



WeBIOPATR 2021

The Eighth International WEBIOPATR
Workshop & Conference
Particulate Matter: Research and Management

Abstracts of Keynote Invited Lectures and Contributed Papers

Milena Jovašević-Stojanović,
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Miloš Davidović and Simon Smith, Eds

Vinča Institute of Nuclear Sciences
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**ABSTRACTS OF KEYNOTE INVITED LECTURES AND
CONTRIBUTED PAPERS**

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11.6 ASSESSMENT OF THE BURDEN OF DISEASE DUE TO PM_{2.5} AIR POLLUTION FOR THE BELGRADE DISTRICT

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The health effects attributed to the long-term exposure to ambient PM_{2.5} concentrations above 10 µg/m³ by using the AirQ⁺ modelling software were assessed. The hourly concentrations of PM_{2.5} were collected from 13 air pollution monitoring stations in Belgrade during June and July 2021, and then have been used as input data for the AirQ⁺ software. The average concentration of PM_{2.5} for two-month monitoring from 13 sampling sites in the city was 14.8 µg/m³, the maximum daily concentration was 55.7 µg/m³, while the maximum concentration per hour was 364.8 µg/m³. The burden of diseases, such as stroke, ischemic heart disease (IHD), chronic obstructive pulmonary disease (COPD) and lung cancer (LC), due to the ambient PM_{2.5} pollution was evaluated according to the WHO methodology for health risk assessment of air pollution. The model used for this assessment is based on the attributable proportion defined as the section of the health effect related to the exposure to air pollution in an at-risk population. The estimated attributable proportion was 19.4% for stroke, 12.2% for IHD, 15.4% for COPD and 9.0% for LC. The numbers of estimated deaths due to the PM_{2.5} air pollution manifested by stroke, IHD, COPD, and LC, were 189, 119, 182 and 88, respectively. The spatial distribution of concentrations was mapped using geostatistical interpolation, revealing hotspots within the city center and industrial area of the city.

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