

Society of Crystallographers in Australia



SCA

Newsletters

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

FROM THE PRESIDENT

My first contribution as President is written with Crystal XIX, held in Ballarat, still very fresh in mind. The meeting was another successful one, with an interesting and varied program, and as a venue the University of Ballarat proved most satisfactory. The full and interesting scientific program, in a meeting held just one year after Crystal XVIII, was a tribute to both the organising committee and the Australian crystallographic community as a whole. The protein crystallographers, who presented many new structures at Crystal XVIII, took some time off to describe some of the experimental techniques they employ. The instrumentation at the Australian National Beamline Facility (ANBF) had been described in some detail at Crystal XVIII; at Crystal XIX the presentations were of scientific results obtained using this facility. The 1987 Fellow, Michael Hart, delivered an outstanding lecture on Synchrotron Radiation Opportunities in the Physical Sciences. He pointed out that with third generation synchrotron sources it becomes possible to control X-rays at source, in a manner that has never before been possible; the scientific potential is only just starting to be explored. It was a pleasure to see and hear other visitors from overseas, from countries in what we are coming to regard as our region (Japan, represented by Hiroo Hashizume), and beyond.

In the days of the bush crystallographers, the conduct of the scientific meetings was, as I understand it, the only business. The SCA was formed, no doubt, as the activities became more diverse. To a new President, Crystal XIX served as a timely reminder that the conduct of the Australian scientific meetings remains the most important activity.

Though not a solid state chemist, I attended the Bevan Fest, held immediately after Crystal XIX. Judge Bevan's colleagues and former students travelled long distances (across Australia, around the globe) to participate in this occasion, which turned out to be a delightful mix of nostalgia, humour, and good science. We wish Judge all the best in his retirement.

The business meeting of the Society was held at Ballarat during Crystal XIX. A modest subscription increase was approved, and a proposed change to the rules concerning the appointment of the Newsletter Editor will be put to the members in a postal ballot. The date and venue for Crystal XX were discussed. That meeting is to be held in

Christchurch, in 1997, in the week after Easter, thanks to an offer from Ward Robinson. Ward also reported good progress in the organisation of AsCA 95 (November 22-24, 1995, Bangkok) and distributed copies of the second circular for that meeting. Ian Grey presented John White's report from the National Committee for Crystallography. This committee for much of its time has been preoccupied with developing plans for Australian access to with third generation synchrotron sources. Finally, the new Council

(see elsewhere in this *Newsletter*) was installed. It is a pleasure to thank those leaving the Council: Dudley Creagh, who has departed after a term as Past President, Ward Robinson who leaves the Council but has taken on organisational responsibilities for both AsCA 95 and Crystal XX, and Max Taylor who resigned last year due to ill health. It was good to see Max at Crystal XIX, and to hear that, while he cannot continue as Secretary, he has every intention of remaining active in SCA affairs. Special thanks too to Ian Grey, who has completed a term as President during which he was also heavily

involved in the organisation of Crystal XIX, and has carried out both tasks in exemplary manner. Ian remains on Council as Immediate Past President, and I look forward to working with him and counting on his advice in the term ahead.

Chris Howard

SUBSCRIPTIONS

The Treasurer wishes to remind members that subscriptions for 1995 are now due. A statement of the amount payable was distributed with the October 1994 *Newsletter*. It should also be noted that this will be the last issue of the *Newsletter* which will be distributed to those persons who have not payed past 1993.

Graham Smith

Treasurer's Report

Ballarat, April 1995

With this my second report as Treasurer of the Society of Crystallographers in Australia I would like to present a generally pleasing picture of financial buoyancy in our society which augers well for the coming international conference season. As indicated previously the office bearers still suffer badly from decentralisation but following on the 31 March deadline for taking advantage of the reduced annual subscription, we can now update our records, although I think that there was little incidence of incorrect details in the period since our last meeting.

Our financial situation is good, with few calls on our resources, such as was the case in the previous report (1992-1993), where support for student members via Student Scholarships and I can report an overall profit of \$10,321.30 for 1993-1994 financial year (off-setting a loss of \$5356 for the 92-93 period), and a profit of \$4036.47 for the 1 July 1994 to 12 April 1995 period. Current total assets are \$59252.13. Profits have been improved since the previous report because of the more favorable interest rates (now *ca* 7%) while the \$1950 which was provided to assist five students to attend the Crystal XVIII meeting at Medlow Bath (which was supplemented by an IUCr-87 Fund contribution of \$1500- see later in this report) represents a considerably smaller commitment than that for overseas AsCA '92 conference in Singapore (92-93). However, I will preempt an increased SCA contribution in the form of Student Scholarships to allow attendance at the AsCA '95 Conference in Bangkok this November (95-96 financial year). This promised SCA assistance to students for the Ballarat conference [amounting to \$3350 for 16 students, was covered by IUCr-87 (\$2000) with the remainder obtained from corporate sponsorships.

