

European Network on New Sensing Technologies for Air Pollution Control and
Environmental Sustainability - *EuNetAir*
COST Action TD1105

WG4: Protocols and Standardisation Methods

Summary of Research and Innovation Needs

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Session presentations

17:00 - 17:15

Metrics for the Evaluation of AQ Sensor Performance

Kostas Karatzas, Environmental Informatics Research Group, Department of Mechanical Engineering, Aristotle University, Thessaloniki, Greece

17:15 - 17:30

High-Resolution Mapping of Urban Air Quality using Low-Cost Sensors

P. Schneider¹, N. Castell¹, J. Van den Bossche², W. Lahoz¹

¹ NILU - Norwegian Institute for Air Research, Kjeller, Norway;

² VITO - Flemish Institute for Technological Research, Mol, Belgium

17:30 - 17:45

O3 and NO2 Sensor Network in Zurich: Operation, Data Processing and Performance Analysis

Michael Mueller, WG Member, EMPA, Zurich, Switzerland

17:45 - 18:00

Study on TCO MOX Sensors in Outdoor Odor Monitoring

Wolfhard Reimringer¹, T. Rachel¹, T. Conrad¹, A. Schütze²

¹ 3S - Sensors, Signal Processing, Systems GmbH, Saarbrücken, Germany;

² Lab for Measurement Technology, Saarland University, Saarbrücken, Germany

18:15 - 18:30

Chemsonde: Trace Gas Measurements with Radiosondes

P.D. Smith¹, R. Freshwater¹, R.L. Jones¹, N. Harris¹

¹ Department of Chemistry, University of Cambridge, Lensfield Road, Cambridge, UK

Research needs

- Further harmonization of environmental data analysis methods
- Improve data fusion methods
- Refinement of sensor models, improve QA/QC in sensor networks
- Improve sensor performance and increase insight by comparing with aircraft measurements
- Investigate vertical transport profile of pollutants
- Improve calibration

Innovation needs

- Automate analysis and modelling methods for AQ sensor data
 - Lead to service provision
- Personalize AQ information
- Improvement of calibration procedures (examples: NO₂, O₃)
- Include citizens in the data production chain

Glimpse at the (very near) future...

- QA/QC of sensors integrated to devices
- Data analysis of “device” sensor data allowing for bias allocation, isolation, and of **data personalization and profiling**
- Prepare data interfaces towards external, downloadable services

Prove (via demonstration) the necessity of AQ

Microsensors:

- Service docking infrastructure
- Service examples

ACKNOWLEDGEMENTS

Thank you!