



WEEKLY "E" NEWS- from the RACI NSW 19th December 2008

Dear NSW RACI readers

Below are this week's announcements from the RACI NSW Branch, a summary is given and then scroll down for the full text.

More great news about our NSW RACI Members and their outstanding achievements

Tis the season for RACI members to inform the office about their colleagues great work it would seem! The Office has been running hot with emails and calls about many of our members achievements (see pg 2-4 for full details)

Request For Proposal *No More Dandruff!* Requesting Organization: A Global 500 consumer products company **Opportunity Type:** Licensing, product acquisition, contract research, proof of concept leading to scale-up to manufacturing, joint development, supplier agreement **Program Objective:** a Global 500 consumer products company, invites proposals for new agents, physical methods, or technologies to suppress dandruff and / or its causes. **Contact** john@anotec.com.au

Website of the Week: This week we look at **Large Hadron Rap** (Great Research bad dancing) <http://www.youtube.com/watch?v=j50ZssEojtM> and **What's in store for the chemicals industry?** (In the beginning of 2008 economists were warning of a downturn, but the speed it is happen, no one could predict. Chemical companies are already announcing job losses. But forecasters are saying that this downturn maybe short lived)
<http://www.rsc.org/chemistryworld/News/2008/December/15120801.a>

Missed an edition of our weekly E-News? We now have an archive of old editions! Please see

<http://www.chem.unsw.edu.au/RACI/News.html>

Its here!!! The New 2008/2009 Entertainment Book has arrived: This book has been an important fundraiser for our branch the last few years. Purchase your brand new 2008/2009 Entertainment™ Book *now*

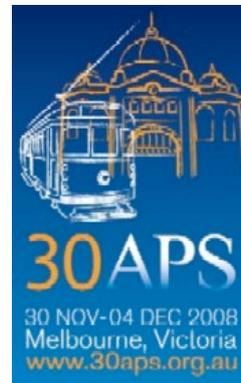
Important Dates in Chemistry's History Dec 19 –31 *Hear from Isaac Newton and many others to wrap the year up!*

Please scroll down for further details.....

More great news about our NSW RACI Members and their outstanding achievements

Tis the season for RACI members to inform the office about their colleagues great work it would seem!

Last week we were pleased to inform you of our members outstanding work at the 30th APS Conference, during the week we were also pleased to learn about the meritorious selection of Assoc. Prof. Martina Stenzel of the University of NSW for the David Sangster Award for Achievement in Polymer Science and Technology. This award recognises the achievement of Australian polymer scientists while their careers are still developing. The aim of this award is to encourage their work in polymer science or technology and to help them gain international recognition. This award is designed to fill a gap between the Treloar Prize (age limit 30) and the senior awards of the Polymer Division, namely the Polymer Division Citations and the Australian Polymer Medal. *(Information taken from the Polymer division website)*



The NSW Branch congratulates Assoc. Prof. Martina Stenzel on her award

The NSW branch is happy to announce at this time also the winner of our 2008 Ollé Prize Winner. Archibald Ollé was very active in the chemical and scientific life of NSW in the first 40 years of the twentieth century, and his wife, who outlived him, left a bequest to The RACI NSW Branch to his name with an annual prize. It is awarded to a member of the Institute who submits the "best treatise, writing or paper" on any subject relevant to the Institute's interests. This year we had record numbers entering the competition – meaning it took additional time for the judging committee to finalise their decision. In the end the committee decided to award this years prize to Professor Brynn Hibbert for his work entitled "*Quality Assurance for the Analytical Chemistry Laboratory*" The committee all felt that Brynn Hibbert's monograph stood out from the other nominations, and most deserving of the description "best treatise, writing or paper". Professor is to receive his award in February 2009.

The NSW Branch congratulates Prof. Brynn Hibbert on his award

The Office was also notified about the success of a number of our NSW members at the Recent Awards Dinner in Melbourne *(in fact we were awarded 7 of the 13 awards awarded!)*

UNSW student Isa Chan received the Jim O'Donnell International Travel Award. Professor Jim O'Donnell, throughout his long and distinguished career at the University of Queensland, was a tireless advocate for linking young Australian chemists directly to international science. His award goes a long way to fulfilling his vision. This award will allow Isa to participate in a significant international conference overseas.

Dr Kristopher Killian who completed his Ph.D under the supervision of Justin Gooding at UNSW, was awarded the 2008 Cornforth Medal, awarded by the Royal Australian Chemical Institute for the best doctoral thesis in the Chemical Sciences from the previous year. Kris has already published over 10 papers and 3 patents from his Ph.D. thesis entitled "Chemical and Biological Modification of Porous Silicon Photonic Crystals." Dr Killian is now continuing his research in the USA.



