NASA as a Principal Investigator for work on lunar rocks and minerals. He was awarded the ScD degree in 1971. Throughout his time in the Department, Gay undertook a full programme of teaching work. Many generations of Cambridge undergraduates had their first introduction to Crystal Physics, Crystal Chemistry and Crystal Optics from his lectures; and his two undergraduate textbooks, *Introduction to Crystal Optics* and *The Crystalline State* were models of clear presentation showing first-class judgement in the selection and coverage of material to match the background of the students for whom they were intended. Dr Gay was elected a Fellow of Downing College in 1959 and from that time onwards played an important role in College life. He was successively Tutor, Senior Tutor and Admissions Tutor. His own wide interests (he had himself represented his College at cricket, lawn tennis, badminton and squash as an undergraduate) made him an ideal tutor, and his approachability and understanding and sympathy for undergraduates helped him as Senior Tutor to pilot the College through the difficult period of national student unrest in the late 1960's. He became Vice Master in 1982, a role for which his long experience of University and College affairs suited him ideally. Members of the College at all levels relied on him for advice; finding his judicious and yet friendly approach of great value. Notwithstanding the full part he played in College affairs, Gay maintained his active involvement in research throughout his career. Those in the field of mineralogy and crystallography in which his work was internationally known will mourn his passing at a very early age.

James Douglas McCullough, Professor Emeritus of Chemistry at the University of California, Los Angeles, died at home on 28 January 1985. Known to his friends as Jimmy, he was born in Oskaloosa, Iowa on 17 May 1905 and grew up in Seattle, Washington before moving to California in the 1920's. Professor Kenneth Trueblood writes that Jimmy's first regular employment was with the Standard Oil Company of California as a junior clerk, then in a service station, as he worked toward a BS in chemistry at UCLA, which had been open less than a decade when he enrolled in the late 1920's. Upon graduation in 1932, he was described by the first department chairman as 'possibly the most outstanding man we have had in the Chemistry Department since we started giving instruction' and he was immediately appointed to the teaching staff. UCLA had no graduate program at that time, but it needed help in teaching undergraduates so Jimmy taught regularly in West Los Angeles while doing graduate work at CalTech in Pasadena, first with Arnold Beckman and later with Linus Pauling. He initially chose a graduate research project in photochemistry, an interest developed during his undergraduate years. Beckman proposed that he work on the photolysis of H_2Se but, since no photochemical equipment was available for several months, suggested that in the interim he study the thermodynamic relationships among the three crystalline allotropes of elemental selenium. X-ray diffraction seemed the only conclusive way to distinguish among them so he started by taking powder, Laue and rotation photographs of various selenium specimens. He quickly became hooked, both by the beauty of the crystals and of their diffraction patterns, and never returned to the photochemical problem. After he completed his PhD in 1936, Pauling and Sturdivant helped him set up an X-ray crystallography lab at UCLA by donating a rotation camera that was no longer in use at CalTech and by giving him plans for a new X-ray tube they were having built. From these modest beginnings grew the modern departmental X-ray laboratory at UCLA that was named in his honour at a ceremony that he and many of his family, friends and former students attended in April 1983. Jimmy's first published structure was that of selenium dioxide, and he continued research on the structural chemistry of selenium and tellurium throughout his lifetime. A man of strong principle and conscience, great loyalty and warm generosity, he played a major role in establishing the tradition of excellence in teaching that the UCLA Department of Chemistry has long cherished, and in the development of its strong graduate program. He taught introductory chemistry for many years and developed many of the laboratory experiments, demonstrations and thought-provoking problems still in use today. Those who knew him well during his long career at UCLA as student and faculty member relate hilarious accounts of his ingenuity in thwarting those who tried to get by in some devious manner. Following retirement in 1971, he continued to visit the department even in recent years when his health was not good, and he was still collaborating on a research paper during his last year.

Professor **André Guinier** has been awarded the 1985 Gregori Aminoff gold medal and prize for his fundamental experimental and theoretical studies of the dispersion of X-rays with application to the study of structures of condensed systems. This, the sixth such award, was presented to Professor Guinier at the Royal Swedish Academy of Sciences meeting on 8 May. Previous recipients of the award are Professor **P. P. Ewald** (1979), Sir **Charles Frank** (1981), Professors **G. Hägg** (1982), **J. M. Robertson** (1983) and **D. Harker** (1984).

Professor **K. Łukaszewicz** of the Institute for Low Temperature and Structure Research, Polish Academy of Sciences in Wrocław, has been elected President of the European Crystallographic Committee. Professor G. S. D. King, of the Laboratorium voor Kristallografie of the Katholieke Universiteit Leuven, has been elected Vice-President and Dr G. Filippini of the Centro di Studio per le Relazioni tra Struttura e Reattività Chimica, of the CRN in Milan, has been elected Secretary, all these appointments being until 1987.

Dr **D. J. Smith** of Arizona State University has been awarded the Charles Vernon Boys Prize of the (UK) Institute of Physics, for his achievements in commissioning the Cambridge 600 kV high-resolution electron microscope and applying it to the elucidation of the atomic structure of materials.

Dr **B. E. Warren**, retired professor of physics from the Massachusetts Institute of Technology, has been made an Honorary Member of the American Ceramic Society, in recognition of his work on the study of amorphous solids by X-ray diffraction which has been a cornerstone of glass science.

