

## Society of Crystallographers in Australia



# SCA

### Newsletters

## No 44, February 00

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

### FROM THE PAST PRESIDENT

My term as President seems to have passed very quickly, not that I am complaining about that, but it comes about because of the decision to hold our meeting earlier in the year than usual. The idea behind this was to take advantage of a follow-on to the RACI Congress scheduled for Canberra in the following week and the availability of this magnificent site at Thredbo in the off-season. We also thought that this time would enable some university colleagues to attend who found it impossible to get away in the more traditional time of immediately after Easter. As it turns out, the advent of "summer terms" has locked out some colleagues who might in previous years have found time to attend. There has also been the complicating factor of the AIP "Condensed Matter Physics" meeting scheduled at the same time at Wagga Wagga. I am surprised that this happened because we scheduled our meeting long before theirs was planned and members who have a foot in both camps would have known of this. Nevertheless there was a good attendance at Thredbo and we heard and saw contributions of great scientific merit.

The sometimes-expressed view that crystallography is in decline was shown to be wide of the mark by the huge attendance and variety of topics presented at the IUCr Congress in Glasgow in August. The science is the most important thing to us, but like every other activity these days, there must also be a commercial and publicity base to keep this activity in view. The IUCr has stepped up its image with electronic journals and other publications. I would like to take this opportunity of recommending that members obtain a copy of *Crystallography Across the Sciences* edited by Henk Schenk containing 26 articles on the history and new frontiers of crystallography.

The SCA Council met during the Congress in Glasgow and the business transacted there has already been reported in the *Newsletter*. I would just like to note that the matter of changing the name of the Society, which was mooted at the business meeting in Bangi, was discussed again and it has been decided to put the matter to a formal vote of the membership. There is no legal impediment to changing the name and the fee for doing so is minimal. Another decision at this meeting was to introduce a new category of membership for those approaching retirement. I also announced at that meeting that I no longer wanted to continue as Public Officer of the Society. The Public Officer must be a resident of South Australia. Edward Tiekink has agreed

to take up the role.

Mentioning the *Newsletter* brings to mind the tremendous work done by Brian Skelton in editing this publication. He is also responsible for the great SCA web-site. He deserves our applause. I would also like to take this opportunity of thanking Syd Hall, who in a burst of characteristic energy, located the names of all past office-bearers of the Society and has recorded them for posterity.

Finally, I would like to thank all the members of the Council, and our secretary in particular, for their help during the last 15 months.

*Max Taylor*

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## **Sponsors of CRYSTAL XXI**

The organisers of the recent Crystal XXI conference in Thredbo would like to acknowledge the sponsors:

John Morris Scientific - Nonius, Meeco - Molecular Structure Corporation, Sietronics - Bruker, Bede Scientific Instruments, Diffraction Technology, Hampton Research, Oxford Instruments and Philips.

The substantial financial support provided by all our sponsors contributed significantly to making this event a big success. We were very pleased that most sponsors were able to send representatives to the meeting providing us with an opportunity to get to know the companies and their representatives a little better.

*Alison Edwards*

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## **SUBSCRIPTIONS**

The Treasurer wishes to remind members that annual membership dues for 2000 are to be paid by December 31, 2000. A statement was included with the previous *Newsletter*. The amount payable is \$130 for a corporate member, \$25 for a full member and \$7 for a student member, with these discounted to \$100, \$20 and \$5 respectively if payment is made by April 1, 2000. The year up to which you have paid is shown on the top right corner of the envelope label.

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## **OBITUARY**

### **Peter Goodman (1928-1999)**

In the category of subjects studied by scientists, that of symmetry occupies a special place in point of depth and elegance. This is the area in which Peter Goodman chiefly excelled and in which his accomplishments have been acclaimed internationally. His experimental methods are now part of the canon, and the techniques which he devised constitute an essential part of the training of every competent worker in the field.

As ever, such fundamental contributions have found widespread industrial application, in this case extending from metallurgy to microelectronics and from the characterisation of minerals to the fabrication of ceramics. Peter himself was keenly aware of these possibilities and, with a number of his collaborators, worked towards their realisation.

