

September 2016

The Reporter

CHEMISTRY AROUND AUSTRALIA

Guest Editorial

by Richard Thwaites

In last month's editorial, our Branch President Kay Latham wrote about the need for a new policy on diversity and inclusiveness and provided a link to a draft which had been prepared to get people thinking about the topic. It is good news that the RACI Board has taken up the challenge and has set up a Board sub-committee, chaired by Amanda Ellis, to investigate and recommend a policy which will apply to the whole of the RACI, covering its employees and members, Divisions, Branches, Groups and Sections. If you have a contribution to make to the debate, please feel free to contact the RACI Vic Branch Coordinator, Melissa Johnson, who will ensure that your feedback and comments are relayed to the right people.

The whole question of diversity and inclusiveness set me thinking about what the RACI does in its schools' program. There are no restrictions on the type, size or location of schools participating in the ANCQ, the Titration Stakes, the Crystal Growing competition, or the Art and Essay competitions, which are to be run next term. We welcome students from all types of secondary school to the annual Hartung Lecture presentations.

I think it is especially heartening to recognise that many different types of school were among the winning schools in the Victorian Titration Stakes this year. The results have been finalised, and the top four schools were mentioned last month, Murrayville P-12 Community College, Northcote High School, Sacré Coeur and Mater Christi College. All have been given an opportunity to provide pictures of their winning teams. The top 10 schools included: one State P-12 Community College, two co-educational State High Schools, two all-girls Catholic Secondary Schools, two other all-girls private schools, one all-boys Catholic High School, and two other co-educational secondary schools. Looking further down the list of successful schools, virtually every type of secondary school was represented from many different parts of the State, not just metropolitan Melbourne. This is, I think, a good demonstration of diversity and inclusiveness in practice. The apparatus needed to run the titration competition is not too sophisticated, and should be available in every secondary school laboratory, and the chemicals (other than indicator solution) are all provided. So the message is, you don't

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have to be the biggest and best-equipped school to produce students who can do well in the Annual Titration competition. It's the skills of the students that count.

The top 30 schools from the State competition have now gone forward to the National Competition which is being run this term. The problem students are faced with in the National Competition is a bit different from that in the State competition and students are required to determine the number of moles of a soluble acid (potassium hydrogen phthalate, KHP for short) in a solid mixture of KHP and insoluble barium sulphate, by titrating with sodium hydroxide solution. In past years, Victorian students have not done particularly well compared with students from Queensland and NSW. We are all hoping that this year, the rankings of Victorian students will improve.

For many years, a number of Groups within the Branch have held symposia targeted towards postgraduate students. The aim has been to give students an opportunity to present their work (in oral or poster form) to audiences of their peers and other academics. Most student presentations in the past at these symposia have originated from the more established universities, Melbourne, Monash, etc., and most of the reported research has been in the traditional areas of inorganic and organic chemistry and the like. For some time, I have felt that we needed, as a Branch, to offer greater opportunities for students from other institutions to present their research. As part of this focus towards greater inclusiveness, it is good that the Food, Nutrition and Analytical Chemistry Group, chaired by Megan Thornton of Deakin University, in conjunction with RMIT University, is holding a student symposium on September 1st at RMIT. This event is designed to give students whose research is in fields which have a more applied focus greater opportunities to feel included.

As Branch Treasurer, I expect Kay would like me to say something about the Branch finances. Basically, the 2015/2016 year was quite good, both for the Branch and for the Institute as a whole. The Branch made a small surplus (slightly larger than forecast in the Budget), which was good, especially as we paid out a sizeable unbudgeted deposit for the Centenary Ball to be held in 2017. A metric used by the Institute to determine the level of activity at Branch level is the "dollars spent per member". In the year just past, this was around \$61 per member, something like 30% up on the previous year, and ahead of NSW for the first time for many years, and also above average for the Institute as a whole. So congratulations to all Groups for running events and activities for members. The Institute is grateful for the ongoing support of its volunteers to maintain its relevance to the chemistry community in Victoria.

