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## COST Action TD1105

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

### FINAL MEETING - SIXTH SCIENTIFIC MEETING

**Working Groups and Management Committee**

organized by Academy of Sciences of the Czech Republic  
J. Heyrovský Institute of Physical Chemistry  
Prague, Czech Republic, 5 - 7 October 2016

hosted at J. Heyrovský Institute of Physical Chemistry - Conference Hall  
Dolejškova 3, 182 23 Prague, Czech Republic

Meeting AGENDA	
<b>5 Oct. 2016 - Wednesday</b>	
09:00 - 18:00	<b>REGISTRATION</b>
<b>09:30 - 10:00</b>	<b>WELCOME SESSION</b>
<b>10:00 - 11:00</b>	<b>PLENARY SESSION 1: Invited Talks</b>
11:00 - 11:30	<i>Coffee-Break</i>
<b>11:30 - 13:00</b>	<b>PLENARY SESSION 2: Invited Talks</b>
13:00 - 14:30	<i>Lunch</i>
<b>14:30 - 16:00</b>	<b>WG1 Session</b>
16:00 - 16:30	<i>Coffee-Break</i>
<b>16:30 - 18:30</b>	<b>WG2 Session</b>
<b>18:30</b>	<i>Gathering of Day</i>
20:30 - 23:00	<i>Social Dinner</i>
<b>6 Oct. 2016 - Thursday</b>	
09:00 - 18:00	<b>REGISTRATION</b>
<b>09:00 - 11:00</b>	<b>WG3 Session</b>
11:00 - 11:30	<i>Coffee-Break</i>
<b>11:30 - 13:00</b>	<b>WG4 Session</b>
13:00 - 14:00	<i>Lunch</i>
<b>14:00 - 15:30</b>	<b>POSTER SESSION</b>
15:00 - 15:30	<i>Coffee-Break during Poster Session</i>
<b>15:30 - 18:00</b>	<b>SIG1-SIG4 Session</b>
<b>18:00 - 18:30</b>	<b>Inputs on Follow-up of EuNetAir</b>
<b>18:30</b>	<b>CONCLUSIONS</b>
20:30	<i>Free Dinner</i>
<b>7 Oct. 2016 - Friday</b>	
<b>09:00 - 11:00</b>	<b>Action WGs/SIGs GENERAL ASSEMBLY</b>
11:00 - 11:30	<i>Coffee-Break</i>
<b>11:30 - 13:00</b>	<b>9<sup>th</sup> MANAGEMENT COMMITTEE MEETING</b>
13:00 - 14:30	<i>Lunch</i>
<b>14:30</b>	<b>Meeting Closing</b>



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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 120 big institutions from 31 COST Countries (EU-zone: *Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Luxembourg, 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 *Sixth Scientific Meeting at Czech Academy of Sciences, Prague, 5 - 7 Oct. 2016*

The 9<sup>th</sup> MC Meeting jointly with WG1-4 Meeting will be held at Academy of Sciences of Czech Republic, in Prague, under local chairing and organization of Prof. Zdenek Zelinger (Action MC Member), J. Heyrovský Institute of Physical Chemistry; Dr. Vera Kurkova (Action MC Member) and Dr. Roman Neruda (Action MC Substitute), Institute of Computer Science, organized with a Plenary Session, Inter-WGs Sessions including a General Assembly of the WGs and Special Interest Groups (SIGs), a Roundtable, and finally, the MC Meeting. The Plenary Sessions will mainly focus on ***New Sensing Technologies for Air-Pollution Monitoring*** in a multidisciplinary approach including International Experts and Coordinators of the running FP7 and H2020 research projects.

Participation from research, university, industry, environmental agencies, stakeholders, policy-makers and institutional managers is widely planned with large outreach and dissemination activities, at high expected impact (31 Parties involved in the Action on June 2016). Fruitful discussions between Action TD1105 participants, experts, speakers and international organizations delegates (e.g., WHO Europe, JRC, EEA, EPA, EC DG) are strongly expected. At the Open ***Sixth Scientific Meeting*** of the COST Action TD1105 *EuNetAir*, a strong impact on focusing of the critical outdoor and indoor 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

Department for Sustainability - Head of Laboratory Functional Materials & Technologies for Sustainable Applications

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#### Prof. Zdenek Zelinger

*Local Organizing Team Chair*

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Tel.: +420 66053046

Email: [zelinger@jh-inst.cas.cz](mailto:zelinger@jh-inst.cas.cz)

#### Dr. Vera Kurkova

*Local Organizing Team Co-Chair*

Institute of Computer Science

Pod Vodárenskou věží 2, 182 07, Prague, Czech Republic

Tel: +420 266053231

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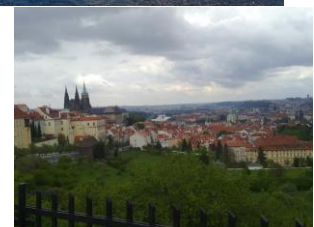
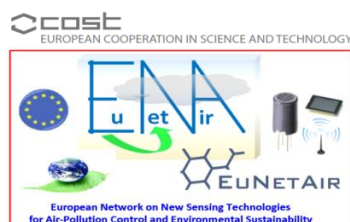


