

# CEIC Annual Report 2014

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March 2015

This report covers the calendar year 2014, when Peter Olver was Chair of CEIC. All the successes are due to his Chairmanship, and all the infelicities to the current author's drafting.

## 1 World Heritage Digital Mathematics Library

The Wiki for the National Academy of Sciences (NAS) 2012 WDML Workshop has now been archived at <http://www.wias-berlin.de/imu/archive/WDML/>.

Following the Sloan funded NAS Committee report, "Developing a 21st Century Global Library for Mathematics Research", was published in March, 2014, and is available at [http://www.nap.edu/catalog.php?record\\_id=18619](http://www.nap.edu/catalog.php?record_id=18619).

On August 17, 2014, in conjunction with the International Congress of Mathematicians in Seoul, South Korea, the IMU and CEIC hosted a meeting of a select group of 21 experts to plan the next practical steps towards the construction of the Global Digital Mathematical Library (GDML). As a result, a smaller eight person working group (WG) under the sponsorship of the IMU, was created. The WG members are Patrick Ion, chair (USA), Thierry Bouche (France), Bruno Buchberger (Austria), Michael Kohlhase (Germany), Jim Pitman (USA), Olaf Teschke (Germany), Stephen Watt (Canada), and Eric Weisstein (USA). The WG is charged with the tasks of designing a road map for the practical next steps towards the GDML, determining its organizational structure, prioritizing the different requirements for its implementation, estimating an incremental budget, both start-up and sustaining funds, and fostering the writing of proposals to funding organizations. By the time of writing this report, the working group has held over twenty conference calls, and is preparing proposals for future funding.

A presentation and Panel Discussion on the World Digital Mathematics Library organized by CEIC took place at ICM at 6:00-7:30pm, August 20.

**Moderator:** Peter Olver, CEIC Chair and University of Minnesota, USA.

1. Thierry Bouche, Université Joseph Fourier, Grenoble, France.
2. Ingrid Daubechies, IMU President and Duke University, USA.
3. Gert-Martin Greuel, University of Kaiserslautern, Germany.

4. Patrick Ion, Mathematical Reviews, USA.
5. Rajeeva Karandikar, Chennai Mathematical Institute, India.
6. June Zhang, Peking University, China.

The discussion was videotaped and is available on Youtube: <https://www.youtube.com/watch?v=OERXmv2oIyU>

After ICM, CEIC initiated the WDML blog <http://blog.wias-berlin.de/imu-icm-panel-wdml/> to provide a forum for ongoing discussion of the emerging WDML. As well as appearing on the blog, a summary of the panel discussion will be published in the first volume of the Proceedings of the ICM, entitled “The World Digital Mathematics Library: Report of a Panel Discussion”.

In addition, an email list [GDML@mathunion.org](mailto:GDML@mathunion.org) hosted by IMU was established to further discussions about the WDML and the WG. Peter Olver served as the first moderator; as of Jan 1, 2015, moderation is now handled by Patrick Ion.

The October, 2014 issue of the Notices of the American Mathematical Society contained the article “The Digital Mathematics Library as of 2014” by Thierry Bouche: <http://www.ams.org/notices/201409/rnoti-p1085.pdf>.

Tim Cole and Patrick Ion presented GDML at the Coalition for Networked Information member meeting in December 2014.

## 2 Other ICM Activity

### 2.1 General

In the run-up to ICM, CEIC has been looking at the archiving and copyright status of the various ICMs, and made recommendations to the local organisers. These seem to have been carried forward, though some details remain to be checked when the proceedings are actually published. The website and videos are copyright the 2014 ICM, rather than IMU, but IMU has a licence to use.

As well as the WDML Panel mentioned earlier, CEIC organised two others (organising three panels should *not* be seen as a precedent!).

### 2.2 Mathematical MOOCs

A Panel Discussion on Mathematical Massive Open Online Courses (M-MOOCs) organized by CEIC took place at ICM at 6:00-7:30pm, August 18.

**Moderator:** James Davenport, University of Bath, UK

1. Bill Barton, The University of Auckland, New Zealand
2. Robert Ghrist, University of Pennsylvania, USA
3. Matti Pauna, University of Helsinki, Finland

#### 4. Angel Ruiz, Universidad de Costa Rica, Costa Rica

The discussion was videotaped and is available on Youtube: <https://www.youtube.com/watch?v=bRjkbmuCm20>.

After ICM, CEIC initiated the MOOC blog <http://blog.wias-berlin.de/imu-icm-panel-moocs/> to provide a forum for ongoing discussion of Mathematical MOOCs. As well as appearing on the blog, a summary of the panel discussion will be published in the first volume of the Proceedings of the ICM, entitled “Mathematical Massive Open Online Courses (MOOCs): Report of a Panel Discussion”.

### 2.3 The Future of Mathematical Publishing

A Panel Discussion on The Future of Mathematical Publishing organized by CEIC took place at ICM at 6:00-7:30pm, August 19.

**Moderator:** Jean-Pierre Bourguignon, European Research Council, Belgium

1. Rajendra Bhatia, Indian Statistical Institute, New Delhi, India and Sungkyunkwan University, Suwon, Korea
2. Jean-Pierre Demailly, Institut Fourier, France
3. Chris Greenwell, Elsevier, The Netherlands
4. Thomas Hintermann, European Mathematical Society Publishing House, Switzerland
5. Nalini Joshi, University of Sydney, Australia
6. Ravi Vakil, Stanford University, USA

The discussion was videotaped and is available on Youtube: <https://www.youtube.com/watch?v=RbIBrE0vepM>.

## 3 Other Business

CEIC considered various other issues.

**DOIs** It was noted that IMUNet had no persistent URLs, e.g. DOIs. The same applied to various IMU documents, such as the “Best Practices” and the “Citations” report. We set up a working group to investigate this.

**IMUNet** CEIC’s column in IMUNet is entitled “IMU on the Web”, which confuses many people: this is now called “CEIC Notes and Comments”.

**Archiving** Ongoing discussion, to be picked up after the 2015 officer/committee rotation.

**Copyright** The 2001 “Best Practice” document was looking dated. It needs updating to cover items such as Green/Gold Open Access, Creative Commons licences (which version?), copyright in items such as  $\text{\TeX}$  macros, interaction between ArXiv and publishers’ policies. CEIC asked Doug Arnold, Victoria Stodden and Ulf Rehmann to form a working party, with James Davenport as CEIC liaison.

One open question was “non-traditional” means such as Wikipedia, blogs and MathOverflow.

**ICSU** (International Council for Science). CEIC is an Associate Member of the ICSU World Data System. Olga Caprotti maintains our liaison here, and attended the bi-annual members forum in New Delhi in November 2014.