



Co-Funded by European Commission LIFE+Environment Policy and Governance Programme LIFE13 ENV/ES/000263

3 July 2017	IMPROVE LIFE	Special session: Air Quality in Subway Systems
14.30	Free registration	
15.00-15.10	Welcome and opening remarks (T. Moreno & E. de Miguel)	
15.10-15.30	Cristina Reche	<i>Insights into key factors controlling particle mass and number concentrations in the metro system</i>
15.30-15.50	Maria Cruz Minguillón	<i>Chemical fingerprint of aerosol sources within subway environment</i>
15.50-16.10	Barend Van Drooge	<i>Air quality in the Barcelona subway system from analysis of organic tracer compounds</i>
16.10-16.40	Coffee Break	
16.40-17.00	Xavier Triadó	<i>Airborne microorganisms in the subway system: Characterization of bacterial communities and abundance in space and time of bioaerosols</i>
17.00-17.20	Fulvio Amato	<i>Efficiency of air purifiers in the L3 subway platforms</i>
17.20- 17.40	Teresa Moreno	<i>Air quality mitigation measures in the subway environment</i>
17.40- 18.15	Open discussion led by Soon-Bark Kwon and Teresa Moreno	
18.15	END	



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3 to 6 JULY, BCN

5th Iberian Meeting on Aerosol Science

Jointly organised with IMPROVE LIFE13 ENV/ES/263

4 July 2017		SUMMER SCHOOL ON TRANSPORT AND URBAN AIR QUALITY
9.00	Registration	
9.30-9.45	Welcoming	
9.45-10.30	Soon-Bark Kwon (Korea Railroad Res. Inst., Korea) <i>Advances on understanding subway air quality</i>	
10.30-11.15	Xavier Querol (IDAEA-CSIC, Barcelona, Spain) <i>Abating human exposure to air pollutants in cities</i>	
11.15-12.15	Coffee +Posters (A)	
12.15-13.00	Francisco Ferreira (Univ. Nova de Lisboa, Portugal) <i>A broader view to improve air quality in the Low Emission Zones in Lisbon</i>	
13.00-13.45	Grisa Mocnik (Dir. Aerosol d.o.o., Ljubljana, Slovenia) <i>Vehicle BC emission factors, modeling of traffic emissions and abatement measures in European cities</i>	
13.45-15.15	Lunch + Posters (A)	
15.15-16.00	Arturo Ariño (Universidad de Navarra, Spain) <i>LIFE+RESPIRA</i>	
16.00-16.45	Moniek Zuurbier (Reg. Public Health Service Gelderland-Midden, Netherlands) <i>Commuters' exposure to air pollution</i>	
16.45-17.15	Open discussion	
20.00-22.00	Guided visit and welcome cocktail in the Library Of Catalonia housed in the XV century gothic building Hospital of Santa Creu	

