



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

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7.4 AN OVERVIEW OF MONITORING AND RESEARCH OF ATMOSPHERIC PARTICULATE MATTER IN SERBIA IN THE PAST HALF DECADE

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Air quality standards in the EU are set for protection of health, for levels of particulate matter (PM) and its constituents measured daily in PM₁₀: PM_{2.5}, PM₁₀ and BaP, As, Ni, Cd. In 2021, WHO revised guidance levels for daily PM_{2.5} and PM₁₀ (15 resp. 45 µg/m³) and annual average and (5 resp. 15 µg/m³).

Serbia and other Balkan countries have some of the highest PM_{2.5} levels in Europe (EEA, 2020). In 2018, SEPA reports PM₁₀ from 18 stations and presents also results for 16 sites with indicative measurements, and the number of automatic monitoring stations (AMS) is increasing (Table 1).

Table 1. Airborne PM at State and Local monitoring stations in Serbia: exceedance of limit and target values

PM	Type	Sum of exceedance of limit and target values	2017	2018	2019	2020
PM ₁₀	AMS and gravimetric (reference)	Number of sites with annual mean value over 40 µg/m ³ / total number of sites and its percent	11/13 84,6	12/18 61,1	15/32 46,8	19/36 52,7
		Number of days over 50 µg/m ³ : range at sites and average number of days over 50 mg/m ³ for all sites	71-157 28,9	34-170 24,3	6-169 21,2	6-148 21,4
	Indicative measurements	Number of sites with annual mean value over 40 µg/m ³ /total number of sites and its percent	7/11 63,6	9/16 56,3	9/18 50,00	7/14 50,0
		Percent of days over 50 µg/m ³ : range at sampling sites and average percent of days over 50 mg/m ³ for all sampling sites	0-44 29,4	0-49 30,1	0-49 21,6	0-42 20,1
PM _{2.5}	AMS and gravimetric (reference)	Number of sites with main value over 25 µg/m ³ /total number of sites and its percent	4/4 100	5/5 100	12/16 75	15/28 53,6
	Indicative measurements	Number of sites with main value over 25 µg/m ³ /total number of sites and its percent	2/3 66,7	4/5 80,00	2/4 50,0	2/4 50,0

In the majority of urban areas, PM pollution is related to traffic and domestic heating, and levels of PM are much higher during heating season. The industrial site station Bor had no exceedance of annual limit and target for PM₁₀ and PM_{2.5}, but shows the highest levels of metals in PMs, and of SO₂. (SEPA, 2020). The regional background EMEP station at Kamenicki Vis, registered PM₁₀ annual mean value between 14-18 µg/m³ in 2017-2020.

Serbian researchers participate or have participated in a number of ongoing and completed national and international projects and actions, and regularly publish papers in high-ranking journals. Only a closer collaboration between these researchers, SEPA and institutions and companies that monitor air quality will deliver the necessary in-depth analyses and identify the best way to reduce PM pollution and improve air quality in the Republic of Serbia.

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