A Deposit of \$5000 for securing the Hydro-Majestic Hotel at Medlow Bath for Crystal XVIII, appeared in the 1992-1993 expenditure appears as Income for the 1993-1994 financial year. A working loan of \$3000 to the Crystal XVIII Organizing committee (\$3000) was repaid in part (\$2440.90), but combined with the IUCr-87 contribution, this represents a net profit of \$1059.10. A sum of \$300 and a further sum of \$600 were also provided as working funds for the past secretary (93-94) and the current Editorial Secretary respectively for production and distribution of SCA material (*Newsletter* etc). As indicated in the previous report a contribution of \$500 was made to a working fund at La Trobe University to assist with the compilation of the History of Australian Crystallography (Sandy Mathieson). An annual subscription of \$240 was also made to The Asian Crystallographic Association.

An Audit of the SCA accounts for the period prior to my becoming Treasurer has been completed (although not included as part of this report) while the audit for the period 1993-1994 is in progress.

Location of Funds

Most of the SCA funds are deposited in the Unicredit account No. 3248, either as a Working Access Account (S1) or as Variable-Period Cashable Deposits, as shown below. All attract 6% interest or better.

S1	Current Account			3891.94
I3	6154	28 May 1995	6.5%	3500.00

	8267	3 July 1994	6.5%	4000.00
I6	3412	10 August 1995	7.5%	1500.00
	4089	7 July 1995	7.5%	2000.00
	7860	18 June 1995	7.5%	4540.00
	11295	28 September 1995	7.5%	8000.00
	1234	10 October 1995	7.5%	5000.00
I12	3151	24 October 1995	8.75%	1000.00
	5352	21 May 1994	8.75%	1000.00
I22	6987	25 June 1995	8.75%	11500.00
Unicredit Total				\$45252.13
Australian Guarantee Corporation (12m debenture: 8.4%)				\$14000.00
Total				\$59252.13

The \$14,000 deposit with AGC has been converted to a 12 month debenture stock which attracts an interest of 8.4%

Graham Smith

Statement for SCA

Income	1993-1994	1994-April 1995
Membership	4397.00	1844.00
Interest	1925.35	1536.32
IUCr'87-Crystal XVIII	-	1500.00
Crystal XVIII: Refund	5000.00	-
Crystal XVIII: Return	2440.90	-
TOTAL	13,762.25	4880.32
Expenditure	1993-1994	1994-April 1995
Scholarships	1950.00 ¹	-
FASTS Membership	578.10	-
Special Contribution	500.00 ²	-
AsCA Membership	240.00	-
State Government Tax	9.35	3.85
Secretarial Costs	300.00	600.00
Dishonoured Cheque		-

Wreath	9.00	-
	95.50 ³	
TOTAL	3441.95	843.85
PROFIT	10321.30	4036.47

Notes:

¹Crystal XVIII Scholarships

1. M. Beuchat	\$350.00	2. B.K Gan	\$650.00
3. A.K. Green	\$350.00	4. Kharisun	\$450.00
		5.D. Shi	\$150.00
		Total	1950.00

² \$500 was provided for Sandy Mathieson to support production of History of Australian Crystallography.

³ At the instigation of the then Secretary (SCA), a wreath was sent on the death of Jim King

