



CRYSTALLOGRAPHY NEWS

BRITISH CRYSTALLOGRAPHIC ASSOCIATION

No. 8 June 1984

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The Nottingham Spring Meeting, attended by some 180 people, was a success. Each of the Groups organised a session, and the plenary lecture was given by Dr David Sayre. In parallel with the meeting, Sir David Phillips gave a lecture to a large audience of 6th-formers. We thank Dr Michael Begley and his colleagues for organising this interesting and enjoyable meeting.

At the Spring Meeting Sir David Phillips completed his two-year term of office as the first President of the Association. Despite increasingly heavy commitments in policymaking at a national level, he had skillfully steered the BCA during its crucial formative period, when new Groups, procedures, and precedents were being established. The other Officer to retire was the Treasurer, Professor Charles Taylor. His was the task of investing our money, preparing accounts, dealing with the Inland Revenue, and other such joys. Thanks to his efforts he has left the Association in a sound financial state. The Association owes them both a deep debt of gratitude for all their work in the first two years of the BCA's existence. Sir David and Professor Taylor will, however, remain involved in the workings of the BCA in their role as Trustees.

After the various elections held at the Spring Meeting, the composition of the Council is as follows:

President	Professor D.M. Blow FRS
Vice-President	Professor D.W.J. Cruickshank FRS
Secretary	Dr A.C. Skapski
Treasurer	Dr R. Hine
Ordinary members	Mr J.W. Harding
	Dr Olga Kennard
	Professor J. Zussman
Group	Dr D.S. Moss (Biological Structure Group)
representatives	Dr B. Beagley (Chemical Crystallography Group)
	Mr B.A. Bellamy (Industrial Group)
	Dr Joan C. Halfpenny (Physical Crystallography Group)
Co-opted members	Dr A.M. Moore (Editor of Crystallography News)
	Dr S.C. Wallwork
	Professor A.J.C. Wilson FRS

The Chairman of BNCC is ex officio a member of the Council, but as our new President is for the time being also the Chairman of BNCC, the Council will temporarily have a leaner look. Professor Blow had been one of the earliest supporters of the formation of a BCA from when the idea was first raised in the BNCC in 1978-9, and was Chairman of the Working Party which led to the creation of the Association at the Durham meeting in 1982.

One of the most attractive meetings this autumn will be the Cruickshank Symposium, which will be held at UMIST on 11-13th September 1984. It has been organised to mark the retirement of Professor Cruickshank (our current Vice-President) from his chair at UMIST, and a splendid cast of speakers has been assembled.

The organising committee for the Bristol Spring Meeting, led by Dr Judith Howard, met at the end of May. An outline programme now exists, and it is intended to publish a detailed programme in the September issue. The dates for your diary are Monday 25th-Wednesday 27th March, 1985. Please note that this meeting will be spread over three days, and not four as on previous occasions.

Andrzej Skapski

FELLOWS OF THE ROYAL SOCIETY

It is a pleasure to record the election of
Professor T L Blundell, Professor of Crystallography at Birkbeck College, London,
Professor J B Pendry, Professor of Theoretical Solid State Physics at Imperial College, London, and
Professor M M Woolfson, Professor of Physics in the University of York,
 to Fellowship of The Royal Society.

ILLUSTRATIONS AT NOTTINGHAM

David Watkin would like to acknowledge the following for illustrations to his talk at the BCA Meeting:

"GENIUS" by John Glasham
 "NOW WE ARE SIX" by Ernest Shepard
 "BRAVO ERNEST" by Gabriel Vincent
 "WHERE THE WILD THINGS ARE" by Sendak.

MEMBERSHIP — PLEASE READ!

There has been some confusion over the various categories of membership of the B.C.A. and in order to clarify the position and to make quite certain that our records are correct I am asking all members to fill in the form that is enclosed with the Newsletter and to return it to me. It should not take more than a few minutes but will save me a great deal of time.

There are four categories of membership:-

Founder Members (This category is no longer available)

Ordinary Members (They pay a subscription annually - currently £10)

Reduced Rate Members (They pay half the ordinary member's rate and must either be students or no longer employed)

Joint Members (These are members of the R.S.C. or I.C.P. crystallography groups and pay their subscription through those bodies.)