Of course, no Treasurer is ever completely satisfied, so the whinge this month is that there are, so I am told, still many people who have not yet paid their annual subscription for the 2016/2017 year. If you are in this category, I hope you will feel suitably embarrassed and motivated to rectify this deficiency very soon!

Although nearly 12 months away plans are well underway for the Centenary Congress to be held in Melbourne, July 23rd to 28th 2017. All of the Divisions and many other organisations are participating. Look at the website for details: www.racicongress.com.

A perceived shortcoming of RACI congresses, conventions and conferences is that they seem to be targeted too frequently towards academics: people outside academia feel excluded. In recent times, Roger Stapleford has been working to stimulate interest in the Centenary Congress among non-academic chemists working in industry and elsewhere. I know that he has been in contact with PACIA and ACCORD to try and generate interest among their member companies, and has been looking at the Congress program to identify sessions and streams which would be of interest to non-academics. We are working to enhance this area now. Again this is another example where the RACI is working on being more inclusive. It's an organisation for everyone interested in chemistry, not just for our friends at university.

Finally, as many of you would know: the Victorian Branch of the RACI is having a Ball....Yes, really! It's the RACI Gala Centenary Ball to be held at the iconic Plaza Ballroom in Collins Street on July 22nd 2017. Start organising your wardrobe and saving for a ticket now! (Actually, generous sponsorship will help to keep prices down.) This Ball is going to be THE social function of the year, a truly glamorous occasion and an opportunity for RACI members and friends to get together, have fun and let their hair down. But wait a minute...letting one's hair down: what about us poor bald headed old codgers who are follicularly challenged and somewhat deficient in the hair department?

Maybe letting even people like us come to the Ball will be a further opportunity for the Institute to demonstrate inclusivity at work.

Richard Thwaites



Congratulations to President Kay!

Members and Friends will be pleased to know that Victorian Branch President, Associate Professor Kay Latham, has recently been promoted to the position of Deputy- Dean (Learning and Teaching) in the School of Science at RMIT University. This role will have significantly more responsibilities and be much broader in scope then Kay's previous appointment as Deputy Dean – Applied Chemistry and Environmental Science and will involve the development of teaching and learning across the whole School of Science at RMIT. We are sure that everyone in the Victorian Branch will want to pass on to Kay, heartiest congratulations and wish her all the best in her new position.

Hazmat & Environment Notes

• UK HSE Report: Engineered Nanomaterials

2015: Research Report RR1068 "Summary of work undertaken to assess workplace **exposure and control measures** during the **manufacture and handling of engineered nanomaterials"**.

The aim of this research was to develop an improved understanding of the UK nanomaterial industry and of worker exposure to engineered nanomaterials, through visits to companies manufacturing or using these materials. The visits were undertaken to assess exposure to airborne nanomaterials and to assess the effectiveness of the controls used to reduce exposure.

Full Research Report RR1068 (22 page pdf)

From: www.hse.gov.uk/research/rrhtm/rr1068.htm

• UK HSE Report: Endotoxin in MW Fluid Mist

2015: Research Report RR1043 "Endotoxin in Metal Working Fluid (MWF) Mist"

The risks to respiratory health from exposure to Bacterial Endotoxins are well established but not well understood.

The research concluded that there was a large discrepancy between concentrations of Endotoxin and viable Bacteria in mist compared to the concentrations in bulk fluid with airborne Endotoxin levels generally falling close to or beneath the Health Council for the Netherlands (DECOS) recommended level, whilst sump levels generally exceeded these by 100 to 1000 fold. Levels of viable Bacteria captured in air were low compared to the levels in the sumps.

