne's open space system.

ACKNOWLEDGMENTS

The Society's thanks and appreciation are due to those people and organisations that contributed their valuable assistance during the year, notably:

- ◇ Mr Andrew Blogg and Ms Sandra McColl, Honorary Solicitors
- ◇ Dr Natalie Korszniak, Honorary Managing Editor
- ◇ Mr Jonathan D. Madgwick, BBus ACA, Honorary Auditor
- ◇ Mr Dodge Phoenix, Gardener
- ◇ Mr Greg Corbin, Architect
- ◇ Volunteer assistance with the Newsletter – Mr Joe Bagnara, Mr Leon Costermans, Mrs Barbara Day, Mr Ian Farnsworth, Mr Bill Fenner, Ms Maretta Frolley, Dr Diane Lightfoot, Mr Graham Miller, Mrs Elaine Muir and Mr Brian Simpson
- ◇ Volunteer assistance with archiving the Society's records and cataloguing the Library –
Mr Malcolm Carkeek and Dr Neil Béchervaise.

ADMINISTRATION

Dr Jillian de Araugo	-	Executive Officer
Mr Alex Tsakmakis	-	Administration Officer - Finance (part time)
Mrs Janet Jackson	-	Administration Officer - Secretariat (part time)
Mr James McArthur	-	Functions and Property Manager

This Report is approved by Council for presentation to Members at the Annual General Meeting to be conducted Thursday 24th April, 2014.

Bill Birch, President

2012 ANNUAL GENERAL MEETING

The 157th Annual General Meeting was convened on 28th March, 2013.

- The Officers and Councillors elected at the Ordinary Meeting held 8th March, 2012 were inducted for 2013.
- *The Annual Report and Financial Statements for 2012 were received and adopted.*
- Mr Jonathan D. Madgwick, BBus, ACA, was appointed Honorary Auditor.

FUNDRAISING

The Society acknowledges the following Members for their generosity (post-nominals omitted).

Leonard R. Allen	Roy T. Hardcastle	Dennis O'Neill
J. A. Allen	John E. Harrison	Duke W. Paine
Neil Avery	Barry O. Jones	Lady Primrose Potter
W. D. Birch	Norman P. Kennedy	Sandra M. Rees
Simon P. Bower	Pauline Y. Ladiges	Lindsay Royston
Graham D. Burrows	Diane Lightfoot	Lynne Selwood
Sebastian Clark	Richard M. Lightfoot	Gavin D. Smith
Suzanne Daniel-Dreyfus	Murray & Patsy Littlejohn	Ivan F. Smith
Keith J. Dempster	Bruce G. Livett	William J. Thompson
William T. Denholm	Valentina Lorenzetti	Peter G. Thorne
Matthew R. Digby	James McConville	Michael Troy
Don Dunstan	Wallace W. Mobilia	James W. Warren
Carol R. Ely	Thomas Mole	Pera Wells
William G. Fenner	Colleen Morris	Geoffrey Wescott
Helen Gardiner	Gregory J. Noonan	Mark Williams
Jane M. Gower		

Bequests

Estate of James Ralph Howard \$34,162.35.

Estate of Philip G Law \$5,000 (interim payment)

Donations from Non-Members

Aboriginal Literacy Foundation	CSIRO Publishing	Virginia O'Dwyer
F. Calati	R. I. Hunter	Andrew Robinson
Iain Clarke	Lindy Joubert	Rob K. Shepherd
CSL	Z. Kimpton	Solarcorp

ACTIVITIES and SYMPOSIA COMMITTEE

Prof S. Rees (Chair), Dr M. Ackland, Mrs H. Gardiner, Dr D. Lightfoot, Lt Col R. Lightfoot (Ret), Mr J. Link

This has been a very active year for the Committee, with lectures scheduled for the second and fourth Thursday of each month from February to November and a Symposium in October. Lectures covered a wide range of topics and we enjoyed many excellent presentations including: The Discovery of the Higgs Boson Particle (Professor Elisabetta Barberio); Nanotechnology: the next ten years (Professor Paul Mulvaney); Renewable Energy Shift (Mr. Terry Teoh); Stem Cells for Kidney Repair (Associate Professor Sharon Ricardo). The A. W. Howitt Lecture, held jointly with the Geological Society of Australia (Victoria), was delivered by Dr Erich Fitzgerald, the J. E. Cummins OBE Annual Oration by Professor Andrew Holmes and the RSV Medal Lecture by Professor Mark Burgman.

The meeting program for 2014 was finalized; two new initiatives are a Q&A session on nuclear energy and a late afternoon event for primary and secondary school students awarded RSV sponsored prizes in the Science Talent Search, with details still being finalized.