Members in each of these categories may belong to one of the specialist groups without additional payment. In the case of Joint Members, the free group is obviously the one through which their membership is derived; for the other three categories a choice may be made.

Some members may belong to the B.C.A. in more than one category (e.g. a Founder Member or an Ordinary member may be also a Joint Member through either or both of our associated bodies. Such members are entitled to free membership of one group for each channel of membership. Membership of additional groups costs £1 per annum at the moment.

If you have paid a membership, or group subscription to the B.C.A. since Oct.1st 1963, no further payment is required for 1984.

C.A.TAYLOR (Treasurer)

THEN PLEASE —

FILL-IN & POST A FORM NOW!

1944 and 40 years on

When the BCA meets shortly for its second Spring Conference, it will be almost exactly forty years after another crystallographic meeting of some historical significance. That occasion was the first full conference of the newly-formed X-ray Analysis Group which had been inaugurated as one of the first subject groups of the Institute of Physics, a few months earlier. A detailed report of the meeting which was held on 31 March and 1 April 1944 at the University of Oxford may be found in Nature (1944, 153, 533). It was organised by the first secretary of the Group H. Lipson, the chairman was Sir Lawrence Bragg and amongst the speakers were most of the prominent U.K. crystallographers of the day. In spite of it being wartime over 200 attended of whom more than half had not at that time joined the Group.

The title of the meeting, X-ray Analysis in Industry, did not preclude the more academic aspects of structure determination, as the declared aim of the Group was to bring together work of the Universities and Industry. In this respect the Group was manifestly successful over the next two or three decades, for under its guidance crystallographers of all persuasions, physical, chemical, mineralogical, biological and metallurgical gathered in numbers seldom less than 200 for subsequent meetings.

The 1944 conference, like its successors included an evening discourse, this one by P.P. Ewald, giving his personal account of the development of crystallography and perhaps more pertinently, his ideas on the future organisation of the subject. Ewald's remarks evidently did not go unheeded for the XRAG was to play a major role in the direction taken by international crystallography. At the end of the war when a new journal devoted to crystallography was seen to be essential, a special Publications Committee was set up by the XRAG to achieve this objective. An exchange of views between members of this committee and others eminent in the field of crystallography internationally may be traced through letters still in existence. Gradually views converged upon the idea of a new independent international journal and once this had been agreed upon, plans for the formation of an organisation (the IUCr) to promote its foundation proceeded rapidly.

Of course the XRAG still flourishes as the Physical Crystallography Group, but changes in its role had started to occur in the late 60's, for one thing its name was changed. More importantly, the development and application of positive and reliable methods of structure determination led many of those involved in chemistry and biophysics to seek associations of a more subject-oriented nature; the XRAG as a part of the Institute of Physics could not meet this need.

Many of the coordinating functions of the old XRAG have now been undertaken by the BCA which has the advantage of financial independence. With the freedom of being independent the BCA cannot fail to be as innovative as the XRAG was.

The First Use of Fourier Methods
in Crystal-Structure Determination

It seems to be generally believed that the first crystal structure to be derived by Fourier methods was that of phthalocyanine by J.M. Robertson (J. Chem. Soc., 1936, 1195, 1209). In fact, the crystal structure of copper sulphate pentahydrate by C.A. Beevers and H. Lipson (Proc. Roy. Soc. A. 1934, 146, 570) preceded it and so did the crystal structure of the alums by H. Lipson and C.A. Beevers (Proc. Roy. Soc. A, 1935, 148, 664). Because of the eventual importance of the method, I think that the record should be set straight.

H. Lipson.



BRITISH CRYSTALLOGRAPHY ASSOCIATION

SPRING MEETING

University of Nottingham

NOTICE TO ALL ENRAF-NONIUS CAD-4 USERS

Please note there will be a CAD-4 Users' Meeting on the afternoon of Thursday 5th April 1984 commencing at 2.30 pm. Details of lecture theatre etc. will be posted on the notice board during the Spring Meeting.

25th Annual Medicinal Chemistry Symposium

RECENT ADVANCES IN TECHNIQUES FOR DRUG DESIGN AND CONFORMATIONAL ANALYSIS

State University of New York at Buffalo
and
The Medical Foundation of Buffalo, Inc.

