Chemistry and Biology
The Consultative Committee for Amount of Substance: Metrology in Chemistry and Biology (CCQM)

Redefinition of the mole: consulting the chemical community

CCQM has led an extensive consultation process with the international chemical community to ensure their requirements are met with the redefinitions, including:

- CCQM Workshop "The Redefinition of the Mole - A new era for chemical metrology?" (2012)
- CCQM Workshop on the redefinition and realization of the mole (2014)
- Support and Consultation on the IUPAC Project: 'A critical review of the proposed definitions of fundamental chemical quantities and their impact on chemical communities'
- CCQM Workshop at ACS Meeting, Boston USA, "Redefinition of the SI" (2015)
- CCQM recommendation to CIPM in 2017, taking into account views expressed by IUPAC

Global forum for progressing the state of the art

April 2019 sees the 25th meeting of the CCQM. This milestone is being celebrated with a Metrologia Focus Issue on Advances in Metrology in Chemistry and Biology with an accompanying workshop on the same theme at the CCQM meeting. The papers in the Focus Issue highlight the state of the art of measurement science in chemistry and biology.

Facilitating dialogue between NMIIs and stakeholders

Symposium on Standards and Metrology in support of Anti-Doping Analysis with WADA (2016)

- assess needs and priorities for reference materials and measurement systems to support anti-doping analysis;
- discuss the implementation of inter-laboratory comparisons;
- share knowledge on the latest approaches for the detection and quantification of chemical and biological analytes in urine and blood matrices.

Global comparability of measurements

An effective and efficient process for demonstrating global compatibility of chemical and biological measurement standards

Core comparisons and broad-claim CMCs have led to a 20% reduction in number of comparisons and stabilized the number of CMCs.