Further research is required to determine whether the discrepancy between bulk Endotoxin and airborne levels

Full Research Report RR1043 (42 page pdf)

From: www.hse.gov.uk/research/rrhtm/rr1043.htm

A1108: Application Approved – Rebaudioside M as a Steviol Glycoside Intense Sweetener

4 Nov 2015: The Application has been Approved to include Rebaudioside M in the list of permitted Steviol Glycoside products used as intense sweeteners. *Approval Report - 4Nov2015 (pdf 411 kb) | (word 172 kb)*

From: www.foodstandards.gov.au/code/applications/Pages/A1108-RebaudiosideM-SteviolGlycosideIntenseSweetener.aspx

• P1034: Chemical Migration from Food Packaging

10 June 2016: **FSANZ** is calling for submissions on proposal <u>P1034</u> investigating "Chemical Migration from Packaging into <u>Food"</u> and whether existing regulations are managing potential risks.

P1034: www.foodstandards.gov.au/code/proposals/Pages/P1034ChemicalMigrationfromPackagingintoFood.aspx

FSANZ had assessed the risks of chemicals migrating from packaging to food and overall the results were reassuring. However, FSANZ have identified some potential issues & are now seeking comments on possible options to manage them.

Closes: 5 Aug 2016. Email: Submissions@foodstandards.gov.au

For information see: Chemicals in Food Packaging webpage.

From: www.foodstandards.gov.au/media/Pages/Managing-chemical-migration-from-packaging-into-food---call-for-submissions.aspx

• ECHA Registered Substances Database

25 April 2016: At the end of June 2016, additional information from companies' registrations, such as endpoint summaries, exposure scenarios and new elements introduced by IUCLID 6, will be made publicly available on ECHA's website.

The publication of this information will start from **new and updated dossiers only**. At a later stage the information from old submissions will ALSO be published.

From: http://echa.europa.eu/view-article/-/journal content/title/more-information-to-be-published-from-reach-registrations

• ECHA Environment Emission Scenario Documents

4 Mar 2016: 10 biocidal product-types are now part of the 21 Product Types each with several Emission Scenario Documents (ESDs) as pdfs, and some with Spreadsheet Calculations documents available. They are used to estimate the initial release of substances from biocidal products (or treated materials) to the environment.

From: http://echa.europa.eu/guidance-documents/guidance-on-biocides-legislation/emission-scenario-documents and http://echa.europa.eu/view-article/-/journal_content/title/new-tools-available-to-estimate-environmental-emissions-of-biocides

• ECHA: Glyphosate Class. & Labelling Consult'n

2 June 2016: public consultation has been launched on the harmonised classification and labelling proposals for Glyphosate. The substance is a widely used herbicide. The deadline for comments is 18 July 2016.

Proposed: Eye Dam. 1, H318; STOT RE 2, H373; Aquatic Chronic 2, H411.

Current: Eye Dam. 1, H318; and Aquatic Chronic 2, H411.

ECHA welcomes comments on the proposed classification and also on other hazard classes that are opened for commenting, including Carcinogenicity, Germ Cell Mutagenicity and Reproductive Toxicity.

Substance Details: http://echa.europa.eu/harmonised-classification-and-labelling-consultation/-/substance-rev/13838/term

From: http://echa.europa.eu/view-article/-/journal content/title/public-consultation-on-the-harmonised-classification-and-labelling-proposal-for-glyphosate

• ECHA: Biocidal Products Regul'n: Extra Scope

10 May 2016: By 1 Sept 2016, companies should apply for the approval of active substances in biocidal products that were outside the scope under the previous directive but now fall within the scope of the Biocidal Products Regulation.

This deadline concerns two groups:

- Active substances in food contact materials for surface action. Example: antimicrobial substances used on plastic chopping boards to give them an antimicrobial surface (product-type 4, disinfection of material which may have contact with food);
- *In situ* generated active substances* with precursors that were not in the scope of the directive because they were not placed on the market, or because no claim was made that these precursors could be used for a biocidal purpose. Example: ozone generated from oxygen from the air (product-type 5, disinfection of drinking water).
- * A biocidal active substance is called 'in situ generated' if it is generated from another substance (called a 'precursor') at the place of use. Under the Biocidal Products Regulation, the potential risks of both the precursor and the substance it generates are to be evaluated.

