Commission on Journals meeting

Euroforum Infantes, San Lorenzo de El Escorial
20 August 2011

Importance of the Journals to the IUCr

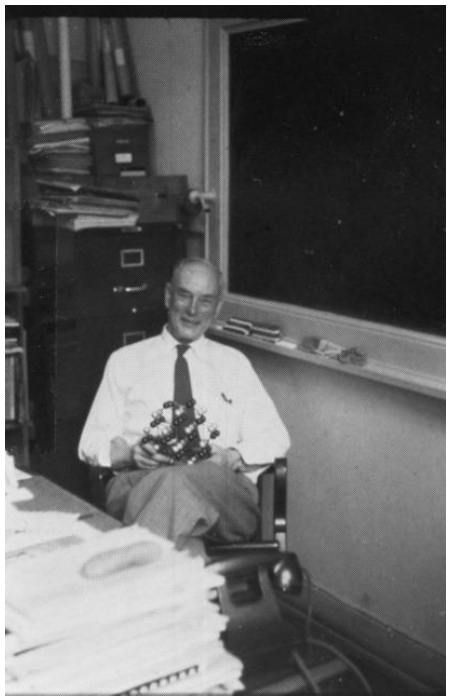
- Journals are the foundations of the IUCr
- Journals monitor the development of crystallography
- The publishing field is changing rapidly
- Present challenges facing the IUCr journals
- International Year of Crystallography

Aims of the IUCr

- *Promote international cooperation in crystallography*
- *Contribute to the advancement of crystallography in all its aspects, including related topics concerning the non-crystalline states*
- *Facilitate international standardization of methods, of units, of nomenclature and of symbols used in crystallography*
- *Form a focus for the relationship of crystallography to other sciences*

The birth of the IUCr?

Prior to the 2nd world war Zeitschrift for Kristallographie was the leading Journal for publication of crystallographic research



Peter Paul Ewald
1888-1985

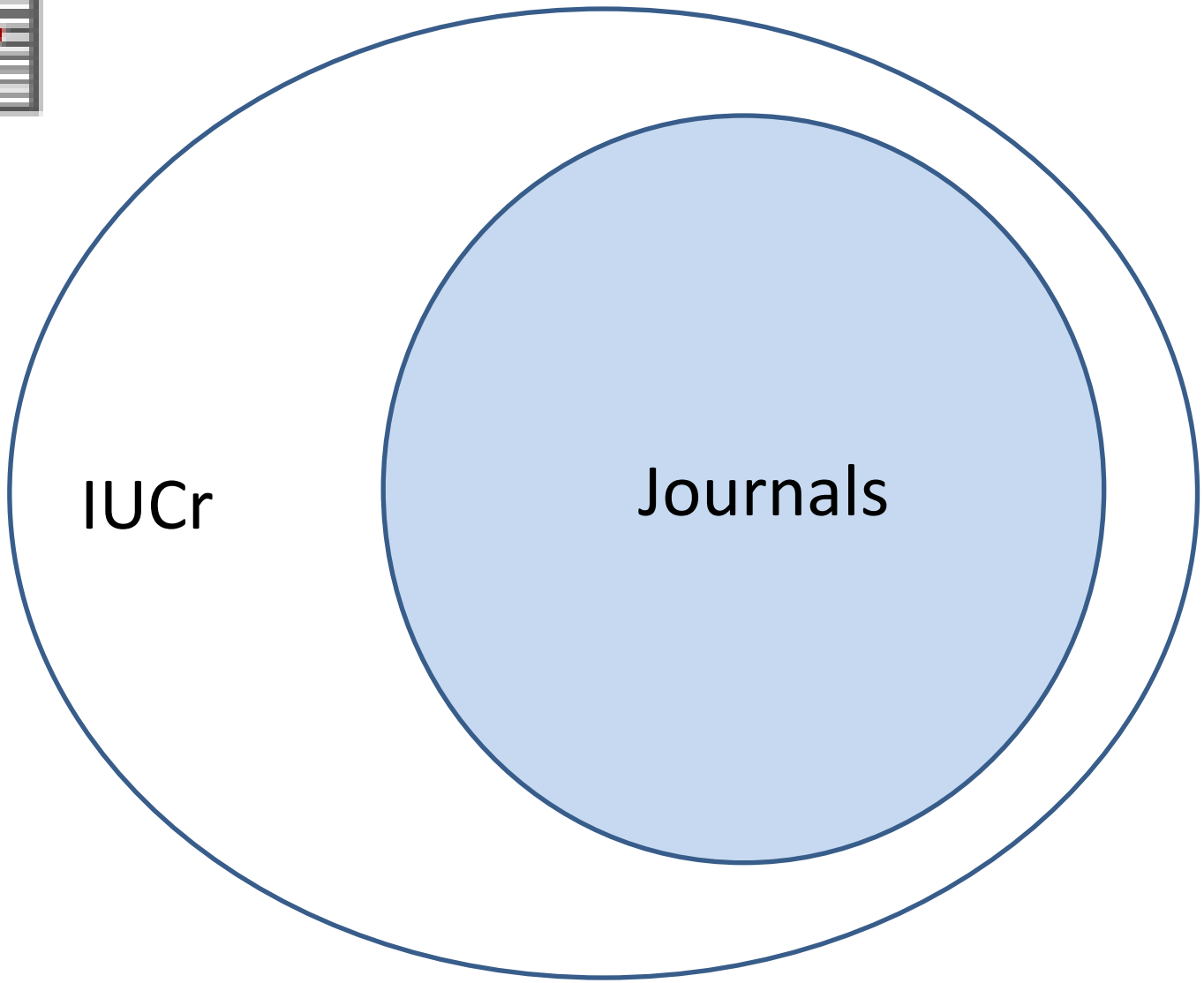
Harmke Kamminga *Acta Cryst.* (1989). A**45**, 581-601