1. Computational simulations of an aerosol for surfactant delivery in preterm infants. *Aramendia et al.*
2. Detecting the presence of endocrine disrupters in PM1 air particles. *Marqueño et al.*
3. Electronic cigarettes and indoor air quality in a case study using human volunteers. *Grimalt et al.*
4. Cognitive function delay in primary scholars chronically exposed to traffic sourced polycyclic aromatic hydrocarbons. *Van Drooge et al.*
5. Impacts on cognitive development of the exposure to traffic-related air pollutants during commuting in children. *Rivas et al.*
6. Occupational exposure to ultrafine particles in the cosmetic industry. *Viana et al.*
7. Toxicity & microscopy of inhalable PM collected proximal to cement plants. *Sánchez-Soberón et al.*
8. Effects of African dust events on the mixing layer height in Madrid. *Fernández et al.*
9. Impact on radiation of an intense desert dust intrusion, as measured at two stations in western Iberian Peninsula. *Serrano et al.*
10. Influence of long-range transport on air quality in northwestern Iberia. *Aller et al.*
11. Air pollution in the largest Spanish cities: influence of atmospheric conditions. *Fernández et al.*
12. Trends in atmospheric PM and gases in León (Spain): effects of air quality regulations. *Oduber et al.*
13. Aerosol classification over Potenza Earlinet Site. *Papagiannopoulos et al.*
14. Vertical and horizontal profiles of diesel-related pollutants within urban blocks. *Amato et al.*
15. Overview of in-situ aerosol properties observed under different atmospheric conditions during SLOPE (Sierra Nevada Lidar AerOsol Profiling Experiment) campaign. *Casquero-Vera et al.*
16. Presenting ASCENT project: evaluation of the impact of atmospheric aerosol on Sierra Nevada precipitation. *Cazorla et al.*
17. Detection of high turbidity atmospheric events and evaluation of European aerosol load background. *Mateos et al.*
18. Angular scattering of the Sahara dust aerosol. *Horvath et al.*
19. On the possible connection between African dust outbreaks and stratosphere-to-troposphere exchange as measured in the Iberian Peninsula. *Brattich et al.*
20. Influence of large-scale advection patterns on the air quality of Arequipa, Peru. *Rodríguez & Orza.*
21. Analysis of HYSPLIT model sensitivity to different meteorological input data in different geographical areas. *Orza et al.*
22. Study of mineral atmospheric aerosols using laser induced breakdown spectroscopy (LIBS). *Paules et al.*
23. Aerosol concentration profiles obtained by grasp code combining ceilometer and sunphotometer measurements. *Román et al.*
24. Aerosol optical properties according to the origin of air mass at a high altitude location in the Mediterranean coast. *Caballero et al.*
25. Similarities and discrepancies when surface and columnar aerosol data are jointly analysed in a background environment. *Cachorro et al.*
26. Overview of sun photometer measurements of aerosol radiative properties in a pristine subarctic area. *Velasco-Merino et al.*
27. Long-term characterization of aerosol columnar properties in SW Iberian Peninsula. *Obregón et al.*
28. Electro spray plume control for uniform particle production. *Grifoll & Rosell-Llompart.*
29. Nanomonitor: implementation of a nanoparticle monitoring system in the existing air quality monitoring network. *Fito et al.*
30. On the operation of linear arrays of electro sprays. *Sochorakis et al.*
31. Air quality inside city public commuting buses. *Fernández-Iriarte et al.*
32. Predicting indoor PM10 using artificial neural network at subway station, Seoul, Korea. *Park et al.*
33. Development of PM concentration forecasting models in subway station using multiple regression analysis. *Kim et al.*
34. Fundamental study on wear particles during the wheel-rail slip. *Namgung et al.*

9.00-10.45 Atmospheric Aerosols (transport and processes)**Chaired by Cristina Gutiérrez Cañas & Mário Cerqueira**

- 9.00-9.15 Main features of an outstanding desert dust transport over Iberia. *Costa et al.*
- 9.15-9.30 Contribution of natural dust in PM10 and PM2.5 concentrations over Portugal from 2013 to 2015. *Monjardino et al.*
- 9.30-9.45 Upper-level disturbances and the impact of dust outbreaks in Spain. *Orza et al.*
- 9.45-10.00 Long-term comparison of high-time resolution in-situ and ceilometer measurements at Montsec. *Titos et al.*
- 10.00-10.15 A European aerosol phenomenology-6: scattering characteristics of atmospheric aerosol particles from 28 ACTRIS sites. *Pandolfi et al.*
- 10.15-10.30 Synoptic scale transport analysis based on a combined technique of trajectories clustering and expert criteria. *Escudero et al.*

10.45-11.45 Coffee + Posters (B)

11.45-14.00 Aerosols in industry (applications and exposure)**Chaired by Ana Isabel Calvo & Jose Antonio Orza**

- 11.45-12.00 Development of processes to reduce crystalline silica toxicity. SILIFE project. *Lopez-Lilao et al.*
- 12.00-12.15 Is dustiness a predictor of exposure to particles in the ceramic industry? *Ribalta et al.*
- 12.15-12.30 Nanoparticle release mechanisms during laser ablation of ceramic tiles. *Salmattonidis et al.*
- 12.30-12.45 *In-vitro* metabolomics to evaluate toxicity of PM nearby a petrochemical complex. *Sánchez-Soberón et al.*
- 12.45-13.00 On the challenges and the decision-making process for an optimal exposure assessment methodology in multi-source industrial scenarios. *Lopez de Ipina et al.*
- 13.00-13.15 A new growth tube nanocharger-concentrator for improved particle charging efficiency. *Eiguren et al.*
- 13.15-13.30 Electro spray deposition system as sample preparation technique for nanoparticle analysis by electron microscopy. *Mugica et al.*
- 13.30-13.45 Structure of granular deposits from electro sprayed catalytic inks. *Martin et al.*