From: http://echa.europa.eu/view-article/-/journal_content/title/does-your-biocidal-product-now-fall-under-the-scope-of-the-biocidal-products-regulation-

• Explosion Death due to Unvented Gas Cylinders

4 Dec 2015: A Melbourne company was fined \$285,000 in the Victorian County Court last week over an incident in which a young refrigeration mechanic died when his work van exploded outside his home in Mulgrave in 2011.

Due to the volatile nature of Acetylene and other gases in the van, specific measures are required for their transport and storage. If cylinders are not contained properly, the potential for movement – and possible leaks – is increased.

The cylinders should be kept in a purpose built vented compartment or cabinet so leaking gas can only escape to the outside of the vehicle. Cylinders are also required to be regularly checked to ensure that valves are firmly closed and outlets capped.

The court was told that the van contained a cabinet to transport gas cylinders **but it did not have a vent**. The court also heard that employees were not trained in how to store and transport flammable gas cylinders.

From: www.worksafe.vic.gov.au/news/news-article?result 42915 result page=1

WA Safety Alerts (relevant to Chemicals)

Reminder to Ventilate Dangerous Goods (The Worksafe Vic court case relating to the death of a young tradesman in an explosion in Melbourne is a tragic reminder of the importance of ventilation for Dangerous Goods).

Ruptured Hose Releases Pressurised Anhydrous Ammonia. During a purging operation at a process plant, pressurised anhydrous ammonia was released when a flexible rubber hose ruptured. A worker who was next to the hose when it failed was hospitalised for serious chemical burns. Mines Safety Significant Incident Report No. 228.

Aluminium Powder Dust Explosion. Dangerous Goods Safety Significant Incident Report No. 01-15 was released in response to a dust explosion at an explosives manufacturing plant, when aluminium powder was being transferred to a hopper inside the plant. (p46 & p98)

Explosion of Condensate Drain causes Worker Injury. An operator of dewatering plant was required to drain condensate from a knock-out drum (scrubber), which removes water from the air booster compressor system. As he actuated the drain valve, hydrocarbon deposits in the high-pressure condensate drain line ignited and the metal line ruptured. The explosion resulted in permanent, debilitating injuries to the operator. (p100-101)

From WA DMP: Resource Safety Matters, Feb 2016, p42-46: www.dmp.wa.gov.au/Documents/Safety/RS RSM Mag Feb16.pdf (120 pages):

WA Dangerous Goods Safety Alerts: www.dmp.wa.gov.au/Safety/Dangerous-goods-safety-alerts-13195.aspx

WA Mines Safety Alerts: www.dmp.wa.gov.au/Safety/Mines-safety-alerts-13194.aspx

WA Petroleum Safety Alerts: www.dmp.wa.qov.au/Safety/Petroleum-safety-alerts-13196.aspx

Don't Forget to keep up with all your Chemistry News!

Read your monthly **Chemistry in Australia** here!

Keep up with 2017 RACI Centenary Congress Here!

Please Click Here for the Link

Vic Branch Titration Stakes!

The Victorian Branch schools Titration Competition has been held in Term 2 for 2016.

Students in this year's competition were again asked to determine the strength of a solution of ethanoic acid (acetic acid or vinegar) of unknown concentration. They first had to determine the concentration of a sodium hydroxide (caustic soda) solution by titrating it against a known volume of hydrochloric acid of known strength, and then using the caustic soda solution, to determine the strength of the acetic acid solution. Students worked in teams of three, and each team was given three different solutions of sodium hydroxide and ethanoic acid.

The winning team was the one which came closest to the correct answers, in other words, the team for which the aggregate error was least.

Congratulations to our top four teams, Murrayville Community College, Northcote High School, Sacrè Coeur and Mater Christi College. There was very little to choose between them.



1st Place Winners Mariah Daniel (Year 11), Abigail Sparnon (Year 11), Taylah Beer (Year 10) – Murrayville Community College



2nd Place Winners Jack Puccini, Finn Nott and Patrick Butler – Northcote High School



3rd Place Winners Sasha Witts, Courtney Nagle and Claudia Thomas from Sacrè Coeur

The top thirty teams in the competition are now eligible to compete in the <u>Australian National Titration Competition</u>
Altogether 286 teams completed this year's competition (858 students).



