



COST Action TD1105

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

SECOND SCIENTIFIC MEETING

Working Groups and Management Committee

University of Cambridge, Queens' College, 18 - 20 December 2013

Queens' College, Silver Street, CB3 9ET, Cambridge, UK

GENERAL PROGRAMME

Meeting AGENDA				
18 Dec. 2013 - Wednesday				
08:30 - 18:00	REGISTRATION			
09:00 - 10:00	WELCOME SESSION			
10:00 - 11:00	PLENARY SESSION 1			
11:00 - 11:30	Coffee-Break			
11:30 - 13:00	PLENARY SESSION 2			
13:00 - 14:00	Lunch			
14:00 - 15:00	POSTER SESSION 1			
15:00 - 17:00	WG1 Meeting	WG2 Meeting	WG3 Meeting	WG4 Meeting
17:00 - 17:30	Coffee-Break			
17:30 - 18:30	WG1 Meeting	WG2 Meeting	WG3 Meeting	WG4 Meeting
18:30	Gathering of Day			
20:30 - 23:00	Social Dinner at Old Hall in Queens' College			
19 Dec. 2013 - Thursday				
09:00 - 18:00	REGISTRATION			
09:00 - 09.30	Wrap-Up and Inputs from Action TD1105			
09:30 - 11:00	SIG1 Meeting	SIG2 Meeting	SIG3 Meeting	SIG4 Meeting
11:00 - 11:30	Coffee-Break			
11:30 - 13:00	SIG1 Meeting	SIG2 Meeting	SIG3 Meeting	SIG4 Meeting
13:00 - 14:00	Lunch			
14:00 - 15:00	POSTER SESSION 2			
15:00 - 16:00	Action WGs GENERAL ASSEMBLY			
16:00 - 17:00	Action SIGs GENERAL ASSEMBLY			
17:00 - 17:30	Coffee-Break			
17:30 - 18:30	Round-Table and DISCUSSIONS			
20:30	Free Dinner			
20 Dec. 2013 - Friday				
09:00 - 13:00	MANAGEMENT COMMITTEE MEETING			
13:00 - 14:00	Lunch			
14:30	Meeting Closing			





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 28 COST Countries (EU-zone: *Austria, 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 7 International Partners Countries (extra-Europe: *Australia, Canada, China, Morocco, Russia, Ukraine, USA*) to create a S&T critical mass in the environmental issues.

About the *Second Scientific Meeting* at Queens' College, Cambridge, 18-20 December 2013

The 4th MC Meeting jointly with WG1-4 Meeting will be held at Queens' College, University of Cambridge (Action partner), tentatively organized with a Plenary Session, four Parallel Sessions (one per WG) including a Common Session of the WG1-4 and the four Special Interest Groups (SIGs), and finally, a MC Meeting. At the Plenary Session and/or WGs and SIGs Meetings and/or MC Meeting, Invited Speakers will be involved as external experts: at least 1 Keynote Speaker from Non-COST partnership and at least 2 Invited Speakers from COST Area to give Talks on current state-of-the-art of the Action core-issues.

Participation from research, academy, university, industry, environmental agencies, international stakeholders, policy-makers and institutional managers is widely planned with large outreach and dissemination activities, at high expected impact (28 Parties involved in the Action on November 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. Fruitful discussions between Action TD1105 participants, international experts, speakers and international institutional organizations delegates (e.g., WHO Europe, JRC, DG ENV, DG RTD, European Environment Agency, US EPA) are strongly expected. At the open ***Second Scientific Meeting*** of the COST Action TD1105 *EuNetAir*, 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