With the assistance of Dennis O'Neill, Bill Birch and Jillian de Araugo, the committee organized a free Public Forum at the Museum of Victoria and a Symposium at the RSV on "Victoria's Energy Future: Prospects and Challenges" in October. The current forms of energy usage (coal, oil and gas) and new resources (wind, solar, geothermal, waste to energy and wave energy) were discussed. The speakers were excellent and those present found the presentations to be highly informative. The attendance was disappointing - 110 for the Public Lecture and 61 for the Symposium. The lack of interest from RSV members was particularly dispiriting. In future, it is advisable that Symposia should only be undertaken in concert with another organization where the membership of that group can be guaranteed to support the event.

2013 Lecture Series

Joint Lecture with Australian Academy of Technological Sciences & Engineering, 23rd May

Prof Paul Mulvaney, Bio21 and School of Chemistry, University of Melbourne **"Nanotechnology: the next ten years"**

The Royal Society of Victoria and Geological Society of Australia Inc. (Victoria Division) A. W. Howitt Lecture

The tenth lecture, entitled **"Victoria: Last Frontier in the Quest for Whale Origins"** was given by **Dr E. Fitzgerald**, Museum Victoria on 27th June.

The Royal Historical Society of Victoria and the Royal Society of Victoria

Dr Heather Jackson, School of Historical and Philosophical Studies, University of Melbourne entitled **"The Role of Scientific Analysis in the Archaeology of a Hellenistic Site in Syria"** on 14th November.

Dr Philip Law Postdoctoral Award for Physical Sciences The inaugural Dr Philip Law Postdoctoral Award for Physical Sciences was organized by the Committee and won by Dr Marcus Kitchen. The award (\$2,000 prize money) attracted 11 excellent entries, which was very pleasing. It is hoped that when the opportunity arises, the award will be increased to cover at least a return airfare to Europe/US to enable the recipient to attend an international scientific meeting. A sub-committee to take on the ongoing running of this award is envisaged for the future.

Young Scientist Research Prizes were awarded as part of the Society's contribution to Science Week on 26th September and the Committee organized the judging. There were 23 entries in three categories: Physical Sciences, Biomedical & Health Sciences and Biological Sciences (Non-human). As there was only one entry in the Earth Sciences category no award was made in this category this year. A greater effort will be made in 2014 to increase the number of applicants in all categories. The Committee recommended six young scientists to present their work to compete in the categories of Physical Sciences, Biomedical & Health Sciences, and Biological Sciences (Non-Human).

The prizes are supported by the E. D. Gill and Neil W. Archbold bequests and by generous donations from current

Society Members; the Society supported the cost of the evening. The prizes were judged by Dr Mike Ackland, Prof Pauline Ladiges, Lt Col Richard Lightfoot (Ret), Prof Sandra Rees, Prof Lynne Selwood, Dr Mark Williams and Dr Peter Thorne.

The President, Dr Bill Birch, presented \$1,000, a certificate, and membership of the Society for 2013 to the winners:

Biological Sciences (Non-human) Prize: **Katrin Hug** for her research in “Microbial arsenic resistance in Champagne Pool, New Zealand”

Biomedical & Health Sciences Prize: **Annie McAuley** for her research in “Novel proteomic biomarkers in diabetic retinopathy.”

Physical Sciences Prize: **Hua Zhou** for her research in “Super durable, robust super hydrophobic fabrics.”

This successful function can be further supported by Members if they wish to make a donation to the Young Scientist Research Prizes Fund.

Sandra Rees, Chair

FELLOWS and RESEARCH MEDAL COMMITTEE

Dr W. D. Birch AM (Chair), Mr N. P. Kennedy, Prof P. Y. Ladiges, Prof J. F. Lovering, Prof L. Selwood, Dr M. Williams

No Fellowships were awarded in 2013.

The Committee was pleased to recommend to Council that Professor Mark Burgman be awarded the 49th Award Royal Society of Victoria 2013 Research Medal. The presentation to Professor Burgman was made by The Hon Alex Chernov AC QC, Governor of Victoria and Patron of the Society, at the Society’s meeting on 12th December, 2013.

Bill Birch, Chair

LIBRARY and ARCHIVES COMMITTEE

Dr T. A. Darragh (Chair), Mr M. A. C. Carkeek, Dr M. Familiar, Lt Col R. M. Lightfoot (Ret), Dr P. G. Thorne, Dr M. Williams

Library Report

The serials previously held at Deakin University were moved to space in a warehouse kindly provided free of charge by a Society member. This will give us time to see if we can find a permanent home for the collection. A number of the serials were presented as a gift to Museum Victoria, but the bulk of the collection remains in storage. All the monographs held at Deakin were transferred to the Society’s Hall and an assessment made to see what should be retained and what could be disposed of. A number of books were presented to Museum Victoria and some were sold. The money raised will be used for library purposes, including binding of unbound publications.

The Phillip Law book collection has been listed by volunteer Neil Béchervaise and will be incorporated into the library catalogue. Listing of other uncatalogued items in the monographs from Deakin is currently underway.