4th Place Winners Katie Spencer, Rebecca Shiel and Bonnie O'Donnell from Mater Christi College

Please Click Here for Full Report and Team Results

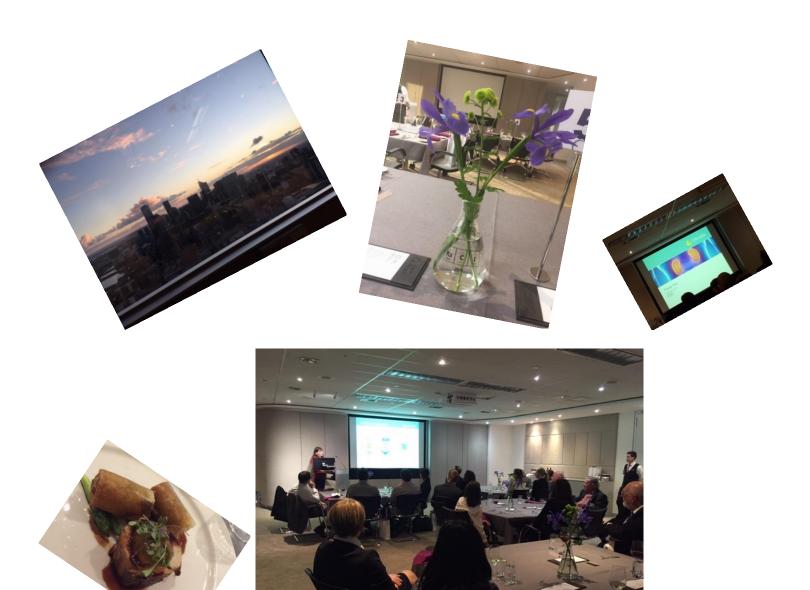
Victorian Branch Dinner.

Once again the Victorian Branch Dinner (Formerly the Victorian Branch Members and Fellow Dinner) was held at the opulent offices of FPA.

The view was amazing, the food was splendid and the company was charming as usual

Our Speaker for the evening was Kathy Harrison, the General Manager of ASX listed Dimerix Limited (ASX:DXB) and she has more than 20 years experience within the Australian Biotech Industry, focusing on commercialisation of technologies for life science applications.

Damien Slizys and Kay Latham both spoke on behalf of FPA and the RACI Victorian Branch. We also received our lovely gift of RACI Beakers to be used as Water jugs or Vases.













This event would not have been possible without the generous support of



Young Chemists Group Presents.... Professional Development Series Part 2 "Where are your Studies Going to Take

You?"

Join us for the second career event of the RACI Victorian Young Chemists Group. This time we invited Mark Giroletti, a Senior Consultant at the Scientific Recruitment Consultancy firm ChemSkill.

The first part of his talk will give an overview of career opportunities available for young chemists, whereas the second part will inform participants about the applications process. This is a fantastic chance to ask all your questions about career opportunities, potential employers and the recruitment process in general.

The presentations will be followed by dinner and drinks at WEHI.



Mark Giroletti – Senior Consultant at Chemskill

Date: Thursday 22nd September 2016, 5.30 – 8.00 pm

Venue: Walter and Eliza Hall Institute (WEHI),

Seminar Room 1, Level 7, 1G Royal Parade,

Parkville, Victoria, 3052

Cost: RACI members \$10, non-RACI members \$15

(includes dinner and drinks)

Please Click Here to Register

Please Click Here for the Flyer

WinC- A Best Practice Approach to Preparing Yourself For Your Career.

Following the success of the two Career Planning and Development workshops in 2015, the RACI Women in Chemistry group will offer a repeat workshop on Thursday 29th of September 2016 for those who missed out.

Date: Thursday 29 September 2016

Time: 8:45am-5pm

Venue: Learning room (Room 156) ground floor Chemistry Building

School of Chemistry,

University of Melbourne Parkville.

This one day workshop will interest women who are near to completing their PhD or Master degree or those in the early stage of their postdoctoral career (first 5 years after the award of the degree).