## FINAL MEETING - SIXTH SCIENTIFIC MEETING Working Groups and Management Committee

### *New Sensing Technologies for Air Quality Monitoring*

Prague, Czech Republic, 5 - 7 October 2016

hosted at J. Heyrovský Institute of Physical Chemistry - Conference Hall  
Dolejškova 3, 182 23 Prague, Czech Republic



Venue: J. Heyrovský Institute of Physical Chemistry

Prague view

Prague view

#### **Action Meeting Programme Committee**

**Michele Penza**, ENEA, Brindisi, Italy  
**Zdenek Zelinger**, Czech Academy of Sciences, Prague, CZ  
**Vera Kurkova**, Czech Academy of Sciences, Prague, CZ  
**Roman Neruda**, Czech Academy of Sciences, Prague, CZ  
**Ivan Nedkov**, Bulgarian Academy of Sciences, Sofia, Bulgaria  
**Dimiter Syrakov**, Bulgarian Academy of Sciences, Sofia, Bulgaria  
**Milena Jovasevic-Stojanovic**, VINCA, Belgrade, Serbia  
**Anton Kock**, MCL, Leoben, Austria  
**Anita Lloyd Spetz**, Linköping University, Sweden  
**Andreas Schuetze**, Saarland University, Germany  
**Ingrid Bryntse**, SenseAir AB, Sweden  
**Zafer Ziya Ozturk**, GEBZE Technical University, Turkey  
**Carlos Borrego**, IDAD, University of Aveiro, Portugal  
**Iveta Steinberga**, University of Latvia, Riga, Latvia  
**Ole Hertel**, Aarhus University, Denmark  
**Juan Ramon Morante**, IREC, Spain  
**Marco Alvisi**, ENEA, Italy  
**Corinna Hahn**, Eurice GmbH, Saarbrücken, Germany  
**Juliane Roszbach**, Eurice GmbH, Saarbrücken, Germany  
**Annamaria Demarinis Loiotile**, University of Bari, Italy  
**Michal Dostal**, Czech Academy of Sciences, Prague, CZ  
**Jan Suchanek**, Czech Academy of Sciences, Prague, CZ  
**Pavel Janda**, Czech Academy of Sciences, Prague, CZ  
**Monika Klusáčková**, Czech Academy of Sciences, Prague, CZ

#### **COST Action TD1105 EuNetAir Steering Committee**

**Michele Penza**, ENEA, Brindisi, Italy - *Action Chair*  
**Anita Lloyd Spetz**, Linköping University, Sweden - *Action Vice-Chair*  
**Juan Ramon Morante**, IREC, Spain  
**Andreas Schuetze**, Saarland University, Germany  
**Ole Hertel**, Aarhus University, Denmark  
**Ingrid Bryntse**, SenseAir AB, Sweden  
**Jan Theunis**, VITO, Belgium  
**Marco Alvisi**, ENEA, Brindisi, Italy  
**Gianluigi De Gennaro**, University of Bari, Italy  
**Fabio Galatioto**, Newcastle University, UK  
**Ralf Moos**, University of Bayreuth, Germany  
**Mar Viana**, CSIC-IDAEA, Barcelona, Spain  
**Iveta Steinberga**, University of Latvia, Riga, Latvia  
**Corinna Hahn**, Eurice GmbH, Saarbrücken, Germany - *Grant Holder*  
**Julian Gardner**, University of Warwick, UK  
**Rod Jones**, University of Cambridge, UK  
**Giorgio Sberveglieri**, University of Brescia, Italy  
**Eduard Llobet**, Universitat Roviri i Virgili, Tarragona, Spain  
**Thomas Kuhlbusch**, IUTA eV, Duisburg, Germany  
**Albert Romano-Rodriguez**, Universitat de Barcelona (UB), Spain  
**Carlos Borrego**, IDAD, University of Aveiro, Portugal  
**Annamaria Demarinis Loiotile**, University of Bari, Italy - *Secretary*

URL: [www.cost.eunetair.it](http://www.cost.eunetair.it)



**Wednesday, 5 October 2016**

**COST Action TD1105 Working Groups and Special Interest Groups MEETING**

**Conference Hall: J. Heyrovský Institute of Physical Chemistry - ASCR**

**8:30 - 18:00**

**Registration**

**Welcome Address Session**

**09:30 - 10:00**

*Chairpersons: Zdenek Zelinger, Action MC Member, J. Heyrovsky Institute of Physical Chemistry - ASCR, Prague, Czech Republic  
Vera Kurkova, Action MC Member, Institute of Computer Sciences - ASCR, Prague, Czech Republic*

**09:30 - 09:40**

**Welcome: CZ COST National Coordinator - Ministry of Education**

*Josef Janda, CZ CNC - Ministry of Education Youth and Sports of the Czech Republic, Prague, Czech Republic*

**09:40 - 09:50**

**Welcome: Academy of Sciences of the Czech Republic**

*Zdenek Samec, Director of the Heyrovsky Institute of Physical Chemistry - ASCR, Academy of Sciences of the Czech Republic, Prague, Czech Republic*

**09:50 - 10:00**

**Welcome: COST Action TD1105**

*Michele Penza, Action Chair, ENEA, Brindisi, Italy*

**10:00 - 11:00**

**Plenary Session 1: Air Quality Sensor Applications - EuNetAir Celebration**

*Chairpersons: Zdenek Zelinger, Action MC Member, J. Heyrovsky Institute of Physical Chemistry - ASCR, Prague, Czech Republic  
Vera Kurkova, Action MC Member, Institute of Computer Sciences - ASCR, Prague, Czech Republic*