Tom Darragh, Honorary Librarian

Archives Report

The sorting and selection of the Society’s records for archiving continues as per the 2013 Archiving Policy document; this phase should be completed in the first half of 2014. The production of listings, study guides and the Archiving Guidelines are targeted for the second half.

As noted in the Policy document, the selection of records for archiving is based on the reasonable likelihood that a future researcher may be interested in writing on that topic and/or an associated one. The present lists of records that are being collected are:

- Council and Committee Minutes and associated documents, including agendas, financials, letters, etc.
- Membership records,
- Documents relating to the history of the land and buildings,
- Letters and other documents of importance or significance,
- Journal exchange records,
- Newsletters,
- Library history records,
- General RSV history documents,
- Financial investment records,
- Events and projects (other than symposia) records, and
- All documents and records that are classified as Crucial.

Progress this year has been slower than anticipated, mainly due to: the need to examine each document because some gems appear in the least likely places, misfiled documents and a confined working space. None of these is likely to change soon.

Malcolm Carkeek, Honorary Archivist

MEMBERSHIP COMMITTEE

Mrs H. J. Gardiner (Chair), Prof G. D. Burrows, Mr M. A. C. Carkeek, Mr J. S. Link, Prof J. F. Lovering

With the running of the annual Young Scientist Research Prize now co-ordinated through the Activities Committee and the Executive Officer, the Membership Committee's main activity is to assist in attracting new members to the Society, where membership is for "anyone interested in science and the promotion of science". In 2013, our specific tasks were to review and rationalise membership categories, document current member benefits for prospective members, simplify the membership application form, approve membership nominations and oversee the membership data base.

Initial work focussed on simplifying the membership application form and these changes proposed by the Executive Officer have been adopted and are being implemented. Following two task meetings, a report updating current member benefits and proposing changes to membership categories was submitted to Council in November. Thanks again to the Executive Officer, these changes are currently being implemented. This report also gave timely recommendations to the Executive for inclusion in future planning and it is hoped they will inform any future membership drives.

As always, it was pleasing to see the diversity within our new member applications and we will endeavour to promote their growth in 2014.

Finally, Professor Lovering has advised that he is stepping down from the Committee, so may I say thank you to him for his considered work this year.

Helen Gardiner, Chair

MEMBERSHIP 2013

Changes to Membership in 2013

Elected in 2013	58
Transfer to Life Membership	2
Resignations	21
Deaths	5
Removals (failure to pay subscription)	62

Total individual Membership 2013 624

Corporate Members 2013

Australian Delphi User Group Inc.
School of Philosophy (Melb) Inc.

VALE

The deaths of the following Members are recorded with deep sympathy to their families:

Leonard Edmund Fielding
Professor Paul Grundy AM
Professor James D. Morrison AO
Ernest Rodeck AM
Dr Noel W Schleiger

PROCEEDINGS and PUBLICATIONS COMMITTEE

Dr M. Familiari (Chair), Prof G. D. Burrows, Dr D. M. Churchill, Dr T. A. Darragh, Dr D. Lightfoot

This year the committee developed new guidelines for reviewing manuscripts. In addition, with the assistance of Doug McCann, Craig Robertson and the Society's legal adviser Sandra McColl, we have developed a Copyright Form which we will begin using in 2014.

We have begun exploring the possibility of our journal moving to an electronic format and plan to recruit a new Editorial Advisory Committee.

Volume 125 of our journal contains the proceedings of 'The Climate Change Symposium'. We take this opportunity to thank Mark Williams for his tireless efforts ensuring that manuscripts were received and processed in a timely fashion. Volume 125 also contains peer-reviewed research papers and this year we have included the abstracts from finalists in the Young Scientist Research Prizes and the winner of the Dr Phillip Law AC Post-doctoral Award.

Our Managing Editor, Dr Natalie Korszniak and Typesetter Ms Debbie Thompson contributed significantly to the successful publication of our journal this year and we thank Mark Williams for his contribution to proof reading the final draft. Unfortunately Dr Korszniak has submitted her resignation and we take this opportunity to thank her for her outstanding expertise over the past year. We are now looking for a new Managing Editor and ask Members to let us know if they are aware of any suitably experienced persons.

It has been an honour to work with the members of my committee over the last year and I would like to thank them for their valuable contributions to the Publications Committee in 2013.

The list of papers included in Volume 125 Number 1 and Number 2 (single issue) follow.