ICSU

International Council for Science

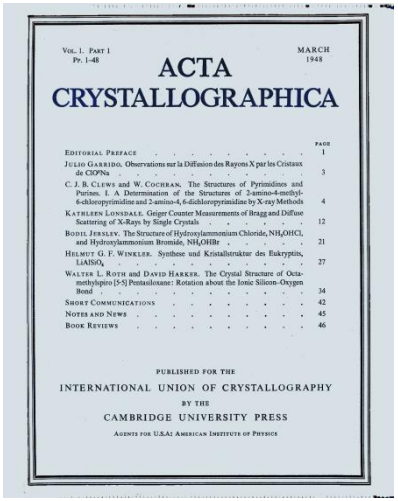
IUCr became a member of ICSU in 1947

IUCr is domiciled in Switzerland,
all accounts are in CHF

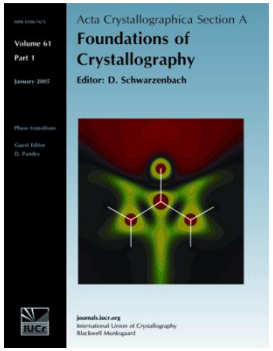

IUCr
Journals

IUCr

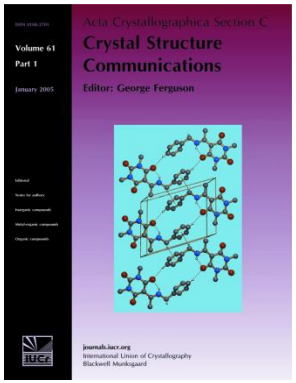
1948



1968



1983



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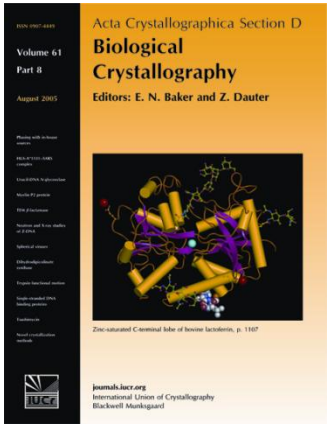
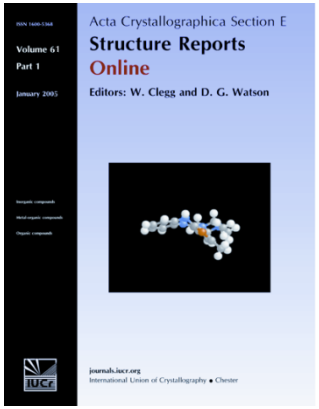