Prof. Roderic L. Jones

Chair of Local Organizing Committee

Centre for Atmospheric Science

Department of Chemistry

Lensfield Road, CB2 1EW Cambridge, UK. Email: rlj1001@cam.ac.uk



COST is supported
by the EU Framework Programme



ESF provides the COST Office
through a European Commission contract



Wednesday, 18 December 2013

COST Action TD1105 Working Groups and Special Interest Groups MEETING

Fitzpatrick Hall

8:30 - 18:00 Registration

09:00 - 10:00 Welcome Address Session

Chairman: Michele Penza, Action Chair - ENEA, Italy

09:00 - 09:10

Welcome Address from Host Institution

Rod Jones, University of Cambridge, Centre for Atmospheric Science, UK

09:10 - 09:20

Welcome Address from COST Office

Deniz Karaca, ESSEM Science Officer, COST Office, Brussels, Belgium

09:20 - 10:00

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

Michele Penza, Action Chair, ENEA, Italy

10:00 - 11:00

Plenary Session 1

Chairman: Michele Penza, Action Chair - ENEA, Italy

10:00 - 10:30

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

10:30 - 11:00

OpenSense: City-Scale Air Quality Monitoring with Wireless Sensor Nodes

David Hasenfratz, ETH, Zurich, Switzerland

11:00 - 11:30

Coffee Break

11:30 - 13:00

Plenary Session 2

Chairman: Anita Lloyd Spetz, Action Vice-Chair - University of Linköping, Sweden

11:30 - 12:00

FP7 Flagship Graphene: An Opportunity for Nanotechnologies and Nanosensors

Andrea C. Ferrari, Chairman of Executive Board of FP7 Flagship Graphene, Cambridge Graphene Centre, Engineering Department, University of Cambridge, UK

12:00 - 12:30

Towards Sensitive Air Quality Monitoring Exemplified by the Field Effect Sensor Platform: from Chemical Interactions to Electrical Transduction

Mike Andersson, Department of Physics, Chemistry and Biology, Linköping University, Sweden

12:30 - 13:00

High Density Air Quality Network at Cambridge and London Heathrow Airport: First Results and Interpretations

Rod Jones, Action SIG2 Leader, University of Cambridge, Cambridge, UK

13:00 - 14:00

Lunch offered by COST Action organization

Wednesday, 18 December 2013

Gallery of Fitzpatrick Hall or Bar & Conservatory Area

Poster Session 1

14:00 - 15:00

Chairperson: Andreas Schuetze, Action WG2 Leader, Saarland University, Saarbrücken, Germany

Posters (90 cm width x 100 height) will be exhibited in Panels. The Poster Presenter, preferably Early Stage Researcher, is required to stay near poster for discussion with interested people.

MATERIALS, SENSORS, SYSTEMS, METHODS FOR AIR QUALITY MONITORING

- P01 Organic Field Effect Transistors Functionalised with Odorant Binding Proteins for the Detection of Volatile Organic Compounds**
Giorgio Mattana, EPFL, IMT-SAMLAB, Neuchâtel, Switzerland
- P02 Doped $\text{Ba}_x\text{Sr}_{1-x}\text{TiO}_3$ Nanostructured Materials with Potential for H_2S Detection**
Cristina F. Rusti¹, Roxana M. Piticescu¹, Adelina Stanoiu², Cristian Simion², Arcadie Sobetkii³, Valentin Dragut¹, Viorel Badilita¹; ¹National Institute for Non Ferrous and Rare Metals - IMNR, Pantelimon, Romania; ²National Institute of Materials Physics - INCDPM, Magurele, Romania; ³SC MGM Star Construct SRL, Bucharest, Romania
- P03 Environmental Monitoring of Human Body Odours**
T.A. Vincent, J.G. Hattersley, S. Thomas, A. Wilson, M. J. Chappel, J. W. Gardner, Warwick University, Coventry, UK
- P04 Back-Trajectories Show Export of Airborne Fungal Spores (*Ganoderma* sp.) from Forests to Agricultural and Urban Areas in England**
Magdalena Sadys, University of Worcester, UK
- P05 An Early Warning System for High Pollution Levels around Thermal Power Plants**
D. Syrakov, M. Prodanova, K. Slavov, H. Branzov, Action WG3 Member, NIMH, Bulgarian Academy of Sciences, Sofia, Bulgaria
- P06 Microwave Synthesis of Nano Metal Oxide and Their Application in Microwave Gas Sensing**
Brice De-Fonseca, Jerome Rossignol, Pr D. Stuerge, Université de Bourgogne, Dijon, France
- P07 A Framework for Air Quality Social Sensing based on Open Source HW/SW Tools**
Luca Capezzuto, ENEA, Portici, Italy
- P08 Detection of CO_2 and Volatile Organic Compounds using a Combination of Semiconductor Gas Sensors and IR Spectroscopy**
Martin Leidinger, Tilman Sauerwald, Eliseo Pignanelli, Andreas Schuetze, Saarland University, Saarbrücken, Germany
- P09 Measuring Real-World Energy Consumption and Vehicle Emissions**
A. Thiyagarajah, D. Williams, R. North, Imperial College London, London, UK
- P10 Interpreting Air Quality Sensor Data: Sensor Network for Air Quality at Heathrow**
G. Koudis, S. Hu, J. Mack-Smith, J. Polak, R. North, Imperial College London, London, UK