VOLUME 125

Number 1

PROCEEDINGS OF THE CLIMATE CHANGE SCIENCE: IMPACTS AND ADAPTATION FOR VICTORIA PUBLIC LECTURE (20 SEPTEMBER 2012) AND SYMPOSIUM (21-22 SEPTEMBER 2012)

Mark Williams – Summary of the Public Lecture *Addressing the Myths of Climate Change*, 20 September 2012 and the Symposium *Climate Change Science: Impacts and Adaptation for Victoria*, 21-22 September 2012

PUBLIC LECTURE

Will Stephen – The Myths of Climate Change Science

Lesley Hughes & Will Stephen – Climate Change in Victoria: Trends, Predictions and Impacts

Jon Barnett – Three Myths About Adaptation: Limits, Barriers, and the Meaning of Life

SESSION 1: THE PHYSICAL SCIENCE OF CLIMATE CHANGE

Karl Braganza, Blair Trewin, Robert Smalley & Robert Fawcett – Climate Observations

Scott B. Power – Why does Victoria's climate vary from year to year and from generation to generation?

Penny Whetton –Climate Change-Projections

Lisa Alexander – Is the climate becoming ‘more extreme’?

SESSION 2: CLIMATE CHANGE IMPACTS ON VICTORIA

Roslyn M. Gleadow – Summary of Session 2: Climate Change-Impacts on Victoria

Dasarath Jayasuriya – Cities and Water

Grant Blashki – Impacts of Health

Leanne Webb – Impacts on Agriculture

Kathleen L. McInnes – Sea Level Rise and Coastal Inundation

SESSION 3: CLIMATE ADAPTATION FOR VICTORIA

Mark Williams & Rod Keenan – Summary of Session 3: Climate Change-Adaptation for Victoria

Lauren Rickards – Climate Change Adaptation and Scenario Planning: framing issues and tools

Hartmut Fonfgeld – Framing the Challenge of Climate Change Adaptation for Victorian Local Governments

Kate Auty – What We Have Learnt From Victorian Aboriginal People in our Climate Change Adaptation Work

Ross Garnaut AO – An Overview of Current Policy Arrangements in Response to Climate Change

Number 2

PROCEEDINGS

Rafika Ismail, David Phillips & William D. Birch – $^{40}\text{Ar}/^{39}\text{Ar}$ Dating of Alkali Feldspar Megacrysts from Selected Young Volcanoes of the New Volcanic Province, Victoria

TRANSACTIONS

*FINALISTS FOR THE ROYAL SOCIETY OF VICTORIA 2013 YOUNG SCIENTIST RESEARCH PRIZES * Winners*
2013 Young Scientist Student Research Prize

Biological Sciences (Non-human)

Katrin Hug*, Matthew B. Stott, William A. Maher, Frank Krikowa, Simon Foster & John W. Moreau – Microbial arsenic resistance in Champagne Pool, New Zealand

Niharika Sharma – Exploring *Marchantia* transcriptome to identify genes contributing to sexual reproduction using mRNA-SEQ

Biomedical & Health Sciences

Katie Ardipradja*, Shinn-Dee Yeoh, Uwe Ackerman, Graeme O’Keefe, Karlheinz Peter, David W. Howells & Christopher E. Hagemeyer– Imaging vulnerable atherosclerotic plaques with radiolabelled single chain antibodies

Annie K. McAuley*, Jie Jin Wang, Paul P. Connell, Mohamed Dirani, Helena Liang, Ecosse Lamoureux & Alex W. Hewitt – Novel proteomic biomarkers in diabetic retinopathy

Physical Sciences

Hua Zhou* & Hongxia Wang – Super durable, robust super hydrophobic fabrics

Liyu Jin*, Patrick Howlett, Jennifer M. Pringle & Maria Forsyth – Plastic crystals for future batteries

WINNER OF THE ROYAL SOCIETY OF VICTORIA RESEARCH MEDAL – PHYSICAL SCIENCES CATEGORY

Frank Caruso - Engineering particles for therapeutic delivery: Prospects and challenges

WINNER OF THE DR PHILLIP LAW AC, POST-DOCTORAL AWARD FOR THE PHYSICAL SCIENCES

Mary Familiari, Honorary Editor

FINANCE and AUDIT COMMITTEE

Mr N. P. Kennedy, (Chair), Dr W. D. Birch, Prof P. Y. Ladiges, Lt Col R. M. Lightfoot (Ret), Prof L. Selwood.

The Finance and Audit Committee met monthly to review finances, monitor the financial management plan and risk register and conduct a random audit of the monthly accounts from February to December 2013.

HONORARY TREASURER

It is my duty to report to the Royal Society's membership on the financial activities and financial performance of the Royal Society over the last year. The annual financial statements and the auditor's statement for the current year are included in the annual report.

In summary: the RSV is financially sound and has ample assets to cover its immediate and longer term requirements but needs to increase its funding sources to enable it to increase its activities. Seeking to increase those funding sources will be a major focus for both the Executive and Finance and Audit Committee in the coming year.

The Society has an operating deficit as shown in the accounts; the large amount reflects a change in the accounting of depreciation (which is a non-cash expense item) to become consistent with the Australian Accounting Standards.

We have been unsuccessful in diversifying our funding base and are still largely dependent on the income received from hiring our building. As outlined below, we continue to make a deficit from operational activities, which is covered by a transfer from the Science Fund. As outlined below this transfer represents only a part of the increase in value of the fund.