However his overwhelming interests always lay in science itself. But to achieve success in fundamental work demands quite special attributes. These Peter possessed in full measure. Peter's gifts involved that rare combination of uninhibited, vivid imagination with a cool, indeed at times, relentless logic, and all of this reinforced with a sympathetic insight into theory.

With the passage of time his characteristic insights have come increasingly into evidence. In a number of his key publications Peter, in effect, outlined a programme and in order to implement it employed a variety of elegant experimental methods. Outstanding among those was that utilising a convergent incident beam, a method which he went on to establish as the pre-eminent technique in electron diffraction. Peter showed how it could be used, among other things, to study bonding, to determine the presence or absence of a centre of inversion, to analyse the non-symmmorphic groups and to determine chirality.

Such interests may suggest a somewhat remote personality, but the opposite was the case for Peter who combined a passion for the graphic arts and a deep affection for classical music with a robust sense of humour and a wry sympathy for human frailty. Nor did he neglect his obligations to the scientific community for he served as chairman of the IUCr Commission on Electron Diffraction, edited *Fifty Years of Electron Diffraction*, organised a variety of conferences and, memorably, wrote the definitive chapter on space group determination by electron diffraction.

One of the major English physicists maintains that the central characteristic of the scientist of high distinction is that he changes, rather than enlarges his chosen field. Very few achieve this, but Peter Goodman undeniably did, and in a fashion entirely his own, a fashion that made collaboration with him an unforgettable pleasure. Peter is survived by his wife Patricia, his daughter Robin, and his two sons David and Richard.

*Alex Moodie*

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## TREASURER'S REPORT

### Thredbo, 2000

As with previous Treasurer's reports, this one for the seventeen months since the AsCA meeting in Kuala Lumpur shows that the Society's funds continue to produce a small profit. However this profit is only slightly greater than the annual rate of inflation.

One disadvantage of these reports is that they are presented about every eighteen months although the Society's income and expenditure tends to be on an annual basis. As a result, some aberrations in income or expenditure can become apparent. Thus the increase in income from membership for the current term compared with that of the previous period is due to more than one year's income from subscriptions. Similarly, the apparent increase in interest can be assigned, in part, to two payments from long-term investment deposits reaching maturity. Income was also boosted by a payment of \$500 from Shimadzu Australia for the distribution of advertising material; this being offset by associated costs of \$75.

As in previous Treasurer's reports the major expenses continue to be costs of producing and distributing the *Newsletter* and subscriptions to AsCA and FASTS. An amount of \$1500 was paid to the *Newsletter* Editor for the printing and distribution of the Society's *Newsletter*, \$634.50 was paid to FASTS for annual subscription and \$720 (\$240 per annum) for 1998-2000 subscriptions to the Asian Crystallographic Association (AsCA).

The cost of \$15000 for students to attend IUCr (Glasgow) was met by the 1987 Fund which will also

reimburse the \$2100 provided for students to attend Crystal XXI. A further \$2000 provided to the organisers of Crystal XXI is also expected to be repaid.

*Brian Skelton*

### Location of Funds

Most of the funds are deposited in Unicredit (UWA) account No. 25403 as a working account S1 or as term deposits in an I20 or I2 account. These term deposits and the investment with Australian Guarantee Corporation are earning 3.85% interest or better.

| Unicredit   | Account Type    | Interest | Amount \$<br>Sep 1998 | Amount \$<br>Jan 2000 |
|---|-----------------|----------|-----------------------|-----------------------|
| S1  | Working Account | 0        | 3351.06               | 1993.18               |
| I20   | Term Deposit    | 3.85%    | 40314.79              | 42679.89              |
| I2  | Term Deposit    | 4.95%    | 11900.00              | 12495.00              |
| Unicredit Total                                       |                 |          | 55565.85              | 57168.07              |
| Australian Guarantee Corporation (12 month Debenture) |                 | 4.75%    | 14000.00              | 14000.00              |
| <b>Total</b>  |                 |          | \$69565.85            | \$71168.07            |