**10:00 - 10:30**

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

*Michele Penza, Action Chair, ENEA, Italy*

**10:30 - 11:00**

**Gas and Particle Sensors in the Framework of EuNetAir**

*Anita Lloyd Spetz, Action Vice-Chair, Linkoping University (Sweden) and University of Oulu (FI)*

**11:00 - 11:30**

**Coffee Break**

**11:30 - 13:00**

**Plenary Session 2: Environment Quality Applications**

*Chairman: Michele Penza, Action Chair - ENEA, Italy*

**11:30 - 12:00**

**The SENSIndoor FP7 Project: Main Results, Lessons Learned and Outlook**

*Andreas Schuetze, Action MC Member, Saarland University, Saarbrucken, Germany*

**12:00 - 12:30**

**The CITI-SENSE FP7 Project: From Sensor Technology to Citizen Engagement**

*Nuria Castell, Action MC Member, NILU - Norwegian Institute for Air Research, Kjeller, Norway*

**12:30 - 13:00**

**Assessment of Air Pollution Impacts on Human Health using AirQ+**

*Pierpaolo Mudu, Technical Officer of the WHO European Centre for Environment and Health, Bonn, Germany*

**13:00 - 14:30**

**Lunch offered by COST Action organization**

**All Time Long  
3-Day Meeting**

**Questions & Answers at Registration Desk by COST Action TD1105 Grant Holder Manager:  
Online Travel Reimbursement Request & Strong Feature Authentication**

*Juliane Roszbach, Grant Holder Manager, Eurice GmbH, Saarbrucken/Berlin, Germany*



**Wednesday, 5 October 2016**

**Action TD1105 Working Groups Meetings**

**WG1 Session. Location: Conference Hall**

- 14:30 - 16:00** **WG1: Sensor Materials and Nanotechnology**  
*Chairman: Jyrki Lappalainen, Action WG1 Vice-Chair - Oulu University, Oulu, Finland*
- 14:30 - 15:00** **Emerging Sensing Materials for Air Quality Monitoring**  
*Marcel Bouvet, Action MC Member, Institut de Chimie Moléculaire de l'Université de Bourgogne, CNRS UMR 6302, Université de Bourgogne Franche-Comté, Dijon, France*
- 15:00 - 15:15** **Recent Developments of Complex Nanostructured Metal Oxide Entities for Chemical Sensors**  
*Jyrki Lappalainen, Joni Huotari, Jarkko Puustinen, Action MC Member, Faculty of Information Technology and Electrical Engineering, University of Oulu, Oulu, Finland*
- 15:15 - 15:30** **Gas Sensors based on CuO-TiO<sub>2</sub> Heterostructures**  
*Zafer Z. Ozturk, O. Alev, E. Sennik, O. Sisman, Gebze Technical University, Kocaeli, Turkey*
- 15:30 - 15:45** **Solid Nanoporous Sensor for the Colorimetric Detection of Phenol**  
*C. Theron, et al., Thu-Hoa Tran-Thi, NIMBE, CEA-CNRS, Gif-sur-Yvette Cedex, France*
- 15:45 - 16:00** **Photoluminescence based Gas Sensing with Rare-Earth Doped Oxide Nanopowders and Thin Films**  
*Raivo Jaaniso, Tea Avarmaa, Leonid Dolgov, Marko Eltermann, Valter Kiisk, Margus Kodu and Sven Lange, Action MC Member, Institute of Physics, University of Tartu, Estonia*

**16:00 - 16:30** **Coffee Break**

**WG2 Session. Location: Conference Hall**

- 16:30 - 18:30** **WG2: Sensors, Devices and Systems for AQC**  
*Chairman: Andreas Schuetze, Action WG2 Chair - Saarland University, Saarbrücken, Germany*
- 16:30 - 17:00** **Disposable Sensors and Instruments for Air Quality Monitoring**  
*Danick Briand, Action MC Member, EPFL, Neuchatel, Switzerland*
- 17:00 - 17:15** **Multilayer Graphene Cantilever for Laser Photoacoustic Detection**  
*Zdenek Zelinger, Action MC Member, J. Heyrovský Institute of Physical Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic*
- 17:15 - 17:30** **A New Concept of Environmental Camera through Volatile Organic Compounds Sensing**  
*Thomas Walewyns, Nicolas André, Laurent Francis, Université Catholique de Louvain, Electrical Engineering Department, Louvain-la-Neuve, Belgium*
- 17:30 - 17:45** **Dosimeter-Type Sensor for sub-ppm NO<sub>x</sub> Detection**  
*Daniela Schoenauer-Kamin, I. Marr, Ralf Moos  
Laboratory of Functional Materials, MC Substitute, University of Bayreuth, Bayreuth, Germany*
- 17:45 - 18:00** **Theoretical Modeling of QCM-D and SH-SAW Sensors in Environmental Applications**  
*Marina Voinova<sup>1,2</sup>, Anton Wikstrom<sup>2</sup>, <sup>1</sup>Chalmers University of Technology, Gothenburg, Sweden  
<sup>2</sup>National Technical University, Kharkiv, Ukraine*
- 18:00 - 18:15** **Implementation of Complex Gas Sensor Systems - Ideas for a Structural Model**  
*Wolfhard Reimringer, T. Rachel, T. Conrad  
3S - Sensors, Signal Processing, Systems GmbH, Saarbrücken, Germany*
- 18:15 - 18:30** **Vulnerability of Classifiers to Adversarial Examples**  
*Roman Neruda, Petra Vidnerova, Vera Kurkova, MC Member/Substitute, Institute of Computer Science, Academy of Sciences of the Czech Republic, Prague, Czech Republic*