International Union of Crystallography

J. Appl. Cryst. (1985). **18**, 189–190

Guidelines for Computer Program Abstracts

Computer Program Abstracts is a new category of the *Journal of Applied Crystallography* that provides a rapid means of communicating up-to-date information concerning both new programs or systems and significant updates to existing ones. Following normal submission, a *Computer Program Abstract* will be reviewed by one or two members of the IUCr Commission on Crystallographic Computing. Either the names and addresses of those people outside the author's laboratory who have used and tested the program(s) or a source code listing and test execution should be provided. These will be sent to the referee as supporting material but will not be published or deposited in any form. An Abstract should not exceed 500 words in length. The following format should be used. Section headings which are in bold type are intended to be used as such.

Title of Program or System

The title should be the symbolic name of the program followed by a maximum of 15 words that succinctly describes the purpose of the program. For example:

LINCOM – Search program for significant variables

Name(s) of Author(s) with affiliation(s) and address(es).

The crystallographic problem

Describe clearly the computational problem that the program attempts to solve. If describing a program system, the overall problem and those treated by the individual modules should be described.

Method of solution

Describe in clear language the general nature and source of the algorithms used in treating the problem described above. For program systems, first describe the overall approach and then the method of each module.

Software environment

Operating system(s) under which the computer(s) run.
Programming language(s) used to write the program.
Overlay structure. State "none" if this is the case.
Subroutine libraries accessed which are not an integral part of the source code of the program. *e.g.* NAG library.

Hardware environment

Computer(s) and Installation(s). Give the names of the computers upon which the program was implemented and the locations of the installations. Give also if applicable the types of other computers on which the program is applicable. For example, a program written in UCSD Pascal should run on any machine supporting UCSD Pascal.
(Minimum) number of bits per word or byte.
Minimum high-speed store required to run the program. Give the value in words, kwords, bytes, or kbytes as necessary. Comment on whether more high speed storage improves the program performance.
Peripherals used. Detail those peripherals (and the number of each) used by the program, *e.g.* magnetic tapes, disk units, card reader, printer, plotter, special terminals *etc., etc.*

Program specification

Restrictions on the complexity of the calculation performed by the program.
Unusual features of the program.
Typical run times using the computer mentioned in the hardware environment. Specify the size and nature of the test calculations.
Number of lines in the program, the test decks and the documentation that are in machine-readable form.
Test status. State range and number of test cases completed.

Documentation

State the documentation and the form in which it is available for those (*a*) using, (*b*) maintaining and (*c*) modifying the program.

Availability

Explain how and to whom to apply for a copy of the program as hard copy or in machine-readable form. If the program is not available for distribution, this should be stated explicitly. Indicate any undertakings required of an applicant for the program. Indicate any expiry date for distribution of the program if known. If the program can be obtained in machine-readable form, indicate the formats available. *e.g.* magnetic tape densities, character codes, parities, labelling, format. For punched cards, paper tapes, floppy disks and other media comparable information should be given.

Keywords

Give up to 6 keywords useful for indexing the program.

References

Give references to other publications concerning the algorithms and to the program itself if this Abstract is an update. These references should be referred to elsewhere in the Abstract.

J. Appl. Cryst. (1985). **18**, 190

New Commercial Products Section

Announcements of new commercial products are now published by the *Journal of Applied Crystallography* free of charge. The descriptions, up to 300 words or the equivalent if a figure is included, should give the price and the manufacturer's full address. Full or partial inclusion is subject to the Editor's approval and to the space available. All correspondence should be sent to the Editor, Professor M Schlenker, Editor *Journal of Applied Crystallography*, Laboratoire Louis Néel du CNRS, BP166, F-38042 Grenoble CEDEX, France.

The International Union of Crystallography can assume no responsibility for the accuracy of the claims made. A copy of the version sent to the printer is sent to the company concerned.

Book Reviews

Works intended for notice in this column should be sent direct to the Book-Review Editor (J. H. Robertson, School of Chemistry, University of Leeds, Leeds LS9 9JT, England) As far as practicable books will be reviewed in a country different from that of publication.

J. Appl. Cryst. (1985). **18**, 190

Deformation of ceramic materials II (Materials Science Research 18). Edited by *R. E. Tressler* and *R. C. Bradt*. Pp. xii + 751. New York: Plenum, 1984. Price US $ 95.00.

The audience for textbooks of ceramics remains small and this coupled with the rapid advances being made in the subject means that much of the progress must be mapped out in the form of published conference proceedings. The *Materials Science Research* series has established a good record in this regard.

The present volume stems from a meeting held in July 1983 and includes keynote papers and general contributions on plastic deformation (covalent materials, oxides, and silicates) and on creep deformation and failure. The papers on cavity nucleation and crack growth during creep give a helpful guide to what is now recognised as a key problem in developing ceramics for high-temperature mechanical applications. The topic that most closely impinges on crystallographic concerns is the structural interpretation of plastic deformation and a number of papers dealing with specific systems, *e.g.* Si, WC, W_2C, SiC, Al_2O_3, $MgAl_2O_4$, are included in the proceedings.

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Books Received

The following books have been received by the Editor. Brief and generally uncritical notices are given of works of marginal crystallographic interest; occasionally a book of fundamental interest is included under this heading because of difficulty in finding a suitable reviewer without great delay.

J. Appl. Cryst. (1985). **18**, 190

Smectic liquid crystals: textures and structures. By *G. W. Gray* and *J. W. Goodby*. Pp. xxvi + 162. Glasgow: Leonard Hill, 1984. Price £46.00. A review of this book, by M. Kléman, has been published in the June 1985 issue of *Acta Crystallographica*, Section B, pages 205–206.