



52nd European Congress of the

European Societies of Toxicology

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EUROTOX2016

Seville



FINAL PROGRAMME BOOK

The Congress is proudly organized by the Turkish Society of Toxicology

“Protecting public and environmental health
by understanding and communicating toxicology”

| EUROTOX 2016

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European Societies of Toxicology

| FINAL PROGRAMME



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Welcome Address

Dear Colleagues,



Ali Esat Karakaya,
PhD, ERT, ATS
EUROTOX 2016 Congress,
President

On behalf of the Organizing Committee for EUROTOX 2016 and the Executive Committee of EUROTOX, it is our pleasure to welcome you to the 52nd Congress, held in the beautiful city of Seville.

The theme of the 52nd Congress is “Protecting Public and Environmental Health by Understanding and Communicating Toxicology”. The next three and a half days will feature an outstanding scientific programme including six Continuing Education Courses, sixteen Symposia, ten Workshops, and more than eight hundred posters, as well as eight Invited Sessions Keynotes from esteemed scientists.



Aristidis Tsatsakis,
PhD, ERT, DSc
EUROTOX President
(2015-2017)

As you know, it was decided during the EUROTOX 2011 Congress in Paris that EUROTOX 2016 would be held in Istanbul, but several incidents of terrorism affected the risk perception of potential participants, leading to a strong tendency not to attend. Therefore, in March 2016, the Local Organization Committee of the Turkish Society of Toxicology proposed to the EUROTOX Executive Committee that the Congress be moved. It was a difficult decision to relocate a congress whose organization had been underway for five years, but by common accord, and with the strong support of the Spanish Association of Toxicology, the Congress was relocated to Seville. We owe our utmost gratitude to VISITUR, the PCO of EUROTOX 2016, whose extraordinary organisational efforts made this Congress possible.

The venue change was announced with a message stating our goal: “We expect your full support to this Congress which will be held with the same scientific programme and committees. It is time to stand against terrorism together: let’s express this by your participation in EUROTOX 2016. We are confident that we will convene another successful EUROTOX Congress.”

The fact that you are reading this is proof that our goal was attained: many thanks for your valuable support of EUROTOX 2016. Additional thanks to all who have contributed to our outstanding scientific programme, as well as to our sponsors and donors for their generous contributions. You will find a full list of them in this programme book, and will see their names displayed throughout the Congress. Finally, our sincere appreciation to The Spanish Association of Toxicology and the people of Seville for their warm hospitality.

We bid you welcome and wish you an enjoyable time in Seville and safe travels home again.



Ali Esat KARAKAYA,
PhD,ERT, ATS
President, EUROTOX 2016



Aristidis TSATSAKIS,
PhD, ERT, DSc
President, EUROTOX 2015-2017

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“The abstracts of poster presentations and short oral communications were peer-reviewed by the referees listed below”

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Early biological effects in children exposed to different levels of PM0.5 in Perugia (Italy)

Tania Salvatori¹, Sara Levorato¹, Samuele Vannini¹, Elisabetta Ceretti², Silvia Bonetta³, Marco Verani⁴, Tiziana Grassi⁵, Cristina Fatigoni¹, Silvia Bonizzoni⁶, Alberto Bonetti⁷, Milena Villarini¹, Umberto Gelatti²

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Exposure day-to-day particulate matter (PM) air pollution is correlated to increased risk of various adverse health outcomes. In particular, the children are more vulnerable than adults to the effects of airborne agents because their lungs are still developing, they spend more time outdoors, and they breathe faster than adults do. Our work was part of the MAPEC (Monitoring Air Pollution Effects on Children for supporting public health policy) project, a multicentric cohort study that involves 1,000 primary school children (6-8 years old) in 5 Italian cities (Brescia, Lecce, Perugia, Pisa and Turin), with different degrees of pollution. The aim of this study was to identify markers of early biological damage, such as micronuclei (MN), predictive of chronic diseases onset in older adulthood. Child exposure to urban air pollution was evaluated by collecting PM0.5 samples in four schools of Perugia, on the same day of biological sampling. The micronucleus cytome assay was performed in exfoliated buccal mucosa (BM) cells of children. The cells, collected by brushing the inside of the cheek with a toothbrush, were fixed on microscope slides and stained with Feulgen/LightGreen for both bright field and fluorescence microscope analysis. Ambient and biological sampling were repeated in winter 2014 and in spring 2015. The results showed a decrease in MN frequency in spring compared to winter season, according to the monitored level of air pollution

Keywords: air pollution, PM0.5, children, buccal cytome assay

Chemical analysis, mutagenicity and genotoxicity of PM0.5 collected in Perugia (Italy)

Sara Levorato¹, Ceretti Elisabetta², Bonetta Sara³, Salvatori Tania¹, Ferretti Donatella², Carraro Elisabetta³, Vannini Samuele¹, Zerbini Ilaria², Pignata Cristina³, Carducci Annalaura⁴, Bagordo Francesco⁵, Fatigoni Cristina¹, Bonizzoni Silvia⁶, Bonetti Alberto⁷, Villarini Milena¹, Gelatti Umberto²

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Particulate matter (PM) air pollution has long been recognized as a threat to human health, causing both short and long term adverse effects. Several components of ultra-fine PM, such as polycyclic aromatic hydrocarbons (PAHs) and nitrated polycyclic aromatic hydrocarbons (nitro-PAHs), have been identified as being of greatest concern for their toxic effects in humans. The aim of this work, which is part of the MAPEC_LIFE (Monitoring Air Pollution Effects on Children for supporting public health policy) study, was to evaluate the toxicity of PAHs and nitro-PAHs in ultra-fine air particulates (PM0.5) collected in four different areas in Perugia (Italy), during two different seasons (winter 2014 and spring 2015). PM0.5 was collected on glass fibre membranes using a high-volume air sampler. After 72 hours, the membranes were subjected to chemical analysis to measure the concentration of PAHs and nitro-PAHs. PM0.5 organic extracts were analysed for their ability to cause mutagenicity on four different *S. typhimurium* strains (Ames test) and genotoxicity in a lung adenocarcinoma (A549) cell line (comet assay and micronucleus test). Chemical analysis showed that PM0.5, PAHs and nitro-PAHs levels were higher in winter samples than in the spring ones. PM0.5 organic extracts showed mutagenic effects only in the YG1024 strain, with an increased activity when the S9 fraction was used, thus indicating the presence of promutagenic chemicals. No genotoxicity was observed in A549 cells following exposure to PM0.5 extracts collected in winter and spring, as assessed by the comet assay and the micronucleus test.

Keywords: PM0.5, toxicity, Ames test, comet test, micronucleus assay