### STATEMENT OF SCA

| Income                               | May 1997-<br>Sept 1998 | Oct 1998-<br>Jan 2000 |
|--------------------------------------|------------------------|-----------------------|
| Membership                           | 2400.00                | 4523.77               |
| Interest                             | 1713.03                | 3652.25               |
| 1987 Fund Support for IUCr (Glasgow) | -                      | 15000.00              |
| 1987 Fund Support for Crystal XX     | 8000.00                | -                     |
| 1987 Fund Support for AsCA'98        | 3900.00                | -                     |
| Crystal XX return                    | 2348.76                | -                     |
| Advertising (Shimadzu)               | -                      | 500.00                |
|                                      |                        |                       |

|              |            |            |
|--------------|------------|------------|
|              |            |            |
| <b>Total</b> | \$18361.79 | \$23676.02 |

| <b>Expenditure</b>                    | <b>May 1997-<br/>Sept 1998</b> | <b>Oct 1998-<br/>Jan 2000</b> |
|---------------------------------------|--------------------------------|-------------------------------|
| Scholarships for AsCA'98 <sup>1</sup> | 3900.00                        | -                             |
| Scholarships for IUCr <sup>2</sup>    | -                              | 15000.00                      |
| FASTS membership                      | 1195.30                        | 634.50                        |
| AsCA membership                       | 720.00                         | 720.00                        |
| Newsletter Costs                      | 1100.00                        | 1500.00                       |
| Crystal XXI Deposit                   | -                              | 2000.00                       |
| Crystal XX Scholarships               | 6100.00                        | -                             |
| Crystal XXI <sup>3</sup> Scholarships | -                              | 2110.00                       |
| Crystal XX travel expenses            | 2596.05                        | -                             |
| Advertising (Shimadzu)                | -                              | 75.00                         |
| State Government Tax                  | -                              | 31.80                         |
| Miscellaneous                         | -                              | 2.50                          |
|                                       |                                |                               |
| <b>Total</b>                          | \$15611.35                     | \$22073.80                    |
| <b>Profit</b>                         | \$ 2750.44                     | \$1602.22                     |

**Note 1.**

The Maslen Travel awards for students to attend AsCA'98 in Kuala Lumpur were made to:

1. Husin Sitepu \$800 3. Chris Ling \$1000
2. Kelly Maxwell \$1000 4. Josh McKinnon \$1100

**Note 2.**

The Maslen Travel awards of \$1875 for students to attend IUCr (Glasgow) were made to:

Kia Wallwork, Jean Kim, Elisabeth Fletcher, Neil Somers, Josh McKinnon, Nick O'Toole, Jennifer Forrester and Philip Nakashima.

**Note 3.**

The Maslen Travel awards for students to attend Crystal XXI in Thredbo were made to:

1. Connie Darmanin \$215 6. Rene Macquart \$215
2. Marisa Spiniello \$215 7. Brett Pool \$215
3. Neil Somers \$495 8. Kevin Lim \$495
4. Philip Nakashima \$495 9. Jean Kim \$215
5. Jeremy Ruggles \$150

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## 1987 FUND REPORT

The 1987 Fund continues to do well, growth in CBA (Commonwealth Bank of Australia) and CSL (Commonwealth Serum Laboratories) outstripping some fall in BRS (Bristile) and WFT (Westfield Trust). The process of changing title to everything contingent upon change in any trustee is unduly complex, drawnout and wearing; the present trustees are all over 60, and it may be useful to address the question as to whether it is better to employ a well-established fund manager (e.g Perpetual) responsible to the trustees, to look after the day-to-day operation of the fund.

### SCA 1987 Fund,

(14 January 2000)

| Num.  | ASX code | Name of Share                    | ©    | Total value |
|-------|----------|----------------------------------|------|-------------|
| 7625  | AJN*     | Armstrong Jones Industrial Trust | 143  | 10904       |
| 31500 | AJR      | Armstrong Jones Retail Fund      | 82   | 25830       |
| 7600  | BRS      | Bristile                         | 111  | 8436        |
| 605   | CBA      | Commonwealth Bank                | 2558 | 15476       |
| 2000  | CSL      | Commonwealth Serum Laboratories  | 2246 | 44920       |
| 13000 | FCLG     | Futuris Convertible Notes        | 230  | 29900       |
| 1127  | SGW      | Sons of Gwalia                   | 492  | 5545        |
| 8434  | WFT      | Westfield Trust                  | 280  | 23615       |
| 1500  | WOW      | Woolworth                        | 515  | 7725        |
|       |          |                                  |      |             |

|  |
|--|
| Macquarie Investment Management Ltd (cash) <i>ca</i> 37000 |
| <b>Total \$209351</b>                                      |

\*Converted from 10000 AJS (Armstrong Jones Industrial Fund).

