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Society of Crystallographers in Australia and New Zealand
SCANZ

Newsletters

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FROM THE PRESIDENT

What is crystallography? This is the question recently posed by Walter Steurer, Editor in Chief of Zeitschrift für Kristallographie, in an invitation to crystallographers worldwide to contribute to a special issue of Zeitschrift für Kristallographie on the occasion of its 125th anniversary. This special issue will contain short contributions of 125 crystallographers and a summary of their personal opinions. To quote Professor Steurer: "There is an ongoing discussion at many universities if crystallographic research and teaching is still timely. In many cases retired professors of crystallography are not being replaced by crystallographers any more. One of the reasons for this development may be that crystallography is commonly seen in its narrow definition as a method for routine structure analysis.

In my opinion, there has opened a wide gap between the self-understanding of the crystallographic community and the perception from outside. At the triennial conferences of the International Union of Crystallography it is shown what modern crystallography comprises. I believe, however, that most of the participants would not call themselves crystallographers despite the fact that they do excellent crystallographic research.

This may be related to the fact that it is not clear whether crystallography is a scientific discipline or just a suite of methods. R. W. Cahn, in his book “The coming of Materials Science” (*Pergamon* 2001), calls crystallography an exceptional parepisteme, i.e. a kind of subsidiary topic or subdiscipline. Disciplines are degree subjects at universities while parepistemes such as crystallography usually form components of degree courses only.

Anyway, modern crystallography is a dynamic and innovative interdisciplinary structural science. This should be better communicated to the scientific community, the science administration, the funding agencies and the politicians. The planned special issue of Zeitschrift für Kristallographie is to contribute to this process." To provoke discussion about what modern crystallography involves, Professor Steurer sought comments on the following:

1. What is crystallography? Give your personal definition.

2. Is there a better name that could replace the historical term "crystallography"?

3. What are the most important unsolved problems in crystallography? Give your personal list.

4. What is the future of crystallography?

5. Should we still teach crystallography? Why and how should we teach?

6. Personal recommendation to a student who wants to enter into crystallographic research.

7. What is the impact of crystallographic research? What would you tell your funding agency or the president of your university? What would you tell the taxpayer?

These are all excellent questions, and they deserve careful consideration by those of us who make use of crystallographic methods in the course of our research. They have attracted some e-mail discussion recently between members of the National Committee for Crystallography, but all members of crystallographic associations worldwide (ACA, BCA, SCANZ, ECA, AsCA etc.) should take these questions to heart and contemplate how they would respond. I look forward to reading the special issue, which is due to be published in August.

Closer to home, all will surely be aware by now that the Minister for Educations, Science & Technology, Brendan Nelson has announced a comprehensive review of higher education in Australia (for details see www.dest.gov.au/crossroads), with a closing date for submissions of 28 June. I urge you to acquaint yourself with the issues (a convenient summary accompanied the Minister's Press Release, see www.dest.gov.au/ministers/nelson/apr02/n55_260402.htm), and make a submission on issues that most concern you.

Mark Spackman

FROM

THE NATIONAL COMMITTEE

National Committees

On 30 April the Australian Academy of Science had a one-day meeting to review the role and effectiveness of the National Committees. The meeting resulted in a recommendation that some national committees should be merged. Matters discussed involved changing the interface between Committees and the Academy, the restructuring of committee responsibilities and the improving links between National Committees and Professional Societies. The National Committee for Crystallography and the Australian Crystallographic community were commended for activities such as the formation of national policy on large facilities, the replacement research reactor, Australian access to synchrotron radiation and the extensive participation of Australians in the International Union activities.

Crystallographers may be interested in some of the responses given by the National Committee to the Academy.

Does the Committee have a well-defined national role in Australian Science? Briefly describe the role.