**18:30**

**Gathering of Day**

**20:30 - 23:00**

**Social Dinner at the Restaurant *Ladví***

Binarova 1661, Prague 8 (walking distance from Conference Venue) ([www.restauraceladvi.cz](http://www.restauraceladvi.cz))



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**Thursday, 6 October 2016**

**Action TD1105 Working Groups and Special Interest Groups Meetings**

**Conference Hall: Academy of Sciences of the Czech Republic**

**09:00 - 18:00**

**Registration**

**WG3 Session. Location: Conference Hall**

**09:00 - 11:00** **WG3: Environmental Measurements and Air-Pollution Modelling**

*Chairman: Ole Hertel, Action WG3 Leader & MC Member, Aarhus University, Roskilde, Denmark*

**09:00 - 09:20**

**Air Quality at Your Street - Public Assessable Digital Maps of Air Pollution from Traffic in Denmark**

*Ole Hertel, Steen Solvang Jensen, Matthias Ketzel, Jørgen Brandt, Thomas Becker, Morten Fuglsang, Marlene Plejdrup, Morten Winther, and Thomas Ellermann, Action WG3 Leader & MC Member, Aarhus University, Roskilde, Denmark*

**09:20 - 09:40**

**New Version of the Bulgarian Early Warning System in Case of Nuclear Accident over Europe**

*Dimiter Syrakov, Maria Prodanova, Kiril Slavov, Emilia Georgieva; Action MC Member, National Institute of Meteorology and Hydrology - Bulgarian Academy of Sciences, Sofia, Bulgaria*

**09:40 - 10:00**

**Summary of Activities during COST Action TD1105 Related to Air Phyto-Remediation Performed by Warsaw University of Life Sciences, Poland**

*Stanislaw W. Gawronski, MC Member, Warsaw University of Life Science, Warsaw, Poland*

**10:00 - 10:15**

**Air Quality Issues in Hungary**

*Krisztina Labancz, Action MC Member, Hungarian Meteorological Service, Budapest, Hungary*

**10:15 - 10:30**

**Application of Atomic Force Microscopy and Electrochemistry in Characterization of Marine Aerosols**

*Sanja Stevanović<sup>1</sup>, Ana Cvitešić<sup>2</sup>, Marija Marguš<sup>2</sup>, Vladislava Jovanović<sup>1</sup>, Nikola Batina<sup>3</sup>, Irena Ciglenečki<sup>1</sup>, Action MC Member;*

<sup>1</sup>ICTM, Department of Electrochemistry, University of Belgrade, Belgrade, Serbia

<sup>2</sup>Division for Marine and Environmental Research, Ruđer Bošković Institute, Zagreb, Croatia

<sup>3</sup>Departamento de Química, Universidad Autónoma Metropolitana-Iztapalapa, México

**10:30 - 10:45**

**4 Year Experience of Application Low-Cost Sensors in Belgrade in the Framework of CITI-SENSE Project**

*Milena Jovasevic-Stojanovic<sup>1</sup>, Dusan Topalovic<sup>1</sup>, Milos Davidovic<sup>1</sup>, Ivan Lazovic<sup>1</sup>, Marija Zivkovic<sup>1</sup>, Zoran Ristovski<sup>2</sup>, Alena Bartonova<sup>3</sup>, <sup>1</sup>Action MC Member, VINCA Institute, Belgrade, Serbia; <sup>2</sup>Queensland University of Technology, Brisbane, Australia; <sup>3</sup>NILU, Kjeller, Norway*

**10:45 - 11:00**

**Air Quality Modelling in Latvia: Recent Updating**

*Iveta Steinberga, Action MC Member, University of Latvia, Riga, Latvia*

**11:00 - 11:30**

**Coffee Break**

**WG4 Session. Location: Conference Hall**

**11:30 - 13:00** **WG4: Protocols and Standardisation Methods**

*Chairman: Kostas Karatzas, MC Member, Aristotle University, Thessaloniki, Greece*

**11:30 - 11:50**

**Life after EuNetAir**

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



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- 11:50 - 12:10** **Mapping Urban Air Quality using Low-Cost Sensors: Opportunities and Challenges**  
*Philipp Schneider*, MC Member, NILU - Norwegian Institute for Air Research, Kjeller, Norway
- 12:10 - 12:30** **Conclusions from One Year Operating a Low-Cost Sensor Network in Zurich**  
*Michael Mueller*, WG Member, EMPA, Zurich, Switzerland
- 12:30 - 12:45** **Particulate Matter Smart Sensors Validation In Real-World Conditions**  
*Mariacruz Minguillon*, WG Member, CSIC-IDAEA, Barcelona, Spain
- 12:45 - 13:00** **Towards Intelligent Air Quality Monitoring Networks: How Machine Learning Improve the Accuracy of Air Quality Multisensors Systems**  
*Saverio De Vito*, MC Substitute, ENEA, CR Portici, Italy

**13:00 - 14.00** **Lunch offered by COST Action organization**





**Thursday, 6 October 2016**

**Action TD1105 Poster Session**

**Gallery of Conference Hall**

**Poster Session:**

**14:00 - 15:30**

***New Technologies and Methods for Environmental Monitoring***

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

Posters (max sizes: 80 cm width x 110 height) will be exhibited on Panels. The Poster Presenter, preferably Early Stage Researcher, is required to stay near poster for discussion with interested people.