Other debits include expenses resulting from the Thredbo meeting which are expected to be effectively cancelled out by the return of a \$6500 loan to the organisers of Crystal XXI.

The values in the above table can be compared with that for the previous period as reported at the AsCA meeting in Kuala Lumpur in October 1998 and in the November 1998 *Newsletter* of \$139439(equities) and \$51232(cash) to give total assets of \$190671.

*A.H.White*

*(Trustee, 1987 Fund)*

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## CRYSTAL XXI

### Student reports from Thredbo

#### 1

Crystallography in Australia was unofficially welcomed into the new millennium with the event of the Crystal XXI Conference held in Thredbo. A great time was had by all, although for myself, there were a few hitches. Although the bus ride from the nation's capital to the picturesque tourist town was smooth, the same could not be said for the few days preceding the conference. Travel arrangements and poster design were dealt with as swiftly as possible. However, once the conference began, all the initial anxiety subsided; it was time to sponge whatever information was presented and try to enjoy the whole affair in the process.

Of the many oral presentations, a few come to mind almost two weeks later. Coming from an inorganic chemistry background, I found Colin Raston's work on supramolecular chemistry of some interest, in particular his work on novel inclusion complexes of calixarene/crown ether compounds in which he highlighted the hierarchy of encapsulation by comparing them to Russian dolls. These talks also served a simple reminder that despite the number of techniques used in the study of supramolecular chemistry, crystallography remains supreme. On a related note, Mark Spackman's work on pictorial representations of Hirshfeld potentials probably struck a chord with supramolecular chemists. He presented an alternative method of depicting inter- and intra-molecular interactions for crystal structures.

The conference lecture delivered by Douglas Dorset, aptly title *Crystallography with Electrons - From the House of the Dead*, talked about the ongoing study of structures via electron diffraction methods, complete with cold war overtones. The advantages of electron diffraction over conventional X-ray diffraction were discussed. It appears that electron diffraction is a useful tool for examining structures quantitatively, but more so qualitatively.

The Conference dinner went off with quite a bang, with Ray Withers enthusiastically reciting poetry and Hans Freeman receiving honorary life membership. The dinner also provided the ideal atmosphere for friendly conversation over a bowl of sumptuous pumpkin soup. I listened intently as Judge Bevan reminisced about his

days at my current alma mater.

Of course, our time off on Thursday afternoon did not go wasted; hiking and bobsledding were just two of the many activities which I was able to enjoy, in between resting. Although many people often rue the lack of snow during summer, Thredbo is an eventful place all year around. Summer also provided an ideal moment to view some of the unique flora of this alpine region.

Perhaps most encouraging at the conference was the strong showing by my fellow students, talks and posters alike being of a high standard; fresh, innovative ideas often go hand in hand with youth. Although many students are self-motivated, praise and reward often help; the Philips Company recognized this and offered a student prize for the best student oral presentation - congratulations Philip Nakashima.

Crystal XXI happened to be the first scientific conference I had attended and it was quite an eye-opener, matching faces to names that I had paused over in my journal reading. I wish to thank the SCA for the financial assistance that made the trip possible. I appreciate the time and effort that has gone into organizing this conference; it has provided me with memories that I will take through the rest of my student days and beyond.

*Kevin Lim*

*University of Western Australia*

## 2

Crystal XXI at Thredbo was the first conference that I had ever attended, so my expectations were high and I can easily say that I was not let down for a second. Thredbo was a marvellous place to visit; beautiful scenery and friendly people, it was all very relaxing, although it did not take long before you got tired of climbing up and down the stairs that can be found around almost every corner.

As for the conference itself, congratulations must go to the organising committee as well as everybody who made a presentation, in producing a great experience for everyone.

