

## **Towards an active citizenship in a modern urban environment**

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Quality of environment is usually recognised as one of the key factors affecting the quality of life and health of the citizens. Due to a rapid urbanisation, this is a challenge especially in urban environments where poor air quality (AQ) and noise are usually recognised as major environmental concerns. As such, these stressors are known to have a very high spatiotemporal variability. Therefore, the knowledge about specifics of microenvironments, the amount of time people spend at a certain location and the type of the activity they are involved in - including recreation and other physical activities - are of paramount importance for conducting the exposure assessment in this context.

In recent years, advances in sensing technologies enabled monitoring of related parameters (e.g. AQ, physical activity, noise...) more easily and frequently, which also helped in creating a shift of the current paradigm from a population towards an individual level. Moreover, new concepts such as Citizens' Observatories are becoming increasingly important aspect of environmental monitoring that enable an active involvement and engagement of citizens in observing our environment. These approaches, in combination with other Earth Observation (EO) resources (*in-situ* and remote sensing platforms) and various modelling approaches supported by novel information technologies, enable an efficient characterisation of our living environments and assessment of the exposure to environmental pressures at an individual level.

In this contribution we present various past and ongoing activities conducted at the Jožef Stefan Institute within the Department of Environmental Sciences that are addressing the above mentioned aspects and discuss current state of the art, related issues and further perspectives. Examples presented rest on selected smart-city (e.g. CITI-SENSE FP7 project dealing with community-based environmental AQ monitoring; ICARUS H2020 developing tools and strategies for urban impact assessment in support of AQ and climate change; SMURBS H2020 project testing smart-city approaches and integration of EO; CitieS-Health H2020 dealing with promotion of citizen science) and various national (e.g. HBM and related CRP-V3-1640 and CRP-V3-1722 projects dealing with exposure to environmental pollutants in residents of different regions across Slovenia; NEURODYS project dealing with genetic aspect of exposure) and international (e.g. European HBM-HBM4EU H2020; PHIME, CROME and HEALS projects following a long-term impact of low-level exposures) health related projects.