Society of Crystallographers in Australia and New Zealand
SCANZ

Newsletters

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The SCANZ homepage is located at http://www.sca.asn.au

FROM THE PRESIDENT

Many of us have only recently returned from the 19th IUCr Congress and General Assembly in Geneva. This was an excellent meeting, both scientifically and socially, and the organisers (principally Joel Bernstein as Chair of the Organizing Committee, and Menahem Kaftory as Chair of the Program Committee) deserve to be congratulated!

My participation at the meeting was in a number of roles: speaker, Commission Chair, member of the National Committee, and one of three Australian delegates to the General Assembly. I am rather envious of those who attended the meeting just for the science and social interactions! But because it is an important, if hidden, part of these triennial meetings, it is worthwhile explaining some of what went on behind the scenes. The business end of the meeting is the General Assembly, held over three nights. Each nation is represented by a number of delegates, the number depending on the annual subscription paid by the adhering body, and ranges from one to five (I think). Australia has three delegates at each General Assembly, and the adhering body is the Australian Academy of Sciences.

The business of the General Assembly includes a large number of routine triennial reports: from the Executive Committee, a Financial Report, reports from the various Commissions, both publishing and non-publishing, reports from regional associates (ACA, AsCA and the ECA) and other scientific associates. (Consult http://www.iucr.org/iucr-top/genasm/GenevaGA.html for the detailed agenda.) But items that more immediately affect crystallographers are also decided on these evenings, such as:

* Judith Flippen-Anderson will be the new Editor of the IUCr Newsletter.

* Florence, Italy was confirmed as the host of the 20th IUCr Congress and General Assembly, August 23-31 2005 (check out the very impressive web pages: http://www.iucr2005.it/).

* Osaka, Japan was accepted as host of the 21st IUCr Congress in 2008.

* Dieter Schwarzenbach is the new Editor of Section A of Acta Crystallographica; Carol Brock is the new Editor of Section B.

* The new Executive Committee consists of W.L. Duax (President), L.A. Aslanov (Vice President), S. Larsen (General Secretary & Treasurer), H. Schenk (Past President), and M.A. Carrondo, G. Heger, Y. Ohashi, I.L. Torriani, D. Viterbo, and Z. Zhang (Ordinary Members). Our warmest congratulations to Yuji Ohashi on his election!

Of course there was also a great deal of wonderful science at the Congress, too much to summarise or highlight here (I'm hoping that reports from the SCANZ student attendees will provide some insight into this). It was particularly impressive to see that there were over fifty crystallographers in attendance from Australia and New Zealand, ranging from very new PhD students, to long-time SCANZ members.

Syd Hall, Mitchell Guss and I also spent some time in Geneva promoting the crystallography meetings in Broome next year (see http://www.broome2003.uwa. edu.au/ for all details). The colourful posters were very popular, and made it rather easy to convince many that the venue will be exotic and the science exciting. We also took advantage of the opportunity to remind potential sponsors about the meeting, and we are optimistic that it will be well supported.

I am organising the Sagamore XIV Meeting on Charge, Spin & Momentum Densities, and am making steady progress with finalising a Program Committee, and working on the details of the scientific program. I urge you to regularly check the Broome2003 web page for updates on these conferences (for example, there is now information on student support, and very soon, scientific programs will begin to appear), and to start making definite plans for accommodation and travel arrangements.

Mark Spackman

University of New England

OBITUARY

Bernard Foster Hoskins

Ph.D. D.Sc. FRACI

(1935 – 2002)

Bernard Hoskins was a member of SCANZ from the time of its establishment as the SCA in 1976. Bernard was best known to those of us who studied and worked in Melbourne and the many SCANZ members of longer standing. His academic credits were formidable. He was educated at the Sydney Technical College and the University of New South Wales taking a BSc (Hons 1st class) in 1959 and his Doctorate in 1962. The award of a Commonwealth Interchange Scholarship made possible his move to the Chemical Crystallography Laboratory at the University of Oxford to work with Dorothy Hodgkin.

