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COST Action TD1105

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

WG1-WG4 MEETING on
New Sensing Technologies and Methods for Air-Pollution Monitoring

European Environment Agency (EEA)
Copenhagen, 3 - 4 October 2013

Kongens Nytorv 6, 1050 Copenhagen, Denmark

WG1-WG4 Meeting AGENDA	
3 October 2013 Thursday Morning	**COST Action TD1105 *EuNetAir***
09:00 - 18:00	***REGISTRATION***
9:00 - 9:30	**Welcome Address from EEA and COST Action**
9:30 - 11:00	**Session 1: COST Action Plenary Session**
11:00 - 11:30	*Coffee Break*
11:30 - 13:00	**Session 2: Oral Presentations**
13:00 - 14:00	*Lunch offered by COST Action organization*
3 October 2013 Thursday Afternoon	**COST Action TD1105 *EuNetAir***
14.00 - 14.30	**Session 3: Oral Presentations**
14.30 - 15.30	**Session 4: Poster Presentations**
15.30 - 17.00	**Session 5: Oral Presentations**
17:00 - 17:30	*Coffee Break*
17.30 - 18.50	**Session 6: Oral Presentations**
20:30 - 23:00	*Social Dinner*
4 October 2013 Friday Morning	**COST Action TD1105 *EuNetAir***
09:00 - 13:00	***REGISTRATION***
09:00 - 11:00	**Session 7: Oral Presentations**
11:00 - 11:30	*Coffee-break*
11:30 - 13:00	**Session 8: Oral Presentations**
13:00 - 14:00	*Lunch offered by COST Action organization*
4 October 2013 Friday Afternoon	**COST Action TD1105 *EuNetAir***
14:00 - 15:30	**Session 9: Oral Presentations**
15:30 - 16:30	**Session 10: Discussion and Future Plans of Action**
16:30	***End of the WG1-WG4 Meeting and Farewell***

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Background and goals

About COST Action TD1105 EuNetAir

COST Action TD 1105 EuNetAir, a Concerted Action on *New Sensing Technologies for Air-Pollution Control and Environmental Sustainability*, is a running Networking funded in the framework *European Cooperation in the field of Scientific and Technical Research* (COST) during 2012-2016.

The main objective of the Concerted Action is to develop new sensing technologies for Air Quality Control at integrated and multidisciplinary scale by coordinated research on nanomaterials, sensor-systems, air-quality modelling and standardised methods for supporting environmental sustainability with a special focus on Small and Medium Enterprises.

This international Networking, coordinated by ENEA (Italy), includes over 75 big institutions from 27 COST Countries (EU-zone: *Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, The Former Yugoslav Republic of Macedonia, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom*) and 5 International Partners Countries (extra-Europe: *Australia, Canada, China, Russia, USA*) to create a S&T critical mass in the environmental issues.

About the Workshop at European Environment Agency (EEA), Copenhagen, October 3-4, 2013

The WG1-WG4 Meeting (WGM) will be held at EEA, Copenhagen (Denmark). The core-issues of the COST Action TD1105 will be surveyed and presented as current results and scientific and technological breakthrough. WG1-WG4 Meeting will discuss on ***New Sensing Technologies and Methods for Air-Pollution Monitoring*** in a multidisciplinary and interdisciplinary approach aiming to provide harmonization of the environmental measurements, exchange of best practices, quality assurance, quality control, data quality, methods and protocols. A plenary session will be organized and open to external participants and stakeholders for S&T discussions on the real critical cases of environmental situations across Europe with emphasis at COST Countries involved in the Action (27 Parties on September 2013). A Poster Session will be managed to offer young researchers and experienced scientists to discuss on real and specific environmental topics in open and face-to-face dialogue. Speakers, experts and other specialists from environmental agencies, academy and industry across Europe will be encouraged to participate and give a Talk on environmental critical hot-spots existing in the Europe zone. Fruitful discussions between Action TD1105 participants, international experts, speakers and international institutional organizations delegates (e.g., WHO Europe, DG ENV, DG RTD, European Environment Agency, US EPA) are strongly expected. At the open WG1-WG4 Meeting of the Action TD1105, a strong impact on focusing of the critical environmental issues would be mutual benefit.