June 11-14, 1984

I. Molecular Conformation and Drug Design

M. Allinger, J. Bernstein, S. Byrn, R. Christoffersen, D. Duchamp, O. Ermer, L. (Pease) Gierasch, A. J. Hopfinger, A. S. Horn, P. Kollman, G. Loew, G. Marshall, P. Murray-Rust, J. Sanders

II. Computers in Drug Design

D. Chodos, G. Crippen, R. Franke, R. Freidinger, P. Gund, P. Jurs, I. D. Kuntz, R. Langridge, M. Liebman, Y. Martin, A. Olsen, T. Wipke, F. Zeelen

III. Mechanisms of Action and Drug Design

A. Arnone, D. Barry, R. and R. Benesch, V. Cody, D. Covey, C. Deber, P. Goodford, J. Katzenellenbogen, D. Matthews, P. Portoghese, B. Roth, H. Scheraga, P. Schiller, S. R. Wilson

IV. Poster Session - contributed papers - abstracts due April 14, 1984

V. Computer Graphics Displays and Demonstrations

Molecular Design Limited, Tripos, Cambridge Crystal Data Base, the PROPHET System.

VI. Computer Generated Films - contributions welcome

Those interested in receiving full details of the program, presenting a film or poster contribution or providing a graphics display or demonstration system please contact

William L. Duax, Ph.D.
Co-chairman 25th Annual Medicinal
Chemistry Symposium
Medical Foundation of Buffalo, Inc.
73 High Street
Buffalo, New York 14203
USA

We are pleased to report below details of the programme for the Symposium to mark the retirement of Professor D W J Cruickshank, F.R.S.

The Symposium not only provides an opportunity to honour Professor Cruickshank, but will also provide state-of-the-art reviews of many important areas of structural chemistry. We hope, therefore, that the Symposium will be attended by both experts and students of the areas concerned.

Registration documents are in preparation and will be included with the next edition of Crystallography News. Meanwhile, please make a note of the dates in your diary.

For inclusion on the direct mailing list, please write to Dr B Beagley or Dr R W Munn, Department of Chemistry, UMIST, PO Box 88, Manchester, M60 1QD.

CRUICKSHANK SYMPOSIUM

UMIST, 11-13 SEPTEMBER 1984

Modern Experimental and Theoretical Studies of Crystal and
Molecular Structure

PROGRAMME

1 Theme: Computing

Dr J S Rollett, Oxford University Computing Laboratory
Computing Power - Now and To Come.*

Professor G M Sheldrick, University of Göttingen
Computing Aspects of Crystal Structure Determination.

Dr G S Pawley, University of Edinburgh
Molecular Dynamics - Crystallography and More.

Professor J E Boggs, University of Texas
Molecular Quantum Mechanics - Where Now and Where Next?

/continued

2 Theme: Structural Methods

Professor G A Jeffrey, University of Pittsburgh
The Structures of Some Small Molecules. Ab-initio Molecular
Orbital Calculations versus Low Temperature Neutron
Diffraction Crystal Structure Analyses.

Professor O Bastiansen, University of Oslo
Gas-Phase Diffraction - Past, Present and Future.*

Dr J R Helliwell, Daresbury Laboratory
Protein Crystallography with Synchrotron Radiation.

3 Theme: Crystallographic Studies

Professor Dorothy Hodgkin, F.R.S.
Odd Observations in the Analysis of Biological Molecules.

Professor A C T North, University of Leeds
The Use of Computer Graphics in Studying Protein Structure
and in the Design of Novel Proteins and Drugs.

Professor Mary R Truter, University College London
Crystallography in Co-ordination Chemistry.

4 Theme: Applications

Professor J D Dunitz, F.R.S., ETH, Zurich
Chemical Reaction Paths from Crystal Structure Data.

Professor K N Trueblood, University of California, Los Angeles
Vibrational Parameters in Crystals: Rigid and Non-rigid
molecules.

Professor F L Hirshfeld, Weizmann Institute, Israel
Accurate Electron Densities in Molecules.