Wednesday, 18 December 2012

Action TD1105 Working Groups Meetings

Parallel Session of WG1. Location: Angevin Room (Boardroom 25 seats)

15:00 - 18:30 **WG1: Sensor Materials and Nanotechnology**
Chairman: Jyrki Lappalainen, Action WG1 Vice-Chair - Oulu University, Oulu, Finland

Specific Presentations from WG1

- 15:00 - 15:10** **Structural Characterization and Gas Sensing Properties of Vanadium Oxide Thin Films**
Jyrki Lappalainen, Action WG1 Vice-Chair, Oulu University, Oulu, Finland
- 15:10 - 15:20** **Carbon Nanomaterial based Sensors for Air Pollution Monitoring**
Eduard Llobet, Action Sub-WG1.2 Leader, Universitat Roviri I Virgili, Tarragona, Spain
- 15:20 - 15:30** **Research & Innovation Needs for Hybrid and Functional Materials for Chemosensing**
Marcel Bouvet, Action Sub-WG1.3 Leader, Université de Bourgogne, Dijon, France
- 15:30 - 15:40** **Metal Functionalized ZnO Nanorods for Gas Sensing Applications**
Zafer Ziya Ozturk, Gebze Institute of Technology, Kocaeli, Turkey
- 15:40 - 15:50** **UV Sensor by Inkjet Printing Technology**
Vassilios Binas, FORTH, Crete, Greece
- 15:50 - 16:00** **Sensing Properties of Doped BaSrTiO₃ Thin Films for Toxic Gases Detection**
Cristina Rusti, IMNR, Pantelimon, Romania
- 16:00 - 16:10** **Microwave Synthesis of Nano Metal Oxide and Their Application in Microwave Gas Sensing**
Jerome Rossignol, Brice De-Fonseca, Pr D. Stuerge, Pr P Pribetich, Université de Bourgogne, Dijon, France
- 16:10 - 17:00** **Partner Presentations from WG1:**
Slot-time for each listed partner is 5 minutes.

17:00 - 17:30 **Coffee Break**

- 17:30 - 18:30** **Discussions of WG1: R&I Needs Completion, Roadmap.**
Deliverable: Definition and Completion of the WG1 Research & Innovation Needs for WGs General Assembly and Action Workplan to be presented by WG Chairman/Leader.

Parallel Session of WG2. Location: Fitzpatrick Hall (Theatre 65 seats)

15:00 - 18:30 **WG2: Sensors, Devices and Systems for AQC**
Chairman: Andreas Schuetze, Action WG2 Chair - Saarland University, Saarbrücken, Germany

Specific Presentations from WG2

- 15:00 - 15:10** **Sensors for Indoor Air Quality Control**
Andreas Schuetze, Action WG2 Chair - Saarland University, Saarbrücken, Germany
- 15:10 - 15:20** **SiC based Field Effect Sensors for Emissions Monitoring and Air Quality Control**
Mike Andersson, Linköping University, Sweden
- 15:20 - 15:30** **Particulate Matter Detection based on Acoustic Resonators for Air-Quality Monitoring**
S. Thomas, M. Cole, Julian W. Gardner, University of Warwick, UK
- 15:30 - 15:40** **Modeling the Response of Acoustic Sensors in the Air Quality Applications**
Marina Voinova, Chalmers University of Technology, Gothenburg, Sweden
- 15:40 - 15:50** **From Silicon to Plastic Technologies for Environmental Monitoring Microsystems**
Giorgio Mattana, EPFL, IMT-SAMLAB, Neuchâtel, Switzerland

- 15:50 - 16:00** **Micro Wave Transduction for Gas Sensing: 2005 to Present**
Brice De-Fonseca, Université de Bourgogne, Dijon, France
- 16:00 - 16:10** **Sensors based on Complex Perovskite Structures for Detection and Identification of hazardous substances**
Radu Adrian Ionica, IPA SA, Craiova, Romania
- 16:10 - 16:20** **A Holistic Approach in the Development and Deployment of WSN-Based Applications and Systems**
George Papadopoulos, Action Sub-WG2.3 Leader, ISI-Athena, Patras, Greece
- 16:20 - 16:30** **Photo-acoustic Spectroscopy Utilizing AFM-based Cantilever Detection Technique**
Zdenek Zelinger and P. Janda, Academy of Sciences of the Czech Republic, Prague, CZ
- 16:30 - 17:00** **Partner Presentations from WG2**
Slot-time for each listed partner is 5 minutes.

