

Crystallographers

J. Appl. Cryst. (1982), **15**, 638

This section is intended to be a series of short paragraphs dealing with the activities of crystallographers, such as their changes of position, promotions, assumption of significant new duties, honours, etc. Items for inclusion, subject to the approval of the Editorial Board, should be sent to the Executive Secretary of the International Union of Crystallography (J. N. King, International Union of Crystallography, 5 Abbey Square, Chester CH1 2HU, England).

Maurice Loyal Huggins died on 17 December 1981 at the age of 84. Returning from active service in World War I, he received his AB and BS degrees from the University of California at Berkeley in 1919, his MS in 1920 and his PhD in 1922. Following a postdoctoral fellowship at Harvard University and at the California Institute of Technology, he progressed from instructor to assistant professor at Stanford University from 1925 to 1932, becoming an associate professor at Johns Hopkins University from 1933 to 1936, research associate at Eastman Kodak Company from 1936 to 1958, and senior research associate at Stanford Research Institute from 1959 to 1967. He made numerous important theoretical contributions to crystal chemistry. The American Society for X-ray and Electron Diffraction was initiated largely through his efforts, and he was elected president at its first meeting on Gibson Island in 1941. He was honored by awards from the New York Academy of Sciences (1941), the American Ceramic Society (1956) and the American Chemical Society (1975 and 1981), and received honorary doctorates from Clausthal Technical University (1972) and Kent State University (1975).

International Union of Crystallography

J. Appl. Cryst. (1982), **15**, 638–639

Prices of *Acta Crystallographica* and *Journal of Applied Crystallography*

The Executive Committee of the International Union of Crystallography has found it necessary to increase the yearly subscription rates and also the prices of back numbers for *Acta Crystallographica* and *Journal of Applied Crystallography* as from 1 January 1983. Every endeavour has been made to keep these increases to a minimum.

Acta Crystallographica

From 1 January 1983 *Acta Crystallographica* will be published in three sections [see *Acta Cryst.* (1982), A/B38, 1 for a more detailed explanation of the new

division]. Section A will continue to be published bimonthly, commencing on 1 January; Section B will also be published bimonthly, commencing on 1 February; and Section C will be published monthly on the 15th of each month. The following rates will apply for Volumes A39, B39 and C39 (1983). Note that, except as single parts, Sections B and C are only available together.

All subscription rates are fixed in Danish kroner, and the US dollar equivalents given below are subject to exchange-rate fluctuations and amendment without notice.

Complete volumes, regular price per volume

Sections A, B & C (combined subscription)	Dkr 5125	(\$657)
Section A only	Dkr 1225	(\$157)
Sections B & C (combined subscription)	Dkr 4100	(\$526)

Complete volumes, reduced price for individuals

Sections A, B & C (combined subscription)	Dkr 1380	(\$177)
Section A only	Dkr 330	(\$42)
Sections B & C (combined subscription)	Dkr 1150	(\$147)

All subscribers in the USA and Canada should add to the above subscription rates the additional charges for airfreighting as mentioned below.

The reduced-rate subscriptions are ordinarily only available to members of recognized scientific societies, and applications must be accompanied by a written undertaking that the journal is for the personal use of the subscriber and will not be made available to libraries, institutions, etc. These conditions also apply to persons wishing to order back numbers at the reduced rates.

Single parts

The prices of single parts are as follows:		
Vol. A39	Dkr 275	(\$35)
Vol. B39	Dkr 275	(\$35)
Vol. C39	Dkr 400	(\$51)

Journal of Applied Crystallography

The following rates will apply for Volume 16 (1983). All subscription rates are fixed in Danish kroner, and the US dollar equivalents given below are subject to exchange-rate fluctuations and amendment without notice.

Complete volumes, regular price per volume Dkr 1225 (\$157)

Complete volumes, reduced price for individuals Dkr 400 (\$51)

All subscribers in the USA and Canada should add to the above subscription rates the additional charge for airfreighting as mentioned below.

The same conditions apply to reduced-rate subscriptions as in the case of *Acta Crystallographica* (see above).

Single parts

The price for single parts of Volume 16 (1983) is Dkr 275 (\$35).

Airfreighting of copies to the USA and Canada

Deliveries of *Acta Crystallographica* and *Journal of Applied Crystallography* to the USA and Canada in 1983 will continue to be by air freight to New York and thence by second class mail. The use of this service is obligatory for all subscribers in those countries. The charges in Danish kroner are as given below

Acta Crystallographica

Sections A, B & C (combined subscription)	Add Dkr 230	(\$29)
Section A only	Add Dkr 55	(\$7)
Sections B & C (combined subscription)	Add Dkr 175	(\$22)

Journal of Applied Crystallography

Add Dkr 55 (\$7)

Since the charges are fixed in Danish kroner, the US dollar equivalents are subject to exchange-rate fluctuations.

Prices of back numbers

The prices of back numbers have been increased so that they relate to the subscription rates for the volumes to be published in 1983. The prices are fixed in Danish kroner and the US dollar equivalents given below are subject to exchange-rate fluctuations.