The committee has members on most major national activities concerned with crystallography in its broadest sense of condensed matter structure determination. It helps form national policy by communication with members and through the Society of Crystallographers in Australia and New Zealand. Its members are active internationally through the International Union of Crystallography and its Commissions as well as ad hoc advisory bodies. E-mail is extensively used and we try for two face to face meetings a year, one at national or international conventions.

Is the Committee filling its national role adequately? Comments.

The committee is proactive on the arrangements for crystallography in Australia. With the Society of Crystallographers in Australia and New Zealand, it strongly supports the Asian Crystallographic Association initiated by Australia and Japan about ten years ago. Currently an Asia-Oceania Neutron Scattering association is being discussed as are the arrangements for an Australian synchrotron.

Does the Committee see a function for the Academy in its activities? If yes, describe these briefly.

The Academy is the adhering body to the International Union of Crystallography. The committee values this role and also the support that the Academy's status and the Academy's Council have lent to submissions prepared by the committee over the years. These include the realisation of access to overseas major facilities since 1991 for all Australians to do work impossible in Australia, the Replacement Research

Reactor project and, most recently, the Australian Synchrotron.

Australian Synchrotron Facility

There have been 3 meetings of the National Scientific Advisory Committee (SNAC). Three members of the National Committee on this body that is currently considering:

- Options for the type of ring to be built (10 straight sections or 14 straight sections etc)
- The number of types of instruments that can be accommodated on day one, expected to be early 2006
- The expected growth in user demand and related questions to ultimate management of the facility.

In its recent budget the Victorian Government has allocated $100 million to the project. A meeting will be held in June of the International Instrument Advisory Committee.

In the lead up to the present process the National Committee has posed a number of questions concerning finance and management of the facility as an Australian resource. The project team in Victoria is currently working on these questions and options will be made clearer during 2002.

IUCr Meeting Geneva (August 2002)

The Australian delegation to the General Assembly will comprise: John White, Mitchell Guss and Mark Spackman. Please contact us if there are matters that you would like to have raised at the meeting.

John White

SCANZ Survey

The National Committee for Crystallography has asked Richard Welberry to further canvas the membership of SCANZ regarding their usage of different kinds of X-ray and neutron facilities. Previous attempts to do this via the questionnaire that was circulated last year were only partially successful as only 35, out of the SCANZ membership of around 150, actually returned the questionnaire.

He requests that the membership fill in the form included with the posting of this *Newsletter* only **if they have not done so previously.**

It is important to stress that this information will help in the planning of what facilities may be required in the new Synchrotron. Completed forms should be returned to: Richard Welberry, Research School of Chemistry, ANU, Canberra, ACT 0200.

MASLEN SCHOLASHIPS

The following students have been awarded Maslen Scholarships to assist in the cost of ate

nding the XIX Congress and General Assembly of the IUCr, Geneva in August. Stephen Graham (School of Molecular and Microbial Biosciences, University of Sydney), Eric Chan (Chemistry, UWA), Daniel Riley (Mechanical Engineering, University of Newcastle), Michelle Dunstone (St Vincent's Institute of Medical Research), Lucy Jankova (School of Physics, University of New South Wales), Vanessa Peterson (Department of Chemistry, Materials and Forensic Science, UTS), Kia Wallwork (School of Chemistry, Physics and Earth Sciences, Flinders University), David Price, Lisa Wittick and Patricia van der Werff (School of Chemistry, Monash University).

CRYSTAL FRAGMENTS

• Richard Welberry (Research School of Chemistry, ANU) has been promoted to Professor.

• Philip Nakashima (Physics Department, the Crystallography Centre and the Centre for Microscopy and Microanalysis, UWA) has taken up a Postdoctoral Fellowship in the School of Physics and Materials Engineering at Monash University.

• George Koutsantonis (Chemistry, UWA) was recently promoted to Senior Lecturer.

NEW MEMBERS

SCANZ welcomes the following new members for 2002.

Full members: Dr Adrienne Adams (School of Molecular and Microbial Biosciences, University of Sydney), Dr Ian Menz (School of Biological Sciences, Flinders University of South Australia), and Dr Joel Tyndall (Institute of Molecular Biosciences, University of Queensland).