* Titles subject to modification

The Institute of Physics Crystallography Group

One-day Meeting on The Structural Analysis of Surfaces

Wednesday November 28th 1984

This meeting is being organised jointly by Jim Matthew from the Thin Films and Surfaces Group and Mary Halliwell from the Crystallography group and will cover the structural analysis of surfaces. It is to be held in the Read Lecture Theatre at Imperial College. Four invited papers have been arranged:

Dr John Pendry (Imperial College)	Survey of all the diffraction techniques available for surface analysis
Dr Martin Prutton (York)	LEED and RHEED
Dr R K Thomas (Oxford)	X-ray diffraction from physisorbed layers
Dr Roy Willis (Cambridge)	Non-diffractive surface structure analysis

Members of the Crystallography group wishing to offer contributions should contact Mary Halliwell (British Telecom Research Laboratories, Martlesham Heath, IPSWICH IP5 7RE). Further details will be given in the next issue of the Newsletter.

MITHRIL - A NEW DIRECT-METHODS PROGRAM

A new direct-methods computer program, MITHRIL, is now available. It is built around MULTAN-80 with the addition of data checking and editing, triplet checking, quartets, quintets, modified versions of MAGEX and YZARC, and optional computer graphics. It is an attempt to incorporate recent theoretical advances in direct-methods into a single, unified program.

Although it can be run in the conventional way, the program has options to allow it to run as a real-time, menu driven package with a high degree of program-user interaction. It is written in a neutral subset of FORTRAN IV, and should be easily mounted on any computer having a 32-bit FORTRAN word length, and the ability to address up to 512 Kbytes.

Interested parties should contact:

Dr. C.J. Gilmore
Department of Chemistry
University of Glasgow
Glasgow G12 8QQ
Scotland.

Telephone 041-339-8855 Ex 506

SURVEY - PROJECTED MICRODENSITOMETER

Some years ago, my colleague, the late Mr B G Cooksley, designed an excellent microdensitometer for measuring Guinier and other powder films. The instrument converts the blackening of the film to a trace displayed on a CRO that can also be recorded on a chart recorder. By aligning the CRO trace to a fiducial mark, peak position can be determined rapidly with an accuracy corresponding to $\pm 0.005^{\circ}2\theta$.

The prototype is still in operation at Aberdeen; it was described at the H P Rooksby symposium and displayed at ECM-4 in Oxford in 1976. Anyone who would like to know more about it may contact either myself or Dr R Alan Howie on 0224-40241 (Extensions- 5658/5630/5640).

There is now a possibility that the instrument could be produced commercially, and in order to assess potential interest, I would be grateful if members would fill in the short Questionnaire enclosed with this Newsletter (even if the response is negative). Those who respond positively will be kept informed of developments.

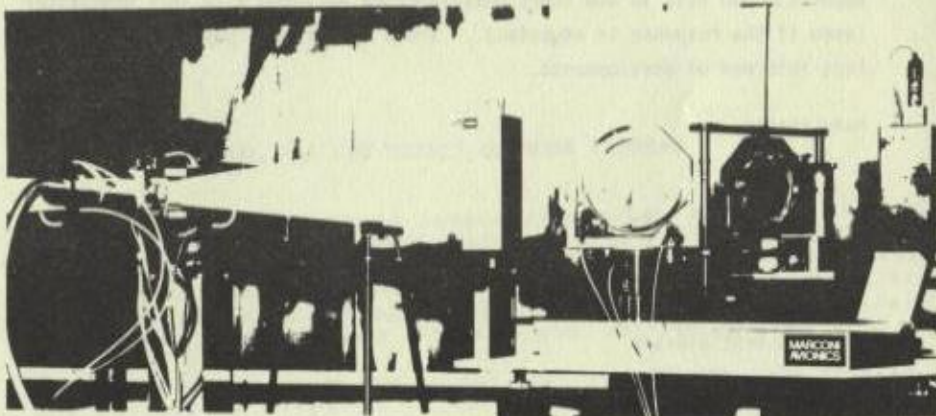
Many thanks.

Lesley S Dent Glasser

**MARCONI AVIONICS HIGH POWER ROTATING ANODE
X-RAY GENERATORS AND ASSOCIATED EQUIPMENT.**

The Applied Physics Division of Marconi Avionics Limited has, for many years, been supplying a range of rotating anode generators, cameras, tubes and other specialised equipment to a wide and varied market.

Our current range of high brilliance microfocus generators can offer a wide variety of focal spot configurations and sizes (point source, vertical and horizontal line configurations) up to a maximum power loading of 15 kW.