More Information

Dr. Michele Penza
MC Chair/Proposer of *COST Action TD1105 EuNetAir*
ENEA - Italian National Agency for New Technologies, Energy and Sustainable Economic Development
Technical Unit for Materials Technologies - Brindisi Research Centre
PO BOX 51 Br-4, I-72100 Brindisi, ITALY. Email: michele.penza@enea.it.

Action webpages: www.cost.eunetair.it

Dr. Valentin Foltescu
European Environment Agency Project Manager
Air Quality Reporting and Assessment
Kongens Nytorv 6, 1050 Copenhagen, Denmark. Email: Valentin.Foltescu@eea.europa.eu

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Thursday, 3 October 2013

COST Action TD1105 EuNetAir

European Environment Agency (EEA), Copenhagen, 3 - 4 October 2013
Kongens Nytorv 6, 1050 Copenhagen, Denmark

09:00 - 18:00	**COST Meeting Registration**
09:00 - 09:30	***Welcome Address from EEA and COST Action*** *Chairperson: Michele Penza, Action Chair - ENEA, Brindisi, Italy*
09:00 - 09:10	*Valentin Foltescu*, EEA Representative, European Environment Agency, Copenhagen, Denmark
09:10 - 09:15	*Michele Penza*, Action Chair, ENEA, Italy - COST Office Representative !??
09:15 - 09:30	**COST Action TD1105: European Network on New Sensing Technologies for Air-Pollution Control and Environmental Sustainability. Overview and Plans of COST Action TD1105** *Michele Penza*, Action Chair, ENEA, Italy
09:30 - 11:00	***Session 1: COST Action Plenary Session*** *Chairperson: Michele Penza, Action Chair - ENEA, Brindisi, Italy*
09:30 - 10:00	**Air Quality Status in Europe** *Cristina Guerreiro*, EEA Report Leader, NILU - Norwegian Institute for Air Research, Kjeller, Norway
10:00 - 10:30	**CO_2 Sensor Applications for Saving Environment and Costs** *Ingrid Bryntse*, Action WG4 Leader, SenseAir SA, Delsbo, Sweden
10:30 - 11:00	**The US EPA Roadmap for Next Generation Air Monitoring** *Tim Watkins*, Deputy Director for US EPA's Air, Climate and Energy Program, US Environmental Protection Agency, Research Triangle Park, USA
11:00 - 11:30	**Coffee Break**
11:30 - 13:00	***Session 2: EU Projects on Air Quality Monitoring*** *Chairperson: Anita Lloyd Spetz, Action Vice-Chair, University of Linkoping, Sweden*
11:30 - 12:00	**FP7 Project PASODOBLE (2011-13): MyAir Information Services for Regional and Local Air Quality Monitoring and Forecasting** *Thilo Erbertseder*, DLR, German AeroSpace Centre, Wessling, Germany
12:00 - 12:30	**FP7 Project MSP (ICT-2013-10): Multi-Sensor Platform for Smart Building Management** *Anton Köck*, Project Leader, Materials Center Leoben Forschung GmbH (MCL), Leoben, Austria
12:30 - 13:00	**FP7 Project (EeB.ENV.2011.3.1.5-1) INTASENSE (2011-14): System to Control Indoor Air-Quality in Energy Efficient Buildings** *Gemma García Mandayo*, CEIT - Centre of Studies and Technical Research, Donostia-San Sebastian, Spain
13:00 - 14:00	**Lunch offered by COST Action organization**

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14:00 - 14:30 ***Session 3: Technologies for Air Quality Monitoring Applications***
Chairperson: Juan Ramon Morante, Action WG1 Leader, IREC, Barcelona, Spain

14:00 - 14:15 **Case Study: Project FP7 OMNISCIENTIS for Odour Monitoring Applications in Industrial Plants and Communities**
Anne-Claude Romain, Universitè de Liege, Arlon, Belgium

