

MARUM / GLOMAR Expert Course:

Statistics II:

Uncertainty evaluation - fundamentals and practical applications

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Objectives

The evaluation of uncertainty is neither a routine task nor a purely mathematical one; it depends on detailed knowledge of the nature of the measurand and of its measurement. The most used approach for uncertainty calculations is the one based on the GUM (Guide to the expression of uncertainty in measurement). But when experimental data has to be evaluated, the GUM does not include some specialized topics, like non-linear models, least-squares adjustment, etc.

The aim of this course is to provide a practical and understandable way of evaluation of uncertainty by using different approaches. It is recommended to have some basic knowledge of statistics for the correct following of the course.

Topics

- Basic concepts
- Quantifying uncertainty:
 - Uncertainty sources
 - Uncertainty components
 - Type A/type B uncertainties
- Combined uncertainty:
 - Combined standard uncertainty
 - Expanded uncertainty
- Alternative approaches to uncertainty evaluation
- Practical examples

Location

MARUM, University of Bremen, 28359 Bremen, Germany, Room 2070

Time

09.00 – 12.30

To subscribe

Please send a mail to Christina Klose (glomar-courses@marum.de). Please give your name, status (PhD student, Postdoc or Master Student), institute / university and research area / working group as well as your field of study.