

Date: 7th July 2001

From: Tony Wright and Mary Garson

To: The IUPAC Committee for Chemical Education

Re: Report on Chemical Education initiatives and events in Australia in 2011

This report covers chemical education activities in Australia this year and particularly those relating to the launch of the International Year of Chemistry and its implications for the rest of 2011:

Student Activities

- Global Water Experiment
- National Science Week
- Australian National Chemistry Quiz
- Competitions and Student Lectures

General Public

- Women Sharing a Chemical Moment
 - Travelling Exhibitions
 - National Lecture Tours
 - The Art of Chemistry
-

The International Year of Chemistry has provided a sharp focus for chemical education in Australia in 2011. Working with the Australian Academy of Sciences (the Australian NAO) the Royal Australian Chemical Institute (RACI) is providing leadership for events and activities that contribute to the IYC goals of increasing the public appreciation of chemistry in meeting world needs, encouraging interest in chemistry among young people, and generating enthusiasm for the creative future of chemistry.

Working with students

The International Year of Chemistry has provided a setting for new initiatives and the strengthening of existing programs that support chemical education in schools across the range from primary to senior high school.

This comes at an interesting time in Australia because the first national school curriculum, which will be implemented in 2012, explicitly distinguishes topics in the “chemical sciences” for instruction right from the beginning of primary school. This development reverses a movement to integrate the sciences in the school curriculum during the past two decades.

Global Water Experiment: The signature event for schools in the IYC, the Global Water Experiment, was launched in Australia at a Brisbane primary school on 22nd March as part of the UNESCO World Water Day celebrations. The Experiment is also featuring in one of the annual science education events in Australia, National Science Week, in which it is part of a teacher resource book that is circulated to schools throughout the country.

National Science Week: The week is being celebrated in Australia on August 13-21 under the heading “React to Chemistry”. It is sponsored by the Australian Science Teachers Association in conjunction with the Australian Government and supported this year by the RACI. The resource book includes activities and experiment in food chemistry, green

chemistry, environmental chemistry, light chemistry and materials science as well as the Global Experiment.

Australian National Chemistry Quiz: The quiz which is also run with support from the RACI is now an annual event, held in July and attracts participants from across the Asia-Pacific region. In 2010 the ANCO attracted more than 115,000 entries from students in Years 7-12, representing more than 1500 schools.

Competitions and Student Lectures: Active chemical education branches of the RACI organize events and competitions in each of the Australian states. In most states these include titration and crystal growing competitions. The wide spaces between centres in Australia make national lecture tours problematic, and so the chemical education branches are organising students lecture tours to promote awareness of the International Year of Chemistry.

For the General Public and Chemistry Profession

The IYC started early in Australia with a “Women Sharing a Chemical Moment in Time” global networking breakfast on the 18th January. The lead function in Brisbane went ahead despite a major flood in the city (which necessitated a change of venue with less than 24 hours warning), and there were events also in Melbourne, Canberra, Sydney, Adelaide, Hobart and Perth. These breakfasts launched a virtual chemical “handshake” with colleagues in New Zealand which then travelled around the world through Asia, into Europe and Africa, and on into the Americas, and celebrated the 100th anniversary of Marie Curie being awarded the Nobel Prize for Chemistry. In total close to 5000 women chemists representing more than 40 countries participated; there was significant media coverage in a number of countries that likely assisted the lead-in to the main international launch of IYC in Paris on January 27-28. A noticeable feature was the involvement of many young chemists. A video comprising photos and video clips of selected breakfasts was shown at the international IYC launch in Paris.

An official launch of the IYC in Australia took place in Canberra on February 8-9 with Senator Kim Carr, Minister for Innovation, Industry, Science and Research opening the event. Speaking at the event, the then Chief Scientist for Australia Prof Penny Sackett pointed out the crucial role that chemistry will play in developing solutions to national issues ranging from the environment to economics. A number of discussions forums were held during the two-day event which was attended by chemists from the industry, academia and education areas.

Travelling Exhibitions: Four travelling exhibitions have been sponsored by Questacon, Australia’s National Science and Technology Centre, and are touring different states often in libraries in rural locations: “Healthy Chemistry” is touring in Victoria, “Eat, Drink and Chemistry” in Western Australia, “Nature’s Chemical Diversity” in Queensland and “Chemistry and the Nucleus” is touring New South Wales.

National Lecture Tours: A series of IYC National Lecture Tours feature international and national chemists visiting major locations across Australia, giving inspiring presentations that provide a link between chemistry and everyday life. Speakers include: Prof. Martin Chalfie (USA), Dame Julia Higgins (UK), Dr Peter Wothers (UK), Prof. Martyn Poliakoff (UK), Prof. Lynn Francesconi (USA) and Dr Peter Tregloan (AUS).

The Art of Chemistry: In Tasmania, printmakers have been interpreting the chemist's best friend, the Periodic Table. The result of the project will be a Periodic Table on Show – the Art of Chemistry which will be launched at the University of Tasmania on 4th August and will subsequently be placed tour.

Summary

The International Year of Chemistry has come at a particularly apposite time in Australia. The climate change debate is reaching a political crescendo, and consumer reports appear in the media regularly in which the term “chemical” is used to imply harmful substances. In both cases chemical literacy is conspicuously absent and the presence of the International Year of Chemistry is providing an important influence, opening up opportunities in schools and amongst the wider community to increase public appreciation of and interest in chemistry. It has also provided a mechanism for many chemists, and particularly younger chemists, to engage better with other members of the chemical profession and with our national chemical society, the RACI.