14.00-15.30 Lunch + Posters (B)

15.30-17.00 Exposure in indoor and transport microenvironments**Chaired by MariCruz Minguillón & Constantinos Sioutas**

- 15.30-15.45 Exposure to air pollutants during commuting: exploring socio-economic inequalities and differences between travel modes. *Rivas et al.*
- 15.45-16.00 Particulate matter in public transportation in Istanbul. *Sahin and Onat*
- 16.00-16.15 Evaluation of BC, ultrafine particles and PM2.5 concentrations in Istanbul subways. *Onat et al.*
- 16.15-16.30 Indoor air quality and energy performance in Portuguese climactic schools. *Almeida et al.*
- 16.30-16.45 Exposure to particulate matter during sleep. *Canha et al.*
- 16.45-17.00 Long-term evaluation and source apportionment of redox-active metals using a novel metal monitor and PMF. *Mousavi et al.*

17.00-17.30 Coffee break

17.30-17.45 ALAVA INGENIEROS

17.45-18.30 Bioaerosols**Chaired by Maria João Costa**

- 17.45-18.00 The effect of wind on daily airborne pollen concentrations in Catalonia (NE Iberian Peninsula). *Periago et al.*
- 18.00-18.15 First forecasts of platanus and pinus pollen in Catalonia, Spain: evaluation with a ground-based lidar. *Sicard et al.*
- 18.15-18.30 Bioaerosols sampling procedure in the context of a bioterrorist attack: IB-BIOALERTNET project. *Sánchez et al.*

20.30

Conference dinner

1. Olive pollen counts and aeroallergen levels in the atmosphere of Alicante. *Martínez-Pérez et al.*
2. Airborne pollen in Alicante (2010-2015). *Martínez-Pérez et al.*
3. Loss of airborne pollen integrity during transport: atmospheric conditions affecting cupressaceae pollen. *Galveias et al.*
4. New methods in air quality monitoring: is total protein a feasible marker of bioaerosol load in ambient air? *Arriegas et al.*
5. Airborne particulate polyromantic hydrocarbon pollution in Andalusia. *Esquinas et al.*
6. Simultaneously measurements of black carbon in an urban and a suburban site of A Coruña (northwest of Spain). *Gallego-Fernández et al.*
7. A one-year record of polycyclic aromatic hydrocarbons in atmospheric particulate matter from an urban background site in Lisbon, Portugal. *Cerqueira & Matos.*
8. Control of PM emissions from combustion of Mediterranean residual biomass using a hybrid filter. *Sanz et al.*
9. Particulate and gaseous emissions from prescribed fires in a protected natural area. *Blanco-Alegre et al.*
10. Particulate-bound organic compounds from charcoal burning in barbecue grills. *Vicente et al.*
11. Polycyclic aromatic hydrocarbons and their derivatives (nitro-PAHS, oxyPAHS, and azaarenes) in PM10 from São Paulo, Brazil. *Vicente et al.*
12. Impact of wood combustion on indoor air quality. *Vicente et al.*
13. Trace metal and PAH enrichment within the penetration window of an ESP. *Ibarra et al.*
14. Hygroscopic properties of freshly formed particles during an intensive summertime field campaign in Madrid. *Alonso-Blanco et al.*
15. Homogenization and mixing chamber of aerosol particles. *Rojas-García et al.*
16. Diffuse sunlight based calibration of the water vapour channel in the UPC RAMAN LIDAR. *Muñoz-Porcar et al.*
17. Intercomparación de siete analizadores ELPI y ELPI+. *Setién et al.*
18. Quality-assured measurements of particle depolarization ratio at Barcelona: channel design and calibration procedure and stability. *Ben Chaed et al.*
19. The REDMAAS 2017 intercomparison campaign: CPC and SMPS results. *Gómez-Moreno et al.*
20. TEEMS-total turbofan engine emissions measurement system. A research & innovation Spanish program. *Archilla et al.*
21. Diseño de experimentos aplicado a la combustión de biomasa. Análisis de impactos ambientales de las emisiones. *Gomar et al.*
22. Intercomparison of methods to estimate BC emissions from cookstoves. *Viana et al.*
23. Passive monitoring of PM and gaseous pollutants in Fogo Island, Cape Verde. *Alves et al.*
24. Inorganic ions and trace metals bulk deposition at an Atlantic coastal European region. *López-Mahía et al.*
25. 2001-2011 trends of PM2.5, PM10 and aerosol chemical compounds in Lisbon, Portugal. *Faria et al.*
26. Major and trace metals in PM1 & PM10 samples collected at a traffic site in western Mediterranean. *Nicolás et al.*
27. Identification and quantification of PM10 sources in a regional background station. *Yubero et al.*
28. Diurnal and seasonal variation of water-soluble ions and PM10 concentrations at a traffic site in Elche (SE Spain). *Galindo et al.*
29. Major components of PM10 and their relationships with sub-micron particles in a suburban area of northwest Spain. *Fernández-Amado et al.*
30. Impact of abatement technology of a copper smelter on the air quality of Huelva (SW Spain). *Sánchez-Rodas et al.*
31. Impact of mine activity on the air quality in the district mining of Riotinto (SW Huelva). *Sánchez de la Campa et al.*
32. High resolution determination of gaseous HF at the city of Huelva (SW Spain) near a phosphogypsum pond. *Torres-Sánchez et al.*
33. High-efficiency simultaneous removal of trace HM & organic pollutants from an iron ore sintering plant. *Gonzalez et al.*
34. Two years of atmospheric mercury concentrations (Hgg and Hgp) near a clinker plant using residues derived combustibles. *Carratalá et al.*

