

Contribution ID: 15 Type: Oral presentation

## Trustworthiness as Central Design Principle for Introducing Uncertainties of Measurements to Students

Monday 3 July 2023 14:40 (20 minutes)

Two curricula of introducing measurement uncertainties for high school students have been developed. The central design principle was "trustworthiness of experiments and data" following the GUM recommendations of Type-A and Type-B methods. A time-delayed post-test showed the long term acceptance of the key ideas. SEK-1 starts with an experiment that leads them to measurement uncertainties. Sources for uncertainties and the trustworthiness are discussed and data is analysed by simple statistical means. In SEK-2, students first build a measuring instrument by themselves for introducing Type-B uncertainties. Both curricula together provide a complete introduction in how to deal with uncertainties of measurement.

## How would you like to present your contribution?

Live in Košice (time slot to be allotted based on the programme)

## **Target education level (primary)**

Lower-secondary education

## Target education level (secondary, optional)

Higher-secondary education

Author: NAGEL, Clemens

Presenter: NAGEL, Clemens

Session Classification: Innovative strategies at school

Track Classification: Innovative strategies and pathways to improve physics education at school