

**SUMMARISED MINUTES OF THE SIXTH MEETING OF
THE COMMITTEE ON
ELECTRONIC INFORMATION AND COMMUNICATION (CEIC)
OF THE INTERNATIONAL MATHEMATICAL UNION
HELD AT THE KONRAD-ZUSE-ZENTRUM (ZIB)
BERLIN, MAY 24–25, 2003**

Membership and Participation. Jonathan Borwein (Canada), Pierre Bérard (France), John Ewing (USA), Alejandro Jofre (Chile), Martin Grötschel (Germany), Peter Michor (Austria), David Morrison (USA), David Mumford (USA), Alf van der Poorten (Australia).

In attendance: Wolfgang Dalitz (ZIB) and Wolfram Sperber (ZIB).

Regrets: Rolf Jeltsch (ETH) who, with David Mumford, comprises the DML liaison committee of the IMU.

0.1. Several members of the CEIC had attended a meeting to discuss the Digital Math Library initiative at Göttingen, May 21–22.

0.2. On Friday afternoon, May 23, members of the CEIC attended the Euler Lecture, given by David Mumford at Sanssouci castle in Potsdam; that evening they enjoyed the hospitality of Iris and Martin Grötschel at a party to honour the Euler Lecturer.

0.3. The CEIC met on Saturday, May 24 (at 09:30) and through Sunday, May 25.

1. WORLD DIGITAL MATHEMATICS LIBRARY

1.0.1. The actions of the CEIC reported below are taken in the light of the IMU's decision to work to realise the vision of a comprehensive digital mathematics library by agreeing to coordinate the worldwide activities leading to a World Digital Mathematics Library.

1.1. **WDML.** The CEIC has chosen to use the acronym WDML (World Digital Mathematics Library) inter alia because the domain name www.wdml.org was available for registration (whereas that omitting the 'w' was not). The available domain name has accordingly been registered on behalf of the IMU/CEIC. David Morrison will take responsibility for CEIC WDML activities to the extent of designing and maintaining the site at <http://www.wdml.org>.

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Version 0.8 by WS, June 03, 2003; Version 0.9 by AJvdP, June 10, 2003; Version 1.0-1.3 by JMB, June 14-19, 2003; Version 1.4s by AJvdP, July 22, 2003.

1.1.1. The CEIC will endeavour to develop a framework for the WDML dealing with formalisation of such matters as aims and principles of the project, formats, functionalities, long-time archiving issues, access, organisation, management, copyright, and the like.

1.1.2. The CEIC recalls that the WDML is based on the DML project and on the work of the several digitisation initiatives of such institutions as EMANI, Cornell University, NUMDAM, GDZ Göttingen, ERAM, . . . , and notes that the digitising institutions have indicated that they will support WDML activity under the aegis of the IMU.

1.1.3. The CEIC emphasises that the WDML initiative is and will be open to all interested parties that are able to promote the goals of the WDML.

1.2. **WDML Committee.** On the suggestion of the Göttingen DML meeting, the IMU was to establish a WDML Committee including representatives from the digitisation centres and of the publishers. The task of the Committee is to prepare and organise a scientific workshop to take place no later than Summer 2004 and to be open to all parties interested in taking part in WDML projects.

1.2.1. Accordingly, on the advice of the CEIC, the President of the IMU, John Ball issued appropriate invitations resulting in such a committee being formed; the WDML Committee will be chaired by Alf van der Poorten.

2. BEST PRACTICE

2.1. The preparation of the *Best Current Practices: Recommendations on Electronic Information Communication* of the CEIC, was an important and successful activity of the CEIC.

2.2. Responsibility for recommending amendment of the various BCP topics (Structure and Format, Linking and Enrichment, Versioning, Personal Homepages, Personal Collected Works, Preprints and Archives, Copyright, Journal Price Policy, Validation and Refereeing, Statistics, Partial Access/Free Access, Archiving Format, Archiving Responsibility, Licensing and Bundling, Development Countries) was distributed among the CEIC members, and an action timeline was nominated.

2.2.1. Experts from outside CEIC (say from the reorganized TAB mentioned below) will be involved in the enhancement of the BCP.

3. INTELLECTUAL PROPERTY RIGHTS/COPYRIGHT

3.1. It is plain that Intellectual Property Rights/Copyright plays a key role in obstructing access to mathematical information. One might well ask whether its generally held principles are at all appropriate in the Mathematical Sciences.