Report on The Bevan Fest

A Conference on Structure and Stoichiometry of Crystals

At the conclusion of Crystal XIX, about forty colleagues (including three from overseas), friends and former students of Professor D.J.M. Bevan gathered at the University of Ballarat for 'The Bevan Fest' a Conference on Structure and Stoichiometry of Crystals. 'Judge' Bevan, as he is known in the trade, gave the opening lecture of this two day Symposium to mark his retirement, some years before, from the Chair of Inorganic Chemistry at Flinders University. Judge, introduced by Melbourne University classmate, Tom O'Donnell, gave us a delightful historical perspective of fifty years spent in solid state chemistry, with a blend of anecdotes, character studies and reminiscences of the people and places that he knew. The talks which followed covered the crystallography, structure and chemistry of a very wide variety of materials as indicated in the titles:- Influence of fluorite-related phases on the corrosion resistance of zirconia based ceramics (John Drennan, CSIRO, Melbourne); The Bi₇O₅F₁₁ crystal structure: basis for a new model of anion-excess fluorite related vernier phases (Bernard Frit, CNRS, Limoges); Is the O²⁻ ion necessary? (Ted Maslen, UWA, Perth); The solution of structural problems in inorganic chemistry by Quasi-Kinematic techniques (Alec Moodie, RMIT, Melbourne); Vanadium oxide bronzes - double non-stoichiometry M_xV₂O₅-_y (Jean Galy, CNRS, Toulouse); Stabilisation of toxic heavy metal wastes: imitating nature (Frank Lincoln, UWA, Perth); Secondary contaminants in altered ilmenite (Terry Parks, CSIRO, Perth); A structural and solid-state perspective of Ca₃Mn₃O₁₀ and Sr₄Mn₃O₁₀ (Peter Goodman, Univ. of Melb.); Synthesis and structure of new metal nitride fluorides and nitrido metallates (Joachim Strahle, Univ. of Tubingen, Germany); Yttrium Oxide Fluoride and Zirconium Oxide Fluoride solid solution fields (Siegbert Schmid, RSC/ANU, Canberra); Microstructural changes and deformation during the phase transformations of solid ammonium nitrate (Alex McLaren, RSES/ANU, Canberra); Planar ordering of anion vacancies in pyrochlore and the Bevan Fluorite-related phase Ln₁₀W₂O₂₁ (Ray Martin, Monash Univ.); Phase modifications in titanate-flux systems (Ian Grey, CSIRO, Melbourne); What diffuse X-ray scattering tells us about the disordered structure of cubic stabilised zirconias (Richard Welberry, RSC/ANU, Canberra); Micro-domains, solid solutions and the 'defect-fluorite' to C-type sesquioxide transition in ZrO₂-RO_{1.5} and CeO₂-RO_{1.5} systems (Ray Withers, RSC/ANU, Canberra); Some cubic (Pa₃) structures of stoichiometry MX₂ (Bruce Hyde, Canberra). To conclude the symposium the gathering celebrated with a dinner at Pickett's Restaurant, the after dinner speakers being John Drennan, Bruce Hyde, Jean Galy, Dimitry Puscharovsky, Hilary Bevan and Judge himself.

Frank Lincoln

CRYSTAL FRAGMENTS

Dr Edward Maslen (Physics Department, University of Western Australia), has been elected to the Australian Academy of Science.

Council Notes

The World Directory of Crystallographers will soon be available from Graham Smith. They will be distributed to those who have requested them at a cost of \$10 including postage.

Subscriptions rates are to rise to \$25 (discounted to \$20 for early payment). Student membership rates are to rise to \$7 (discounted to \$5).

Funds are available for students to attend the AsCA meeting in Bangkok, Thailand in November 1995 and the IUCr meeting in Seattle, USA, in August 1996. For further information contact the Secretary.

CAMBRIDGE STRUCTURAL DATABASE

The April 1995 release of the Cambridge Structural Database (CSD) arrived just in time for Crystal XIX, and was demonstrated briefly at that meeting. The major change, as compared with earlier releases, is the inclusion of entries from the Brookhaven Protein Databank with co-ordinates in the CSD system.

Those institutions which have returned their 1995 Schedules, duly signed, should receive their own copies of the April 1995 release shortly. For the others, enquiries should be directed to and Schedules returned to me (Chris Howard, contact details elsewhere in this *Newsletter*). Any CSD user who has accessed, via computer networks, the old version of the CSD system at Flinders University is advised that this means of access is no longer available.

Finally, an explanatory word on the administration of the CSD system. The Cambridge Crystallographic Data Centre (CCDC) chooses to deal with only one centre (National Affiliated Centre, NAC), and charges a national fee based not on the number of users but on the number of Australian crystallographers listed in the World Directory of Crystallographers. The subscription levied by the NAC therefore depends (inversely) on the number of institutions subscribing to the system. Through this mechanism, the matter of the CSD and its usage becomes a matter of interest to the Australian crystallographic community as a whole.

Chris Howard,

National Affiliated Centre

FUTURE MEETINGS

The next meeting of the SCA, CRYSTAL XX, is planned to be held in Christchurch, New Zealand after Easter 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. Note that the deadline for Abstract submissions and for Young Scientist Support grant applications is June 15, 1995. Registrations are due by July 31, 1995. Late registrations (with a surcharge) are due by October 2, 1995.
