

COMMITTEE ON ELECTRONIC INFORMATION AND COMMUNICATION

(CEIC)

Quadrennial report

July 2010

Terms of reference. The current terms of reference of CEIC, as approved by the IMU Executive Committee in June 2008, are as follows:

The CEIC is a standing committee of the Executive Committee of the International Mathematical Union, reviewed every four years by the EC at its meeting preceding that of the IMU General Assembly. Members are appointed in even-numbered years for staggered four year terms, normally commencing on January first of the following year, using criteria similar to those for IMU Commissions.

The mandate of the CEIC is to advise the EC on matters concerning information and communication. The CEIC's duties include:

- *Reporting regularly to the EC, advising it on aspects of IMU operations related to information and communication, including financial implications, and keeping it informed of new developments.*
- *Reviewing the development of electronic information, communication, publication, and archiving so as to keep the EC abreast of current and emerging issues.*
- *Advising the EC about potential opportunities to endorse standards ('best practice recommendations') on issues related to publication and communication, including such matters as the use of software and data repositories.*
- *Advising the EC about potential opportunities to foster the growth of electronic infrastructure, and selectively creating tools for this purpose (such as the Federated World Directory of Mathematicians or links to other tools).*

(These terms of reference are due to be updated at the August 2010 IMU Executive Committee Meeting.)

Membership. At the beginning of the quadrennial period 2007-2010 the membership of the committee was

Jonathan Borwein (Chair), John Ball (EC representative), Michael Doob, David Eisenbud, John Ewing, Ulf Rehmann and Alf van der Poorten.

David Eisenbud resigned in November 2007, and a new committee took over on 1 July 2008, consisting of

John Ball (Chair and EC representative), Olga Caprotti, James Davenport, Michael Doob, Carol Hutchins, Peter Olver and Ulf Rehmann.

The IMU is very grateful for the dedicated service of the retiring members of the committee.

Meetings of CEIC. There were four meetings of the committee during the period, in Providence, Rhode Island, 1-4 November 2007, in Budapest on 22 April 2008, in Oxford, 19-20 December 2008, and in Minneapolis, 13-14 February 2010. The minutes of these meetings are available at <http://www.mathunion.org/ceic/Publications/index.shtml>.

Expenditure. In the calendar year 2006 the total expenditure was 20.475 USD, covering CEIC meetings and support for the Federated World Directory of Mathematicians (FWDM). In the calendar year 2007 the total expenditure was in 9.723 EUR, covering the Providence meeting and support for FWDM. In the calendar year 2008 the total expenditure was 16.873 EUR, covering the costs of the Budapest and (in part) Oxford meetings and support for FWDM. In the calendar year 2009 the total expenditure was 1.032 EUR, covering remaining costs of the Oxford meeting and the cost of transferring the ICM'98 videos to DVD. The expenditure for 2010 will be reported in the next quadrennial report.

The major issues addressed by the CEIC in the quadrennial period were as follows:

Digitization of earlier ICM Proceedings. Remarkable work has been done Keith Dennis and Ulf Rehmann to digitize all proceedings of the International Congress of Mathematicians from 1893-2006 (after which the Proceedings were born digital), and to obtain the copyright where possible. The aim is to make these publicly available as soon as possible.

Federated World Directory of Mathematicians (FWDM). The FWDM has been improved and new mathematical society databases added.

Archiving. This concerns the question of preserving the records (paper and especially electronic) of the IMU. An augmented subgroup of CEIC has considered this, and a revised version of their report was discussed by the IMU EC. A priority is to ensure that existing material is not lost. One recommendation being implemented is that the recollections of former IMU officers will be filmed. The technical issues of electronic archiving pose difficult problems that are being faced by many organizations. Final decisions will need to wait for the location of the (possible) IMU Stable Office to be decided.

World Digital Mathematical Library (WDML). Much of the effort to establish the WDML has now been superceded by retrodigitization by commercial publishers. However the European DML Initiative EuDML recently obtained substantial funding of 1.6 million Euro for 3 years from the EU (see <http://www.eudml.eu/>).

IMU on the Web. Carol Hutchins has taken over from Alf van der Poorten in coordinating the IMU on the Web section of the electronic newsletter IMU-Net.

CEIC web pages. These were moved to the IMU server. They are in need of revamping and updating. The aim is to achieve this by the time of ICM 2010, though a more systematic set of changes will need to await the decisions over the stable office.

Copyright agreements for ICM 2010. CEIC made recommendations, which were adopted, for the form of the copyright agreements for ICM 2010 between authors and the local organizing committee (LOC), and between the publishers and the LOC, including issues concerning videoing of lectures.

ICSU World Data System. A letter amplifying IMU's expression of interest in joining the ICSU World Data System was approved, and subsequently sent. Mathematicians are both users of large data sets and can potential contribute such to the system (e.g. tables of group representations), as well as being involved in methods for handling such data.

ICM 2010 Round Table on *The use of metrics for evaluating research*. CEIC organized this Round Table, which is a follow-up to the IMU/ICIAM/IMS report Citation Statistics (see <http://www.mathunion.org/publications/reports-recommendations>). The members of the panel (chosen by CEIC) are Laszlo Lovász (Chair), Doug Arnold (USA), Frank Pacard (France), Antonio de la Peña (Mexico), Malcolm MacCallum (U.K.). At the Minneapolis CEIC meeting Doug Arnold presented a case study on Impact Factor Manipulation for journals in Mathematics, clearly demonstrating that this is a worrying trend. He suggested that unless an alternative was provided then impact factors would continue to be used as a means of evaluation of researchers, departments and institutions, and proposed that IMU and ICIAM might jointly consider creating their own ranking mechanism for journals. (Subsequently the IMU Executive Committee agreed to approach ICIAM with a view to assessing if such a mechanism would be valuable.)

Best Practice Document for the running of mathematics journals. A best practice document for the running of mathematics journals was drafted. This was discussed at the Rome IMU EC meeting and was circulated to different stakeholders (editors, publishers, individual researchers, those concerned with publication ethics) for comment. A final version was prepared, with a view to possible endorsement by the IMU EC at their meeting in Bangalore prior to ICM2010 and by the General Assembly.

John Ball, Chair CEIC.