



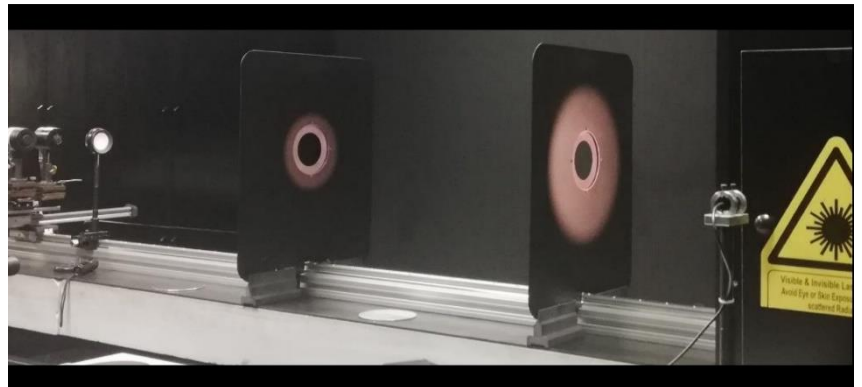
## Hands-on training on the spectral measurement methods offered by the EMPIR 19NRM02 RevStdLED project

On 22.-23. August, 2023, a training session on the spectral measurement methods including aspects for the measurement uncertainty will be held as an in-person event at the TUBITAK UME in Kocaeli, Türkiye.

Lecturers of the training are relevant representatives from the consortium of the EMPIR JRP project 19NRM02 RevStdLED “Revision and extension of standards for test methods for LED lamps, luminaires and modules which addresses **“spectrally correlated measurements used to calculate integral photometric quantities”** inside its Work Package 2.

### Content:

The training course will be about how to determine the input parameters to perform spectral measurements considering the spectral correlation and how to calculate the integrated photometric quantities such as luminous flux, luminous intensity, and chromaticity coordinates etc from such data. The training demonstrates how to develop uncertainty budgets for integral quantities while taking the correlation between spectral data points into account. Following a summary of the theoretical principles of Monte Carlo simulations taught in the online training course on the uncertainty of correlated spectral data on 24 July 2023, their practical integration into the measurement process is illustrated.



The training is based on the Good Practice Guide "The Calculations of Integral

Quantities Using Correlation", which was developed within the EMPIR project 19NRM02 RevStdLED and will be made available to the participants after the training.

### Targeted audience and prerequisites:

The course is aimed at people who carry out spectral photometric and radiometric measurements and have to deal with the determination uncertainty. Participants are expected to already have substantial knowledge about photometric measurements and uncertainty calculation. In particular, participants are expected to be familiar with the CIE S 025/E:2015 “Test Method for LED Lamps, LED Luminaires and LED Modules”, the CIE 198 “Determination of measurement uncertainties in photometry” including Supplement 1 with all parts and Supplement 2 and with the basics of [JCGM 100:2008](#) “Guide to the expression of uncertainty in measurement (GUM)” including its Supplement 1 (JCGM 101:2008) and Supplement 2 (JCGM 102:2011).

### Registration for the Training:

Please register for the training session via E-mail to [zuhal.kosemen@tubitak.gov.tr](mailto:zuhal.kosemen@tubitak.gov.tr) by 2023 July 31<sup>th</sup>.

In order to coordinate the training content, please also provide us with information about your special field of interest, your affiliation and your level of experience (beginner, advanced,



expert) with your registration. The data collected will be used exclusively for the training. Subsequently, a confirmation of registration and detailed information about the agenda including the training link will be provided.

### **Administrative Information:**

The training session is provided free of charge as an in-person event for two full days in Kocaeli, Türkiye. Participants need to cover their own travel expenses.

Registration in advance to the training session is required. Due to the practical demonstrations the number of participants is restricted.

Date : 22.-23. August 2023  
Location : TÜBİTAK Gebze Yerleşkesi  
Barış Mah. Dr.Zeki Acar Cad. No:1 41470 Gebze KOCAELİ / TÜRKİYE  
Registration : by 31<sup>th</sup> July 2023 via E-mail  
E-mail : [zuhal.kosemen@tubitakgov.tr](mailto:zuhal.kosemen@tubitakgov.tr)  
Contact : Dr. Zühal Alpaslan Kösemen, Phone: +90 262 679 5000 ext 3302

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