On the income side rental makes up approximately 61% of our operational income in next year's budget, membership dues contribute a further 22% and franking credits 3%. The predicted operational result is a deficit, which will be covered by a transfer from the Science Fund. On the expenditure side approximately 66% of our operational costs are salaries.

The Royal Society of Victoria Science Fund was formed from the bequest of Dr Phillip Law and other RSV funds as a perpetual fund. We retain the capital and only take a portion of the increase in value each year, therefore allowing it to grow so that in future years we will be financially sustainable. Our financial advisor, Equity Trustees, manages the fund governed by our investment mandate. The fund has grown over the last year and is now valued at \$1,145,038 of which 66% is attributed to the bequest of Dr Phillip Law.

The use of the fund to cover our operational deficit is disappointing; we would rather be using the fund to sponsor a greater level of prizes and other activities to promote Science.

The healthy size of the fund, however, means that the RSV is financially sound and will be so for many years to come but if we want to expand our activities we need further funding sources. Seeking those sources will be the major focus of the FAC in the 2014 year. One way you could help is to consider making a bequest to the Society.

We continue to maintain a strong focus on fiscal prudence and our internal audit activities have included a verification of the asset register, monitoring of the risk register and a monthly audit of expenditure to ensure that all accounts are correctly authorised and processed.

Lastly, I would like to thank my very helpful and active Finance and Audit Committee, and also acknowledge the support received from our Financial Administrative Officer and the Executive Officer.

Norman Kennedy, Honorary Treasurer

The Royal Society of Victoria Inc. (a Non-reporting Association)

Financial Report for the Year Ended 31st December 2013

Your council members submit the financial report of The Royal Society of Victoria Inc. (a Non-reporting Association) for the financial year ended 31 December 2013

PATRON The Hon Alex Chernov AC QC Governor of Victoria

COUNCIL OFFICE BEARERS

President	Dr W D Birch AM, BSc(Hons), PhD
Vice-President	Prof P Y Ladiges AO, FAA PhD MSc DipEd
Immediate Past President	Prof L Selwood, MSc, PhD
Honorary Secretary	Dr M Williams BSc MSc PhD
Honorary Treasurer	Mr N P Kennedy, BEng(Commun), MSc(Comp)
Honorary Librarian	Dr T A Darragh, PhD
Honorary Editor	Dr M Familiar, BSc(Hons), PhD
Honorary Archivist	Mr M Carkeek BA
Honorary Research Secretary	Prof S M Rees, BSc(Hons), MSc, MPhil, PhD, DSc

MEMBERS

Dr M J Ackland, MBBS, MPH, FAFPHM
Prof G D Burrows AO, CJCJ, BSc, MB, ChB, DPM, MD, GradDipMHIthSc(Clinical Hypnosis), DSc
FRANZCP, FRCPsych, MRACMA, FACHAM
Dr D M Churchill, BSc, MA, IPAA, PhD
Mrs H J Gardiner, BA, DipEd
Dr D Lightfoot, DipMedLabTech, MSc, PhD
Lt Col R M Lightfoot (Ret), LLB, LLM, DipCivEng, DipElecEng, DipMechEng, BEMining (Hons),
RFD, FIEAust
Mr J S Link, MechEngDip
Prof J F Lovering AO, FAA, FTSE FGSAus FGSAmerica, FRSV
Dr P G Thorne, BSc, PhD, DipPubPol, HonDEng(Melb,) FACS

TRUSTEES

Dr D M Churchill, BSc, MA, IAIM, PhD
Dr A. S. Finkel AM, PhD, FTSE
Em Prof J W Warren, MA, PhD
Em Prof T F Smith AM, BSc(Hons), PhD, FTSE, FAIP, FInstPhys

RETURNING OFFICER

Ian Endersby

Principal Activities

The principal activities of the Society during the financial year were the promotion and advancement of pure and applied science and technology.

Significant Changes

No significant change in the nature of these activities occurred during the year.

Operating Result

The Operating Surplus of the Society was \$26,433 and after charging depreciation the Net Deficit was (\$167,591)

Signed in accordance with a resolution of the Members of the Council.