In 1964 Bernard returned to Australia to take up an appointment as Lecturer in Inorganic Chemistry at the University of Melbourne. Promotion to Senior Lecturer and to Reader followed in 1969 and 1978 and he served with distinction as Chairman of the Department of Inorganic Chemistry from 1976 to 1981. He was awarded a Doctorate of Science by the University of Melbourne in 1976 for his contributions to Inorganic Chemistry and Crystallography. His final publication tally is still growing and exceeds 200 papers – substantial works in chemistry informed by high quality crystallography and Bernard's powerful insight into inorganic and structural nuances.

Bernard Hoskins had a profound influence on Chemical Crystallography in Australia. Above all else he was an outstanding teacher, particularly at the Honours and Postgraduate levels where he was the official supervisor of over 35 PhD candidates and 20 BSc Honours students, in addition he was generous in sharing his crystallographic expertise with countless others. Many of those trained by him now hold influential academic and editorial posts.

To his students, collaborators and friends Bernard was so much more than any list can convey. He was a gentle man with a modest, manner who could equally display great resolve and bravery when needed. He believed passionately that young people should be given every possible opportunity to further their education. Students who were considered marginal prospects by others blossomed in his laboratory. The talents brought by each individual to the laboratory were individually valued and nurtured.

There is so much more that could be said in tribute to Bernard. He is deeply missed by so many people whose lives he enriched and we extend our deepest sympathy to his immediate family, Garry, Christine and Michael.

Alison Edwards, Graham Heath

Research School of Chemistry

Australian National University

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 XIV Conference from Aug 13 to 18. See full details at www.broome2003.uwa.edu.au. Significant international participation is anticipated at these meetings and SCANZ members are advised to make accommodation and travel arrangements as early as possible. TravelWorld is the conference travel agency and they have made block bookings of seats to and from Broome over this period. Reservations can now be made by contacting Ruth Carlton Ph: 1800-065-152 or 61-7- 3844 - 4999, Fax: 07-3846-5988, or by e-mail: rcarlton@travelconnect.com.au.

Say that the travel is to " Crystal-23" and you will be given conference rates. TravelWorld is setting up a special website for travel to the Broome meetings, and the conference website will link to this. Note also that pre- and post-conference 4-wheel drive tours of the Kimberley

region have been arranged and these are described on the conference website.

Participants can register via the website. The registration fee includes the cost of social evenings, coffees and lunches for full and student registrants. The abstract submissions deadline, and late registration fee date, is fixed at March 15th. The application deadline for " young scientist" scholarships is February 15th. Details of the abstract submission process and scholarships are on the website.

Because the lecture venue has a maximum capacity of 300 registrations will be limited to this number. The recent Bali tragedy has greatly increased the pressure on Broome accommodation for next year, and the Cable Beach Club will be releasing half of the reserved accommodation for these meetings on February 10th. Because of this and the registration limit of 300, participants must register and book their accommodation, and make travel arrangements, as soon as possible.

Syd Hall

CRYSTAL FRAGMENTS

•Siegbert Schmid (formerly at the Research School of Chemistry at ANU and more recently at the Institute for Inorganic Chemistry, University of Tübingen, Germany (2000 - 2002)) has been appointed Senior Lecturer and Deputy Director of First Year Studies in the School of Chemistry, University of Sydney, and took up his position in August 2002.

•Victor Streltsov (UWA) has accepted a position of Senior Scientist at CSIRO, Parkville Victoria in the Structural Biology Group headed by Jose Varghese. Victor will move to Melbourne in November 2002.

Report from the AsCA Council

The AsCA Council met in Geneva, Switzerland on August 10th, 2002 during the IUCr Congress and General Assembly. Chris Howard and Mitchell Guss represented Australia as members of the Council. Syd Hall was also present in his role as trustee of the Association.

The principal business of the meeting was to formally adopt a number of proposals put forward at the meeting in Bangalore last year and to elect new members of the Executive.

1. The proposal to hold AsCA meetings in conjunction with national crystallographic associations in those years without IUCr or full AsCA meetings was endorsed. The first such meeting will be held in Broome in August 2003. There is expected to be a strong presence from AsCA member countries at the meeting.

2. The next full meeting of AsCA will be held in Hong Kong in late July 2004 at an exact date to be fixed. Professor Ian Williams will Chair the Organising Committee.