University of Sydney Researcher Dr Richard Payne received the Biota Award for Medicinal Chemistry. This prize encourages the design and development by younger chemists (with less than 12 years of professional experience since completing their most recent relevant qualification of BSc, BSc (Hons), MSc or PhD) of small molecules as potential therapeutic agents. The Medal is awarded to the chemist judged to be responsible for the best drug design and development paper published, patent taken out, or commercial-in-confidence report in the previous calendar year concerning small molecules (less than 1,000 Da) as potential therapeutic agent. Dr Payne and his research group are focused on applying the tools of organic chemistry to probe problems of medicinal and biological significance. Their Projects are multidisciplinary in nature, and involve the use of computer-aided drug discovery, solution- and solid-phase organic synthesis, compound screening technologies and crystallography.

(Information taken from <http://www.chem.usyd.edu.au/~payne/research-payne-chemistry-sydney.html>)

Paul Milham from the NSW Department of Primary Industries was awarded the biennial CS Piper Award for the best published original research in the field of soil chemistry. Paul Milham's Work focuses on the behaviour of cadmium, a naturally occurring toxic heavy metal in soils. Mr Milham, based at Richmond and his collaborators, including Ross Wenzel from North Sydney and Central Coast Health, and Tim Payne from the Australian Nuclear Science and Technology Organisation (ANSTO), have been developing methods to measure the fraction of cadmium in soils that animals, humans or plants would be exposed to, and map its distribution. Their aim is to find out how to ameliorate the soils and to minimise both accumulation in plants and people's exposure. We are looking forward to here more about their work in the future.



UNSW Professor Robert Burford received the Applied Research Award. The Medal is awarded to a member of the RACI who, in the opinion of the Board of the RACI has contributed significantly towards the development of, or innovation through, applied research, or in industrial fields. The award recognises Bob's Significant work over the last 10 years in Australia, and in particular at UNSW . Professor Burford is an active RACI member well known for his tireless work for the Polymer Division and an enthusiastic attendee at NSW Industrial Chemistry Meetings.



Following his success a few weeks ago in receiving NSW Scientist of the Year (Chemistry Division), the Executive Research Director at the ARC Centre of Excellence for Electromaterials Science, and Director of the Intelligent Polymer Research Institute at the University of Wollongong, Professor Gordon Wallace also received the HG Smith Memorial Award. The H.G. Smith award is one of the RACI's most prestigious awards and acknowledges Professor Wallace's

outstanding research contributions to the Chemistry profession in Australia over the past ten years, particularly in the areas of organic conductors, nanomaterials and electrochemical probe analysis.

Finally we also were delighted learn NSW Member E/Prof Leonard Lindoy from the University of Sydney received the Leighton Medal The Leighton Memorial Medal, commemorates the distinguished career of A E Leighton. The Award was established in 1965 through the generosity of his daughter, Miss Anne Leighton. It is the RACI's most prestigious medal and is awarded in recognition of eminent services to chemistry in Australia in the broadest sense. It may be made within a wide range of activities including research, technology, service to the RACI, public service and national leadership. A E Leighton CMG, FRIC, FRACI MICHemE, died in 1961 after a distinguished career as a chemist, technologist and administrator, in which he had served Australia's interests in both war and peace. E/Prof Leonard Lindoy areas of research interest include: Metal ion molecule recognition, Small molecule recognition, Self assembly in chemistry, Supramolecular chemistry, Bioinorganic and biomimetic investigations, Ligand design, and Reagents for solvent extraction and membrane transport.

Congratulations to all our recent award recipients – a terrific way to wrap up 2008!

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Website of the Week

Since there will be a few weeks with no news – I have two for our website of the week fans!



Large Hadron Rap

Great Research bad dancing

<http://www.youtube.com/watch?v=j50ZssEojtM>

A little corny- I know! But humorous all the same!

On a more serious note

What's in store for the chemicals industry?

In the beginning of 2008 economists were warning of a downturn, but the speed it is happening, no one could predict. Chemical companies are already announcing job losses. But forecasters are saying that this downturn maybe short lived.

<http://www.rsc.org/chemistryworld/News/2008/December/15120801.asp>

Thanks to John Zavras for the suggestions for this section of the newsletter

Important Dates in Chemistry's History Dec 19-31

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- b. **1813 Thomas Andrews** discovered that every gas has a critical temperature above which it cannot be liquefied.
- b. **1864 Samuel P. Mulliken**, researcher in identification of organic chemicals and dye chemistry; introduced organic qualitative chemistry as course, 1896.
 - Berkelium (Bk, 97) discovered by ion exchange chromatography at University of California, Berkeley, 1949.

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- b. **1890 Jaroslav Heyrovsky** invented polarographic method of analysis; Nobel Prize (1959) for his discovery and development of the polarographic methods of analysis.
 - Einsteinium (Es, 99) discovered by ion exchange chromatography at University of California, Berkeley, 1952.

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- b. **1805 Thomas Graham**, researcher on absorption of gases, osmosis, diffusion, colloids, & dialysis; discovered laws of diffusion (Graham's Laws).
- b. **1890 Hermann J. Muller**, researcher on theory of genes; Nobel Prize (1946) in Medicine for the discovery of the production of mutations by means of X-ray irradiation.