Dr William D Birch AM



Mr Norman Kennedy

Dated this 13th day of March 2014

THE ROYAL SOCIETY OF VICTORIA INC (A Non-reporting Association)

STATEMENT OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31st DECEMBER 2013

	Notes	2013 \$	2012 \$
INCOME			
Members' subscriptions		71,142	76,105
Rental Income		158,918	176,695
Sales - Memorabilia, Publications & Proceedings		24,566	19,708
Donations and Bequests	10	62,400	164,633
Sponsorships and Grants	11	2,409	5,455
Other Income		25,151	37,598
Dividends	18	69,086	14,205
Interest	19	5,127	18,133
TOTAL INCOME		418,799	512,532
EXPENDITURE			
Operating Costs			
Accommodation and Travel		1,810	213
Advertising and Promotion		221	555
Audit - Honoraria		2,000	1,000
Bank charges		1,498	1,776
Catering		16,647	19,237
Cleaning & Consumables		6,524	6,843
Donations & Science Prizes		9,192	8,420
Electricity and Gas		7,023	8,572
Equipment Repairs and Replacements		2,264	3,132
Events - Hire Costs		0	1,000
Filing Fees		175	42
Insurance		16,776	19,085
Legal Expenses		0	4,073
Long Service Leave		5,418	9,366
Office expenses		22,827	29,576
Proceedings		1,410	17,513
Professional Services	12	11,513	7,679
Publications, Coins & Stamps		10,478	4,388
Repairs and Maintenance		19,114	15,767
Sundry Expenses		3,770	6,352
Superannuation		21,208	20,601
Wages		231,957	237,656
Work cover		541	1,592
SUB TOTAL OPERATING EXPENDITURE		392,366	424,438
NET RESULT FROM OPERATIONS		26,433	88,094
Non Operating Items			
Depreciation of Property Plant and Equipment		70,174	67,553
Depreciation of Buildings	16	123,850	
TOTAL EXPENDITURE		586,390	491,991
NET DEFICIT	17	(167,591)	20,541

THE ROYAL SOCIETY OF VICTORIA INC (A Non-reporting Association)

STATEMENT OF INCOME & EXPENDITURE FOR THE YEAR ENDED 31st DECEMBER 2013

	Notes	2013 \$	2012 \$
Retained earnings at the beginning of the Financial Year		1,748,835	1,728,294
Net Deficit		(167,591)	20,541
Prior period adjustment for building depreciation		(371,950)	-
Retained earnings at the end of the Financial Year		1,209,294	1,748,835

THE ROYAL SOCIETY OF VICTORIA INC (A Non-reporting Association)
BALANCE SHEET FOR THE YEAR ENDED 31st DECEMBER 2013

	NOTE	2013 \$	2012 \$
CURRENT ASSETS			
Cash and cash equivalents	2	198,854	232,206
Trade and other receivables	3	34,010	24,595
Stock - Publications, Coins and Stamps	4	55,719	53,339
Prepayments and Security Deposits		150	150
TOTAL CURRENT ASSETS		288,733	310,290
NON-CURRENT ASSETS			
Financial assets	5	1,145,070	1,006,097
Building and Improvements	6	4,514,955	4,598,013
Property, plant and equipment	7	2,296,368	2,370,934
Library	8	86,805	86,805
TOTAL NON-CURRENT ASSETS		8,043,198	8,061,849
TOTAL ASSETS		8,331,931	8,372,139
CURRENT LIABILITIES			
Trade and other payables		17,551	25,209
Membership Subscriptions in Advance		32,827	32,855
Other provisions	9	25,748	22,827
TOTAL CURRENT LIABILITIES		76,126	80,891
TOTAL LIABILITIES		76,126	80,891
NET ASSETS		8,255,805	8,291,248
Retained profits		1,209,294	1,748,835
Reserves :			
Investment Revaluation Reserve	13	321,947	189,799
Library Revaluation Reserve		86,805	86,805
Burkes & Wills Collection Revaluation	14	2,225,000	2,225,000
Building and Improvements Revaluation Reserve	15	4,540,000	4,168,050
Write down Fixtures, Fittings		(127,241)	(127,241)
TOTAL MEMBERS FUNDS		8,255,805	8,291,248

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31st DECEMBER 2013

NOTE 1: STATEMENT OF SIGNIFICANT ACCOUNTING POLICIES

This financial report is a special purpose financial report prepared in order to satisfy the financial reporting requirements of the Associations Incorporation Act Victoria. The Council has determined that the Association is not a reporting entity.

The following significant accounting policies, which are consistent with the previous period unless otherwise stated, have been adopted in the preparation of this financial report.

- a. **Income Tax**
The Society is a tax exempt body.
- b. **Fixed Assets**
An inventory of fixed assets was undertaken during the 2011 year and values established for assets physically in existence. The values reported reflect a realisable or replacement cost. Depreciation has been applied to these assets from 1st January 2011.

The building and improvements have been paid for by the Society over its lifetime. However, it should be noted that the building is constructed on land which is not owned by the Society but which is held by Trustees pursuant to statute. In view of this, neither the building nor the land is regarded by the Society as realisable assets.