14:15 - 14:30 **Case Study: Unmanned Airborne Vehicles (UAV) for Air Quality Monitoring Applications**
Steven Friberg, CEO Danish Aviation Systems, Copenhagen, Denmark

14:30 - 15:30 ***Session 4: Poster Presentations on Air Quality Monitoring***
Chairperson: Andreas Schuetze, Action WG2 Leader, Saarland University, Saarbrucken, Germany

Posters will be presented by Quick Presentations (3 minutes, 4 templated slides) by presenters, preferably Early Stage Researchers. Posters are listed by theme and as-received.

SENSORS AND SYSTEMS FOR AIR QUALITY MONITORING

P01 **Conductometric Gas Dosimeter for NO_2 Detection**
I. Marr, A. Groß, R. Moos, Department of Functional Materials, University of Bayreuth, 95440 Bayreuth, Germany

P02 **MSDI Heterojunctions for Reliable Ammonia Sensing in Moist Environment**
Jean M. Suisse, Marcel Bouvet, P. Gaudillat, [1]Institut de Chimie Moléculaire de l'Université de Bourgogne (ICMUB), Université de Bourgogne, UMR CNRS 6302, 9 avenue A. Savary, F-21078 Dijon, France

P03 **Metal Oxide Heterostructures for Gas Sensor Applications**
E. Şennik[1], S. Öztürk[1], N. Kılınç[1,2], Z.Z. Öztürk[1,3]; [1]Gebze Institute of Technology, Department of Physics, 41400 Gebze - Kocaeli, Turkey; [2]Koc University, Electrical and Electronic Engineering, 34450 Sariyer, Istanbul, Turkey; [3]Tubitak Marmara Research Center, PO Box 21, 41470 Gebze - Kocaeli, Turkey

P04 **Detection of Low Concentrations of Volatile Organic Compounds with SiC-Field Effect Transistors**
C. Bur[1,2], D. Puglisi[2], J. Eriksson[2], M. Andersson[2], A. Lloyd Spetz[2], and A. Schütze[1], [1]Saarland University, Saarbrucken, Germany; [2]Linkoping University, Linkoping, Sweden

P05 **Fiber Loop Ring-Down Spectroscopy for Trace Chemical Detection**
B. Cengiz[1], M. Doğangün[1], E. Kara[1], H. Berberoğlu[2], H. Altan[2], M. Fatih Danışman[1], Okan Esentürk[1], [1]Department of Chemistry, Middle East Technical University, Ankara, Turkey; [2]Department of Physics, Middle East Technical University, Ankara, Turkey

P06 **Development of a Portable Sensor-System for Air Quality Monitoring**
Domenico Suriano, Gennaro Cassano, Michele Penza, ENEA, Brindisi, Italy

P07 **High Resolution Mapping of Ultrafine Particles in Zurich based on a Mobile Sensor Network**
M. D. Mueller[1], D. Hasenfratz[2], O. Saukh[2], Ch. Hueglin[1]; [1]Empa, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland; [2]ETH Zurich, Computer Engineering and Networks Laboratory, Zurich, Switzerland

CYTOTOXICITY AND EXPOSURE TO NANOMATERIALS

P08 **CMOS-based Capacitance Measurements for Cell Adhesion Sensing Applied in Evaluating the Cytotoxicity of Nanomaterials**
N. Halonen[1], T. Datta[2,3], A. Hassinen[4], S. B. Prakash[3,5], P. Möller[6], P. Abshire[3], E. Smela[2], S. Kellokumpu[4] and A. Lloyd-Spetz[1,6]; [1]Microelectronics and Materials Physics Laboratories,

