

## Society of Crystallographers in Australia



# SCA

### Newsletters

## No 29, August 1995

The SCA homepage is located at <http://www.sca.asn.au>

### FROM THE PRESIDENT

I have discovered that the second column from the President is more difficult to write than the first, given that the Ballarat meeting has already been reviewed. Members of the SCA Council (particularly the Secretary) have dealt with a number of matters since that meeting, but few have been of headline-grabbing interest. One outcome is that a number of student members have been offered financial assistance from SCA to attend AsCA'95 in Bangkok. We hope that this assistance will enable these students to attend AsCA'95, and that they will enjoy and profit from the experience.

I was absent from the Australian scene for the month of May. I made visits to the Materials Research Laboratory at the University of California, Santa Barbara, to the Physics Department at the Brookhaven National Laboratory, to the Reactor Radiation Division at the National Institute of Standards and Technology, and to the Materials Science Division at the Argonne National Laboratory. These are all centres engaged in the applications of crystallography in materials science. Despite a hint at some centres of 'bureaucratic strangulation', I saw a deal of impressive work being carried out at all the places I visited. An interesting development from the point of view of a neutron diffractionist was the use of gadolinium-impregnated image plates for recording diffraction data. At Brookhaven, I saw very impressive Laue patterns from proteins recorded by this means. I noted that several research centres were undertaking crystallographic investigation of materials exhibiting the 'giant magneto-resistance effect.' A highlight of my visit was a tour around the Advanced Photon Source at Argonne, shortly after the first beam had been extracted from it. I could not but sense the excitement and enthusiasm for this large and imminently successful enterprise.

I returned home to a mountain of paperwork, which reminded me that the United States has no monopoly on bureaucracy. My colleague Lindsay Davis, who had been seriously ill for some time, passed away (see article elsewhere in Newsletter). I attended an informal retirement function for John Taylor, who was the first Australian crystallographer to make use of the Rietveld method for the analysis of powder diffraction patterns. John made numerous contributions to the crystallography of uranium compounds, making use of the Rietveld method, and, more recently, he developed the SIROQUANT computer program. John is retiring from his employment with CSIRO, but I think not yet from crystallography.

Richard Garrett tells me that things have been running smoothly at the Australian National Beamline Facility (Photon Factory), although the synchrotron is shut down right at the moment. Interesting projects this year included measurements of grazing incidence diffraction, surface strain mapping and, in the study of metal hydrides, the use of a special environment stage. A multi-element germanium detector, providing for faster collection of EXAFS data, is soon to be installed. The ANBF is currently oversubscribed. At Lucas Heights, steady if not spectacular progress is being made in the development of the neutron scattering facilities. Life became a little easier for the users of the powder diffractometers following the installation of computer-controlled sample-changers. The most recent addition to the stock of ancillary equipment is the BST (Big Squashy Thing, courtesy University of Newcastle), which has been designed to allow *in situ* diffraction studies of materials under considerable tensile or compressive stress. I look forward to hearing more news from other laboratories in the future.

*Chris Howard*

## Crystal Fragments

Syd Hall (University of Western Australia) attended the American Crystallographic Association (ACA) Annual Meeting at Montreal, Canada in July and the European Crystallographic Meeting (ECM16) in Lund, Sweden in August. At the ACA meeting he participated in a workshop on CIF applications and presented a paper on *XTAL\_GX*, a cif-entry display freeware (this can be obtained by anonymous ftp 130.95.232.12 in directory /free ). At Lund, Syd was involved in a workshop on becoming an Electronic Author with CIF.

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## OBITUARY

### LINDSAY DAVIS

Dr. Ronald Lindsay Davis died on 16 June after battling a long illness. His funeral service at Woronora Crematorium on June 20th was packed with his friends from Lucas Heights. The following tribute was written by myself and his colleagues in the Neutron Scattering Group, and first appeared in *Lucas Heights News* on June 29 1995.

Lindsay's introduction to neutrons was as a PhD student from Monash (Physics), supervised by Jack Smith and Professor Bob Street, coming here with AINSE assistance to use the Lucas Heights Facilities. While completing his PhD (Antiferromagnetism in Transition Metal Alloys) he spent a years post doc in Germany. He then gained 5 years of industrial experience (development and introduction into production of new types of semiconductor devices) with Phillips Industries in SA before joining AINSE as the junior scientist in 1975. He progressed to become leader of the AINSE neutron scattering group in 1986 and remained so until the merger of the ANSTO and AINSE groups on 1/1/93

His major job was to develop neutron scattering facilities on behalf of AINSE as well as help visiting researchers in the use of all the neutron scattering facilities. Over the years he has been involved in the scientific design through to completion of nearly all the instruments around HIFAR. His expertise was extended to Thailand through an IAEA mission in 1991. A strong believer in Lucas Heights as a National Facility, he resented red tape which inhibited access and often, by unconventional means, succeeded in getting things done where many others would have knuckled under. His collaboration with university researchers has led to publications in a wide variety of fields.