3. Future meetings of the Council will be held in conjunction with full AsCA meetings. The next meeting of the Council and election of office bearers will be held in conjunction with the Hong Kong meeting in 2004.

4. Professor Yu Wang (Taiwan) was elected as the President and will serve a slightly shortened term until the Hong Kong meeting. It was suggested that an Australian hold the post of secretary/treasurer. Brian Skelton accepted in his absence.

In keeping with the concern expressed in the General Assembly of the IUCr, the AsCA Council strongly supported the view that member countries of AsCA should be encouraged, and if necessary helped, to join the IUCr. Thailand formerly submitted their IUCr application during the Congress. The AsCA Council warmly welcomed the decision of the IUCr for Osaka to host the IUCr Congress and General Assembly in 2008.

Mitchell Guss

SUBSCRIPTIONS

The Treasurer wishes to remind members that annual membership dues for 2003 are to be paid by December 31, 2003. A statement is included with this issue of the *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, 2003. Members who are over 60 years of age at the time

subscriptions are due can elect to become Life Members of the *Society* by paying a one-off amount of five times the current (discounted) subscription rate (i.e. $100).

Paul Carr

REPORTS FROM GENEVA

1

I would firstly like to sincerely thank SCANZ for providing me with a Maslen Travel Scholarship and giving me the opportunity to attend and present a poster at the XIX Congress and General Assembly of the IUCr held in Geneva. It is often difficult, particularly as a student, to attend overseas conferences due to distance, and therefore the costs involved. As a result, Australian research is often under-represented at an international level and SCANZ should be commended for redressing this imbalance by helping students showcase their work to an international audience.

The size of the conference and large range of subject matter was fantastic and often made sightseeing difficult, as it was hard to find even a half-day with no lectures that interested me.

Being an inorganic chemistry student who uses crystallography to determine the structure of metal complexes, I was amazed at the advances in powder diffraction analysis and some of the complex structures that have been solved using these methods. Many of the sessions also helped to show me how important the synchrotron will be for Australia and Australian research.

There were many highlights, including talks by Jean-Marie Lehn, George Christou and Annie Powell. As a user of SHELX, listening to George Sheldricks address to the Commission on Crystallographic Computing was very informative and the open discussion on intellectual properties that resulted from his talk was an eye-opener. George Sheldrick also gave a very interesting keynote lecture on *'The Contribution of Direct Methods to Macromolecular Structure Determination'*. Another highlight of the conference for me was not only hearing the lectures, but also putting a face to many of the names I had read on hundreds of papers.

The poster session was equally as interesting as the scientific program. Whilst the quality of the posters varied, the quality of the work being presented was very high and it was good to see quite a few posters from Australia.

The organisers certainly chose the perfect time to hold the conference in Geneva as the Fêtes de Genève was in full swing providing much entertainment around the lake. The highlight of the fête was the fireworks display that went for nearly an hour. Spectacular!

Thanks again to SCANZ for the funding that made my trip possible.

Lisa Wittick

School of Chemistry

Monash University

2

I would like to begin by extending my warmest thanks to SCANZ for providing me with the funds to attend the XIXth IUCr Congress and General Assembly in Geneva.

Since last attending an IUCr Congress, in 1999, I have learnt much. On that occasion I was just beginning my PhD and there was a lot I needed to know so the Congress gave me the chance to absorb a plethora of new information. This time I was older, and a little wiser, and this allowed me to see things from a different perspective.

Again it was very exciting to be at an international meeting of crystallographers, for me the Congress is a good, triennial dose of enthusiasm and inspiration! Before I continue I would like to congratulate the Israeli Organising Committee for their efforts in putting together a wonderful meeting. The XIXth Congress was an excellent opportunity to make some new friends and catch up with some old ones! Geneva was a great location for the Congress with a wonderful transport system (so prompt and reliable!) and a beautiful setting on the lake. The weather was magnifique, I returned with the beginnings of a tan! I had the opportunity to see a little of Switzerland, including taking the train to Chateau de Chillon.