17:00 - 17:30 **Coffee Break**

- 17:30 - 18:30** **Discussions of WG2: R&I Needs Completion, Roadmap.**
Deliverable: Definition and Completion of the WG2 Research & Innovation Needs for WGs General Assembly and Action Workplan to be presented by WG Chairman/Leader.

Parallel Session of WG3. Location: Bowett Room (Theatre 65 seats)

- 15:00 - 18:30** **WG3: Environmental Measurements and Air-Pollution Modelling**
Chairman: Ole Hertel, Action WG3 Chair - Aarhus University, Roskilde, Denmark
- Specific Presentations from WG3**
- 15:00 - 15:10** **Assessment of Atmospheric Nitrogen Deposition Using a Combination of Measurements and model Calculations**
Ole Hertel, Action WG3 Chair - Aarhus University, Roskilde, Denmark
- 15:10 - 15:20** **Citi-Sense-MOB: Monitoring Urban Air Quality on Mobile Platforms**
Nuria Castell-Balaguer, Action Sub-WG3.1 Leader, NILU - Norwegian Institute for Air Research, Kjeller, Norway
- 15:20 - 15:30** **Spatial Mapping and Data Assimilation of Observations from Low-cost Air Quality Sensors within CITI-SENSE**
Philipp Schneider, Action WG 3 Member, NILU, Kjeller, Norway
- 15:30 - 15:40** **First Results of Comparability (Variability Between) DYLOS Monitors in Indoor Environment and Plan for Further Calibration**
Milena Jovasevic-Stojanovic, Action WG3 Member, Institute Vinca, Belgrade, Serbia
- 15:40 - 15:50** **SEM-EDX Analysis for Source Apportionment of Particulate Pollution in Urban Area**
Iveta Steinberga, University of Latvia, Riga, Latvia
- 15:50 - 16:00** **Simulation of Severe Pollution Events by Bulgarian Emergency Response System**
Kiril Slavov, Action WG3 Member, NIMH, Bulgarian Academy of Sciences, Sofia, Bulgaria
- 16:00 - 16:10** **The Use of Reflectance Spectroscopy for the Analysis of Air-Borne Dust**
Arngrimur Thorlacius, Agricultural University of Iceland, Iceland
- 16:10 - 16:20** **Using WRF-Hysplit in GIS to Study Bioaerosols**
Carsten A. Skjoth, University of Worcester, UK
- 16:20 - 16:30** **Using Lichens to Monitor Environmental PAHs: How Far Can We Go?**
Sofia Augusto, University of Lisbon, Portugal

- 16:30 - 16:40** **Chemical Characterization of PM_{2.5} in Urban Areas Using Single Particle Mass Spectrometry**
John Wenger, University College Cork, Ireland
- 16:40 - 16:50** **Does Vegetation in Park and Distance from Source of Emission Affect Level of PM and Selected Ions Accumulated on/in Leaves?**
R. Popek, H. Gawrońska, Stanisław Gawronski, Warsaw University of Life Science, Warsaw, Poland
- 16:50 - 17:00** **Partner Presentations from WG3**
Slot-time for each listed partner is 5 minutes.

17:00 - 17:30 **Coffee Break**

- 17:30 - 18:30** **Discussions of WG3: R&I Needs Completion, Roadmap.**
Deliverable: Definition and Completion of the WG3 Research & Innovation Needs for WGs General Assembly and Action Workplan to be presented by WG Chairman/Leader.

Parallel Session of WG4. Location: Armitage Room (Theatre 25 seats)

- 15:00 - 18:30** **WG4: Protocols and Standardisation Methods**
Chairman: Ingrid Bryntse, Action WG4 Chair - SenseAir SA, Delsbo, Sweden

Specific Presentations from WG4

- 15:00 - 15:10** **CO₂ Sensors Applications Summary**
Ingrid Bryntse, Action WG4 Chair - SenseAir SA, Delsbo, Sweden
- 15:10 - 15:20** **Development of miniaturized sensor systems for air quality monitoring**
Nicolas Moser, Action WG4 Vice-Chair, SGX Sensortech Ltd, Corcelles, Switzerland
- 15:20 - 15:30** **Odour Monitoring by Sensors Technology**
Anne-Claude Romain, Action Sub-WG4.2 Leader, Université de Liège, Arlon, Belgium
- 15:30 - 15:40** **Electrochemical Gas Cells in Air Quality Networks-Solving the Problems**
John Saffell, Action Sub-WG4.3 Leader, Alphasense Ltd, Essex, UK
- 15:40 - 17:00** **Partner Presentations from WG4**
Slot-time for each listed partner is 5 minutes.
Laurent Spinelle, JRC, Institute for Environment and Sustainability, Ispra, Italy