My knowledge and experience in crystallography is only small, so this conference allowed me to see and appreciate the wide variety of research that people are conducting with crystallography. A few of the presentations that illustrate the diversity that was on display were: *CCD Area Detector Sets and Twinned Crystals* - Ward Robinson; *Crystal Structure of SPE-B, the Flesh-Eating Cysteine Protease from Streptococcus Pyogenes, at 1.6Å Resolution* - Ted Baker; *The Use of X-ray Diffraction to Determine Cellulose Orientation in Wood* - Jan Wikaira; and *Pictorial Representation of Intermolecular Interactions in Crystals* - Mark Spackman. All from different areas of crystallography and all very interesting. Other attention drawers at Thredbo were the magnificent mountains that dominated the scenery.

One thing that I will not forget is climbing up to the Kosciusko lookout. Everyone else made the wise decision to buy a chair-lift ticket and ride to the top, but not us! It was very hard going and some did not make it but once we reached the top, we felt we could do anything.

The combination of all the great crystallography that was presented with the beauty of Thredbo created a wonderful experience. Which leaves me to thank everyone involved for the conference and the financial support that allowed me to increase my knowledge and interest in crystallography.

*Brett Pool*



## 3

Crystal XXI was the first conference I had attended. It was off to a great start with a barbeque for dinner on the night of our arrival in Thredbo. People gathered, ate, mingled and drank their way through the first night, with my supervisor pointing out to me who was who. During the first few days the agenda was packed with seminars, and although most of them were 'small molecule' and not directly related to my research they were interesting to note. It was not until the second day that there was a protein structure session that I thoroughly enjoyed, understanding it a lot more compared with 'small molecule' sessions. It was interesting to listen to the different styles of presentations and the work of other groups.

Thursday afternoon was time for us to relax; we had the afternoon free and time to enjoy the country. Sightseeing and some hiking were on the agenda for many people, although some made the wise decision and relaxed in their rooms. You could tell those who had gone for a hike because they came back rather red. The conference dinner included excellent food and great wine, and a touch of poetry was added to the evening.

Friday was the big day for me because I had to do my first oral presentation at a conference. It was a scary thought speaking in front of all those people who have had years of experience in the field. Everyone sounded like they knew what they were talking about and here I was my first year into the field feeling like I knew nothing. I guess it was like starting high school all over again. In grade 6 you are at the top of the school bigger and smarter than everyone else and then in year 7 you find yourself at the bottom looking up to the bigger kids. There I was embarking on my talk and dreading question time, but I survived and looking back it was not too bad.

Overall it was brilliant; the atmosphere was very relaxed, the people there were very friendly, the surrounding country provided a gorgeous view and it was a great opportunity to meet with other crystallographers from around the country as well as around the world. Also finally to place some faces to the people I had only previously read about during my research. I would like to take this opportunity to thank the SCA for their support allowing me to attend this meeting. It has inspired me to continue working hard and reminded me of why I started out in this field. Once again, thank you.

*Connie Darmanin*

*Victorian College of Pharmacy*

## 4

The first, rather impromptu delegate mixer took place on a picturesque hillside at about 4pm on the Tuesday afternoon - right next to the exhausted bus, about 20km out of Canberra. The scene was enhanced by "Holy Dan", dramatically recited by Ray Withers - the bus with broken fan belt was like Dan's thirsty and dying bullocks, but our fate was not nearly the same. After getting to know everyone else taking the bus, we were picked up and brought through the magnificent countryside to Thredbo, the romantic mountains coloured by the setting sun. It started like a dream that one doesn't want to wake up from, and what followed was much the same.

The accommodation was great and the conference facilities were really well suited to the size of the meeting as well as the format. I particularly liked the fact that there was no splitting into different sessions, meaning that there was never a dilemma concerning which talk to go to at the expense of missing something as interesting. I thought the whole thing ran very smoothly and effectively.

For me, apart from the interesting poster sessions and oral presentations, what made it special was the intimacy resulting from it not being a massive gathering. The generous amount of free time was also great because of the social mixing and getting to know other people in this very warm and friendly society. The unofficial name of "The Bush Crystallographers" arouses all of the feeling and sentiment I experienced from meeting this closely knit group of Australian and New Zealand crystallographers.