3.1.1. Accordingly the CEIC discussed a suggestion carefully formulated by John Ewing that copyright in mathematics always be “limited copyright” whereby within, say, 5 to 28 years access to and use of documents not be limited (in effect placing such material in the “public domain”).

3.2. Jonathan Borwein will look at possibilities for obtaining foundation or other funding for a study of issues of copyright and IP within Mathematics.

4. WORLD DIRECTORY OF MATHEMATICIANS

4.1. Financial considerations have led the IMU to cease publication of a printed version of the World Directory of Mathematicians.

4.2. The CEIC remains charged with the duty to develop feasible models for an electronic WDM.

4.2.1. “Privacy Laws” provide a fundamental obstruction to that endeavour.

4.2.2. Nonetheless, a first practical step towards such an electronic WDM might be a federated search (“federated search” is a popular term for search over diverse databases) of electronically available membership lists of mathematical societies; a prototype search solution will be discussed at the next CEIC meeting.

4.3. **Persona Mathematica.** If only because not all mathematicians are members of learned societies, it will remain relevant to continue the Math-Net approach and in particular to develop a standard for a personal professional homepage; Martin Grötschel’s professional homepage appears to provide a fine model.

4.4. The CEIC will investigate other possibilities for obtaining funding to maintain a WDM (IMU, AMS).

5. WEB SITES OF THE IMU, CEIC, MATH-NET, AND WDML

5.1. The IMU and CEIC provide several Web sites: These include the IMU Web site <http://www.mathunion.org>, the CEIC Web site (Jon Borwein), the Math-Net Web site (Martin Grötschel) and (as determined by the meeting) the WDML Web site (Dave Morrison). These websites are of central importance for promoting and spreading the work of the CEIC, and the said websites will be developed to become central portals for mathematical information.

5.1.1. CEIC organizes the coordination of the contents between the different Web sites and their links.

5.1.2. The Math-Net Page will serve as base for the structure of the Web sites listed above.

6. MATH-NET ACTIVITIES

6.1. Given the slow propagation of Math-Net Pages and the stagnation of many existing pages, the CEIC resolved to make use of personal contacts with learned societies and mathematical institutions; to propagate the ideas of Math-Net at conferences, in particular the Math-Net Page; to support projects covering Math-Net activities, for example, the INGADIM project in Europe; and to urge the ZIB to use its list of mathematical institutions worldwide (including the addresses of respective webmasters) to inform departments and societies worldwide about the Math-Net Pages.

6.2. **Other Categories of Math-Net Pages.** The CEIC is currently moderating details of a development by the ZIB Math-Net group of a Math-Net Page for Societies (this also takes in the the new IMU Web site). It also endorsed a proposal for standardised professional homepages, noting that Martin Grötschel’s home page provides a fine model.

7. OTHER BUSINESS

7.1. **TAB.** (Jon Borwein) The Technical Advisory Board (TAB) will be reorganised. It will be larger and will function almost entirely electronically. Additional specialists in information and communication will be invited to join, for example from the MKM-Net (Mathematical Knowledge Management) community. A preliminary list of 24 persons was proposed by Jonathan Borwein

7.1.1. The tasks of the TAB will be redefined.

7.2. **CEIC Mailing List.** Jonathan Borwein will take over the moderation of the CEIC mailing list.

7.2.1. An extra mailing list, *CEIC-plus*, will be created. The extended mailing list will include additional persons interested in information and communication in mathematics, in particular the members of TAB.

7.3. **Next CEIC Meeting and Workshop.** (David Morrison) The next annual CEIC workshop will be held at Durham, NC *March 19–21, 2004*. The CEIC workshop will include a WDMML meeting on March 20. Participants: CEIC, the WDMML Committee and, say, up to five additional persons, yielding a workshop of some twenty persons.

7.4. **Joint EC/CEIC meeting.** (Martin Grötschel) The CEIC suggests that the Executive Committee and the CEIC have a joint meeting/workshop in spring 2005 to discuss the CEIC agenda and all items of electronic information and communication relevant for mathematics.

7.5. **Presentations at Conferences.** (all CEIC Members) CEIC will be present at the following large mathematical congresses with its own sessions:

- ICIAM (Alf van der Poorten) [a two hour special session included a useful panel discussion and presentations by Jonathan Borwein, John Ewing, Alf van der Poorten (for Martin Grötschel), and Bernd Wegner];
- ICMI11 (Jon Borwein)
- EMS Conference 2004 (Peter Michor/Rolf Jeltsch)

Further initiatives will be welcomed.

7.6. The meeting concluded late on Sunday afternoon, May 25.