17:00 - 17:30 **Coffee Break**

- 17:30 - 18:30** **Discussions of WG4: R&I Needs Completion, Roadmap.**
Deliverable: Definition and Completion of the WG4 Research & Innovation Needs for WGs General Assembly and Action Workplan to be presented by WG Chairman/Leader.

18:30 **Gathering of Day**

20:30 - 23:00 **Social Dinner at Old Hall in Queens' College**

Thursday, 19 December 2013

Action TD1105 Special Interest Groups Meetings

Fitzpatrick Hall

09:00 - 18:00 **Registration**
Inputs from Action TD1105 for WGs and SIGs Meetings

09:00 - 09:30 **Wrap Up and Inputs** - *Michele Penza, Action Chair, ENEA, Italy*

Parallel Session of SIG1. Location: Angevin Room (Boardroom 25 seats)

09:30 - 13:00 **SIG1: Network of spin-offs**
Chairman: Marco Alvisi, Action SIG1 Leader
Italian National Agency for New Technologies, Energy and Sustainable Economic Development - ENEA, Brindisi, Italy

Specific Presentations from SIG1

09:30 - 09:40 **Definition of the objectives, activities, deliverables and strategies for SIG1**
Marco Alvisi, Action SIG1 Leader, ENEA, Brindisi, Italy

09:40 - 09:50 **Spin-off of Cambridge CMOS Sensors from University of Cambridge**
Florin Udrea, Action SIG1 Deputy, Cambridge CMOS Sensors Ltd, Cambridge, UK

09:50 - 10:00 **Overview of Support Structures and Funding Opportunities for Small and Medium Sized Enterprises in Europe**
Corinna Hahn, Action GH Manager and EEN Germany National Contact Point, Saarbrücken, Germany

10:00 - 11:00 **Partner Presentations from SIG1**
Slot-time for each listed partner is 5 minutes.
Nicolas Moser, SGX-Sensortech Ltd (ex- e2v microsenors), Corcelles, Switzerland
Anne-Claude Romain, representing Odometric SA, Arlon, Belgium
Brice De-Fonseca, Jerome Rossignol, Université de Bourgogne, Dijon, France

11:00 - 11:30 **Coffee Break**

11:30 - 13:00 **Discussions of SIG1: R&I Needs Completion, Roadmap.**
Deliverable: Definition and Completion of the SIG1 Research & Innovation Needs for SIGs General Assembly and Action Workplan to be presented by SIG Chairman/Leader.

Parallel Session of SIG2. Location: Fitzpatrick Hall (Theatre 65 seats)

09:30 - 13:00 **SIG2: Smart Sensors for Urban Air Monitoring in Cities**
Chairman: Rod Jones, Action SIG2 Leader
University of Cambridge, Centre for Atmospheric Science, Cambridge, UK

Specific Presentations from SIG2

09:30 - 09:40 **Introduction on Air Quality Sensors Network in Urban Areas**
Rod Jones, Action SIG2 Leader, University of Cambridge, Cambridge, UK

09:40 - 09:50 **Electrochemical Sensors for Urban Air Quality Monitoring Applications**
John Saffell, Alphasense Ltd, Essex, UK

09:50 - 10:00 **Determination of Sensor Performance Characteristics from field Measurements**
Christoph Hueglin, EMPA - Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland

