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3 July 2017	IMPROVE LIFE	Special session: Air Quality in Subway Systems
14.30	Free registration	
15.00-15.10	Presentation (T. Moreno & E. de Miguel)	
15.10-15.30	Cristina Reche <i>Insights into key factors controlling particle mass and number concentrations at 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	



# R(CTA)'17

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	<b>Soon-Bark Kwon</b> (Korea Railroad Res. Inst., Korea) <i>Advances on understanding subway air quality</i>	
10.30-11.15	<b>Xavier Querol</b> (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	<b>Francisco Ferreira</b> (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	<b>Grisa Mocnik</b> (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	<b>Arturo Ariño</b> (Universidad de Navarra, Spain) <i>LIFE+RESPIRA</i>	
16.00-16.45	<b>Moniek Zuurbier</b> (Reg. Public Health Service Gelderland-Midden, Netherlands) <i>Commuters' exposure to air pollution</i>	
16.45-17.15	Coffee	
17.15-18.00	<b>Alfredo Sánchez</b> (European Environ. Agency, Copenhagen, Denmark) <i>Environmental targets of the EU regarding transport</i>	
20.00-22.00	Guided visit and <b>welcome cocktail</b> 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.*

**9.00-11.00 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 Can we improve aerosol vertical distribution in regional models? A sensitivity analysis of the response to dry deposition. *Palacios-Peña et al.*
- 10.30-10.45 Synoptic scale transport analysis based on a combined technique of trajectories clustering and expert criteria. *Escudero et al.*

11.00-12.00 Coffee + Posters (B)

**12.00-14.00 Aerosols in industry (applications and exposure)****Chaired by Ana Isabel Calvo & Jose Antonio Orza**

- 12.00-12.15 Development of processes to reduce crystalline silica toxicity. SILIFE project. *Lopez- Lilao et al.*
- 12.15-12.30 Is dustiness a predictor of exposure to particles in the ceramic industry? *Ribalta et al.*
- 12.30-12.45 Nanoparticle release mechanisms during laser ablation of ceramic tiles. *Salmatonidis et al.*
- 12.45-13.00 *In-vitro* metabolomics to evaluate toxicity of PM nearby a petrochemical complex. *Sánchez-Soberón et al.*
- 13.00-13.15 On the challenges and the decision-making process for an optimal exposure assessment methodology in multi-source industrial scenarios. *Lopez de Ipina et al.*
- 13.15-13.30 A new growth tube nanocharger-concentrator for improved particle charging efficiency. *Eiguren et al.*
- 13.30-13.45 Electro spray deposition system as sample preparation technique for nanoparticle analysis by electron microscopy. *Mugica et al.*
- 13.45-14.00 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 O<sub>3</sub> & 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 PM<sub>10</sub> 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<sub>2.5</sub> 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