

COST Action TD1105 EuNetAir

European Network on New Sensing Technologies for Air-Pollution Control and Environmental Sustainability

2nd training school

March 31 to April 2, 2014

- Agenda -

Saarland University Lab for Measurement Technology Building A5.1 66123 Saarbruecken

Germany

Local organizer:

Prof. Andreas Schütze Lab for Measurement Technology (LMT) Saarland University, Building A5.1 66123 Saarbruecken, Germany schuetze@LMT.uni-saarland.de +49 681 302 4663







Focus topic:

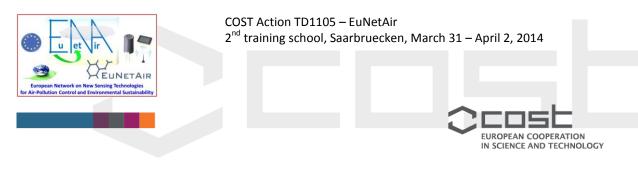
Optimized operation of solid state gas sensors for environmental technologies and air quality monitoring

Day 1: Monday, 31 March 2014: Sensor fundamentals and state of the art

Session 1: Welcome and Introduction to the Lab for Measurement Technology

9:30 – 10.00	Welcome, introduction to LMT and to the training school program Andreas Schütze, Saarland University, Lab for Measurement Technology
10.00 - 10:45	Novel gas mixing system and its validation for low VOC concentrations Martin Leidinger, Saarland University, Lab for Measurement Technology
10:45 – 11:15	Coffee Break
Session 2: Introduct	tion of the Participants
11:15 – 12:15	Introduction of training school participants: Each person should briefly introduce with 2 slides in 2 minutes
12:15 – 14:00	Lunch Break combined with Poster session additionally: lab visit (group 1)
Session 3: Sensor fu	indamentals
14:00 – 14:45	Metal oxide gas sensors Tilman Sauerwald, Saarland University, Lab for Measurement Technology
14:45 – 15:45	Gas-sensitive field effect devices Mike Andersson, Linköping University, Applied Sensor Science Group, Sweden
15:45 – 16:15	Coffee Break
Session 4: State-of-	the-art
16.15 – 17:45	JRC Ispra gas mixing system and sensor validation tests Michel Gerboles, JRC Ispra, Italy
17.45 – 18:30	Performance examples of dynamically operated gas sensors: Adicos: Industrial Early Fire Detection Technology Selective VOC detection at ppb levels against background Tilman Sauerwald, Saarland University, Lab for Measurement Technology
18:45	End of day 1





Day 2: Tuesday, 1 April 2014: Dynamic sensor operation

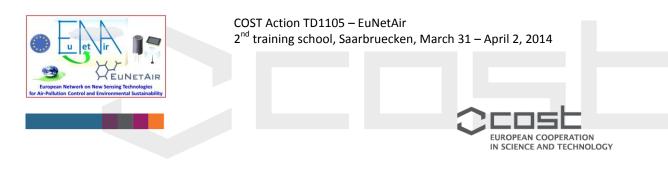
Session 5: Dynamic operation of MOS sensors

9:00 - 10.30	Temperature cycled operation and systematic optimization Steve Semancik, NIST, Gaithersburg, MD, USA
10:30 - 11:00	Coffee Break
11:00 – 12.30	Electrical Impedance Spectroscopy for MOS sensors Marco Schüler, Saarland University, Lab for Measurement Technology
12:30 - 14:00	Lunch Break combined with Poster session additionally: lab visit (group 2)

Session 6: Novel sensor technologies and operating approaches

14:00 - 14:45	Microstructured metal oxide gas sensors Hervé Delprat, SGX Sensortech S.A., Corcelles, Switzerland
14:45 – 15:30	Ionization based gas sensing Gerhard Müller, EADS Deutschland GmbH, Ottobrunn, Germany
15:30 – 16:00	Coffee Break
16:00 – 17:30	Optical excitation of gas sensors Thorsten Wagner, University of Paderborn, research group morPhOx Germany
17:30 – 18:15	Gate Bias Cycling for gas-sensitive field effect transistors Christian Bur, Saarland University, Lab for Measurement Technology, and Linköping University, Applied Sensor Science Group, Sweden
18:15	End of day 2
19:30	Social dinner organized by EuNetAir





Day 3: Wednesday, 2 Apr 2014: Data processing and practical demonstrations

Session 7: Data acquisition and signal processing, part 1		
9:00 – 10.30	Fundamentals of signal processing Andreas Schütze, Saarland University, Lab for Measurement Technology	
10:30 - 11:00	Coffee Break	
11:00 – 13.00	Demonstration of gas sensors and operating platforms 3S – Sensors, Signal Processing, Systems GmbH: OdorChecker, SniffChecker SGX Sensortech SA SenSiC AB Micronas GmbH: integrated GasFET and test kits NIST (<i>tbc</i>) Odometric SA USAAR-LMT: Combined EIS/TCO and GBCO/TCO platforms	
13:00 – 14:30	Lunch Break combined with Poster session additionally: lab visit (group 3, if required)	

Session 8: Data acquisition and signal processing, part 2

14:30 – 16:30	Practical examples for signal processing using the LMT toolbox: effects of normalization and feature extraction on PCA/LDA performance Christian Bur, Thomas Fricke, Saarland University, Lab for Measurement Technology
16:30 – 17:00	Coffee Break
17:00 – 17:45	Outlook: advanced gas sensor systems Michele Penza, Chair COST action EuNetAir, ENEA, Brindisi, Italy
17:45	End of the training school





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Impressions from the Campus of Saarland University





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