He was always prepared to listen to new ideas, give people a fair hearing and his encouragement to the many visiting students was always good to hear. He went in to bat for new technology long before most of us would have done - cold neutron source, solid state neutron detectors, high Tc superconductors, fullerenes (bucky balls).

He believed wholeheartedly in what he did; not just at work but for many others - the Lucas Heights Lodge, Kirrawee High School, Little Athletics, Australian Institute of Physics, Australian Neutron Beam Users Group, Australian Association of von Humboldt Fellows - I'm sure there are more.

A drop of red wine was all that he needed to get a party going - his trivia nights at Wagga Wagga are legendary, as are AINSE Christmas parties, AINSE's 21st Birthday, Bill Palmer's OBE, wherever he put his friends in verse, his unique sense of humour came through.

We cannot put in words now the tumbling thoughts of Lindsay's life. It is with us still and with us will remain. We are missing him.

*Margaret Elcombe.*

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## Asian Crystallographic ASSOCIATION

### AsCA '95

#### A Report on Progress

AsCA'95 has over 220 abstracts and is shaping up to be the same size as AsCA'92. Four members of the International Organizing Committee have visited Bangkok during the past 2 months and can report the lecturing venue is superb and the Local Organizing Committee appears to be confident all arrangements will fall into place. Attendees are reminded of the need to make airline reservations well in advance because of an apparent limitation on the availability of seats into Bangkok in November. In addition you are all urged to look at the offerings of two adjunct schools organized by IUCr Commissions to provide excellent further learning opportunities to attendees interested in the crystallography of gems and precious metals or computing in crystallography. Updated publicity with some program details was mailed on July 11th to all AsCA'95 registrants. The dates run immediately before and after AsCA'95 to minimize the high costs of staying in Bangkok.

IUCr travel grants have been made to a number of young scientists travelling to AsCA '95 by the International Organizing Committee and further grants may be made by the Crystallographic Society of Japan and the SCA. Late registrations can still be made for AsCA'95 and for the adjunct schools who may make some further travel grants.

*Ward Robinson*

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## FUTURE MEETINGS

The next meeting of the SCA, CRYSTAL XX, is planned to be held in Christchurch, New Zealand in 1997. Further information will be available from Professor Ward Robinson, Department of Chemistry, University of Canterbury, Private Bag 4800 Christchurch, New Zealand at a later date.

AsCA'95, the second conference of the Asian Crystallographic Association will be held in Bangkok from November 22-24, 1995. The second circular is now available from Professor Ward Robinson, Department of Chemistry, University of Canterbury, Private Bag 4800 Christchurch, New Zealand. e-mail: chem182@csc.canterbury.ac.nz, fax: 64-3-642110. Registrations were due by July 31, 1995, but late registrations (with a surcharge) will be accepted until October 2, 1995.

The 17th IUCr General Assembly and International Congress of Crystallography will be held in Seattle, Washington, USA from August 8-17 1996.

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## NOTES from the

### **BUSINESS MEETING OF THE SCA BALLARAT,**

The business meeting of the Society was held on Thursday 20th April, during the CRYSTAL XIX conference at Ballarat.

- **Membership Subscription Rates**

A proposal to increase membership dues (currently \$20 (regular; discount of \$5), \$3 (student; discount of \$1)) was discussed. With increased costs due to SCA Newsletter production and quarterly mailing of the IUCr Newsletter, the present fees (especially student fees) barely cover costs. An increase in fees would avoid erosion of SCA capital, but would require a 2/3 majority approval at the meeting. It was moved that fees be increased to \$25 (regular; discount of \$5) and \$7 (student; discount of \$2). The motion was carried by a better than 2/3 majority on a show of hands.

- **President's Report**

My term of Presidency of the SCA would be one of the shortest - barely more than twelve months. This is a result of the restrictions we now have on timing of the Bush Crystallographers meetings due to our involvement in the IUCr Congresses and the meetings of the Asian Crystallographic Association. With the next AsCA meeting in November 1995 and the IUCr Congress in August 1996, April 1995 for Crystal XIX gave the shortest time interval between the different meetings.