With all this socialising, you would be forgiven for thinking there was no time for the conference, but with nine days of meeting there was plenty of time for both! Some of the most informative sessions I attended were at the Software Fayre. The demonstrations of software were very helpful and I was able to learn the secrets of a number of programs to assist my work with powder diffraction data. Also particularly enlightening

for me were the lectures on direct methods, powder diffraction and non-ambient pressure and temperature powder diffraction. These sessions gave me the opportunity to begin planning the direction crystallography and I will take over the next three years. The keynote lecture dedicated to Max Perutz reminded us all of the roots of crystallography and what can be achieved with tenacity, imagination and some genius thrown in for good measure!

Kia Wallwork

School of Chemistry, Physics and Earth Sciences

Flinders University

3

With a week's relaxation in Geneva before the start of the 19th IUCr Congress, I was able to see Geneva at its finest, which included the start of the ten-day festival to celebrate Swiss nationality. A street parade, numerous street dance parties and fireworks were a fantastic feature of Geneva in this week, as was the rich food and the streets full of historic buildings. I was also fortunate to fly into Geneva on a clear day and could see the entire French Alps. Standing taller then its neighbours was the impressive Mont Blanc.

Equally impressive was the mountain of structural biology presented in the IUCr Congress. At the top were the large structures, most notably those of individual ribosome subunits presented by Thomas Steitz (Yale University), Ada Yonath (Weizmann Institute of Science) and Dr V. Ramakrishnan (MRC Laboratory, Cambridge). These data are starting to reveal the secrets of mRNA translation into protein as well as the specific binding sites of many antibiotics (additionally discussed by Raz Zarivach in a Structure Based Drug Design session). The ribosome structures will undoubtedly lead to the development of novel antimicrobial agents.

Many important membrane protein structures were presented including that of ion channels (glycerol channel and aquaporin) that show how the specificity of these channels is defined by the structure. Also, the dissection of the structural rearrangements in rhodopsin structures (presented by Karl Edman and Ehud Landau) are also leading the way in using crystal structures in determining the mechanism of proton pumping.

In terms of sheer volume the newly emerging field of structural genomics is starting to bear fruit. In the future such projects are going to contribute to understanding three-dimensional folding space. For me, the talk by Ray Stevens from the Scripps Research Institute (part of the JCSG) was particularly inspiring. The automation of the molecular biology, protein expression and crystallisation, through to the structural solution of genome targets was reported to result in the crystallisation of approximately 600 unique proteins, 154 of which have been solved over the past year. Additionally, work from the RIKEN Structural Genomics Initiative (RSGI) described the high throughput cell free expression systems producing proteins for crystallography and NMR (presented by Dr Yokoyama). However it is important to note that whilst structural genomics may provide the structure of many individual protein domains, much work remains to describe the three-dimensional structures of the innumerable protein complexes they form.

Although many exciting structures were presented, it is important not to overlook the technology involved in obtaining crystal structures; that is protein production and crystallisation. Of significance was the shift in crystallisation to more rational screening methods (questioning the present screening conditions), the use of alternative crystallisation techniques such as microbatch and high throughput screening as well as the alternative ways of preparing protein/DNA for crystallisation. Although crystallisation was discussed throughout the conference, the one-day workshop on Protein Crystal Growth delivered succinctly the new technology for crystal growth. I highly recommend this type of workshop for all biological crystallographers.

Finally, I would like to acknowledge the support from SCANZ. The Ted Maslen 1987 Scholarship, in conjunction with the International Centre for a Diffraction Data scholarship, and support from my supervisor, Dr Michael Parker, allowed me to attend this fantastic meeting.

Michelle Dunstone

St Vincent's Institute of Medical Research

4

I would like to sincerely thank SCANZ for the Maslen Scholarship that allowed me to present a poster at the XIX IUCr in Geneva. The 'tyranny of distance' combined with the current exchange rate conspire against Australian students' attendance at international conferences. Scholarships such as this are essential in allowing students to extend their crystallography skills and establish networks, as well as showcasing the excellent standard of our research. As I am completing a PhD in the area of synthetic inorganic chemistry, I also took the opportunity to present my poster at ICCC35 in Heidelberg. The close proximity of these two conferences, both in time and location, was an opportunity too good to refuse.