2001

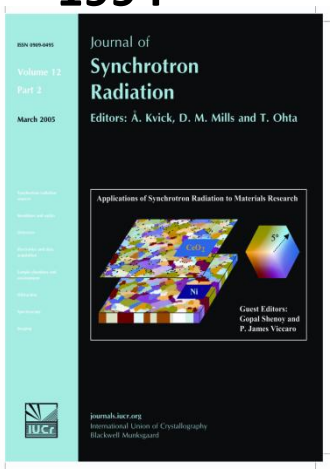


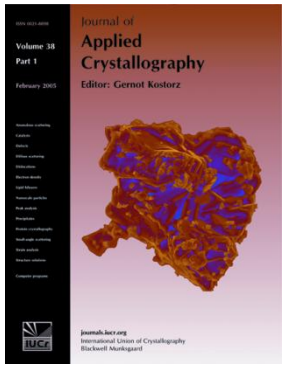
1998 Online access

2002 Back issues on line

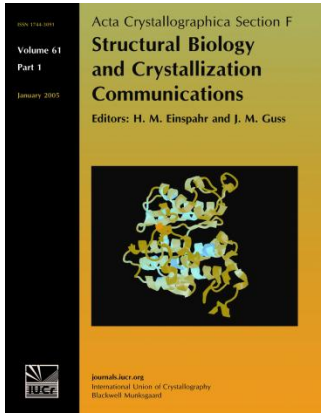
1991 CIF

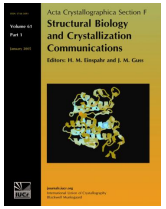
1994





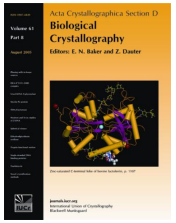
2005



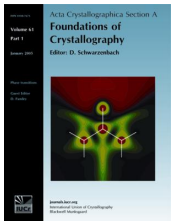


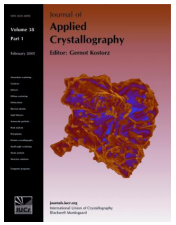
Back issues

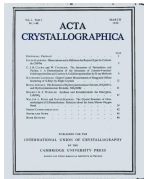
Online access



CIF







2005
2002
2001
1998
1994
1993
1991
1983
1968
1948

Automation, instrumentation

PCs

Synchrotrons

SGI, VAX

Diffractometers, Direct methods

Main frame computers

IUCr as a learned society publisher

Publications are vital for all the activities of the IUCr

INTERNATIONAL TABLES for CRYSTALLOGRAPHY

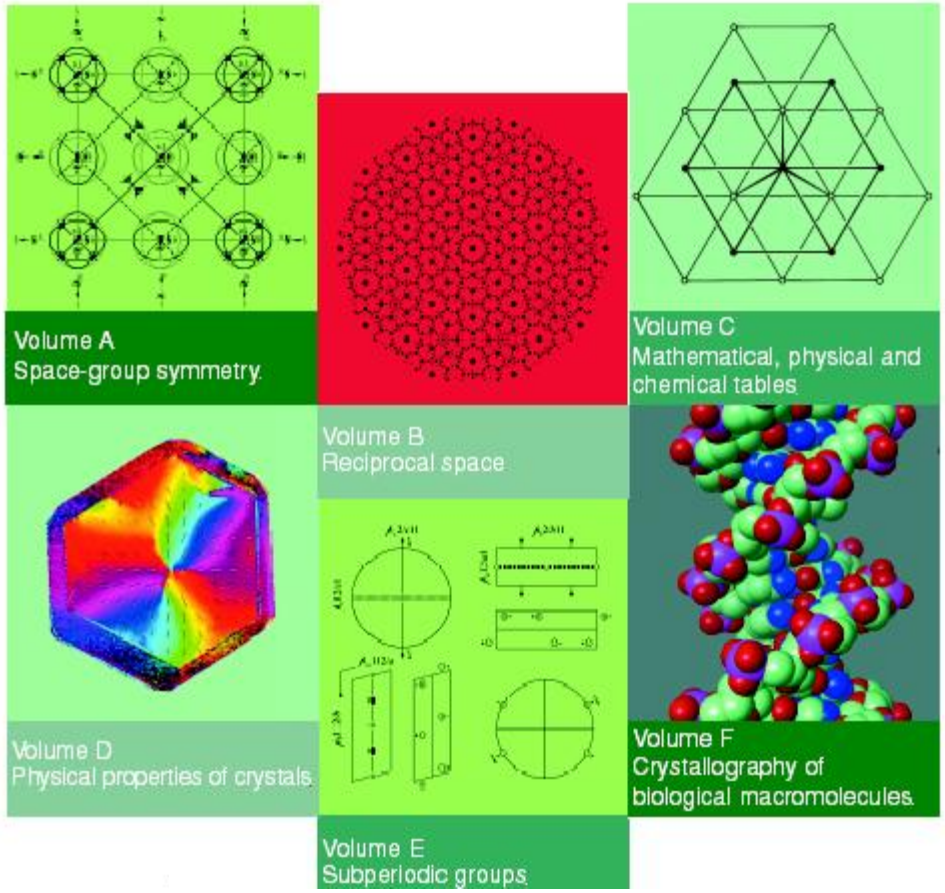


Table 10

2002 Vol E

2003 Vol D

2004 Vol C 3rd ed

2004 Vol G Definition and exchange of crystallographic data

Volume A to G completed

International Tables for Crystallography On line

The importance of journals to the IUCr

The publications provide the foundation for all the activities of IUCr

(support to young scientists, meetings, standards etc….)

Milestones in journals publishing

- *1948: Acta Crystallographica launched*
- *1968: Acta subdivided into Sections A and B*
- *1968: Journal of Applied Crystallography*
- *1983: Acta B subdivided into Sections B and C*
- *1993: Acta D (Biological Crystallography)*
- *1991: Introduction of CIF manuscripts*
- *1994: Journal of Synchrotron Radiation*
- *1997: SGML typesetting of papers*
- *1997: Electronic-only ("CIF-access") papers*
- *1998: Electronic delivery to printers*
- *1998: Electronic archive and 50-Year Index*
- *1999: Electronic proofs*
- *1999: Crystallography Journals Online*
- *2001: Electronic only journal (Acta E launched)*
- *2002: All back issues (to 1948) available online*
- *2005: Acta F (Structural Biology and Crystallization Communications) launched*
- *2008: Acta E made open access only*

What is crystallography?