The aim of this one day workshop is to provide useful knowledge, resources, tools, skills and inspiration to assist participants in being self-aware and self-directed in planning and developing their career.

PROGRAM OUTLINE:

Upon completion participants will be able to:

- Identify their own Personal Style and skills (with use of an assessment tool);
- Apply a career decision making model to their career planning and development;
- Be aware of their own Circle of Influence and the need for greater clarity around values and goals;
- Understand the role of power and importance of relationships and influence;
- Understand positive assertive behaviour and effective communication to create the best impression;
- Understand strategies and skills in managing and promoting a professional positive confident self;
- Have career tools and resources to use post the workshop;
- Work and network with other women in their field:
- Be exposed to diverse career options for women in STEM, other women's journeys and helpful tips

The workshop will be facilitated by Lisa Baker, the founder of Kaleidoscope Consulting. This company has considerable experience in HR consulting, leadership programs, team building, women's development, workplace culture and communication, career coaching and coaching supervision (www.kaleidoscopeconsulting.com.au).

The attendees of the two RACI WINC Career Planning and Development Workshops in 2015 gave the one day program scores ranging from good to excellent and suggested it should be made available to everyone. They found it very informative on career aspects for women, self-reflection and assessment.

The workshop "A best practice approach to preparing yourself for your career" is heavily subsidised by the RACI Women in Chemistry group and the Victorian branch of RACI. Importantly, attendees will only have to personally contribute \$90 to participate (a discounted price is offered to RACI members and students). This is an opportunity not to be missed! Do your career a favour!!

The registration cost includes workshop material, morning tea, lunch and afternoon tea.

The workshop is highly effective with a maximum number of 25 participants and therefore availability will be based on the first 25 registrations.

The deadline for registration is 5pm September 23rd 2016. Sign up now!

Please Click Here to Register

We would like to thank the School of Chemistry, University of Melbourne for kindly hosting us for this event.

WINC also acknowledges the invaluable support of the Platinum Sponsors, CSIRO and Phillips Ormonde Fitzpatrick, and the Gold Sponsor Agilent Technologies.

For any queries you can contact Alessia Belgi

† Without subsidisation this workshop costs \$200-\$250/head.







Vic Branch Inorganic Chemistry Symposium!

The Inorganic Chemistry Group (Victorian Branch) will hold its annual symposium on Friday 25 November, 2016.

Venue: Chemistry Building -153 Masson Road

Cumming Theatre

University of Melbourne

Time: Full Day (including lunch and evening barbeque at 5.00pm)

Registrations from 8.30am

Lecture Program to start at 9.30am

Plenary Speaker

Em Prof . Glen Deacon - Monash University

Call for Abstracts

Abstract submissions close Friday 28 October 2016

Please Click Here for Abstract Submissions

Please Click Here to Register

Holidays for Melissa!

Our Victorian Branch Coordinator, Melissa Johnson, is taking a break during the month of September. We understand that she will be spending time in the USA. We are sure that everyone in the Institute will want to wish Melissa Bon Voyage, a fantastic holiday and a safe return to sunny Melbourne. During Melissa's absence, emails to mailto:raci-vic@raci.org.au will be picked up by the office, but be patient if your query takes a bit longer than usual to answer.

Other Upcoming Victorian Events

4 October: Retired Chemists Lunch

16 November: Women in Chemistry AGM

Want to Contribute to The Reporter?

The Victorian Branch would like to hear from members who would like to send in information that may be of interest to the membership. Do you know of any interesting stories or projects that are making a difference, or events that you would like to share with readers? If so, please shoot an email to raci-vic@raci.org.au.

We are also on the lookout for advertisers for our Newsletter. If your organisation is interested in reaching more than 1500 professional Chemists each month in Victoria, we would be pleased to talk with you. Minimum rates are \$200 per month for one-third A4 page. Contact the Vic Branch office on 03 9328 2033 or email raci-vic@raci.org.au.

The deadline for the next issue of The Reporter is 20 September 2016.