Student members: Geoffrey Kong (Biota Structural Biology Labs, St. Vincent’s Institute of Medical Research), Vanessa Peterson (ANSTO), Daniel Riley (Mechanical Engineering, University of Newcastle), Eric Chan (Chemistry, University of Western Australia), Lisa Wittick and Patricia van der Werff (School of Chemistry, Monash University), Andrew Whitten, and Xiaoxiong Meng (Department of Chemistry, University of New England), and Stephen Graham (School of Molecular and Microbial Biosciences, University of Sydney).

NEW X-RAY FACILITY

A new Centre called the Integrated Victorian X-Ray Structural Determination and Materials Characterisation Facility has been set up in Victoria from an ARC REIF grant. This facility involves collaboration between the University of Melbourne, RMIT, LaTrobe University, the Australian Radiation Protection and Nuclear Safety Agency (ARPNSA) and the Victorian University of Technology.

The Chief investigators are: Jonathan White (Melbourne University), Suresh Barghava and Kay Latham (RMIT), John Orbell (Victoria University of Technology), Geoff Williams (ARPNSA), and Andrew Hughes (LaTrobe).

In the School of Chemistry at Melbourne University a Bruker SMART APEX single crystal diffractometer has been installed. This is the sixth CCD diffractometer to be installed in Australia.

At RMIT three new instruments have been commissioned. The facility has purchased a Bruker D8 ADVANCE for powder X-ray diffraction and a Bruker NanoSTAR with high-resolution pinhole chamber for small-angle X-ray scattering (SAXS) experiments. An ASAP 2010 Surface Area and Porosimetry Analyzer (to couple with controlled environment stages on both the powder diffraction and SAXS instrumentation for control of partial pressure of atmospheres) has also been installed.

BROOME 2003

Three international crystallography meetings will be held in Broome next year. They are the combined AsCA'03 / Crystal-23 meeting that runs from Aug 10 to 13, a Structural Biology Workshop from Aug 13 to 15 and the Sagamore Conference on Spin and Momentum Density that will run from Aug 13 to 19.

A new website for these meetings has just been launched at www.crystal.uwa.edu.au/broome2003/. Because of the nature of these meetings, a significant international participation is anticipated and SCANZ members are advised to make accommodation and travel arrangements as early as possible. Travelworld has been selected as the preferred travel agency and they are making block bookings of seats to and from Broome over this period. As soon as possible there will be a link to a special website set up to service travel to the Broome meetings. Negotiations are underway with a tour company for 4-wheel drive tours for participants of the Kimberley region before and after the meetings. Details of these tours will be posted on the website as soon as they have been finalised.

In keeping with the past practices at these meetings, the costs of the social events, coffees and lunches will be covered by the registration and sponsorship income.

The abstract submissions deadline, scholarship applications deadline and late registration fee date has been fixed as **March 15, 2003.** Because the lecture venue has a maximum capacity of 350, there is a definite limit to the number of registrations possible. Participants should also be aware that Cable Beach Club currently intends releasing half of the reserved accommodation for the meetings on **February 10th**. These are compelling reasons why participants must register, and book their accommodation and travel well in advance.

The Programme Committee for the AsCA'03/Crystal-23 meeting will be Mitchell Guss (U. Sydney, Chair), Ted Baker (U. Auckland), Jenny Martin (U. Queensland), Yukio Noda (Tohoku U.), Brian O'Connor (Curtin U.), Yuji Ohashi (Tokyo Inst. Tech.), Mark Spackman (U. New England), M. Vijayan (Indian Inst. Science), Yu Wang (Nat. Taiwan U.), Allan White (UWA) and Ian Williams (Hong Kong U.). Jenny Martin and Mark Spackman are Chairs of the Programme Committees for the Biological Structure Workshop and Sagamore Meetings, respectively.

Syd Hall

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