The size, scope and multidisciplinary nature of IUCr were amazing. With six lecture theatres operating concurrently, there was always one subject (and frequently several) of interest.

One of the highlights for me was the opening ceremony acceptance speech by Michael Woolfson, winner of the Ewald Prize. He gave a very fine and entertaining account of his contribution to the development of the conceptual and theoretical framework of direct methods, as well as the design of computer programs for automated solutions. George Sheldrick beautifully complimented this later in the conference in his keynote lecture on *'The Contribution of Direct Methods to Macromolecular Structure Determination'*. It was wonderful to get a feel for the history of crystallography, and for the very colourful characters that are a part of it.

George Sheldrick's generosity in acknowledging colleagues' contributions to SHELX was apparent in his address to the Commission on Crystallographic Computing. His and others' fears for the future of open-source programming, given the potential for universities to claim I. P. rights, raises concerns which all researchers on short term contracts should be aware of.

Other talks that I found useful included several on structure validation, especially '*Automated Detection of Poor or Incorrect Single Structures'* by Ton Spek and '*Validation During Structure Refinement Using CRYSTALS'* by Richard Cooper. Simon Parsons' talk on *'The*

Derivation of Non-Merohedral Twin Laws' was also very informative.

In the area of synthetic inorganic chemistry, there were many highlights, including talks by Annie Powell, Jacqueline Cole, Andres Goeta, Jean-Marie Lehn, Guy Orpen, Marc Drillon, George Christou, and Robert Broach (filling in for Omar Yaghi). Gautam Desiraju was informative as well as entertaining in his talk '*Polymorphism: A Brief Overview'*.

There were several very fine Australian contributions, including talks by Janet Scott, Stuart Batten and Mark Spackman, whose talk on Hirshfeld surfaces presented an alternative method for measuring atomic volumes.

The poster presentations were wide-ranging and informative. The quality varied, but I am pleased to say that the many Australian contributions were of a very high standard.

On the recreational side, the highlights for me were the Fêtes de Genève fireworks display, and a leisurely stroll along the lake at Montreux (and pass the statue of Freddy Mercury!).

Once again I would like to thank the many hard working members of SCANZ who established the E. N. Maslen Scholarship, and made my attendance at Geneva possible.

Patricia van der Werff

School of Chemistry

Monash University

5

It was a rare opportunity for me to meet fellow crystallographers from around the world by attending the XIX IUCr Congress. The magnitude of the Congress became evident from the very first event, the opening ceremony. The Congress was very well organized. The only difficulties I had to choose which lecture to attend, because all of them were interesting. The vast variety of lectures helped me see different aspects of protein crystallography that demonstrated an impressive progress in this area. Coming from the protein structure laboratory, I was absolutely fascinated by the approach to crystallization by pharmaceutical companies.

The extensive Poster Sessions gave me a new perspective on my further research. I received many positive comments on my own poster that were very stimulating. I have learned useful information from personal communication where very fine details could be discussed.

Geneva is a wonderful place, packed with ornate architecture. There was very little time for sightseeing, but I still managed. I would like to express my gratitude to SCANZ for crucial financial support that enabled me to attend the Geneva Congress.

Lucy Jankova

University of NSW

6

The Maslen 1987 Scholarship I was awarded allowed me to attend the XIX IUCr Congress in Geneva. I presented the poster '*Neutrons and X-rays for the investigation of cement*' – boring to some but therein lies the beauty of international conferences – statistically it is implausible that everyone in your field of research lives just around the corner. I adorned my poster proudly with self-made business cards. Each day I spoke to at least 10 people about my work, and each day I replaced about 20 or so cards. I hope that my return home yields many new contacts.

The conference was very enjoyable and well organised despite the unfortunate but unavoidable change of destination. Geneva is a wonderful place too, and there were hundreds of lectures on both things familiar and new things for me to learn about. I had a ball.

The months leading up to the XIX IUCr Congress in Geneva were spent in the same way as all time prior to conferences and meetings. I had the usual travel arrangement hassles and time spent preparing presentations, while trying to balance this with my usual work schedule. As a student, I love the opportunity to travel overseas and experience new things. As a PhD student I love to speak to people who are actually interested in what I am doing, and in turn I get to extract vital pieces of information and the chance to forge a reputation and make international contacts.