Department of Electrical Engineering, University of Oulu, P.O. Box 4500, FI-90014 University of Oulu, Finland; [2]Laboratory for MicroTechnologies, Department of Mechanical Engineering, A. James Clark School of Engineering, University of Maryland, College Park, MD 20742, USA; [3]Integrated Biomorphic Information System Laboratory, Department of Electrical & Computer Engineering, A. James Clark School of Engineering, University of Maryland, College Park, MD 20742, USA, [4]Division of Cell Biology, Department of Biochemistry, University of Oulu, P.O. Box 3000, FI-90014 University of Oulu, Finland; [5]Advanced Design Organization, Intel Corporation, Hillsboro, Oregon USA; [6]Division of Applied Sensor Science, Department of Physics, Chemistry and Biology, Linköping University, SE-58183 Linköping, Sweden

P09 **Characterization of Exposure to Carbon Nanotubes in an Industrial Facility**
A. S. Fonseca[1], M. Viana[1], X. Querol[1], M. C. Minguillon[1], A. Alastuey[1], A. K. Viitanen[2], A.J. Koivisto[2],K. Hämeri[3]; [1]Institute of Environmental Assessment and Water Research (IDAEA-CSIC), Barcelona, Spain; [2]Finnish Institute of Occupational Health, Nanosafety Research Centre, Helsinki, Finland; [3]University of Helsinki, Department of Physics, Helsinki, Finland

ENVIRONMENTAL MEASUREMENTS FOR AIR QUALITY MONITORING

P10 **Atmospheric Concentrations of Organochlorine Pesticides (OCP) at Station Nord, Greenland**
R. Bossi[1], H. Skov[1], C. A. Skjøth[2], [1]Department of Environmental Science, Aarhus University, Roskilde, Denmark; University of Worcester, Henwick Grove, Worcester, United Kingdom

P11 **New Particle Formation Events at the Lille Valby Semi-rural Background Site in Denmark**
F. Wang[1], M. Ketzel[2], A. Massling[2] and A. Kristensson[3], [1]National Climate Center, Beijing, 100081, China; [2]Department of Environment Science, Aarhus University, 4000 Roskilde, Denmark; [3]Department of Physics, Lund University, 22100 Lund, Sweden

P12 **Using the Nasal Air Sampler to Compare Grass Pollen Dose With Monitoring Station Data**
R. G. Peel[1,2], O. Hertel[1,3], M. Smith[2,4], R. Kennedy[2], [1]Department of Environmental Science, Aarhus University, Frederiksborgvej 399, Roskilde; [2]National Pollen and Aerobiology Research Unit, University of Worcester, Henwick Grove, Worcester; [3]Department for Environmental, Social and Spatial Change (ENSPAC), Roskilde University, Universitetsvej 1, Roskilde, Denmark; [4]Present address: Department of Oto-Rhino-Laryngology, Medical University of Vienna, Vienna, Austria

P13 **Hot Spots and Cases on Air Pollution in the Former Yugoslav Republic of Macedonia**
Ljupcho Grozdanovski, Macedonian Environmental Information Centre, Air Quality Calibration Laboratory, Ministry of Environment and Physical Planning, Skopje, fY Republic of Macedonia

P14 **Lichens as a Ready-to-Use Tool to Monitor PAH Atmospheric Pollution: What is Still Missing?**
S. Augusto[1], C.Máguas[1], C. Branquinho[1]; [1]Centre for Environmental Biology, Faculty of Sciences of University of Lisbon, Portugal

P15 **Should Pollen be Included in EU Air Pollution Exposure Assessment? A Study of Pollen-Pollution Co-Exposure in Copenhagen, Denmark**
P.V Ørby[1], R. Peel[2], [3]C. Skjøth, O. Hertel[2], J. Bønløkke[1], V. Schlünssen[1]; [1] Department of Public Health, Aarhus University, Bartholins Alle 2,8000 Aarhus Denmark; [2]Department of Environmental Science, Aarhus University, Frederiksborgvej 399, 4000 Roskilde,Denmark [3]National Pollen and Aerobiological Research Unit, Worcester University, Henwick Grove, Worcester, WR2 6AJ, UK.

