

Commission C2 Report to the Council and Commission Chairs

Submitted by Peter Mohr, Chair of C2

Commission on Symbols, Units, Nomenclature, Fundamental Constants and Atomic Masses
(SUNAMCO)

31 October – 1 November 2011

- **Recommendation of IUPAP to the Consultative Committee for Units (CCU) of the International Bureau of Weights and Measures (BIPM).** Following up on the 2008 IUPAP Resolution on Redefinitions of SI Units, a document with the recommendation of IUPAP was submitted at the CCU meeting in May 2009. At the CCU meeting in September 2010 the recommendation of IUPAP was reaffirmed. At its meeting in October 2010, the International Committee for Weights and Measures (CIPM) drafted a resolution for submission to the next meeting of the General Conference on Weights and Measures (CPEM) this Fall stating its intent to redefine the SI along lines consistent with the CCU and IUPAP recommendation. At its meeting in Paris during the week of 17 October 2011, the General Conference on Weights and Measures unanimously passed a resolution recognizing the intent of the CIPM to proceed with the redefinition of the SI as recommended by the various committees when the relevant experiments achieve satisfactory consistency.
- **SI Committee.** A committee attached to C2 to monitor and publicize changes in the SI and to consider further recommendations has been formed.
- **Commission C2 Meetings.** Commission C2 held two meetings in 2010. One in conjunction with the Conference on Precision Electromagnetic Measurements, in Daejeon Korea on June 17 and another in conjunction with the meeting of the CCU at the International Bureau of Weights and Measures (BIPM), in Sèvres, France on September 16. It is expected that a meetings will be held in Paris and Washington, DC in 2012.
- **Commission C2 Website.** The C2 website is no longer be supported at its previous location and a new one is being constructed on the new IOP/IUPAP server.
- **Red Book.** An update of the Red Book on nomenclature in physics published by IUPAP is being undertaken by C2. This book has been widely distributed since its latest revision in 1987. A PDF of this version has been produced and is available by request. It will be posted on the C2 website. The new revision will be of particular importance when the redefinitions of SI Units are implemented. A committee attached to C2 has been formed to carry out this task. The provisional list of members proposed at the June 2010 C2 meeting at the CPEM has been confirmed: Stephen Lea (Chair), Christian Bordé, Jeff Flowers, Jeremy Frey, Savely Karshenboim, Peter Mohr, Kumar Sharma, and Jörn Stenger. It will be desirable to have input from other IUPAP Commissions as well as other relevant groups and Scientific Unions in

addition to IUPAC, e.g. the Particle Data Group, IAU, IUGS. The group is referred to as the *Committee for Revision of the Red Book on Symbols, Units, and Nomenclature in Physics*.

- **Conference recommendation.**

Conference on Precision Electromagnetic Measurements (CPEM 2012). C2 recommended support of the next conference to be held in Washington DC. This conference applied for IUPAP support as a Type A conference, and it was approved with the stipulation that the conference allow a registration fee reduced to below the IUPAP upper limit for participants applying from countries that are classified as low-income and lower-middle-income economies.

- **Young Scientist Award.**

C2 has recommended changing the time criterion on the Young Scientist Award to refer to the start of the professional career rather than to receipt of the Ph.D. The reason is that not every professional in the fields of interest necessarily holds a Ph.D.

- **The documents *Vocabulary in Metrology (VIM)* and *Guide to Uncertainty in***

Measurement (GUM). These documents are produced by committees with representation of IUPAP via C2 recommendations. It has been pointed out to the relevant committees by C2 and the representatives that these documents are not generally used by physicists and are in fact written in somewhat obscure language. It has been recommended that an effort to improve the situation be made.