The decision to have the meeting in Victoria only 12 months after Crystal XVIII meant that almost immediately after Crystal XVIII finished we had to start planning for Crystal XIX, and indeed we made the first arrangements with the University of Ballarat to check it as a venue in May last year. At this stage I would like to say how helpful and cooperative the University has been in working with us on the organization of Crystal XIX. Ian Parker, the campus Amenities Manager, has given us enormous help over the last year, and his staff and the School of Science have all been very supportive. Our thanks to them all.

The other aspect of having Crystal XIX following so close to the previous meeting is that it puts pressure on the Australian crystallographic community in terms of preparing and submitting presentations. I am pleased to say they have come up trumps with no diminishing of the quality and quantity of contributions and with some changes in emphasis and research topics which has produced some excellent variations in the main themes. Our thanks to all the contributors.

This year has seen some changes in the Council structure. Our Secretary, Max Taylor, underwent major surgery last year and with great reluctance had to relinquish his position early this year, with Mark Spackman taking over. I would like to take this opportunity to thank Max for his help and guidance. His involvement in the SCA Council goes back over many years. He is one of the elders of the Bush Crystallographers, and the keeper of knowledge about all Council matters. It is a great delight to have Max and his wife Rosemary here at Ballarat for Crystal XIX. Would everyone join me in expressing our thanks to Max for his contributions to the SCA. He continues to serve the SCA as Membership Secretary.

At Crystal XVIII Brian Skelton offered to take over the job of Newsletter Editor. At the time he had had no experience with any of the usual PC-based word processing packages, yet within weeks he produced a superb Newsletter and continued to produce and mail out newsletters every quarter during the last year. Brian has very kindly offered to continue as Newsletter Editor. Again, would everyone join with me in expressing our appreciation of his solid contributions.

Something which we've got underway this year is a series of sketches of crystallography laboratories with the hope of compiling a complete record of crystallographic research in Australia and New Zealand. This needs input from the laboratories and I hope the effort continues.

Finally, I would like to thank all members of the Council for their contributions.

*Ian Grey*

#### • Treasurer's Report

Copies of the report prepared by Graham Smith were distributed at the meeting. (This was included in the last issue of the Newsletter). The difference between membership dues for 1993-94 (\$4397.00) and 1994-95 (\$1844.00) was queried in particular whether this reflected late payment or a decline in membership. The Treasurer responded that more than 60% to 70% of members are financial. It was also suggested that the 1993-94 figure may include some arrears and that the 1993-94 figure was higher largely because of a mailed request for payment of arrears.

#### • Date and Venue for Crystal XX Meeting:

Ward Robinson's invitation to hold Crystal XX in Christchurch, New Zealand sometime in 1997 was discussed and accepted.

#### .1987 Fund

The 1987 Fund Account balance sheet at the time of the meeting stood at:

Last balance	\$140,188
Income	1,520
Expenditure	6,000
Balance	\$135,708

This outcome was not pleasing, but it is considered acceptable in the circumstances. Approximately 75% of the investments were performing satisfactorily.

*Ted Maslen*

- Cambridge Database

The 1995 release has been implemented on an Silicon Graphics Iris computer. The network copy will be removed shortly. The charge (currently = £10,500 p.a.) is based not on users, but on Australian membership in the World Directory of Crystallographers; more institutions need to make use of it. It was suggested that libraries may wish to subscribe.

*Chris Howard*

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## BALLOT

At the Business Meeting of the SCA held in Ballarat on the 20th April 1995, a vote was held for a proposed amendment to the Constitution of the SCA. The necessary majority was obtained at the meeting to allow the proposed amendment to be put to the full membership of the SCA in a postal ballot. The proposed amendment pertains to the Office of Newsletter Editor, and is as follows:

The Constitution presently contains the following:

### ARTICLE IV

#### OFFICERS

Section 1. The officers of the Society shall be a President, a Vice-President, a Secretary, a Treasurer, and three ordinary Council members; these seven, plus the President of the previous term, shall be members of the Council which shall have general charge of the affairs of the Society. One member of Council will be appointed as Newsletter Editor.

It is proposed that the last sentence of Section 1. be replaced by the following sentence:

*The Council will appoint one member of the Society as Newsletter Editor.*

Please mark your approval or otherwise for this amendment on the enclosed ballot paper and return to:

Dr M.A. Spackman

Department of Chemistry

University of New England

Armidale

NSW 2351

by close of mail on Friday September 29 1995. Do not indicate your identity on the ballot paper but **sign the back of the return envelope.**

An affirmative vote of at least two thirds of those voting formally is necessary for the adoption of the amendment. Results of the ballot will be disseminated in the next Newsletter, to be distributed in late 1995.

*Mark Spackman*

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