



Università  
Ca'Foscari  
Venezia

**PROJECT ACRONYM AND TITLE:** OPen Wireless OzoNe SEnsor NETwoRk for smart environmental monitoring of remote areas: crossing the Alps along the 12th east meridian on the trail Munich Venice.

**FUNDING PROGRAMME:** HORIZON 2020

**CALL:** H2020-MSCA-IF-2018-GF – Marie Skłodowska-Curie Individual Fellowships – Global Fellowship

**KEYWORDS:** Atmospheric chemistry, atmospheric composition, air pollution; Meteorology, atmospheric physics and dynamics; Sensor networks, embedded systems, hardware platforms

**HOST DEPARTMENT:** DAIS - Department of Environmental Sciences, Informatics and Statistics

**FELLOW:** Federico Dallo

**SCIENTIFIC RESPONSIBLE:** Prof. Carlo Barbante

**FINANCIAL DATA:**

Project total costs	Overall funding assigned to UNIVE
€ 251.002,56	€ 251.002,56

**ABSTRACT:**

Atmospheric observatories are currently the primary infrastructure for the state-of-the-art meteorological and climate research. However, the World Meteorological Organization Global Atmosphere Watch (WMO-GAW) states in their 2018 final report that the fate of the next generation of monitoring stations will be dramatically modified by the breakthroughs of new low-cost sensors (LCSs) technologies. The rapid development and continuous improvement of low-cost technology are demonstrating notable applications and today “LCSs are beginning to play a role in areas such as model or emissions validation and spatial variability in pollution” in support the state-of-the-art instrumentations and established networks. New upcoming atmospheric applications, services and support in citizen inclusion in earth monitoring are pushing European Union (EU) in funding scientific communities, companies, governments and international bodies such as the Joint Commercial Advisory Group (JCAG) in developing and assessing low-cost technology, thus making the introduction of basic and applied research addressing quantitative, reproducible measurements, guidelines for best practice, high data quality and accuracy, compatibility of data imperative. Considering these crucial challenges, aim of the project is to establish a low-cost sensors wireless sensor network (LCS-WSN) to assess the effectiveness of low-cost technologies in the study of transboundary transport phenomena. Given its highly relevance for the Earth's climate, ecosystems, and human health as stated by the International Global Atmospheric Chemistry Project, primary endeavor will be directed towards the study of Ozone. Main target is to develop a highly reliable LCS-WSN to be used by scientists as well as citizen engineers in remote areas and harsh environments, where the needs of reliable spatial data to model the transboundary transport phenomena and climate change effects is ever more decisive

Planned Start date	Planned End date
1 <sup>st</sup> January 2021	31 <sup>st</sup> December 2023

**PARTNERSHIP:**

<b>1</b> Università Ca' Foscari, Venezia	Venice (IT)	Coordinator
<b>2</b> University of Berkeley, California	Berkeley (US)	Partner