Acta Crystallographica

Complete volumes, regular price per volume

Vols. 1–23	Dkr 1225	(\$157)
Combined		
Vols. 24–38	Dkr 4600	(\$590)
Vols. A24–A38	Dkr 1225	(\$157)
Vols. B24–B38	Dkr 3500	(\$449)

Complete volumes, reduced price for individuals

Vols. 1-23 Combined	Dkr 330	(\$42)
Vols. 24-38	Dkr 1300	(\$167)
Vols. A24-A38	Dkr 330	(\$42)
Vols. B24-B38	Dkr 1050	(\$135)

Single parts

The prices of single parts are as follows:

Vols. A24-A38	Dkr 275	(\$35)
Vols. B24-B38	Dkr 400	(\$51)

Single parts of Volumes 1-23 are not available.

Cumulative Indexes, regular price

Vols. 11-23 (1958-1967)	Dkr 120	(\$16)
Vols. 24-28 (1968-1972)	Dkr 120	(\$16)

Cumulative Indexes, reduced price for individuals

Vols. 11-23 (1958-1967)	Dkr 60	(\$8)
Vols. 24-28 (1968-1972)	Dkr 60	(\$8)

A few copies of the cumulative index for Volumes 1-10 (1948-1957) are also available, free of charge.

*Journal of Applied Crystallography**Complete volumes, regular price per volume*

Vols. 1-15	Dkr 1225	(\$157)
------------	----------	---------

Complete volumes, reduced price for individuals

Vols. 1-15	Dkr 400	(\$51)
------------	---------	--------

Single parts

The price of single parts is as follows:

Vols. 1-15	Dkr 275	(\$35)
------------	---------	--------

Orders

Orders for *Acta Crystallographica* and *Journal of Applied Crystallography* may be addressed to Munksgaard International Publishers Ltd., 35 Nørre Søgade, DK-1370 Copenhagen K, Denmark. Orders from subscribers in North America may alternatively be placed through Polycrystal Book Service, PO Box 27, Western Springs, Ill. 60558, USA.

Notes and News

Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. The notes (in duplicate) should be sent to the Executive Secretary of the International Union of Crystallography (J. N. King, International Union of Crystallography, 5 Abbey Square, Chester CH1 2HU, England).

J. Appl. Cryst. (1982). **15**, 639

The J. D. Hanawalt Powder Diffraction Award

The first J. Donald Hanawalt Powder Diffraction Award will be presented at the joint meeting of the Denver Conference on Applications of X-ray Analysis and the American Crystallographic Association in Snowmass, Colorado, in August, 1983.

This award is sponsored by the JCPDS-International Centre for Diffraction Data. It is to be presented every three years for an important, recent contribution to the field of powder diffraction. The award will consist of a certificate and \$1000. The awardee is expected to submit an abstract and present a paper on the work being recognized at the designated scientific meeting; travel expenses will be provided.

For this first award, work that is to be eligible must have been published between 1 August 1970 and 31 August 1982. There are no restrictions as to age, experience, or nationality of the recipient.

A committee has been appointed to select the 1983 award. The members are J. W. Caum, G. J. McCarthy, D. K. Smith, and C. Foris, chairman.

The selection committee will welcome suggestions, nominations, and documentation of accomplishments for possible recipients by 1 January 1983 from any interested persons. These should be addressed to C. M. Foris, E. I. du Pont de Nemours & Co., 356 Experimental Station, Wilmington, Delaware 19898, USA.

Book Review

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 LS2 9JT, England). As far as practicable books will be reviewed in a country different from that of publication.

J. Appl. Cryst. (1982). **15**, 639

Crystals: growth, properties, and applications. Vol. 5. Silicon.

Edited by *J. Grabmaier*. Pp. 199. Berlin, Heidelberg, New York: Springer-Verlag, 1981. Price: DM 110.00, US \$ 51.30.

The book is divided into two areas of interest: float-zone-grown silicon and solar silicon.

In a short chapter (42 pages), the technology of the float zone process is investigated. The article describes the historical development, gives a survey of polycrystalline silicon rod production and depicts the usual technology of the float zone process. Equipment is presented, crystallization and doping conditions are discussed. Some information about defects (especially swirls) and material characterization is given. This chapter can be considered as a good background for people interested in learning about float zone technology. For practical applications or new developments, reference to the articles of the bibliography must be made.

The three other chapters are an introduction to solar grade silicon, and more precisely to the production of silicon ribbons.

The role of silicon, and the future trends in photovoltaic programs, are presented in the second chapter of the book. An overview of the refining technology of silicon, especially halosilane and SiO₂ conversions, is given. The main emphasis is on two unconventional crystallization techniques: directional solidification of the ingots, and sheet growth. A large number of examples and pictures highlight these two types of crystallization. A survey of material characterization is added to this chapter.

The study of various types of ribbons, and the capillary-action shaping technique is the purpose of the third chapter. Various types of capillary dies, made of various materials, are investigated. The parameters of ribbon growth are deduced from thermodynamical considerations.

The fourth chapter is a description of a technique of silicon ribbon growth, the EFG (edge-defined film-fed growth). The silicon ribbon is pulled with a contact to liquid silicon in a shape-forming die which is rectilinear or circular. The shape of the meniscus between the die and the ribbon determines the characteristics of the ribbon (thickness) and various parameters which determine this shape (thermal considerations, speed of pulling) are presented.

This book is a didactic presentation of two important technologies of silicon crystallization, float zone and ribbon pulling, with good, updated and precise information on this last technique. Bibliographies of the chapters must be used to get more precise information on the material quality.

V. CAZCARRA

Département 1666
IBM France
BP 58
91102 Corbeil Essonnes CEDEX
France