



Earth System Science and  
Environmental Management  
(ESSEM)

## COST Action TD1105

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

2012 | 2016

#### Objectives

- Establishment of a Pan-European and multidisciplinary research and technological platform including research institutions, universities, agencies, industries, stakeholders and policy-makers
- Achievement of a common understanding and knowledge at the European level of requirements on AQC and global sustainability
- Definition of protocols and pre-standardized methods for AQC sensors and harmonization of environmental measurements
- Training and involvement of Early Stage Researchers in the Coordinated Action at multidisciplinary style and international level
- Creation of long-standing collaborative research teams in the area of NANOMATERIALS, GAS SENSORS, WIRELESS TECHNOLOGY, AIR-QUALITY MODELLING, STANDARDS & PROTOCOLS
- Rationalization of European research on AQC with emphasis on environmental sustainability and energy efficiency, including top-level worldwide collaborations

#### Main Achievements

- Integrated approach on AQC for environmental sustainability by cooperative networking of multidisciplinary research on nano-materials, gas sensing technologies, wireless sensor technologies and networks, environmental measurements, ambient intelligence, air quality modeling, chemical weather forecasting, harmonization of measurements, protocols, methods, standards and procedures for commercialization of low-cost AQC sensors.
- **BENEFIT & IMPACT:** European Leadership on AQC Science & AQC Technologies, Development of Green-Economy, Support to Sustainable Development, Monitoring System for Clean Air for Europe.

#### Working Group 1: Sensor materials & nanotechnology

- Sub-Working Group 1.1: Metal oxide nanostructures for AQC gas sensors
- Sub-Working Group 1.2: Carbon nanomaterials for AQC gas sensors
- Sub-Working Group 1.3: Emerging sensor materials (organic/inorganic, hybrid, nanocomposites, polymers, functional, etc.)

#### Working Group 2: Sensors, devices & systems for AQC

- Sub-Working Group 2.1: Gas sensors and new transducers
- Sub-Working Group 2.2: Portable gas sensor-systems
- Sub-Working Group 2.3: Wireless technology and AQC sensor network
- Sub-Working Group 2.4: Intelligence algorithms and distributed computing for networked AQC sensors

#### Working Group 3: Environmental measurements & air pollution modeling

- Sub-Working Group 3.1: Environmental measurements at laboratory and in field air-quality stations
- Sub-Working Group 3.2: Air-quality modeling and chemical weather forecasting
- Sub-Working Group 3.3: Harmonization of environmental measurements

#### Working Group 4: Protocols & standardization methods

- Sub-Working Group 4.1: Protocols, standard and methods for AQC by analyzers/instruments (no-sensors) technologies
- Sub-Working Group 4.2: Protocols, standard and methods for AQC by sensors (no-analyzers) technologies
- Sub-Working Group 4.3: Benchmarking of new products and market of commercial AQC sensors

#### Participating countries

Belgium, Bulgaria, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Netherlands, Norway, Poland, Romania, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom

#### Contact details

##### Chair of the Action

**Dr. Michele Penza**

Researcher

ENEA - Italian National Agency for New Technologies, Energy and Sustainable Economic Development  
PO Box 51 Br-4, I-72100 Brindisi, Italy  
[michele.penza@enea.it](mailto:michele.penza@enea.it)

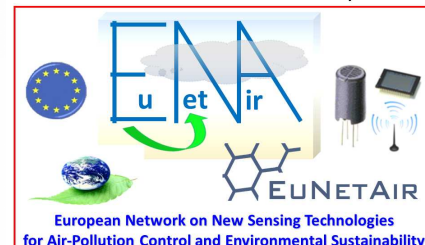
##### Dr Basak Kisakurek

Science Officer Earth System Science and Environmental Management  
COST Office  
[Basak,kisakurek@cost.eu](mailto:Basak,kisakurek@cost.eu)

##### Website

[http://www.cost.eu/domains\\_actions/essem/Actions/TD1105](http://www.cost.eu/domains_actions/essem/Actions/TD1105)

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



COST Action TD1105 Logo



COST is supported by the EU RTD Framework Programme



ESF provides the COST Office through a European Commission contract