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Thursday, 3 October 2013

COST Action TD1105 EuNetAir

European Environment Agency (EEA), Copenhagen, 3 - 4 October 2013
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15:30 - 17:00	***Session 5: Gas Sensor Systems for Air Quality Monitoring*** *Chairperson: Michele Penza, Action Chair - ENEA, Brindisi, Italy*
15:30 - 16:00	**Low-Cost Metal Oxides Gas Sensors: State of Art, Perspectives and New Challenges** *Juan Ramon Morante*, Action WG1 Leader, IREC, Barcelona, Spain
16:00 - 16:20	**Wireless Sensors Networks for Air-Pollution Monitoring in Cities** *Vivien Bright*, Action SIG2 Member, University of Cambridge, Centre for Atmospheric Science, UK
16:20 - 16:40	**Gas Sensors for Indoor Air Quality Monitoring** *Andreas Schuetze*, Action WG2 Leader, Saarland University, Saarbrucken, Germany
16:40 - 17:00	**Low-Power and Portable Sensor-Systems for Environmental Air-Monitoring** *Rob van Schaijk*, Action WG2 Member, IMEC Holst-Centre, Eindhoven, The Netherlands
17:00 - 17:30	**Coffee Break**
17:30 - 18:50	***Session 6: Particulate Matter and New Metrics Technologies for Air Quality Monitoring*** *Chairperson: Anita Lloyd Spetz, Action Vice-Chair, Linkoping University, Sweden*
17:30 - 17:50	**Recent Trends in Measuring Particulate Metrics in Urban Air** *Ulrich Quass*, Action Sub-WG3.3 Leader, IUTA eV, Duisburg, Germany
17:50 - 18:10	**The Black Carbon Mapper: A Platform to Map Black Carbon Exposure at Street Level with Volunteers** *Bart Elen*, Action WG3 Member, VITO, Mol, Belgium
18:10 - 18:30	**Multivariate Modelling of Spectroscopic Data for Tracing Sources of Particulate Air-borne Pollution** *Arngrimur Thorlacius*, MC IS Member, Agricultural University of Iceland, Hvanneyri, Iceland
18:30 - 18:50	**Identifying Sources to Aeroallergens in Urban Areas by Unmanned Airborne Vehicles (UAV)** *Carsten Skjoth*, WG Member, University of Worcester, Worcester, UK
19:00	**Day Adjourns**
20:30 - 23:00	**Social Dinner**

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Friday, 4 October 2013

COST Action TD1105 EuNetAir

European Environment Agency (EEA), Copenhagen, 3 - 4 October 2013
Kongens Nytorv 6, 1050 Copenhagen, Denmark

