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Abstract Details

Abstract Title

IMPACT ASSESSMENT OF POLLUTION WITH PM2.5 BREATHABLE PARTICULATE MATTER FROM URBAN AREAS WITH INTENSE ROAD TRAFFIC ON THE POPULATION HEALTH

Abstract Text

The aim of this paper was to investigate the exposure's effects on population of some air pollutants from urban traffic sources. The environmental determinations and the human subjects participating in the study were chosen from areas with intense road traffic (major road intersections in Bucharest). The sampling campaigns were realized in summer and winter seasons, for a three-year period. Special attention was given to PM 2.5 (particulate matter with a diameter of less than 2.5µm), which, due to their small size, can penetrate the respiratory system to the pulmonary alveoli creating serious health problems, such as asthma and lung cancer. Besides the tests for determining the level of air pollution with the three dimensional fraction, PM 2.5, and PM 10 (particulate matter with a diameter less than 10µm) and TSP (Total Suspended Particles) were also determined the concentration of heavy metals and PAHs; these being compounds whose presence enhance the toxicity of this particulate matter [1]. The overall impact on health (exposed and unexposed human subjects) was analyzed by: functional ventilator samples, biochemical indicators, hematological indicators, immunological (Cytokeratin 8 and Cytokeratin 18 - test urinary bladder cancer) and bio-toxicological indicators (total urinary Phenols, DAL, total Porphyrins, urinary Thioether and Carboxyhemoglobin); all being performed at the beginning and end of a work shift. Results indicated major changes in the studied biomarkers. 1. Taus N., Tarulescu S., Idomir M., Taus R., (2008), Respiratory exposure to air pollutants, J.of Environmental Protection and Ecology, 9 (1), 15-25;

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Presentation

Contribution proposed for: oral presentation