- 10:00 - 10:10** **Land-Use Regression Modelling Utilizing CO Measurements of a Low-Cost, High-Density Sensor Network in Cambridge**
Michael Mueller, V.B. Bright, O.A.M. Popoola, I. Heimann, C. Hueglin, R.L. Jones, EMPA - Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland
- 10:10 - 10:20** **Learning from Data with Generalization**
Vera Kurkova, Institute of Computer Science, Academy of Sciences of the Czech Republic, Prague, Czech Republic
- 10:20 - 10:30** **Metalearning Application for Data Mining**
Roman Neruda, Institute of Computer Science, Academy of Sciences of the Czech Republic, Prague, Czech Republic
- 10:30 - 10:40** **Examples of Applications of Sensors for Urban Air Quality Monitoring in Turkey**
Zafer Ziya Ozturk, Gebze Institute of Technology, Kocaeli, Turkey
- 10:40 - 10:50** **Computational Intelligence Techniques for Distributed Air Quality Monitoring**
Saverio De Vito, E. Massera, G. Di Francia, ENEA, Portici, Italy
- 10:50 - 11:00** **Partner Presentations from SIG2**
Slot-time for each listed partner is 5 minutes.
George Papadopoulos, ISI-Athena, Patras, Greece
Robin North, Imperial College London, London, UK
- 11:00 - 11:30** **Coffee Break**
- 11:30 - 13:00** **Discussions of SIG2: R&I Needs Completion, Roadmap.**
Deliverable: Definition and Completion of the SIG2 Research & Innovation Needs for SIGs General Assembly and Action Workplan to be presented by SIG Chairman/Leader.
- Parallel Session of SIG3. Location: Bowett Room** (Theatre 65 seats)
- 09:30 - 13:00** **SIG3: Guidelines for Best Coupling Air Pollutants and Transducer**
Chairman: Eduard Llobet, Action Sub-WG1.2 Leader, Universitat Roviri I Virgili, Tarragona, Spain
- Specific Presentations from SIG3**
- 09:30 - 09:40** **On the Direct Coupling of Nanostructured Metal Oxides and Resistive Silicon Micro Hotplate Transducers**
Eduard Llobet, Action Sub-WG1.2 Leader, Universitat Roviri I Virgili, Tarragona, Spain
- 09:40 - 09:50** **SiC-FET sensors in temperature cycling mode for SO₂ detection**
Anita Lloyd Spetz, University of Linköping, Sweden
- 09:50 - 10:00** **Examples of applications of solid-state sensors for urban air quality monitoring in Finland**
Jyrki Lappalainen, Oulu University, Oulu, Finland
- 10:00 - 10:10** **National Network for Air Quality Monitoring in Romania**
Radu Adrian Ionica, IPA SA, Craiova, Romania
- 10:10 - 10:20** **Affordable Nanosensors for Environmental Monitoring**
Xavier Vilanova, Universitat Roviri I Virgili, Tarragona, Spain
- 10:20 - 10:30** **UV Sensor by Inkjet Printing Technology**
Vassilios Binas, FORTH, Crete, Greece
- 11:00 - 11:30** **Coffee Break**
- 11:30 - 13:00** **Discussions of SIG3: R&I Needs Completion, Roadmap.**
Deliverable: Definition and Completion of the SIG3 Research & Innovation Needs for SIGs General Assembly and Action Workplan to be presented by SIG Chairman/Leader.

Parallel Session of SIG4. Armitage Room (Theatre 25 seats)

SIG4:Expert Comments for the Revision of the Air Quality Directive (AQD)

09:30 - 13:00 *Chairman: Iveta Steinberga, Action Gender Balance Committee Leader
University of Latvia, Riga, Latvia*

Specific Presentations from SIG4

09:30 - 09:40 **Assessing human exposure to air pollution in health assessment studies in Europe**
Ole Hertel, Aarhus University, Roskilde, Denmark

09:40 - 09:50 **Examples of guidelines/applications of environmental technologies for the Revision of the AQD in Norway**
Nuria Castell-Balaguer, or Philippe Schneider, NILU, Kjeller, Norway

09:50 - 10:00 **Air Quality Monitoring in Indoor Spaces in Portugal**
Ana Margarida Costa, IDAD, Aveiro, Portugal

10:00 - 10:10 **Examples of guidelines/applications of environmental technologies for the Revision of the AQD in Iceland**
Arngrimur Thorlacius, Agricultural University of Iceland, Iceland

10:10 - 10:20 **Examples of guidelines/applications of environmental technologies for the Revision of the AQD in Latvia**
Iveta Steinberga, University of Latvia, Riga, Latvia

10:30 - 11:00 **Partner Presentations from SIG4**
Slot-time for each listed partner is 5 minutes.

11:00 - 11:30 **Coffee Break**

11:30 - 13:00 **Discussions of SIG4: R&I Needs Completion, Roadmap.**
Deliverable: Definition and Completion of the SIG4 Research & Innovation Needs for SIGs General Assembly and Action Workplan to be presented by SIG Chairman/Leader.