As a student I also get the added challenge of sourcing funding for international trips. Prior to being awarded a Maslen scholarship from SCANZ, I was seeking funding and was told by one potential source “I think that sometimes it’s a good thing for students to pay their own way”. Hmm – something to contemplate when you have a few potential funding groups each announcing they might pay if no one else does, but they can not give you any money until you come back with receipts, a report, and the funds from the new budget arrive after they acquit the old one. One seeking funding does not always have funds to travel, so reimbursement at a later date is not always going to solve the problem. I am sure that other students share my distaste towards providing a fund acquittal for an overseas trip to the university when the funding came from elsewhere. There was a brief period that I was considering registering myself as an Australian Business in order to allow myself to invoice people directly rather than going through the university.

I don’t mind paying for food, or being inventive with my accommodation. My highly illegal stove in my dorm room saved me hundreds of consecutive Francs. But the hard line starts at airfares and registration, and I did not fancy sneaking into the conference after such a long swim. This time it was close, and if it was not for the cheque sent by SCANZ to me before I left then I would not have been able to go.

Geneva – land of the $50 bistro meal. It is sometimes difficult to extract funding blood from the university stone, but it is not that universities are unwilling to give students money. As a young crystallographic-type scientist I applaud groups such as SCANZ who realize the benefits gained by students from international exposure. Perhaps other groups could learn from the method that SCANZ uses, obviously it can be done.

Vanessa Peterson

University of Technology, Sydney

7

During August this year I was fortunate enough to be able to attend the XIX IUCr Congress in Geneva, Switzerland. First and foremost I would like to thank the SCANZ for awarding me a Ted Maslen scholarship that facilitated my attendance of the Congress.

I should admit at this point that the task of trying to sum up the IUCr meeting in a couple of hundred words is a somewhat daunting one. It is daunting because there was just so much good science presented during the meeting; it is hard to determine where to start. I am interested in biological macromolecular crystallography, so it was a real thrill to see work that I had read in big name journals earlier in the year presented by some of the real legends of the field.

The one talk that really stands out in my mind is the talk given by Keiichi Namba on *'Structural mechanisms of self-assembly and polymorphic supercoiling of the bacterial flagellum'*. This group has been using X-ray crystallography to look at the 3-D structure of the proteins that form the flagellum (a macromolecular assembly that is visible under a light microscope!). Even more impressively, they have been combining high-resolution electron microscopy and X-ray fibre diffraction to try and elucidate the structures of the proteins that self-associate to form the bulk of the flagellum. They use this technique because the self-associative nature of the proteins prevents them from crystallising well. They have come a long way, with over half of the proteins involved in this proton-driven motor having been structurally characterised. This was all summed up in an animated movie that was so slick that you would be forgiven for thinking it came from Hollywood.

I also spent one lunchtime at the conference attending the joint meeting of the Commission on Macromolecules and the Commission on Journals. My attendance was in no way related to the fact that my supervisor was chair of the session and afraid that no one would attend. The meeting was actually really interesting as I got to see where the structural genomics community is, where it sees itself going, and the challenges that structural genomics presents to the publication process. It was also great to see a bit of real decision making taking place.

The other aspect of the conference that I really enjoyed was getting to meet people. It was great to be able to finally put faces to the names of scientists whose papers I had been reading for years. I found everyone I met to be really friendly and chatty, and I picked up more than a few good suggestions for my own work whilst standing by my poster.

During the conference I had the good fortune of meeting Gordon Leonard, whose lab in the ESRF at Grenoble I visited a week after the conference had finished. Visiting the ESRF was a fantastic experience as I have yet to have collected data at a synchrotron, and hence was blown away by the enormity of the facility. I was also lucky enough to be visiting during their summer shutdown, hence could have a look 'under the hood' at all the equipment that attenuates and focuses the beam.

To conclude I would again like to thank the SCANZ for the scholarship. I have many more stories to tell about my bicycle adventures through Switzerland and France (I rode my pushbike 1141.65 km during a holiday I took after the conference), but I think those stories would be best told over a beer next year in Broome.