6 July 2017

9.00-11.00 Air quality (sources and ultrafines)

Chaired by Jesús de la Rosa & Aurelio Tobías

- 9.00-9.15 Source apportionment in a street canyon: first approach within REMEDIO project. *Almeida-Silva et al.*
- 9.15-9.30 3-years background gas and aerosol measurements in Mallorca Island, in WMB: Preliminary source apportionment outputs. *Cerro et al.*
- 9.30-9.45 Estimation of daily fine particles in Italy at fine spatial resolution using monitoring stations, satellite data, land use and meteorology. *Stafoggia et al.*
- 9.45-10.00 Ultrafine particle events during anticyclonic and advection conditions in Madrid. *Pérez et al.*
- 10.00-10.15 High O₃ & UFP summer episodes in and around Madrid. *Querol et al.*
- 10.15-10.30 Study of the temporal variability and gas-aerosol partitioning of ammonium nitrate at an urban site in Northern France. *Roig et al.*
- 10.30-10.45 Continuous air particulate analysers and PM₁₀ particle reference samplers: a study about the equivalence between the reference and other ambient air particulate measuring methods. *Abad Valle et al.*

11.00-11.30

Coffee break

11.30-13.00 Carbonaceous aerosols

Chaired by Marta Almeida & Gloria Titos

- 11.30-11.45 Determination of Black Carbon age by the determination of the filter photometer loading parameter. *Drinovec et al.*
- 11.45-12.00 EC, OC and PM_{2.5} emission factors from wood burning in improved ceramic cookstoves. *Padilla-Barrera et al.*
- 12.00-12.15 Biomass burning impact on air quality in Spain using ACSM. *Minguillón et al.*
- 12.15-12.30 Comparative chemistry and toxicity of rural and urban organic aerosols. *Van Drooge et al.*
- 12.30-12.45 Intense biomass burning event removed by Aeronet at level 1.5. *Obregón et al.*
- 12.45-13.00 Characterization of PAH, OC, EC and HM in atmospheric particles from a fire at the used tire landfill located between Seseña and Valdemoro (Spain). *García dos Santos et al.*

13.00-13.30

Closing remarks and awards

13.30-15.00

Lunch