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- b. **1870 William L. Evans**, authority in chemistry of carbohydrates.
- b. **1884 St. Elmo Brady**, first black man to earn a Ph. D. in chemistry, 1916 (University of Illinois); authored three monographs on *Household Chemistry for Girls*.
- b. **1903 Haldan K. Hartline**, performed single-fiber analysis of the optic responses of the vertebrate retina; researcher in night vision in humans; Nobel prize in Physiology or Medicine (1976) with G. Wald and R. Granit, for their discoveries concerning the primary physiological and chemical visual processes in the eye.

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- b. **1722 Axel F. Cronstedt** discovered nickel (Ni, 28), 1751, & zeolite; made classification of minerals; classified minerals 12/9/1748; analyzed ammonia; discovered bleaching action of chlorine; composition of prussic acid; showed acids do not need oxygen.
- b. **1829 Paul Schu tzenberger**, researcher in physiological chemistry; With Laurent Naudin prepared cellulose acetate, 1865.
- b. **1912 Anna J. Harrison**, first woman president of the ACS, 1978; president of the American Association for the Advancement of Science, 1983-4. Died: 8/8/98.
 - First full-scale nuclear power plant in US at Shippingport, Pennsylvania, began operation, 1957.

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- b. **1745 Benjamin Rush** published first American chemistry textbook; signer of the *Declaration of Independence*.
- b. **1818 James P. Joule** discovered the law of heating of conductors; researcher in mechanical equivalent of heat; discovered that temperature of gas falls when the gas expands without doing work (Joule-Thomson Effect). The unit of work or energy is named for J. P. Joule.
- b. **1834 Augustus G. Vernon-Harcourt** invented standard lamp of 10 candle-power using pentane.
 - Corning, Inc., incorporated, 1936.
 - Charles Weissmann and colleagues produced interferon using recombinant DNA technology, 1979.

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- b. **1642 Isaac Newton**, alchemist, mathematician, physicist; discovered laws of gravity & nature of light.
- b. **1761 William Gregor** discovered titanium (Ti, 22) 1791; analyzed minerals
- b. **1876 Adolf O. R. Windaus**, researcher on steroids; Nobel Prize (1928) for the services rendered through his research into the constitution of the sterols and their connection with the vitamins.
- b. **1904 Gerhard Herzberg**, researcher on the electronic structure & geometry of molecules & free radicals using spectroscopy; Nobel Prize in Chemistry (1971) for his contributions to the knowledge of electronic structure and geometry of molecules, particularly free radicals.

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b. 1838 Clemens A. Winkler discovered germanium (Ge, 32) 1886; analysis of gases. • Radium discovered by Marie and Pierre Curie, 1898.

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b. 1802 Gerardus J. Mulder, devised theory of protein composition as albuminous substances composed of chains of "protein units", each unit containing C, H, N, & O and occasionally S & P.

b. 1822 Louis Pasteur, researcher in stereochemistry, optical activity of tartaric acids, & fermentation; invented the process of sterilizing food (Pasteurization).

b. 1869 Alwin Mittasch, research in industrial application of ammonia, gas-phase hydrogenation, and catalyst poisons and activators; head of research at BASF, 1903- 1934.

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b. 1818 Karl R. Fresenius, researcher in qualitative & quantitative analyses.

b. 1838 Vladimir V. Markovnikov synthesized cyclobutane and cycloheptane derivatives; Markovnikov's Rule for additions to alkenes.

b. 1921 Ernest L. Eliel research in organic stereochemistry & conformational analysis. *

b. 1944 Kary B. Mullis, invented polymerase chain reaction (PCR) method for duplicating DNA; Nobel Prize in Chemistry (1993) for his invention of the polymerase chain reaction (PCR) method; shared with Michael Smith.

➤ Lewis H. Sarett synthesized cortisone at Merck, Sharp, & Dohme Research Laboratories, 1944.

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b. 1800 Charles Goodyear invented vulcanization of rubber.

b. 1813 Alexander Parkes invented xylonite (celluloid); electroplating inventions.

b. 1879 Ellen Gleditsch, made accurate measurements of the half-life of radium.

➤ Announcement of discovery of heavy water, D₂O, (1931).

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➤ Ductile tungsten for incandescent bulb filaments patented, 1913.

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b. 1881 Colin G. Fink, researcher, developer, industrialist, teacher in electrochemistry; developed ductile tungsten for incandescent lamp filaments, an insoluble anode for electrowinning copper, an electrolytic process for the faithful restoration of corroded ancient bronzes, the development of hot dipped aluminum coatings, the electrodeposition of metals, and in particular, a commercial process for chromium plating.

b. 1921 Gilbert Stork, research in alkylation, acylation, and vinyl ring radical cyclization. He also developed the theory of concerted polyene cyclization.

Ref: Monthly Historical Events In Chemistry by Leopold May, The Catholic University of America

<http://faculty.cua.edu/may/Chemistrycalendar.htm>

***On Behalf of the NSW RACI we wish you a very
happy Christmas and a Safe New Year. See you
in 2009***