Building and improvements are being amortised over forty years, in accordance with accounting practices. This period has been deemed to commence from 1st January 2010 on the basis that at this time, the restoration works had been completed. The amortisation to be written off to the income statement.
- c. **Provisions**
Provisions are recognised when the association has a legal or constructive obligation, as a result of past events, for which it is probable that an outflow of economic benefits will result and that outflow can be reliably measured. Provisions are measured at the best estimate of the amounts required to settle the obligation at reporting date.
- d. **Cash and Cash Equivalents**
Cash and cash equivalents includes cash on hand, deposits held at call with banks, and other short-term highly liquid investments with original maturities of three months or less.
- e. **Revenue and Other Income**
Revenue is measured at the fair value of the consideration received or receivable. Interest revenue is recognised when received.
All revenue is stated net of the amount of goods and services tax (GST).
- f. **Goods and Services Tax (GST)**
Revenues, expenses and assets are recognised net of the amount of GST. Receivables and payables in the balance sheet are shown inclusive of GST.
- g. **Investments**
Investments held are originally recognised at cost which includes transaction costs. The investments are now reported at market value.

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31st DECEMBER 2013

NOTE 2: CASH AND CASH EQUIVALENTS	2013	2012
	\$	\$
Cash at Bank	197,875	232,085
Petty Cash	274	121
Undeposited Cheques	705	
	198,854	232,206

NOTE 3: TRADE AND OTHER RECEIVABLES		
	\$	\$
Sundry Debtors	34,010	24,595

NOTE 4: STOCK Publications, Coins and Stamps		
	\$	\$
Publications	52,764	51,072
Coins and Stamps	2,955	2,267
	55,719	53,339

This value is based on historical records. In 2014 a comprehensive audit and revaluation will take place.

NOTE 5: FINANCIAL ASSETS

RSV Sciences Fund managed by Equity Trustees

	\$	\$
Discretionary Share Portfolio – Equity Trustees	1,145,038	1,006,097
Direct ANZ shares	32	
	1,145,070	1,006,097

NOTE 6: BUILDING AND IMPROVEMENTS

	\$	\$
Building and Improvements – at Valuation	4,540,000	4,540,000
Building Restoration Costs	470,754	429,962
	5,010,754	4,969,962
Less Amortisation	(495,799)	(371,949)
	4,514,955	4,598,013

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31st DECEMBER 2013

NOTE 7: PROPERTY, PLANT & EQUIPMENT	2013	2012
	\$	\$
Fixtures and Fittings, Paintings, Office Equipment	379,909	396,332
Less Accumulated Depreciation	(356,243)	(296,793)
Paintings at Valuation	19,818	19,818
Less Accumulated Depreciation	(594)	(396)
Office Equipment at Cost	54,814	44,781
Less Accumulated Depreciation	(43,851)	(34,513)
Cottage Assets at Cost	18,795	16,797
Less Accumulated Depreciation	(2,589)	(1,749)
Catering Equipment at Cost	16,206	2,322
Less Accumulated Depreciation	(2,322)	(665)
Burke and Wills Collection at Valuation 2011	2,225,000	2,225,000
	2,296,368	2,370,934

NOTE 8: LIBRARY

	\$	\$
	86,805	86,805

An Independent Valuation 2010 – there is no documentation to support this historical figure. In 2014 a comprehensive audit and revaluation will take place.

NOTE 9: OTHER PROVISIONS

	\$	\$
Long Service Leave	25748	22827

NOTE 10: DONATIONS

	\$
Balance of bequests from the estates of Dr Phil Law & James Howard	39,162
Other donations from members & fundraising	23,238
	62,400

NOTE 11: SPONSORSHIPS AND GRANTS

This item includes contributions from:

CSIRO and Aboriginal Literacy Foundation to assist with costs associated with the Launch of “The Aboriginal Story of Burke and Wills: Forgotten Narratives”

Solarcorp to assist with costs associated with “Victoria’s Energy Futures Symposium”

NOTE 12: PROFESSIONAL SERVICES

This item includes investment management fees from Equity Trustees, IT support with installation of new server and transfer of files, preparation of Becker prints for 2014 Becker calendar and assistance with transferring the Library from Deakin to RSV

NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31st DECEMBER 2013

NOTE 13: INVESTMENT REVALUATION RESERVE

	\$
Balance as at 31 st December 2012	189,799
Increase/(Decrease) in market value of investment	132,148
Balance as at 31 December 2013	321,947

NOTE 14: BURKE AND WILLS COLLECTION REVALUATION

The Burke & Wills Collection owned by The Society and held at the State Library of Victoria was independently valued in 2011. This valuation was provided by Director Collections & Access, SLV

NOTE 15: BUILDINGS AND IMPROVEMENTS RESERVE

	2013 \$	2012 \$
This comprises		
Revaluation Increment	4,540,000	4,540,000
Less Amortisation	371,950	(371,950)
	4,540,000	4,168,050

Amortization charge has now been allocated to the income statement and prior charges have been reversed in accordance with Australian Accounting Standards.

NOTE 16: DEPRECIATION

194,024	67,553
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Depreciation is calculated in accordance with the Australian Accounting Standard. This year a correction was made as the treatment of the building which has previously been accounted for incorrectly. This has resulted in an additional expense of \$123,850.

