Joint Committee for Guides in Metrology

Maintenance and promotion of the Guide to the Expression of Uncertainty in Measurement (known as the GUM) and the International Vocabulary of Metrology – Basic and General Concepts and Associated Terms (known as the VIM)

Eight member organizations

Chair: Dr Martin Milton [BIPM], Executive Secretary: Mr Robert Sitton [BIPM]

JCGM Working Group 1 on the GUM

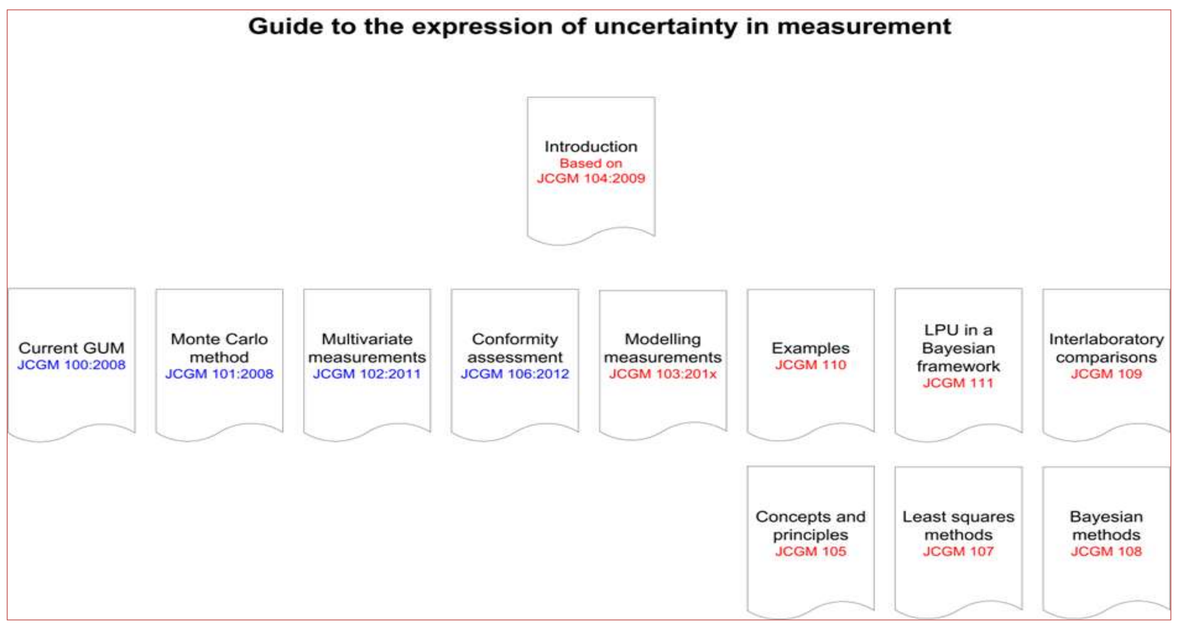
Convenor: Dr Walter Bich [ISO], *Rapporteur*: Dr Carine Michotte [BIPM]

New!

New perspective for the GUM

- The whole suite of documents takes the common banner "Guide to the expression of uncertainty in measurement" (GUM).
- All documents will have the same status, with the exception of an overarching, introductory document.

In essence, the "New GUM" will be the entire family of documents



DOCUMENT UNDER CIRCULATION (committee draft)

JCGM 103 CD – Guide to the expression of uncertainty in measurement – Developing and using measurement models

This document provides guidance on defining the measurand, and on developing and using a measurement model. The various stages of modelling, from that of the measurement principle to that of systematic effects are discussed, and different types of models from different fields, including statistical models, are considered.

ACCEPTANCE of JCGM-WG1 DOCUMENTS

- 102 000 downloads/year from the BIPM website
- 20 official requests for translation (in eight languages) since 2008
- The GUM (JCGM100:2008) has been adopted as national standard or law in many countries

RECENT PUBLICATIONS and EVENTS

- Special issue of *Metrologia*: GUM anniversary issue (Vol. 51, No. 4, 2014)
- Focus issue of *Metrologia*: BIPM Workshop on Measurement Uncertainty: 15-16 June 2015 (Vol. 53, 2016)
- Several publications by members of WG1

JCGM Working Group 2 on the VIM

Convenor: Dr Charles Ehrlich [OIML], *Rapporteur*: Mr Robert Sitton [BIPM]

Towards a VIM4

- In response to Decision 3 at the 15 May 2017 JCGM meeting, WG2 has been working to identify the best way to integrate **nominal** and **ordinal** properties into the next edition of the VIM (VIM4).
- In this context, WG2 considered whether to include an expanded definition of 'measurement' in the VIM4 encompassing nominal and ordinal properties as well as quantities. Consultation on this matter resulted in a mixed response, complicating how to proceed.
- In addition, it was discovered that expanding the definition of 'measurement' would require significant revision of more than 20 existing entries.

As a result, WG2, in consultation with JCGM Chairman, has decided to proceed along **two parallel paths**:

- The **first path** is to develop a draft '**minimum change**' document.
  This document is ready for presentation to the JCGM in December 2018, in fulfilment of Decision 3 to develop a "committee draft (CD)".
- The **second path** is to create an '**evolutionary**' document that incorporates the expanded definition of 'measurement' as well as other significant changes.
  WG2 has started down this path as well, but it will take more time to complete a draft for circulation.

Highlights of the VIM4 CD 'minimum change' document

- VIM3 Annotations will be incorporated.
- New entries of current relevance to metrology on nominal properties will be added in a new chapter.
- Agreed-upon content-related changes to VIM3 entries will be made.
- Language will be 'simplified' wherever practical.
- References will be updated.

Future Publishing Considerations for the VIM4

It is expected that a **web-based format** for the VIM4 will be used.
As well as a master file, other versions could be generated, as required, customized to individual needs. (For example, a version containing only the definitions relevant to nominal properties).
Using a web-based format would also:

- **allow more flexibility** concerning the order of presentation of entries (e.g., alphabetical ordering versus ordering based on concepts)
- **facilitate introduction of supplementary material (informative)** such as explanatory texts and possibly translations into other languages.