It is really hard to say which presentations (poster and oral) stood out as being the most interesting, because they all were. I was fascinated by Cameron Kepert's talk on *Desorption in Microporous Molecular Framework Materials* for the crystal structure content, elucidation of physical properties from experiment and the beautiful models used to represent these structures. On this theme, it was also spellbinding to watch Mark Spackman's *Pictorial Representation of Intermolecular Interactions in Crystals*. Such visual representations are powerful tools in understanding and interpreting these interactions as well as communicating these interpretations in a most attractive form.

The emphasis of some of the talks on the combination of various techniques, was of particular interest and of great importance to me. Ian Grey's presentation on *Combining Electron Microscopy with Powder X-ray and Neutron Diffraction to Solve and Refine Complex Oxide Structures* was very emphatic on this point. Fascinating too was Steve Wilkins' presentation on *Quantitative Phase Contrast Imaging using Both Laboratory and Synchrotron Sources of X-rays* because it exposed techniques in X-ray imaging that yield an enormous amount of information lost in conventional methods.

I really enjoyed the 1987 Lecture, *Crystallography with Electrons - From the House of the Dead* by Douglas Dorset and Peter Colman's *From Crystallography to Collins Street*. These were the very striking titles for two very different, very absorbing lectures.

Outside the oral and poster sessions, the discussions I had with various delegates concerning my own work have helped me see a broader context and have helped clarify and define areas of future work. Such an intense pooling of ideas at conferences like this, is a tremendous eye-opener, especially in the awareness of complementary techniques. The environment at this conference could not have been more conducive to leisurely and lengthy discussions and the generation, exchange and absorption of ideas. I feel I gained so much in such a relatively short time.

I would like to thank Philips Analytical for providing a student prize and all the sponsors for supporting this wonderful meeting. I am very grateful to the SCA for supporting my attendance at this conference. I loved everything about it and every moment of it, and I will always look back on it with very happy memories.

*Philip Nakashima*

*University of Western Australia*

## 5

A great Aussie barbeque kicked off the start of what was going to be a tightly knit and very enjoyable meeting. This was a great opportunity to mingle and chat while the sun went down over a fantastic choice of location. I found the atmosphere during the sessions intense, yet relaxed and informal. I enjoyed all of the presentations throughout the three days.

The first session was opened with Colin Raston's presentation on supramolecular species. This crown ether/calixarene combination reminded me of Russian matreshka dolls, as the various shells encapsulate a single sodium ion. Although calixarene chemistry is not related to my area of research, the fact that some complexes require co-crystallisation molecules to form crystals was interesting, especially as these molecules

can be removed later by varying the pH.

Cameron Kepert's talk on desorption in molecular framework materials fascinated me, especially the section on phase transitions upon heating. The removal of ethanol solvent, leaving large empty channels in an intact crystal, showed promise in many applications.

A completely different topic was introduced to the conference when Peter Colman spoke of his Biota journey. This gave invaluable hints and tips for stepping through the commercial collaboration minefield. I imagine that his experience and advice will assist many researchers that are considering adopting commercial partnerships.

A large exchange of ideas occurred at the poster session. This session brought home to me the wide range of crystallographic interests represented at this meeting. An in-depth discussion with David Rae showed alternate methods of solving difficult structures that I had never seen before.

Bill David's great presentation on the topic of structure solution using powder methods also caught my attention. He clearly explained the practical applications of using a combination of powder data and molecular topology to solve a structure. The fact that some of his results using powder data were comparable to those using single crystal data was amazing.

I thought the supramolecular presentation by Mark Spackman was fantastic. I enjoyed his graphical representations of inter- and intra-molecular interactions to predict how molecules will stack together. I feel that this approach would be great for undergraduate learning of molecular interactions.

Our free afternoon saw many people conquering the mountains that shadowed us throughout our stay in Thredbo. Some tackled this energetically and some leisurely, but all made it back in time for the conference dinner.

The farewell barbeque on the lawn was a real community affair. People whom I only met a few days previously became good friends. Like the opening evening, the terrific food and flow of drinks was a complement to the skills of the organising committee. I would sincerely like to thank the SCA for providing assistance to attend this, my second crystallographic meeting.

