Research Reinforcing in the Western Balkans in Offline and Online Monitoring and Source Identification of Atmospheric Particles

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# WeBaSOOP PROJECT OVERVIEW AND METHODOLOGY

## RI-URBANS 1st Science Meeting

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## OVERALL AIMS

***Leverage the longstanding research collaboration between partners to***

- further research on particulate matter
- develop observational capacities,
- generate new data in a geographic area where there are significant research gaps,
- contribute to understanding sources of PM by performing source apportionment using novel types of inputs as there are Oxidative potential PM characterization

***Coordinating institution and Serbian collaborating partners***

- to become nationally and internationally recognized research groups able to support the development of new monitoring and assessment systems for atmospheric aerosols, with relevance to risk management and air quality management
- to bring to the level necessary to be a scientifically excellent scientific centre that can contribute to RI-URBANS and to prepare to be associated with ACTRIS infrastructures.

***The international partners***

- will gain new insights on PM and expand their academic and stakeholder networks

## WeBaSOOP PROJECT CONCEPT

The project will work provide actionable health relevant knowledge on ambient particulate matter. WeBaSOOP aim to reduce or close knowledge gaps on the following aspects:

- Adoption of on-line and off-line monitoring of particle size distribution and of black carbon in an urban area (Belgrade) and in a hot spot urban-industrial area (Bor) of the Western Balkan
- Adoption of monitoring and measurement methods for comprehensive chemical characterization of PM
- Adoption of methods for assessment of OP of PM
- Generation of comprehensive data on PM in an area that is not covered in current European infrastructures

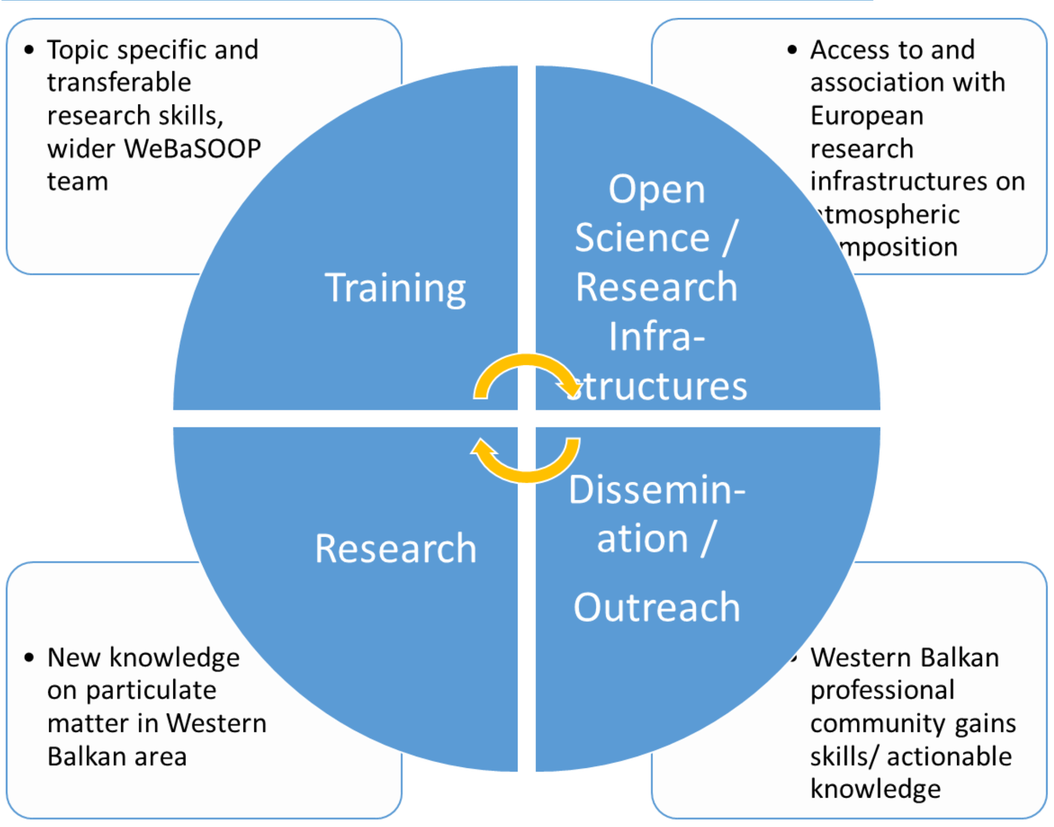
WeBaSOOP aims to increase competencies, skills and scientific recognition of the partners, and of VINCA, IRMB and PHIB in particular by adding value to novel research in air quality monitoring and assessment and source apportionment modelling through a set of activities:

- Leading to joint publications
- Joint submission of proposals for future funding,
- Exchange of researchers and/or students for short-term visits,
- Organization of and participation in workshops and international conferences

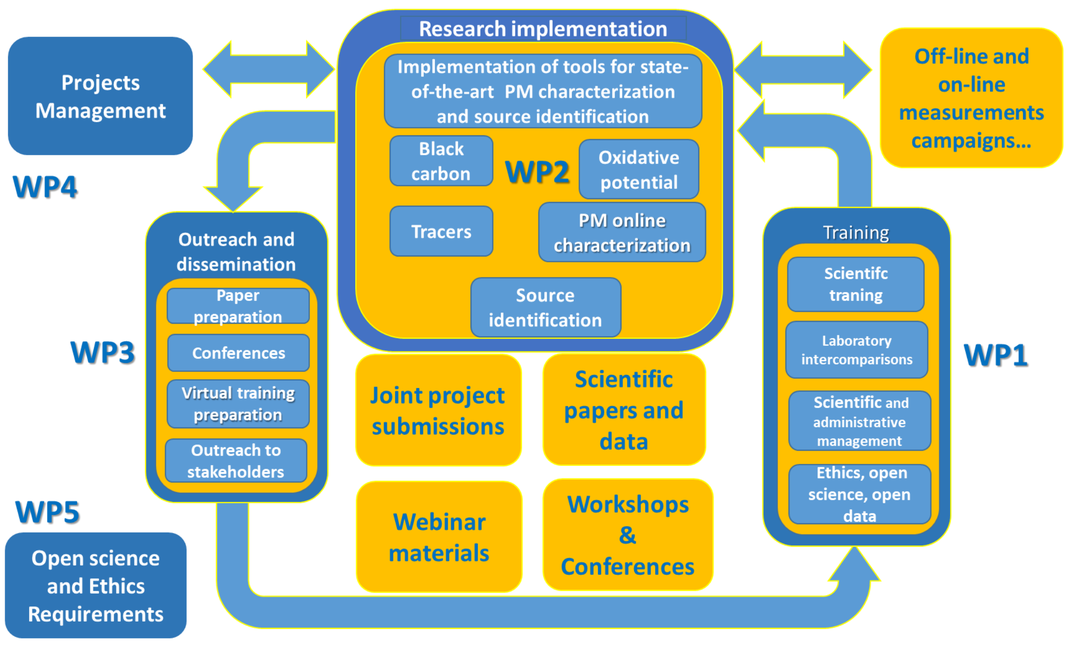
## WeBaSOOP PROJECT CAMPAIGNS

- WeBaSOOP will quantify ambient aerosol sources in Belgrade and Bor, using the ME-2 positive matrix factorization generalized multilinear engine.
- Data collected will include Organic (OC) and elemental carbon (EC), levoglucosan, mannosan, galactosan, arabitol, mannitol, trehalose, glucose, 2-methylerythritol, 2- methylthreitol, V, Mn, Ti, Fe, Co, Ni, Cu, Zn, As, Cd, and Pb, SO42-, NO3- , NH4+, Ca2+, Mg2+, K+, Na+, and Cl−, all measured in the PM10 size fraction.
- A minimum of 90 aerosol filter samples will be collected, covering all four seasons to reflect seasonal variability in the source composition.
- It will be included the source specific organic tracers for a successful outcome of the source apportionment.
- It will be also install an aethalometer for novel application of PMF to absorption data for source apportionment of equivalent black carbon (eBC) to a fossil/liquid fuel combustion source and a solid fuel combustion source.
- Oxidative potential (OP), that will be determined, is a promising and integrative metric for assessing health effects associated with exposure to ambient PM and is one of the emerging and important PM characteristics that can be coupled with source apportionment.

## PARTWAYS TO IMPACT OF WeBaSOOP




## WeBaSOOP`s STRUCTURE




WeBaSOOP
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