13:00 - 14:00 **Lunch offered by COST Action organization**

Thursday, 19 December 2013

Gallery of Fitzpatrick Hall or Bar & Conservatory Area

Poster Session 2

14:00 - 15:00

Chairperson: Andreas Schuetze, Action WG2 Leader, Saarland University, Saarbrücken, Germany

Posters (90 cm width x 100 height) will be exhibited in Panels. The Poster Presenter, preferably Early Stage Researcher, is required to stay near poster for discussion with interested people.

MATERIALS, SENSORS, SYSTEMS, METHODS FOR AIR QUALITY MONITORING

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Giorgio Mattana, EPFL, IMT-SAMLAB, Neuchâtel, Switzerland
- P02 Doped $\text{Ba}_x\text{Sr}_{1-x}\text{TiO}_3$ Nanostructured Materials with Potential for H_2S Detection**
Cristina F. Rusti¹, Roxana M. Piticescu¹, Adelina Stanoiu², Cristian Simion², Arcadie Sobetkii³, Valentin Dragut¹, Viorel Badilita¹; ¹National Institute for Non Ferrous and Rare Metals - IMNR, Pantelimon, Romania; ²National Institute of Materials Physics - INCDPM, Magurele, Romania; ³SC MGM Star Construct SRL, Bucharest, Romania
- P03 Environmental Monitoring of Human Body Odours**
T.A. Vincent, J.G. Hattersley, S. Thomas, A. Wilson, M. J. Chappel, J. W. Gardner, Warwick University, Coventry, UK
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- P06 Microwave Synthesis of Nano Metal Oxide and Their Application in Microwave Gas Sensing**
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- P07 A Framework for Air Quality Social Sensing based on Open Source HW/SW Tools**
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- P08 Detection of CO_2 and Volatile Organic Compounds using a Combination of Semiconductor Gas Sensors and IR Spectroscopy**
Martin Leidinger, Tilman Sauerwald, Eliseo Pignanelli, Andreas Schuetze, Saarland University, Saarbrücken, Germany
- P09 Measuring Real-World Energy Consumption and Vehicle Emissions**
A. Thiyagarajah, D. Williams, R. North, Imperial College London, London, UK
- P10 Interpreting Air Quality Sensor Data: Sensor Network for Air Quality at Heathrow**
G. Koudis, S. Hu, J. Mack-Smith, J. Polak, R. North, Imperial College London, London, UK



Thursday, 19 December 2013

Action TD1105 Working Groups and Special Interest Groups Meetings

Fitzpatrick Hall

Action WGs GENERAL ASSEMBLY

15:00 - 16:00 *Chairman: Michele Penza, Action Chair*
Italian National Agency for New Technologies, Energy and Sustainable Economic Development - ENEA, Brindisi, Italy

Specific Presentations from Vice-Chair and WGs Leaders

15:00 - 15:10 **Priorities of COST Action TD1105 EuNetAir**
Michele Penza, COST Action TD1105 Chair, ENEA, Brindisi, Italy

15:10 - 15:20 **Research and Innovation Needs of WG1: Sensor Materials and Nanotechnology**
Jyrki Lappalainen, Action WG1 Vice-Chair, Oulu University, Oulu, Finland

15:20 - 15:30 **Research and Innovation Needs of WG2: Sensors, Devices and Systems for AQC**
Andreas Schuetze, Action WG2 Chair, Saarland University, Saarbrücken, Germany

15:30 - 15:40 **Research and Innovation Needs of WG3: Environmental Measurements and Air-Pollution Modelling**
Ole Hertel, Action WG3 Chair, Aarhus University, Roskilde, Denmark

15:40 - 15:50 **Research and Innovation Needs of WG4: Protocols and Standardisation Methods**
Ingrid Bryntse, Action WG4 Chair, SenseAir SA, Delsbo, Sweden

15:50 - 16:00 **Discussion of Action Participants:**
Question-time, Comments and Inputs on R&I Needs, Strategies, Roadmap for future joint-activities of Action TD1105 EuNetAir

Fitzpatrick Hall

Action SIGs GENERAL ASSEMBLY

16:00 - 17:00 *Chairman: Anita Lloyd Spetz, Action Vice-Chair*
University of Linköping (Sweden) and Oulu University (Finland)

Specific Presentations from SIGs Leaders

16:00 - 16:10 **Research and Innovation Needs of SIG1: Network of Spin-offs**
Marco Alvisi, Action SIG1 Leader, ENEA, Brindisi, Italy