*Neil Somers*

*University of Western Australia*

## 6

Being lucky enough to be a recipient of an SCA Maslen Travel Award, I was able to attend Crystal XXI at Thredbo in February. I would like to express my sincere gratitude for this award, which helped me attend my first crystallography conference. Firstly, I would like to compliment the organising committee for choosing such a picturesque and well-equipped venue for this conference. Also, I would like to thank Dr. Bill David for allowing me to use his computer for my presentation.

One of the best aspects of this gathering was the approachability and friendliness of all the people I met during the four days. This would be best illustrated at the outdoor mixer on Tuesday night where I met international protein crystallographers among others. I know that as a PhD student on a steep learning curve, the opportunity to meet fellow crystallographers was a very beneficial experience.

The scientific program was stimulating and the broad range of presentations, both oral and poster, exposed

me to areas of research in which I did not know crystallography played an important role. For me, special highlights of the conference included presentations given by Professors Ted Baker, Colin Raston and Douglas Dorset. To me, these talks emphasised the scope of crystallographic endeavours at home in Australia and around the world.

The organised social activities were what made this conference different to others I have attended. Each event was enjoyable in its own way: the already mentioned mixer by the pool for its relaxed atmosphere, the conference dinner for its fine food, poetry recital and history lesson about the origin of the SCA and the farewell barbeque for the copious quantities of champagne.

Finally, I would like to thank the organising committee for giving me the opportunity to speak about our research at Thredbo and for the chance to see that there are others who also do small molecule crystallography.

*Marisa Spiniello*

*University of Melbourne*

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## **The NATIONAL COMMITTEE FOR CRYSTALLOGRAPHY**

At the meeting of the National Committee held at Crystal XXI, Thredbo, a number of matters were discussed that might interest all SCA members.

### **Representative of Electron Microscopy.**

With David Cockayne having gone to Oxford a vacancy arises for a representative of electron microscopy in Australia. Professor White asked members of the committee to send him names for suggestions to Council. John White will send a letter of thanks to Professor Cockayne for his active contribution to the work of the committee.

### **International Protein Databank.**

The question of the governance of this and the way in which there might be some input or ownership by the International Union of Crystallography had been raised at the 24 June meeting and was subsequently raised by John White at the General Assembly of the IUCr in Glasgow in August 1999. We were told at the General Assembly that the IUCr was interested in this matter and that discussions would occur in Glasgow to be sure that, for example, if the present governance of the databank through Brookhaven National Laboratory and Rutgers University were in any way to fall down, the database would be maintained for the international community. Mitchell Guss, as chair of the Biomolecular Structure Commission of the IUCr, was asked to follow this matter up and report back to the committee.

John White reported on the major facilities study by the Co-ordinating Committee for Science and Technology which had made its first report last year. He also reported on the Academy of Science's working party on major facilities policy which was due to review a draft paper from the consultant Professor Sue Serjeantson in March 2000.

The question of ARC funding to young investigators had been followed up in the minutes. It was a matter of continuing interest and the low rate of success for some young investigators excited further discussion. Professor White was asked to request further detail through the Academy of Science not simply on the 1998/99 figures but also on any trends in the way in which funding had been developing for younger

researchers through the ARC and comparable information from other disciplines.

Professor White reported recent consultations in which he had participated concerned with the replacement nuclear reactor and the arrival of Dr Robert Robinson from Los Alamos Laboratory as the new Head of Neutron Scattering at ANSTO, with apparently responsibilities also in synchrotron radiation research.

The Membership of the National Committee was considered. It was decided to recommend to the Academy's Council that the President of the Society of Crystallographers in Australia would be for the term of that office an *ex-officio* member of the National Committee for Crystallography to ensure close links between the two committees. Richard Welberry is currently the President and the recommendation is that he should join the Committee for the years 2000 to 2003.

### **Synchrotron Access.**

By courtesy of Dr John Boldeman, the Committee have been provided with the renewal proposal for the Australian Synchrotron Research Program – Access to Overseas Synchrotron Facilities (particularly at Tsukuba and at the Advanced Photon Source, Chicago).