09:00 - 11:00	***Session 7: Environmental Measurements and Modelling*** *Chairperson: Iveta Steinberga, University of Latvia, Riga, Latvia*
09:00 - 09:20	**Attainment Status of Air Quality Standards - An Interactive Way of Finding Information on Attainment** *Valentin Foltescu*, European Environment Agency, Copenhagen, Denmark
09:20 - 09:40	**EU Project (ENV 2012-16): Development of Sensor-based Citizens' Observatory Community for Improving Quality of Life in Cities (CITI-SENSE)** *Hai-Ying Liu*, Project Coordination, NILU - Norwegian Institute for Air Research, Kjeller, Norway
09:40 - 10:00	**Air Quality Measurements in the Former Yugoslav Republic of Macedonia** *Igor Atanasov*, Ministry of Environment and Physical Planning, Skopje, fY Republic of Macedonia
10:00 - 10:20	**Ambient Air Measurements of PM and Black Carbon at Air-Quality Stations in Spain** *Mariacruz Minguillon*, CSIC-IDAEA, Barcelona, Spain
10:20 - 10:40	**Air Quality Modelling in Slovenia: Forecasting Air Pollution at Regional and Local Scale** *Rahela Zabkar*, University of Ljubljana, Liubljana, Slovenia
10:40 - 11:00	**Bulgarian Participation in the AQ Model Inter-comparison Exercise AQMEII-p2** *Dimiter Syrakov*, Bulgarian Academy of Sciences, NIMH, Sofia, Bulgaria
11:00 - 11:30	**Coffee Break**
11:30 - 13:00	***Session 8: Health Assessment of Human Exposure to Air Pollution*** *Chairperson: Ole Hertel, Action WG3 Chair, Aarhus University, Roskilde, Denmark*
11:30 - 11:50	**Assessing Human Exposure to Air Pollution in Health Assessment Studies in Europe** *Ole Hertel*, Action WG3 Chair, Aarhus University, Roskilde, Denmark
11:50 - 12:10	**Geriatric Study in Portugal on Health Effects of Air Quality in Elderly Care Centers** *Joao Paulo Teixeira*, National Institute of Health, Porto, Portugal
12:10 - 12:30	**Respiratory Effects of Indoor Generated "Smog"** *Peder Wolkoff*, National Research Centre for the Working Environment, Copenhagen, Denmark
12:30 - 12:50	**Challenges for a New Air Quality Directive: The Role of Monitoring and Modelling Techniques** *Carlos Borrego,* Institute of Environment and Development, Aveiro, Portugal
13:00 - 14:00	**Lunch offered by COST Action organization**
14:00 - 15:30	***Session 9: Standardised Methods for Air-Pollution Commercial Sensors*** *Chairperson: Ingrid Bryntse, Action WG4 Chair, SenseAir SA, Delsbo, Sweden*
14:00 - 14:30	**The Role of Reference Methods and Quality Assurance (QA) Programmes in EMEP (*European Monitoring and Evaluation Programme*) Long-Term Observational Monitoring Networks: Interaction with Communities, New Technologies and Methods for Air-Pollution Monitoring** *Wenche Aas,* EMEP-CCC Programme of UNECE (United Nations Economic Commission for Europe) Convention on Long-Range Transboundary Air Pollution, QA/QC, training, acidification, heavy metals, NILU, Norway

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14:30 - 14:40	**Low-Cost NDIR based Sensor Platform for sub-ppm Gas Detection** *Markus Norèn,* SenseAir SA, Delsbo, Sweden
14:40 - 14:50	**New VOC Sensor-System for Indoor Air Quality Monitoring: First Proof-of-Concept Results** *Thorsten Conrad*, 3S GmbH, Saarbrucken, Germany
14:50 - 15:00	**New Commercial Sensors for Outdoor Air Quality Monitoring** *Raviv Yatom*, AirBase Systems, Israel/Germany
15:00 - 15:10	**Development of a Formaldehyde Chemical Sensor for Indoor Air Quality Monitoring and Analysis in Passive Mode** *Katarzyna Raulin*, Ethera, Gif-sur-Yvette Cedex, France
15:10 - 15:30	**HORIZON 2020: Overview of Upcoming Funding Opportunities for the *EUNETAIR* Network and Partners** *Corinna Hahn*, Action Grant Holder Manager, Eurice GmbH, Saarbrucken, Germany
15:30 - 16:30	***Session 10: Discussion and Future Plans of Action*** *Chairperson: Michele Penza, Action Chair - ENEA, Brindisi, Italy*
15:30 - 15:40	**Future Plans of COST Action TD1105 *EuNetAir*** *Michele Penza*, Action Chair, ENEA, Italy
15:40 - 15:50	**Research & Innovation Needs Completion of COST Action TD1105** *Marco Alvisi*, Action SIG1 Leader, ENEA, Italy
15:50 - 16:10	**Discussion and Inputs from Action Management, Participants, Practitioners, Stakeholders**
16:10 - 16:30	**Inputs and Advices from *Action Workshop Advisory Board*:** • *Thilo Erbertseder*, DLR, German AeroSpace Centre, Wessling, Germany • *Wenche Aas,* EMEP-CCC Programme of UNECE Convention on Long-Range Transboundary Air Pollution, QA/QC, training, acidification, heavy metals, NILU, Kjeller, Norway • *Cristina Guerreiro*, EEA AQ Report Leader, NILU, Kjeller, Norway • *Tim Watkins,* US EPA, Research Triangle Park, USA • *Valentin Foltescu,* EEA, Copenhagen, Denmark
16:30	***End of the WG1-WG4 Meeting and Farewell***

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