16:10 - 16:20 **Research and Innovation Needs of SIG2: Smart Sensors for Urban Air Monitoring in Cities**
Rod Jones, Action SIG2 Leader, University of Cambridge, UK

16:20 - 16:30 **Research and Innovation Needs of SIG3: Guidelines for Best Coupling Air Pollutants and Transducer**
Eduard Llobet, Action Sub-WG1.2 Leader, Universitat Roviri i Virgili, Tarragona, Spain

16:30 - 16:40 **Research and Innovation Needs of SIG4: Expert Comments for the Revision of the Air Quality Directive (AQD)**
Iveta Steinberga, Action GB Leader, University of Latvia, Riga, Latvia

16:40 - 17:00 **Discussion of Action Participants:**
Question-time, Comments and Inputs on R&I Needs, Strategies, Roadmap for future joint-activities of Action TD1105 EuNetAir

17:00 - 17:30 **Coffee-Break**



Fitzpatrick Hall

Action TD1105 ROUND-TABLE DISCUSSIONS

17:30 - 18:30

Chairman: Michele Penza, Action Chair

Italian National Agency for New Technologies, Energy and Sustainable Economic Development - ENEA, Brindisi, Italy

Breakthroughs in Environmental Sensor Technology for Green-Economy in Europe

17:30 - 17:40

Urban Europe: Air Pollution Control in Smart Cities

Michele Penza, COST Action TD1105 Chair, ENEA, Brindisi, Italy

17:40 - 17:50

FP7 MACPoll Project: Metrology for Low-Cost Sensor Technologies in Air Quality Control

Laurent Spinelle, JRC, Institute for Environment and Sustainability, Ispra, Italy

17:50 - 18:00

CMOS Sensors for Harsh Environments (on behalf of EC Project SOI-HITs Consortium)

Florin Udrea, Action SIG1 Deputy, Cambridge CMOS Sensors Ltd, Cambridge, UK

18:00 - 18:10

NDIR Gas Sensors Ready for Automotive Applications

Hans Martin, Action WG4 Leader Team, CEO of SenseAir SA, Delsbo, Sweden

18:10 - 18:20

50th Anniversary of Metal Oxides Gas Sensors: Which Future for Emerging Sensor Technologies?

Marcel Bouvet, Action Sub-WG1.3 Leader, Université de Bourgogne, Dijon, France

18:20 - 18:30

Discussion of Action Participants:

Comments and Inputs on Priorities, R&I Needs, Strategies, Roadmap for future joint-activities of Action TD1105 EuNetAir

Speeches and Comments from Action WGs/SIGs Leaders and Participants

Free Comments from Action Stakeholders

18:30

CLOSING OF WGs and SIGs MEETING

20:30

Free Dinner

Friday, 20 December 2013

Action TD1105 MANAGEMENT COMMITTEE Meeting

Fitzpatrick Hall

Action TD1105 MANAGEMENT COMMITTEE MEETING

09:00 - 13:00

Chairman: Michele Penza, Action Chair

Italian National Agency for New Technologies, Energy and Sustainable Economic Development – ENEA, Brindisi, Italy

- **DISCUSSION** (see MCM AGENDA)

13:00 - 14:30

- **Lunch offered by the Conference Organization**

14:30

- **Meeting Closing**



Draft Agenda
4th Management Committee Meeting
COST Action TD1105

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

University of Cambridge, Queens' College, Silver Street, CB3 9ET, Cambridge, UK

20 December 2013, 9:00 - 14:30

To be completed by the meeting secretary and circulated to the MC, the DC Rapporteur(s) and the COST Office (Science and Administrative Officer)

1. Welcome to participants
2. Adoption of agenda
3. Approval of minutes and matters arising of last meeting
4. Update from the Action Chair
 - a. Status of Action, including participating countries
 - b. Action budget status
 - c. STSM status and new applications
5. Promotion of gender balance and of Early Stage Researchers (ESR)
Update from the Grant Holder
6. Update from the COST Office
7. Update from the DC Rapporteur
8. Annual Progress Conference (preparation and/or feedback from DC)
9. Follow-up of MoU objectives
 - a. Progress report of working groups
10. Scientific planning
 - a. Scientific strategy
 - b. Action Budget Planning
 - c. Long-term planning (including anticipated locations and dates of future activities)
 - d. Dissemination planning (Publications and outreach activities)
11. Requests for new members
12. Non-COST applications to the Actions
13. AOB
14. Location and date of next meeting
15. Summary of MC decisions
16. Closing