### **Formation of an Asia/Australasia Neutron Scattering Association (AANSA).**

John White reported that as Chairman of the Neutron Scattering Commission of the IUCr he had had discussions in 1999 with Japanese colleagues towards the formation of an Asia/Pacific or Asia/Australasia neutron scattering association. Professor Fujii (Japan) is now the Chairman of the Neutron Scattering Commission. John discussed with him in Glasgow the best ways to proceed with formation of such a regional neutron scattering association.

*John White*

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Notes from

## **THE BUSINESS MEETING HELD AT THREDBO**

### **Change to the Constitution.**

The desire for a change to the name of the Society to "The Society of Crystallographers in Australia and New Zealand" had been discussed at the previous meetings of the SCA and at AsCA in Kuala Lumpur, and the reasons for doing this and possible problems we pointed out in a previous *Newsletter*. The motion that "the name of the Society of Crystallographers in Australia (SCA) be changed to the Society of Crystallographers in Australia and New Zealand (SCANZ) wherever it appears in the constitution" was passed unanimously. A change to the Constitution requires a two-thirds majority of votes in a postal ballot. A form containing a description of the proposed changes together with a ballot paper are included with this *Newsletter*. The ballot paper is to be returned to the Secretary by 31st March 2000.

### **Life Membership.**

The secretary introduced the idea discussed at the previous council meeting that a new class of membership "Life Membership" be established. It was regretted that the Society lost contact with a number of members who had reached retirement age and this might be avoided by allowing older members to become life members upon payment of a one-off fee. It was agreed that members who are over sixty years of age at the time subscriptions are due can elect to become life members of the Society by paying a one-off subscription

of five times the current (discounted) subscription rate.

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## SKETCHES OF CRYSTALLOGRAPHY LABORATORIES

### ST VINCENT'S INSTITUTE OF MEDICAL RESEARCH

#### Structural Biology Unit

The Structural Biology Unit at St Vincent's Institute of Medical Research in Melbourne was established in 1997 following the Wellcome Trust-supported appointment of Bostjan Kobe as head. The focus of the Laboratory is studies of macromolecular interactions, using an integrated approach that employs a combination of methods such as protein chemistry, molecular biology, biosensor and computational approaches, in addition to macromolecular crystallography. The biological areas currently under study include regulation of protein function (protein kinases, phenylalanine hydroxylase), viral infection, cellular transport processes and protein domains specialised in protein-protein interactions. The recent research highlights include the determination of crystal structures of the auto-regulated proteins phenylalanine hydroxylase (Nature Struct. Biol. (1999) 6, 442-448) and importin alpha (Nature Struct. Biol. (1999) 6, 338-397) and the HTLV-1 virus envelope glycoprotein gp21 as a chimera with maltose binding protein (Proc. Natl. Acad. Sci. (1999) USA 96, 4319-4324). The Unit was fortunate that a large portion of the computational and X-ray equipment presently in use has been set up mainly through the efforts of Michael Parker and Bruce Kemp prior to its establishment. The X-ray and some computational facilities are shared between the Structural Biology Unit and the Ian Potter Foundation Protein Crystallography Unit headed by Professor Parker.

*Bostjan Kobe*

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## FUTURE MEETINGS

### CRYSTAL XXII

The next meeting of the SCA, Crystal XXII, will probably be held in June or July, 2001 in South East Queensland and will be organised by Jenny Martin (Univ. of Queensland) and Graham Smith (QUT). Further information will be available in later issues of the *Newsletter*.

### AsCA 2001

At a meeting of the AsCA council held during the IUCr Congress in Glasgow, it was agreed that the next AsCA meeting would be in Bangalore, India around 18-25 November 2001.

### IUCr XIX

The 19<sup>th</sup> Congress and General Assembly of the IUCr will be held in Jerusalem, Israel, August 6-15, 2002. The Congress Web page is located at: <http://www.kenes.com/iucr/>.

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## CRYSTAL FRAGMENTS

•Cameron Kepert has been appointed lecturer in the School of Chemistry at the University of Sydney. Cameron did his undergraduate studies at the University of Western Australia before completing his PhD degree at the University of London. Prior to taking up his appointment at Sydney he was a Research Fellow

at the University of Oxford.

- Alison Edwards (formerly Univ. of Melbourne) has been appointed as Research Officer at the Research School of Chemistry, ANU.
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