- * Topographs with 1-2 micron resolution
- * One minute exposure times
- * 0.0001° angular precision
- * Sample sizes up to 150mm.
- * 15kW X-ray power

Whatever the process, production, pilot plant operation or basic research, we can supply a comprehensive range of instruments for crystal perfection studies, including high power rotating anode X-ray generators, together with computer controlled Lang and Hirst X-ray topography cameras and precision Apex goniometers.

The Hirst X-ray topography camera has been specifically designed for the rapid monitoring and examination of semiconductor wafer devices, while for research activities, the Lang topography camera and Apex double crystal diffractometer enable precise measurements to be made over a wide range of defects and crystal artifacts.

The Lang Camera offers both high spatial resolution and versatility being capable of handling a wide variety of crystal specimens.

Further, more quantified data can be obtained with the double crystal topography system which is specifically designed for quantifying strain levels within semiconductor devices. Highly accurate rocking curves can also be measured.

A new brochure describing recent improvements in our range of topography instruments is now available. For further information, please contact:

Marconi Avionics Limited
Applied Physics Division
Elstree Way, Borehamwood
Herts. WD6 1RX, England

Telephone : 01-953 2030 ext. 3159
Telex : 22777 (GEC BWD G)

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Clarendon Laboratory · Parks Road · Oxford

Telephone Oxford (0865) 59291

Postal Address Clarendon Laboratory
Oxford
OX1 3PU

Two SERC (one funded under the JOERS scheme) postdoctoral positions are currently available in the Crystallography Group at the Clarendon Laboratory, to work on the structures and physical properties of electrooptic, optically active, and related crystals. The work, while based in Oxford, will be in collaboration with three other universities and two industrial companies. The normal SERC post is for 2-3 years depending on age, and the JOERS grant is for one year initially, subject to a review in the summer with regard to further continuation. Salary range £7190-9875, the posts to be filled as soon as possible. Candidates should send curriculum vitae and the names of two referees to Dr. A.M. Glazer at the above address.

BIRKBECK COLLEGE

University of London

Department of Crystallography

Head of Department:

Professor T. L. Blundell

Malet Street,
London, WC1E 7HX
01-580 6022

POSTDOCTORAL RESEARCH ASSISTANT

Analysis and Prediction of Protein Structure

Applications are invited for an SERC funded post to work with Dr. Mike Sternberg on the analysis and prediction of protein structure with the aim of obtaining rules to guide protein engineering. This is a theoretical project in the Department of Crystallography which has a colour Evans & Sutherland graphics system and access to the College's computer and the Cray 1-S at ULCC. Experience of computing and macromolecular structure is desirable. The appointment is for three years starting between 1st April and 1st October 1984. Initial salary, according to age and experience, will be between £8376 and £9266 including London Allowance. Informal enquiries can be made to Dr. Mike Sternberg while applications including Curriculum Vitae and names of two referees should be sent to the Assistant Secretary (Personnel), Birkbeck College, Malet Street, London WC1E 7HX, England.



UNIVERSITY OF EDINBURGH

Department of Physics

RESEARCH ASSOCIATE IN NEUTRON DIFFRACTION

Applications are invited for the post of research associate to take part in a programme of neutron diffraction experiments associated with the study of structural phase transitions. This project will mainly involve making very accurate high-resolution structure determinations, including anharmonic thermal motion, at various temperatures and pressures, usually with single-crystal samples. Experimental work will be done at the Institut Laue-Langevin, Grenoble, and on the new pulsed sources in the U.K. and U.S.A.

The appointment, for up to three years, commences October 1984 at a salary according to age and experience, on scale 1A. Superannuation under USS. Applicants should have, or be about to obtain, a Ph.D.

Applications with the names of two referees and a statement of applicant's interests and career to date to Dr. R.J. Nelmes, Department of Physics, University of Edinburgh, Mayfield Road, Edinburgh EH9 3JZ, to arrive as soon as possible. Further details on request.



UNIVERSITY of BRISTOL

POST-DOCTORAL RESEARCH ASSISTANTSHIP IN CRYSTAL
IMPERFECTION STUDIES USING SYNCHROTRON X-RAYS

Applications are invited for this position which involves collaboration between the SERC Daresbury Laboratory, Professor A. R. Lang (University of Bristol) and Dr M. Moore (Royal Holloway College, University of London). The research will embrace a range of studies in diffraction physics and applications of X-ray topographic techniques. An interest in diffraction theory and computer image simulation is desirable. The post is available from 1 April 1984 for a period up to three years: salary on Scale 1A according to age and experience.

