

## List of the research collaborations between Action TD1105 partnership - Year 1

1. Collaboration between Anita Lloyd Spetz (Action Vice-Chair, University of Linköping, Sweden) and Andreas Schuetze (Saarland University, Germany) on solid-state gas sensors, smart sensing and data evaluation is currently performed since 2010.
2. Collaboration between Anita Lloyd Spetz (Action Vice-Chair, University of Linköping, Sweden) and Jyrki Lappalainen (Oulu University, Finland) on sensor materials, gas sensors and particulate matter detectors is currently performed since 2011 through the position at 50% as FiDiPro (Finnish Distinguished Professor) by Lloyd Spetz (2011-2014).
3. Collaboration between Anita Lloyd Spetz (Action Vice-Chair, University of Linköping, Sweden) and Jyrki Lappalainen (Oulu University, Finland) and Andreas Schütze (Saarland University, Germany) regarding detection of content of particulate matter since 2012.
4. Collaboration between Danick Briand (EPFL, Switzerland) and Stefan Raible (AppliedSensor, Germany) on micromachined gas sensors in 2012-2013.
5. Collaboration between Danick Briand (EPFL, Switzerland) and Krishna Persaud (University of Manchester, UK) on printed flexible gas sensors.
6. Collaboration between IDAEA-CSIC (Spain) (María Cruz Minguillón, Mar Viana and Xavier Querol) and NILU (Norway) (Nuria Castell and Cristina Guerreiro) on the review of existing data on comparisons between nanotechnology based sensor (low-cost sensors) and traditional air quality monitors.
7. Collaboration between Alphasense (UK) (John Saffell) and NILU (Norway) (Núria Castell and Philipp Schneider) on the use of low-cost sensors for air quality monitoring.
8. Collaboration between University of Cambridge (UK) (Rod Jones) and NILU (Norway) (Núria Castell and Philipp Scheneider) on the validation of low-cost sensors on urban environments.
9. Collaboration between Danick Briand (EPFL, Switzerland) and Julian Gardner (University of Warwick, UK) on chemical emitters and detectors for infochemical communication.
10. Collaboration between the NINOS group (URV, Spain) and the MIND group (UB, Spain) on sensor nanomaterials and gas sensors started in 2012 in the framework of the OXIGENIA project (see Annex IV).
11. Collaboration between the NINOS group (Eduard Llobet, URV, Spain) and EPFL (Danick Briand) on nanowire metal oxide sensors on flexible substrates, started end of 2012.
12. Collaboration between Marcel Bouvet (University of Burgundy, Dijon, France) with Jérôme Brunet (University Blaise Pascal, Clermont-Ferrand, France), on a sensing composite structure-based microsystem devoted to the selective measurement of benzene, toluene and xylenes, contract ANR CAP-BTX 2010-2013.
13. Collaboration between Jan Theunis (VITO, Belgium) and Robin North (Imperial College, UK) on the validation of urban air quality models and real time black carbon measurements used for intelligent traffic steering.
14. Collaboration between SenseAir SA (Delsbo, Sweden) and Rod Jones at University of Cambridge on atmospheric measurements using gas sensors on weather balloons is currently performed since 2009.
15. Collaboration between Saarland University (Andreas Schuetze, Tilman Sauerwald), 3S GmbH (Thorsten Conrad) and UST GmbH (Olaf Kiesewetter) in the field of indoor air quality monitoring (ERA.NET-project COC-IDS) with partners from France and Portugal.

- 16.** Collaboration: regular PhD students and ESR meeting in gas sensors and gas measurement systems between Saarland University (Andreas Schuetze, Tilman Sauerwald), Bayreuth University (Ralf Moos, Daniela-Schoenauer-Kamin) and other research groups.
- 17.** Collaboration between Ole Hertel (ENVS, Aarhus University, Denmark) and Wenche Aas (NILU, Norway) on high temporal and spatial resolution ammonia emission model for Europe.
- 18.** Collaboration between G. Kiriakidis (FORTH, Greece) and G. Sberveglieri (University of Brescia, Italy) on p-type gas sensing materials.
- 19.** Collaboration between Rod Jones (University of Cambridge, UK) and John Saffell (Alphasense Ltd, UK) on sensor development for monitoring of urban air quality.
- 20.** Collaboration between Rod Jones (University of Cambridge, UK) and Christoph Hueglin (EMPA, Switzerland) on network analysis methodologies (sabbatical in Cambridge).
- 21.** Collaboration between Michele Penza (Action Chair, ENEA, Italy) and Thomas Kuhlbusch and Ulrich Quass (IUTA eV, Germany) on database for AQC from AirMonTech FP7-project in collaboration with Annette Borowiak (JRC-Ispra), Hans-Guido Muecke (Federal Environment Agency, Germany), Christoph Hueglin (EMPA, Switzerland).
- 22.** Collaboration between Michele Penza (Action Chair, ENEA, Italy) and Annette Borowiak (JRC-Ispra, Italy) on standard and calibration for AQC in collaboration with AQUILA network.
- 23.** Collaboration between Michele Penza (Action Chair, ENEA, Italy) and Michel Gerboles (JRC-Ispra, Italy) on low-cost gas sensors for AQC and their related performance assessment.