Science with X-rays, electrons and neutrons that provide structural information about matter (crystals, non-crystalline materials etc.)

Structure is linked to function and properties.
Crystallographic results are used everywhere in our modern society (drug developments, nano-and biotechnology, materials from tooth paste to airplane components)

Crystallography has strong links to other sciences, physics, chemistry, biology, geosciences etc

Crystallography is Nobel prize science (23 in chemistry and physics)

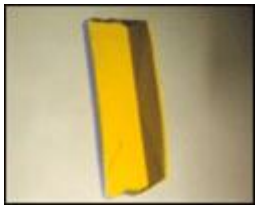
IUCr Journals - Present Challenges

- Change in the scope of the crystallographic studies
- Quality assurance of the published data
- Changes in subscription model from individual to consortia
- The role of the impact factors
- Demand for Open Access journals

How to deal with these challenges?

The EC will establish a committee to analyze the challenges and present a medium and long term plan for the development of the journals

What is crystallography?



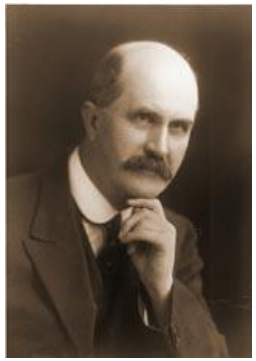
1912 X-rays are diffracted by crystals

Max von Laue and coworkers

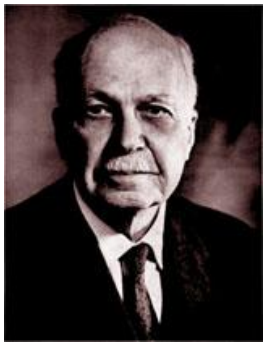
1913 Braggs showed that the diffracted X-rays can be used to determine the positions of atoms within a crystal

Birth of modern crystallography 1913

W.H. Bragg



W.L. Bragg



Aims of the IYCr

- to provide the framework for the Laue–Bragg centennials celebrating the birth of modern crystallography

- to increase the public awareness of crystallography and the way it underpins most technological and medical developments in modern society

- to promote education in crystallography and its links to other sciences

- to involve the numerous large-scale facilities worldwide in the celebrations of the IYCr

- to intensify the programme “Crystallography in Africa” and create similar programmes in other parts of the world lacking adequate education in crystallography

- to foster international collaborations between scientists worldwide