Applications, including curriculum vitae and the names of two referees should be sent to: Professor A. R. Lang, F.R.S., H. H. Wills Physics Laboratory, Royal Fort, Tyndall Avenue, Bristol BS8 1TL.

FORTHCOMING MEETINGS AND CONFERENCES

- 2 - 5 April 1984 BCA Spring Meeting, Nottingham
Dr M Begley, Dept of Chemistry, University of
Nottingham, University Park, Nottingham, NG7 2RD
- 7 - 19 April 1984 International School on Direct Methods of Solving
Crystal Structures, Erice, Sicily.
Prof. L. Riva di Sanseverino, Istituto di Mineralogia,
Piazza di Porta San Donato 1, 40127 Bologna, Italy.
- 15 - 20 April 1984 Scanning Electron Microscopy 1984, Philadelphia,
Pennsylvania
Dr Om Johari, Director SEM Meetings, P O Box 66507,
AMF O'Hare, IL 60666, USA.
- 26 April - 22 June 1984 Spring College on Crystalline Semiconducting
Materials and Devices
Trieste, Italy
International College for Theoretical Physics,
P O Box 586, I-34100 Trieste, Italy.
- 21 - 25 May 1984 ACA Spring Meeting, Lexington
Prof. D E Sands, Dept of Chemistry, University of
Kentucky, Lexington, KY 40506, USA
- 3 - 6 July 1984 Intern. Conf. on Crystal Growth and Characterization
of Polytype Structures, Marseilles.
Dr A Baronnet, CRMCC, CNRS, Campus Luminy,
Case 913, 13288 Marseille CEDEX 9 France.
- 9 - 12 July 1984 26th Prague Microsymposium on Macromolecules:
Polymers in Medicine and Biology
Prague
26th Microsymposium, PMM Secretariat, c/o Institute
of Macromolecular Chemistry, Czechoslovak Academy
of Sciences, 16206 Prague 616, Czechoslovakia.
- 9 - 13 July 1984 MICRO 84, London
The Royal Microscopical Society, 37/38 St Clements,
Oxford, OX4 1AJ
- 15 - 20 July 1984 6th American Conf. on Crystal Growth, Atlantic City,
USA
Dr D C Miller, Airtron, 2000 E Hanover Ave., Morris
Plains, NJ 07950, USA.
- 15 - 21 July 1984 10th Internat. Liquid Crystal Conference,
Univ. of York,
Dr H J Coles, Physics Dept., Univeristy of
Manchester, Manchester M13 9PL
- 16 - 19 July 1984 27th Prague Microsymposium on Macromolecules:
Physical Optics of Dynamic Phenomena and Processes
in Macromolecular Systems
Address above.
- 16 - 20 July 1984 3rd Internat. Conf. on EXAFS, Stanford, California.
K. Cantwell, Stan ford Linear Accelerator Center,
Bin 69, P O Box 4349, Stanford, CA 94305, USA