NOTE 17: NET DEFICIT

The net deficit of (\$167,591) is after charging as an expense depreciation of plant and equipment of \$70,174 and depreciation of buildings \$123,850. Both of these items are non-cash items. The Society had a Net Result from operations before depreciation of \$26,433.

NOTE 18: DIVIDENDS

This amount includes franking credits of \$12,086 and a transfer of \$57,000 from the Science Fund.

The Science Fund transfer was allocated to the Phillip Law Postdoctoral Prize, Research Medal and Science Talent Search sponsorship with the balance used to offset the operating deficit.

The withdrawal of \$57,000 from the Sciences Fund is consistent with the financial management plan adopted by Council which states that between 40% and 60% of the increase in value of the fund may be withdrawn each year. Because of the loss of rental income Council approved the commencement of the withdrawals this year instead of next year as originally planned.

The increase in the fund during the 2013 year was \$204,086 before the transfer of the \$57,000. Actual dividends received and reinvested were \$42,061 during 2013.

NOTE 19: INTEREST

As a result of the transfer of cash reserves to the Sciences Fund, interest earned in 2013 is lower.

THE ROYAL SOCIETY OF VICTORIA INC (A Non-reporting Association)

STATEMENT BY MEMBERS OF THE COUNCIL

The council has determined that the association is not a reporting entity and that this special purpose financial report should be prepared in accordance with the accounting policies outlined in Note 1 to the financial statements.

In the opinion of the council the financial report as set out on pages 1 to 9

1. Presents a true and fair view of the financial position of The Royal Society of Victoria Inc (a Non-reporting Association) as at 31 December 2013 and its performance for the year ended on that date.
2. At the date of this statement, there are reasonable grounds to believe that The Royal Society of Victoria Inc (a Non-reporting Association) will be able to pay its debts as and when they fall due.

This statement is made in accordance with a resolution of the council and is signed for and on behalf of the council by:



President

.....
Dr William D Birch AM



Treasurer

.....
Mr Norman Kennedy

Dated this 13th day of March 2014

Report on the Financial Report

We have audited the accompanying financial report, being a special purpose financial report, of The Royal Society of Victoria Inc (a Non-reporting Association) (the Society), which comprises the balance sheet as at 31st December 2013 and the income statement for the year then ended, a summary of significant accounting policies, other explanatory notes and the statement by members of the committee.

Committee's Responsibility for the Financial Report

The committee of the Society is responsible for the preparation and fair presentation of the financial report and have determined that the accounting policies described in Note 1 to the financial statements, which form part of the financial report, are consistent with the financial reporting requirements of the Associations Incorporation Act and are appropriate to meet the needs of the members. The committee's responsibilities also include designing, implementing and maintaining internal control relevant to the preparation and fair presentation of the financial report that is free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

Our responsibility is to express an opinion on the financial report based on our audit. No opinion is expressed as to whether the accounting policies used, as described in Note 1, are appropriate to meet the needs of the members. We conducted our audit in accordance with Australian Auditing Standards. These Auditing Standards require that we comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial report. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial report, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the committee, as well as evaluating the overall presentation of the financial report.

The financial report has been prepared for distribution to members for the purpose of fulfilling the committee's financial reporting under the Associations Incorporation Act. We disclaim any assumption of responsibility for any reliance on this report or on the financial report to which it relates to any person other than the members, or for any purpose other than that for which it was prepared.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Independence

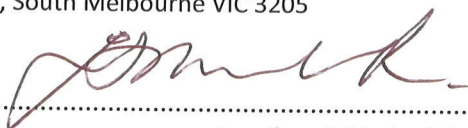
In conducting our audit, we have complied with the independence requirements of Australian professional ethical pronouncements.

Auditor's Opinion

In our opinion, the financial report of The Royal Society of Victoria Inc (a Non-reporting Association) presents fairly, in all material respects the financial position of the Society as of 31 December 2013 and of its financial performance for the year then ended in accordance with the accounting policies described in Note 1 to the financial statements and the Associations Incorporations Act.

Name of firm: J D Madgwick Chartered Accountant

Address: 251 Park Street, South Melbourne VIC 3205



Jonathan D Madgwick

Date: 17th March 2014

Liability limited by a scheme approved under Professional Standards Legislation.

CERTIFICATE BY MEMBERS OF THE COUNCIL

I, Pauline Ladiges AO of 58 Maribyrnong Road, Moonee Ponds, Victoria 3039
and
Mark Williams of 24 Oak Grove, East Malvern, Victoria 3145 certify that:

- a. We are members of the Council of The Royal Society of Victoria Inc (a Non-reporting Association).
- b. We attended the Annual General Meeting of the association held on 24th April 2014
- c. We are authorised by the attached resolution of the committee to sign this certificate.
- d. This annual statement was submitted to the members of the society at its Annual General Meeting.

.....
Prof Pauline Y Ladiges AO

.....
Dr Mark Williams

Dated this 24th Day of April, 2014