- P01** **Intracavity Acetylene Detection with Fiber Loop Ring down Spectroscopy**  
*Alim Yolalmaz<sup>1</sup>, Farhad Hanifepour<sup>2</sup>, Mehmet Fatih Danışman<sup>1,3</sup>, and Okan Esentürk<sup>3</sup>*  
<sup>1</sup> Micro and Nanotechnology Department, Graduate School of Natural and Applied Science, Middle East Technical University (METU), Ankara, Turkey; Action MC Member;  
<sup>2</sup> Department of Advanced Technologies, Institute of Science and Technology, Gazi University, Turkey;  
<sup>3</sup> Chemistry Department, Faculty of Arts and Sciences, METU, Turkey
- P02** **Specific Filters for the Trapping of Specific Air Pollutants**  
*T.-H. Tran-Thi<sup>1</sup>, A. Borta<sup>2</sup>, L. Caillat<sup>2</sup>, K. Aguir<sup>2</sup>, M. Othmans<sup>2</sup>, M. Bendahan<sup>2</sup>, V. Vrignaud<sup>2</sup>, S. Margeridon-Thermet<sup>2</sup>, G. Le Chevallier<sup>1</sup>, C. Rivron<sup>1</sup>, C. Théron<sup>1</sup>, C. Tran<sup>1</sup>, L. Mugheri<sup>1</sup>, F. Hammel<sup>3</sup>*  
<sup>1</sup> Department NIMBE, CEA-CNRS, Université Paris-Saclay, CEA-Saclay, Gif-sur-Yvette, France;  
<sup>2</sup> Aix-Marseille Université, CNRS, IM2NP, Faculté des Sciences, Marseille, France;  
<sup>3</sup> ETHERA, 628 rue Charles de Gaulle, Crolles, France
- P03** **Atmospheric Deposition of Trace Elements on Carbonate Material of Historic Buildings in two Urban Sites**  
*Palma Orlović-Leko<sup>1\*</sup>, Kristijan Vidović<sup>2</sup>, Irena Ciglencečki<sup>3</sup>*  
<sup>1</sup> University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering, Zagreb, Croatia;  
<sup>2</sup> Center for Marine and Environmental Research, Ruđer Bošković Institute, Zagreb, Croatia,  
<sup>3</sup> Institute of Chemistry, Ljubljana Slovenia
- P04** **DAV<sup>3</sup>E - A Comprehensive Toolbox for Multisensor Data Fusion not only for Gas Sensors**  
*Manuel Bastuck, Tobias Baur, Tizian Schneider, Andreas Schütze*  
Laboratory for Measurement Technology, Department of Mechatronics, Saarland University, Saarbrücken, Germany
- P05** **Gas Sensitive SiC-FET Sensors for Indoor Air Quality Control**  
*Donatella Puglisi<sup>1\*</sup>, Manuel Bastuck<sup>1,2</sup>, Mike Andersson<sup>1,3</sup>, Joni Huotari<sup>3</sup>, Jyrki Lappalainen<sup>3</sup>, Andreas Schütze<sup>2</sup>, Anita Lloyd Spetz<sup>1,3</sup>*  
<sup>1</sup> Linköping University, Linköping, Sweden;  
<sup>2</sup> Saarland University, Saarbrücken, Germany;  
<sup>3</sup> University of Oulu, Oulu, Finland
- P06** **Impedance Spectroscopy of Molecular Material - Based Heterojunctions for a Better Discrimination Between Ammonia and Water**  
*M. Bouvet<sup>1\*</sup>, T. Sauerwald<sup>2</sup>, M. Schüller<sup>2</sup>, J.-M. Suisse<sup>1</sup>, A. Wannebroucq<sup>1</sup>, P. Gaudillat<sup>1</sup>, A. Kumar<sup>1</sup>, A. Schütze<sup>2\*</sup>*  
<sup>1</sup> Institut de Chimie Moléculaire de l'Université de Bourgogne, CNRS UMR 6302, Université de Bourgogne Franche-Comté, Dijon, France; <sup>2</sup> Laboratory for Measurement Technology, Department of Mechatronics, Saarland University, Saarbrücken, Germany



