



Humidity measurements at high temperatures and under non-static conditions

WORKSHOP

**PTB, Braunschweig, Germany
16 to 17 November 2017**

Drying is a part of most manufacturing processes. Optimising drying processes through improved humidity control has significant potential to reduce the energy consumption and waste production. A European project HIT is aiming at significant improvement in the accuracy of industrial humidity measurements at high temperatures up to 180 °C and under transient/non-static conditions by developing improved humidity measurement and calibration techniques.

Physikalisch-Technische Bundesanstalt (PTB) organises with the HIT consortium a workshop for all interested in improving the reliability of humidity measurements and water activity measurements in industry.

PRELIMINARY AGENDA v0.1

Wednesday 16 November

- 13:00 - 13:10 Welcome, introduction of attendants, meeting aims and objectives
- 13:10 - 13:30 Introduction to HIT (*Martti Heinonen, VTT MIKES*)
- 13:30 - 13:50 Process measurements at high temperature and pressure (*NN*)
- 13:50 - 14:10 Practical aspects of acoustical humidity measurements
(*Wilhelm van Schaik, van Schaik Innovation Handling B.V*)
- 14:10 - 14:30 Calibration of humidity sensor prototypes at high temperature and pressure
(*Andrea Peruzzi, VSL*)
- 14:40 - 14:50 Humidity measurement in steam oven for cooking applications by means of lambda sensor (*Eric Georgin, CETIAT*)
- 14:50 - 15:20 Coffee break
- 15:20 - 15:40 Need for reliable humidity measurements in harsh conditions (*NN*)
- 15:40 - 16:00 Development of a new laser-based hygrometer (*Steven Wagner, TU Darmstadt*)



16:00 - 16:20 Errors due to non-static conditions in industrial environment (*NN*)

16:20 - 16:40 Transient humidity measurements in storage of pharmaceuticals
(*Domen Hudoklin, Univ. Ljubljana*)

16:40 - 17:00 Summary and Day 1 close

Friday 17 September

09:00 - 09:05 Opening Day 2

09:05 - 09:25 Humidity measurement challenges in industrial bakery lines (*NN*)

09:25 - 09:45 Assessment of nutritional quality of processed food under a metrology-sound temperature and humidity control approach (*Laura Cavallarin, CNR*)

09:45 - 10:05 Humidity calibration equipment for food process applications
(*Vito Fericola, INRIM*)

10:05 - 10:25 Software tools for modelling temperature dependence of isotherms and transient water activity in selected materials (*Gino Cortellessa, UNICAS*)

10:25 - 10:50 Coffee break

10:50 - 11:10 Challenges of environmental testing (*NN*)

11:10 - 11:30 Humidity sensors for high temperature applications (*Tomi Pietari, Vaisala*)

11:30 - 11:50 Calibration of humidity sensors at non-static conditions
(*Martti Heinonen, VTT MIKES*)

11:30 - 12:00 Summary and Workshop close