- 29 July - 3 Aug. 1984 23rd Internat. Conf. on Coordination
Chemistry, Boulder, Colorado
Professor C Pierpont, Campus Box 215,
Univ. of Colorado, Boulder, Co 80309, USA
- 29 July - 4 Aug. 1984 8th International Biophysics Congress,
Bristol, England.
Congress Secretariat, 8th Internat. Biophysics
Congress, Meon Conference Services, Petersfield,
Hants, GU32 3JN.
- 30 July - 8 August 1984 Summer School on Crystallographic Computing,
Mulheim, Germany
Prof. H. Burzlaff, Institut für Angewandte
Physik, Universität Erlangen-Nürnberg,
Loewenichstrasse 22, D-8520 Erlangen, Fed. Rep.
Germany.
- 4 - 14 August 1984 27th International Geological Congress,
Moscow, USSR
Secretariat of the Organizing Committee,
27th Internat. Geological Congress, Institute
of the Lithosphere of the Academy of Sciences
of the USSR, 22 Staromonetny, Moscow 109180.
- 6 August 1984 Applications of Computer Graphics to Molecular
Structure and Activity
Royal Institution, London
Dr I J Tickle, Dept of Crystallography,
Birkbeck College, Malet Street, London WC1E 7HX
- 6 - 7 August 1984 Paul Niggli Symp. on Geometric Crystallography
Zürich,
Prof. W Nowacki, Mineralog-Petrogr. Institut
der Universität. Balzerstrasse 1, CH-3012 Bern,
Switzerland.
- 6 - 8 August 1984 Symposium on Neutron Scattering, W. Berlin,
Prof. W. Slinger, Inst. f. Kristallographie,
Freie Universität Berlin, 1000 Berlin 33,
Red. Rep. Germany.
- 9 - 18 August 1984 XIII I.U.Cr. Congress, Hamburg,
Prof. Dr H Saalfeld, Mineralog-Petrogr.
Institut, Universität Hamburg, Fed. Rep. Germany
- 12 - 17 August 1984 Electron Microscopy Society of America and
the Microscopical Society of Canada
Detroit, Michigan
Dr C E Lyman, Central Research & Development
Dept E I du Pont de Nemours & Co, Experimental
Station, E356, Wilmington, DE 19898, USA
- 13 - 17 August 1984 6th International Conf. on Thin Films, Stockholm.
ICTF-6, c/o Stockholm Convention Bureau,
Jakobs Torg 3, S-111 52 Stockholm, Sweden.
- 13 - 17 August 1984 13th Internat. Conf. on Defects in Semiconductors.
Coronado
L C Kimerling, Bell Laboratories, Murray Hill,
New Jersey 07974, USA.

- 13 - 18 August 1984 8th European Congress on Electron Microscopy
Budapest, Hungary
Congress Bureau MOTESZ, Budapest, POB 32,
H-1361, Hungary
- 20 - 23 August 1984 Symp. on Small Angle Scattering, Hamburg
Prof H Stuhrmann, EMBL, DESY, Notkestrasse 85,
D-2000 Hamburg 52, Fed. Rep. Germany.
- 20 - 24 August 1984 Summer School on Symmetry-Related Crystal
Structures.
Karlsruhe
Prof. W E Klee, Inst. f. Kristallographie der
Universität, Postfach 6380, D-7500 Karlsruhe,
Fed. Rep. Germany.
- 20 - 24 August 1984 Int. Conf. on Defects in Insulating Crystals
USA
Dr R W Munn, Dept of Chemistry, UMIST,
P O Box 88, Manchester, M60 1QD.
- 22 - 24 August 1984 Internat. Symp. on Physical Chemistry of
Colloids and Macromolecules
Uppsala
Prof B Ranby, Dept of Polymer Technology,
Royal Institute of Technology, S-10044,
Stockholm, Sweden.
- 27 - 31 August 1984 6th General Conf. of the European Physical
Society, Prague, Czechoslovakia.
Physical Section, Union of Czechoslovak
Mathematicians & Physicists,
Na Slovance 2, 18200, Prague 8, Czechoslovakia.
- 27 Aug - 1 Sept 1984 10th Internat. Symp. on Reactivity of Solids
Dijon, France.
10e ISRS, Secrétariat Exécutif, Laboratoire
de Réactivité des Solides, Faculté des Sciences
Mirande, BP 138, F-21004, DIJON Cedex, France.
- 10-13 Sept 1984 European Solid-State Device Research Conference
Lille, France
M. Jacques Zimmermann, Secretary ESSDERC-84,
Centre Hyperfréquences et Semiconducteurs,
Bâtiment P3, Université de Lille I, 59655
Villeneuve d'Ascq, France.
- 11 - 13 Sept 1984 BCA Cruickshank Symposium
Dr Brian Beagley, Dept of Chemistry, UMIST
P O Box 88, Manchester M60 1QD see this issue
- 16 - 21 September 1984 Philips X-ray Diffraction Conf. Univ Exeter
David Hughes, Pye Unicam Ltd, York St,
Cambridge CB1 2PX
- 17-21 Sept 1984 7th International Conference on Textures of
Materials
Noordwijkerhout, The Netherlands
ICOTOM 7, Netherlands Society for Materials
Science, P O Box 390, NL-3330 AJ ZWIJNDRECHT,
The Netherlands.