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- P07** **Molecular Semiconductors - Doped Insulator (MSDI) Heterojunctions as New Conductometric Devices for Chemosensing**  
*A. Wannebroucq, J.-M. Suisse, M. Bouvet*  
Institut de Chimie Moléculaire de l'Université de Bourgogne, CNRS UMR 6302, Université de Bourgogne Franche-Comté, Dijon, France
- P08** **The Implementation of the Health Impact Assessment (HIA) in Val D'Agri (Italy) and the Direct Involvement of Citizens in Monitoring Activities**  
*Annamaria Demarinis Loiotile, Gianluigi De Gennaro, Stefania Petraccone*, University of Bari, Department of Biology, Core-Group Member, Bari, Italy
- P09** **Thin Film Sensors based on 10% ZrO<sub>2</sub> - 90% TiO<sub>2</sub> Material for the Detection of Oxygen: Effect of Crystallization Conditions**  
*A.V.G. Sevastianov<sup>1</sup>, A.S. Mokrushin<sup>1</sup>, E.P. Simonenko<sup>1</sup>, V.S. Popov<sup>1</sup>, N.P. Simonenko<sup>1</sup>, A.A. Vasiliev<sup>2,3</sup>, N.T. Kuznetsov<sup>1</sup>*  
<sup>1</sup>N.S. Kurnakov Institute of General and Inorganic Chemistry of RAS, Moscow, Russia  
<sup>2</sup>National Research Center Kurchatov Institute, Kurchatov sq., 1, Moscow, Russia  
<sup>3</sup>OSTEC Enterprise, Moscow, Russia
- P10** **A Comparison of Spectrometric Methods and Methods based on Electrochemical Principles**  
*Branislav Hric<sup>1</sup>, Jan Suchánek<sup>1,2</sup>, Ivana Bartlová<sup>1</sup>, Michal Dosta<sup>1,2</sup>, Pavel Kubát<sup>2</sup>, Svatopluk Civiš<sup>2</sup>, Vaclav Nevrlý<sup>1</sup>, Petr Bitala<sup>1</sup>, Vaclav Valek<sup>1</sup>, Zdeněk Zelinger<sup>2</sup>*  
<sup>1</sup>VŠB-Technical University of Ostrava, Faculty of Safety Engineering, Ostrava, Czech Republic;  
<sup>2</sup>J. Heyrovský Institute of Physical Chemistry, v.v.i., Academy of Sciences of the Czech Republic, Prague, Czech Republic
- P11** **Gas Detection by Quartz Enhanced Photoacoustic Spectroscopy**  
*Michal Dosta<sup>1,2</sup>, Jan Suchánek<sup>1,2</sup>, Václav Válek<sup>2</sup>, Václav Nevrlý<sup>2</sup>, Petr Bitala<sup>2</sup>, Simona Slivková<sup>2</sup>, Pavel Kubát<sup>1</sup>, Pavel Janda<sup>1</sup>, Svatopluk Civiš<sup>1</sup>, Zdeněk Zelinger<sup>1</sup>;*  
<sup>1</sup>J. Heyrovský Institute of Physical Chemistry AS CR, Prague, Czech Republic;  
<sup>2</sup>Faculty of Safety Engineering, VŠB - Technical University of Ostrava, Ostrava, Czech Republic
- P12** **Measurement of PM<sub>2.5</sub> Concentrations in Indoor Air using Low-Cost Sensors and Arduino Platforms**  
*Visa Tasić<sup>1</sup>, Milena Jovašević-Stojanović<sup>2</sup>, Dusan Topalović<sup>2</sup>, Milos Davidović<sup>2</sup>*  
<sup>1</sup>Mining and Metallurgy Institute Bor, Bor, Serbia  
<sup>2</sup>University of Belgrade, Vinča Institute of Nuclear Sciences, Belgrade, Serbia
- P13** **Novel Graphene Cantilevers Employed in Photoacoustic Spectroscopy for Multicomponent Analysis of Acetic Acid**  
*Jan Suchánek<sup>1,2</sup>, Michal Dosta<sup>1,2</sup>, Pavel Janda<sup>1</sup>, Pavel Kubat<sup>1</sup>, Svatopluk Civiš<sup>1</sup>, Martin Ferus<sup>1</sup>, Antonín Knížek<sup>1</sup>, Tereza Kaiserová<sup>1</sup>, Jana Hrnčířová<sup>1</sup>, Vaclav Nevrlý<sup>2</sup>, Petr Bitala<sup>2</sup>, Vaclav Valek<sup>2</sup>, Zdenek Zelinger<sup>1</sup>*  
<sup>1</sup>J. Heyrovsky Institute of Physical Chemistry of the CAS, v. v. i., Prague, Czech Republic;  
<sup>2</sup>VŠB - Technical University of Ostrava, Faculty of Safety Engineering, Ostrava, Czech Republic
- P14** **SiC-FET based NO<sub>x</sub> Sensor for Automotive Applications**  
*Peter Möller<sup>1</sup>, Mike Andersson<sup>1</sup>, Anita Lloyd Spetz<sup>1,2</sup>, Jarkko Puustinen<sup>2</sup>, Jyrki Lappalainen<sup>2</sup>, Jens Eriksson<sup>1</sup>;*<sup>1</sup>Linköping University, Linköping, Sweden; <sup>2</sup>University of Oulu, Finland
- P15** **The Dynamics of Viscoelastic Layered Systems Studied by Surface Acoustic Wave (SAW) Sensors Operated in a Liquid Phase**  
*Anton Wikstrom<sup>2</sup>, Marina Voinova<sup>1,2</sup>;*<sup>1</sup>Chalmers University of Technology, Gothenburg, Sweden  
<sup>2</sup>National Technical University, Kharkiv, Ukraine

15:00 - 15:30

Coffee-Break during POSTER Session



**Thursday, 6 October 2016**

**Action TD1105 SIG1-4 Session**

**15:30 - 18:00** **SIG1: Network of spin-offs**  
**SIG2: Smart Sensors for Urban Air Monitoring in Cities**  
**SIG3: Guidelines for Best Coupling Air Pollutants and Transducer**  
**SIG4: Expert Comments for the Revision of the Air Quality Directive (AQD)**  
*Chairman: Anita Lloyd Spetz, Action Vice-Chair, Linköping University (Sweden) and University of Oulu (Finland)*