Stephen Graham

University of Sydney

8

In attempting to gain international experience for themselves and exposure for their work, Australian postgraduate students are somewhat limited by simple geography. Prohibitive travel costs, conference registration fees, accommodation and simple living expenses are very taxing on the average PhD stipend – not to mention the currently poor exchange rates. And yet, it is quite rightly considered almost essential for the "well-rounded" PhD student to have attended at least one international conference during their candidature.

This is why postgraduate travel funding from SCANZ, one of an ever-decreasing number of societies doing so, must be applauded – for offering students the opportunity of travelling to these events. Without this funding many Australian Postgraduates would be unable to attend a conference such as that held recently in Geneva for The International Union of Crystallography (IUCr). On a personal note, I would like to take this opportunity to thank the Society for funding my own travel to this event with an "E.N. Maslen 1987 Scholarship".

The triennial IUCr Congress is the premier event on the crystallographic calendar. At this year's Congress, held in Geneva 6-16th August, the summer atmosphere of traditional European festivals and fairs certainly provided an inviting backdrop to the whole affair. Meanwhile, with six parallel sessions over ten days the Congress was never short of interesting presentations, posters, meetings and discussions – the importance of which are only now beginning to dawn. With so many of the world's experts in one place it was an excellent opportunity to gain long sought after answers, or conversely to have many more questions generated by the topics presented. The importance of making new acquaintances was also readily illustrated by the number of people forgoing the odd session and taking up residence on the tables and chairs outside the conference halls. To my delight, many were more than willing to discuss questions with a passing PhD student.

The Congress consistently attracts the leading experts in many fields employing crystallography, of which there is an ever-increasing number. In particular, there continues to be a dramatic increase in the number of medical and biological applications using crystallographic techniques. Of personal interest this year was the presentation given by Elizabeth Hewat (IBS, France), entitled *'Uncoating the Human Rhinovirus 2'*, detailing the work conducted on unravelling the structure of this wide reaching virus. More traditional fields of materials science, solid-state chemistry, and diffraction theory filled the remaining presentations and poster sessions.

My personal interests were *in-situ* diffraction techniques and my own contributions (Poster, D.P.Riley and E.H.Kisi: *'Diffraction thermometry and differential thermal analysis'*, and Presentation, E.H. Kisi and D.P. Riley: *'Ultra-high speed neutron diffraction studies of the combustion synthesis of Ti_3SiC_2 and related compounds'*) seemed to be well received. However, there were a myriad of topics from which to choose, many far removed from what I previously would have expected from crystallography.

Of particular interest throughout the Congress were the plenary talks, conducted at the beginning and completion of most sessions. Topical overviews of many subjects, these presentations were openly discussed in front of audiences often in excess of 500 attendees. John Parise's plenary on high-pressure applications was a personal highlight – it's great to see another Australian in so respected a position internationally.

In closing, I would once again wish to thank SCANZ for the funding to attend such an exciting and captivating conference. I would highly recommend that other students involved in crystallography during the course of their PhD attend such a conference, it is not an experience readily forgotten and one from which great encouragement may be gained.

Daniel Riley

Department of Mechanical Engineering

University of Newcastle

9

Extended appreciation to SCANZ for the financial support that enabled me to participate in the 2002 IUCr Congress in Geneva.

The opening lecture by Michael Woolfson was a most interesting journey through crystallographic history and some future realization. The following is a small summary on a personal note of the interesting aspects of what can only be described as the marathon crystallographic event.

Promoting automated screening techniques for salt selection and polymorph studies in drug design, Peter Desrosiers demonstrated the use of a new fully automated hardware- and software-integrated crystallization workstation, capable of performing 288 crystallisations per day, the time of a typical salt selection polymorph study taking two to three weeks.

Thomas Mak showing structures of novel silver compounds illustrating argentophilic interactions; examples included both triple salts and a quadruple salt of silver containing embedded acetylide dianions. Roland Boese spoke on the use of *in situ* crystallization at low temperatures; one such example of its use was determining the structure of gaseous hydrates. Jeffrey Deschamps' group working in analgesics managed to cyclise a peptide chain into a conformation that interacts with specific opioid receptor sites whilst blocking action at others; the species 20 times stronger than heroin.