- 19 - 21 September 1984 British Assoc. for Crystal Growth (BACG)
Annual Meeting
Lancaster
Dr I J Saunders, Dept of Physics,
Univ. of Lancaster, Lancaster, LA1 4YB
- 19 - 21 December 1984 Annual Solid State Physics Conf, Univ of
Southampton.
Dr J Yeomans, Dept of Theoretical Physics,
1 Keble Road, Oxford.
- 1985
- 7 - 11 January 1985 ASU Centennial Conf on High Resolution
Electron Microscopy
Scottsdale, Arizona
Dr P R Buseck, Center for Solid State Sciences
Arizona State Univ. Tempe, AZ 85287, USA
- 11 - 14 February 1985 Characterization and Analysis of Polymers
Melbourne, Australia
Dr J H O'Donnell, Polymer & Radiation Group,
Dept of Chemistry, University of Queensland,
Brisbane 4067, Australia.
- 25 - 28 March 1985 Microscopy of Semiconductors
Oxford
Royal Microscopical Society
- 24 May - 6 June 1985 Static & Dynamic Implications of Precise
Structural Information (Course).
Erice, Sicily.
Dr P Murray-Rust, Glaxo Group Research Ltd
Greenford, Middx, UB6 OHE
- 23 - 25 July 1985 Physical Interactions & Energy Exchange at
the Gas-Solid Interface.
Hamilton, Ontario
Prof. J A Morrison, Institute for Materials
Research, McMaster Univ., Hamilton, Ontario,
Canada L8S 4M1.
- 28 July - 3 Aug 1985 Sagamore VIII on Charge, Spin and momentum
densities.
SÅnga-SMby, Sweden
Prof Ivar Olovsson, Dept of Chemistry, Univ.
of Uppsala, Box 531, S-751 21, UPPSALA, Sweden.
- 18 - 23 August 1985 30th Internat. Symp on Macromolecules
The Hague
Dr J AM Smit, Gorlaeus Laboratories, Univ.
of Leiden, Dept of Chemistry, P O Box 9502
NL-23 00 RA Leiden, Netherlands.
- 2 - 6 September 1985 9th European Crystallographic Meeting (ECM-9)
Turin
Prof. G Ferraris, Istituto di Mineralogia,
Cristallografia e Geochimica, Università di
Torino, via San Massimo 22, 10123 Torino, Italy

18 - 20 December 1985

Annual Solid State Physics Conf.
Reading
Dr J A Blackman, Dept of Physics, Univ. of
Reading, Whiteknights, Reading, Berks, RG6 2AF

1986

10 - 19 June 1986

Synchrotron Radiation for X-ray Crystallography
Erice, Sicily
Prof L Riva di Sanseverino, International
School of Crystallography, Piazza Porta
San Donato 1, 40127 Bologna, Italy.

14 - 18 July 1986

International Conf. on Crystal Growth
ICCG-8 York
F W Ainger, Allen Clark Research Centre,
Plessey Research (Caswell) Ltd, Caswell,
Towcester, Northants NN12 8EQ

17 - 19 December 1986

Annual Solid State Physics Conf.
Imperial College, London
The Meetings Officer, Institute of Physics
47 Belgrave Square, London SW1X 8QX

1987

12 - 20 August 1987

14th General Assembly and International
Congress of Crystallography
Perth, W.A.
Dr E N Maslen, Crystallography Centre, Univ. of
Western Australia, Nedlands 6009, Western
Australia.

1988

30 May - 7 June 1988

Crystallography of Molecular Biology,
Erice, Sicily
Prof. L Riva di Sanseverino, International
School of Crystallography, Piazza Porta San
Donato 1, 40127 Bologna, Italy.

1989

16 - 26 Sept 1989

X-ray Crystallography & Drug Action
Erice, Sicily
Prof L Riva di Sanseverino, International
School of Crystallography, Piazza Porta San
Donato 1, 40127 Bologna, Italy.

CRYSTALLOGRAPHY NEWS

Camera-ready copy on A4 paper is welcome at any time. For inclusion
in the June issue please send items by 15 May to the Editor:
Dr Moreton Moore, Department of Physics, Royal Holloway College,
Egham, Surrey, TW20 OEX. (0784-35351 ext 36).

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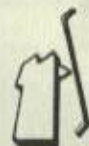
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