**15:30 - 16:00** **H2020 Opportunities of Funding in the Air Quality Monitoring and Related Topics**  
*Corinna Hahn, Grant Holder & Action MC Member, Eurice GmbH, Saarbrücken, Germany*

**16:00 - 16:20** **Air Quality Networks: Lessons Learned, Current Status and Future Opportunities**  
*John Saffell, Action MC Member, Alphasense Ltd, Essex, UK*

**16:20 - 16:40** **New Trends and Challenges of Air Pollution Monitoring using Low-Cost Sensors: What IDAD Learned?**  
*Carlos Borrego, IDAD and University of Aveiro, Action MC Member, Aveiro, Portugal*

**16:40 - 17:00** **Organic/Inorganic Hybrid Materials for the Development of Acoustic Wave Chemical Sensors Dedicated to BTEX Detection**  
*Jerome Brunet, A.L. Ndiaye, A. Kumar, A. Pauly, C. Varenne, Action MC Member, Université Blaise Pascal/CNRS, Clermont-Ferrand, Aubiere, France*

**17:00 - 17:20** **High Performance SiC-FET Gas Sensors for Highly Sensitive Detection of Hazardous Indoor Air Pollutants**  
*Donatella Puglisi<sup>1</sup>, Mike Andersson<sup>1,3</sup>, Jens Eriksson<sup>1</sup>, Manuel Bastuck<sup>1,2</sup>, Christian Bur<sup>1,2</sup>, Joni Huotari<sup>3</sup>, Jyrki Lappalainen<sup>3</sup>, Andreas Schütze<sup>2</sup>, Anita Lloyd Spetz<sup>1,3</sup>*  
<sup>1</sup>Linköping University, Linköping, Sweden; <sup>2</sup>Saarland University, Saarbrücken, Germany; <sup>3</sup>University of Oulu, Oulu, Finland

**17:20 - 17:40** **Low Temperature-Low Power Gas Sensors based on Germanium Nanowires**  
*J. Samà<sup>1</sup>, S. Barth<sup>2</sup>, G. Domènech-Gil<sup>1</sup>, M. Seifner<sup>2</sup>, I. Gracia<sup>3</sup>, C. Calaza<sup>3</sup>, P. Pellegrino<sup>1</sup> and Albert Romano-Rodríguez<sup>1</sup>, Action MC Substitute, <sup>1</sup>Universitat de Barcelona, Barcelona, Spain; <sup>2</sup>Technical University of Vienna; <sup>3</sup>Consejo Superior de Investigaciones Científicas (CSIC), Institut de Microelectrònica de Barcelona-Centro Nacional de Microelectrònica, 08193 Bellaterra, Spain*

**17:40 - 18:00** **A Flexible Platform for Extremely Sensitive Gas Sensing: 2D Materials on Silicon Carbide**  
*Jens Eriksson<sup>1</sup>, J. Bahonjic<sup>1</sup>, D. Puglisi<sup>1</sup>, R. Yakimova<sup>1,2</sup>, A. Lloyd Spetz<sup>1</sup>*  
<sup>1</sup>Department of Physics, Chemistry, and Biology, Linköping University, Sweden  
<sup>2</sup>Graphenic AB, Linköping, Sweden

**18:00 - 18:30** **FOLLOW-UP of the COST Action TD1105**  
*Chairman: Michele Penza, Action Chair, ENEA, Brindisi, Italy*

**Which Future Initiatives after EuNetAir**

**18:00 - 18:10** **Updating on Report Innovation on Environmental Sensor Technologies**  
*Marco Alvisi, Action SIG1 Leader, ENEA, Brindisi, Italy*

**18:10 - 18:20** **Editorial Initiatives of EuNetAir**  
*Michele Penza, Action Chair, ENEA, Brindisi, Italy*

**18:20 - 18:30** **Discussion: Comments and Inputs from Participants and Stakeholders**

**18:30** **Closure of the WGs Meeting**

**20:30** **Dinner Freely by Participants**



**Friday, 7 October 2016**

**Action TD1105 Working Groups and Special Interest Groups Meetings**

**Action WGs-SIGs GENERAL ASSEMBLY**

**09:00 - 11:00**

*Chairman: Michele Penza, Action Chair*

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

**Specific Presentations from Key Speakers, WGs and SIGs Leaders**

**09:00 - 09:20**

**Low-Power Heating for Conductometric Gas NanoSensors: Self-Heating Effects**

*O. Monereo, C. Fàbrega, O. Casals, J. Samà, F. Hernandez-Ramírez, A. Cirera, A. Romano-Rodríguez, Juan Daniel Prades, ERC Starting Grant & Action WG Member, Universitat de Barcelona, Barcelona, Spain*

*ERC Starting Grant (no. 336917): Nanodevice Engineering for a Better Chemical Gas Sensing Technology - BetterSense*

**09:20 - 09:40**

**High Spatial Resolution Air Quality Mapping using Data from an Opportunistic Mobile Monitoring Campaign**

*Joris Van den Bossche<sup>1,2</sup>, Bart Elen<sup>1</sup>, Jan Peters<sup>1</sup>, Dick Botteldooren<sup>3</sup>, Bernard De Baets<sup>2</sup>, Jan Theunis<sup>1</sup>, STSMs Coordinator and Action MC Member, <sup>1</sup>VITO, Health Unit, Mol, Belgium;*

