

# BASIC CHARACTERISATION AND MEASUREMENT PROCESSING

## Learning Outcomes

- Knowledge of the systematic and reproducible mapping of exposure parameters so that:
  - a. they can be used in models,
  - b. it can be decided if measurements are necessary,
- Understanding the use of applications for basic characterisation, exposure modelling and measurement processing.
- Preparing measurement data for testing against the limit value.

## Abstract

European (EN 689:2018, BOHS-NVvA 2011/22) and US (AIHA ed. 4; 2015) strategies align in the basic characterisation and establishing Similar Exposure Group but differ to some extent in the evaluation of workplace atmosphere exposure measurements.

With instruments like AIHA IHEST and EN689, the relevant chemicals, their properties, and Occupational Exposure Limit Values (OELV) and the Similar Exposure Group workplace factors are prepared for application in mathematical (IH-MOD) and hybrid (TREMOMO) exposure models. Non-decisive model outcome may lead to a sampling plan. The Excel application IH-Aligner converts lab workplace air results to TWA (=time-weighted average) exposure levels corresponding with reference period of the Occupational Exposure Limit Values (OELV). It also constructs measurement uncertainty-based confidence intervals for the individual comparison with the OELV. IH-Aligner automatically prepares worksheets with the TWA exposure values for export to different, recognized Frequentist and Bayesian compliance testing apps.

Participants will receive IH-Aligner, links to other apps, instructions and example data sets.

## Agenda

Time	Topic
00:00 – 00:05	Welcome
00:05 – 00:30	Basic characterisation and Similar Exposure Groups (AIHA 4th, EN689 clause 5, Annex A).
00:30 – 01:00	Use of models in the basic characterisation, Exposure profiles/scenarios
01:00 – 01:30	Use of exposure models, Interpretation of results. Conclusion: Air sampling yes or no?
01:30 – 02:00	Break
02:00 – 02:30	Sampling strategy and sampling plan. From sampling duration to limit value duration. Measurement uncertainty (EN 482/NEN 7779 and ISO 22065)
02:30 – 03:00	Processing measurement outcomes
03:00 – 03:30	Q&A

## Presenters, affiliations, and biography \*



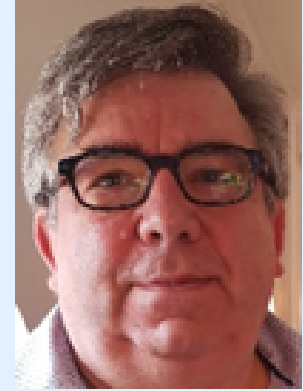
### **Theo Scheffers (TSAC).**

Over 40 years occupational health and industrial hygiene experience in research, (bio)chemical industry, engineering, software development (DOHSBase, HYGINIST, BWStat) and the international Industrial Hygiene Community (NVvA, BOHS, AIHA, ACGIH, BSOH, Sophyt, )



### **Peter van Balen (Amsterdam University Medical Centre, WEL010).**

Over 25 years Occupational Health and Industrial Hygiene experience (healthcare, soy-industry, railroad and maintenance) and clinical occupational hygiene. Independent OHS-consultant at PreventPartner.



### **Robert Emonds (Belgian Society for Occupational Hygiene).**

Aeronautical Engineer, over 20 years of Occupational Health and Safety experience (Belgian Defence, Belgian Superior Health Council, independent consultant).