Mark Spackman's talk on Hirshfeld surfaces gave a very colourful and interesting way of viewing properties of crystal data which judging by most of the participant faces at the time should become ever increasingly more popular. Richard Cooper's work in a refinement package 'CRYSTALS' made me wish I had bought along some of my own data where the structure was difficult to solve, as did speaking to Lachlan Cranswick (CCP14) at the Software Fayre. Zbigniew Dauter gave a good display of his experiences with synchrotron radiation including images of biological crystals which had holes burned through them even whilst frozen.

One of the better speakers, John Spence, gave a talk on atom location by channelling enhanced micro diffraction, a technique that utilizes both electron microscopy and X-ray emission. An interesting lecture was given by Guy Dodson about Max Perutz and the discovery of the structure of haemoglobin; it seems history shows that many of those who have become famous in this field were all originally chemists beforehand.

The Congress opened me to the reality of what we can hope for in the future. Lots of information, very up to date, lots of interesting people to meet, not at all too boring, a bit scary at times, life, no easier than anywhere else in the world, – just different. This difference is important because it gives a new scientist some sense of hope that, as one can get results from work, then one can work anywhere in the world as a scientist in any related field. If the experience had done anything for me it was in allowing the original restrictive bandages of local scientific achievement to loosen grip and, yes, I do have more to look forward to now, and there are other places in the world I can use my skills.

Eric Chan

School of Biomedical and Chemical Sciences

University of Western Australia

FUTURE CONFERENCES

IUCr XX

The twentieth Congress and General Assembly of the International Union of Crystallography will be held in Florence, Italy from 23-31, August

2005 at the Congress Centre. The committee chairpersons are Carlo Mealli (Scientific Program) and Paolo Dapporto (Local Organising Committee). The Congress Centre is located in the very heart of the city, within walking distance of the main tourist attractions and most of the hotels. Further information, including an Interest Form, can be found at the Congress website: http://www.iucr2005.it.

IUCr XXI

The twenty-first Congress and General Assembly of the International Union of Crystallography will be held in Osaka, Japan in 2008.

AsCA'04

The next full meeting of AsCA will be held in Hong Kong in late July 2004, at a date yet to be fixed. Professor Ian Williams will Chair the Organising Committee.

Science meets Parliament Day 2002

November 12-13

This year's Science Meets Parliament Day will be held on November 12-13. This is an opportunity to meet Federal Parliamentarians in their Canberra office and talk to them about the national investment in science and research. There will be opportunities for networking and discussion, with guest speakers Sir Robert May, Dr Brendan Nelson, Peter McGauran, Simon Crean, Dr Keith Williams, CEO of Proteomics Ltd at the National Press Club; and Bob Herbert, CEO of Australian Industry Group at the optional dinner.

More information, including registration, is available on the FASTS website: http://www.fasts.org.

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Australia and New Zealand

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Science meets Parliament Day brings together scientists from research organisations, universities and industry from over Australia. It is an opportunity to discuss issues with a cross-section of Australian science.

More information including registration is available on the FASTS websit: http://www.fasts.org.

The next issue of the *Newsletter* will be in August 2001. Contributions should be e-mailed to the Editor by 10th August.

Check AscA website about conference news and then email sec

SKETCHES OF CRYSTALLOGRAPHY LABORATORIES

Griffith University

FOR THE WEB-BROWSERS

- The website of the Society of Crystallographers in Australia is located at http://www.sca.asn.au.

Australian Chairs of IUCr Commissions:

Mitchell Guss: Biological Macromolecules

Mark Spackman: Charge, Spin & Momentum Densities

Steve Wilkins: Synchrotron Radiation

XVIII IUCR Congress

Profit and account from CRYSTAL21

Ian Gente new member

Peter Colman gone to Eliza Hal

Next CRYSTAL meeting

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websites for Journals see link from cww website

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recipients of arc and nhmrc funds

CRYSTAL FRAGMENTS

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sketch from dance, melbourne