*<sup>2</sup>Ghent University, KERMIT Research Unit Knowledge-based Systems, Belgium;*

*<sup>3</sup>Ghent University, INTEC Acoustics, Belgium*

**09:40 - 09:50**

**Summary of Research and Innovation Needs from WG1:**

**Sensor Materials and Nanotechnology**

*Jyrki Lappalainen, Action WG1 Vice-Chair - Oulu University, Oulu, Finland*

**09:50 - 10:00**

**Summary of Research and Innovation Needs from WG2:**

**Sensors, Devices and Systems for AQC**

*Andreas Schuetze, Action WG2 Chair, Saarland University, Saarbrücken, Germany*

**10:00 - 10:10**

**Summary of Research and Innovation Needs from WG3:**

**Environmental Measurements and Air-Pollution Modelling**

*Ole Hertel, Action WG3 Leader & MC Member, Aarhus University, Roskilde, Denmark*

**10:10 - 10:20**

**Summary of Research and Innovation Needs from WG4:**

**Protocols and Standardisation Methods**

*Kostas Karatzas, MC Member, Aristotle University, Thessaloniki, Greece*

**10:20 - 10:30**

**Summary of Research and Innovation Needs from SIG1:**

**Network of Spin-offs**

*Marco Alvisi, Action SIG1 Leader, ENEA, Brindisi, Italy*

**10:30 - 10:40**

**Summary of Research and Innovation Needs from SIG2:**

**Smart Sensors for Urban Air Monitoring in Cities**

*Christoph Hueglin, Action SIG2 Leader, EMPA, Zurich, Switzerland*

**10:40 - 10:50**

**Summary of Research and Innovation Needs from SIG3:**

**Guidelines for Best Coupling Air Pollutant - Transducer**

*Eduard Llobet, Action SIG3 Leader, Universitat Roviri i Virgili, Tarragona, Spain substituted by Marcel Bouvet, Action MC Member, Institut de Chimie Moléculaire de l'Université de Bourgogne, CNRS UMR 6302, Université de Bourgogne Franche-Comté, Dijon, France*

**10:50 - 11:00**

**Summary of Research and Innovation Needs from SIG4:**

**Expert Comments for the Revision of the Air Quality EU Directive**

*Carlos Borrego, Action SIG4 Leader, IDAD, Aveiro, Portugal*

**11:00 - 11:30**

**Coffee Break**



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Friday, 7 October 2016

**Action TD1105 MANAGEMENT COMMITTEE Meeting**

**Conference Hall**

**Action TD1105 9<sup>th</sup> MANAGEMENT COMMITTEE MEETING**

**11:30 - 13:00**

*Chairman: Michele Penza, Action Chair*

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

**11:30 : 13:00**

**9<sup>th</sup> Management Committee Meeting**

*Michele Penza, Action Chair, ENEA, Brindisi, Italy*

- **DISCUSSION** (see MCM AGENDA): *EuNetAir Meeting Participants and Stakeholders*
- **Coffee-Break** (timely scheduled)

**13:00**

- **End of the 9<sup>th</sup> MCM of the COST Action TD1105 - EuNetAir**

**13:00 - 14:30**

- **Lunch offered by the Conference Organization**

**14:30**

- **Meeting Closing**



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**Draft Agenda**  
**9<sup>th</sup> Management Committee Meeting**  
**COST Action TD1105**

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

**FINAL MEETING - SIXTH SCIENTIFIC MEETING**  
**Working Groups and Management Committee**

***New Sensing Technologies for Air Quality Monitoring***

**Prague, Czech Republic, 5 - 7 October 2016**

**hosted at J. Heyrovský Institute of Physical Chemistry - Conference Hall**  
**Dolejškova 3, 182 23 Prague, Czech Republic**

**Management Committee Meeting, 7 October 2016, 11:30 - 13:00**

*To be completed by the meeting secretary and circulated to the MC and the COST Association (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)
6. Update from the Grant Holder
7. Update from the COST Office
8. Update from the DC Rapporteur
9. Annual Progress Conference (preparation and/or feedback from DC)
10. Follow-up of MoU objectives
  - a. Progress report of working groups
11. 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)
12. Requests for new members
13. Non-COST applications to the Actions
14. AOB
15. Location and date of next meeting
16. Summary of MC decisions
17. Closing

**9<sup>th</sup> MC Meeting Venue/Location of COST Action TD1105 EuNetAir**

**FINAL MEETING - SIXTH SCIENTIFIC MEETING**  
**Working Groups and Management Committee**

***New Sensing Technologies for Air Quality Monitoring***

**Prague, Czech Republic, 5 - 7 October 2016**

**hosted at J. Heyrovský Institute of Physical Chemistry - Conference Hall**  
**Dolejškova 3, 182 23 Prague, Czech Republic**

How to reach J. Heyrovský Institute of Physical Chemistry - Conference Hall  
 Walk to the Institute (**UFCH JH**) from tram-stop or subway station Ládvi, line C (**depicted in red**)  
 Prague, Czech Republic

**Google Map Link: [Czech Academy of Sciences, Prague](#)**

