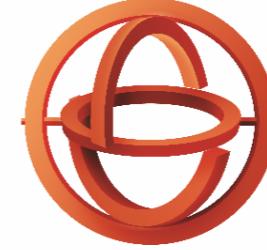


Description of Funded Research Projects

1st Call for H.F.R.I. Research Projects
to support Post-Doctoral Researchers



H.F.R.I.
Hellenic Foundation for
Research & Innovation

Research Project Title:
**Observatory of Air and
Particulate Pollution over Greece
(AirPaP)**

Principal Investigator:
Kyriaki-Maria Fameli



Popular Title:
**Observatory of Air and Particulate Pollution
over Greece**

Scientific Field:
Environmental Sciences

Host Institution:
**National Observatory of Athens
(NOA)**



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A great part of worldwide population is daily exposed to air pollution levels that exceed health-based ambient standards. According to the FEI-GREGAA Emission Inventory (E.I.) recently completed by Dr. Fameli for Greece and the Greater Athens Area (GAA), the field of pollutant sources has changed because of major infrastructure projects undertaken and the parallel economic development of new regions. Moreover, the economic crisis has affected human activities and consequently the share of pollution sources in total emissions.

AirPaP vision is the development of an integrated air quality system based on state-of-the-art scientific tools that will enable the analysis of the air quality characteristics of Greece and the GAA in particular. The methodology to be applied comprises the E.I. update in order to meet the EU Directive requirements, follow the changes in human socio-economic activities and identify the national and local key source categories. Data from targeted experimental campaigns will be used to harmonize proxy values for the spatial and temporal allocation of emissions with local characteristics. Following that, air pollution simulations at regional and local scale will be held with the use of the WRF/CAMx modeling system. Finally, the Operational Air Quality Forecasting System will be developed, providing short term surface concentrations and prognostic maps of gaseous and particulate pollutants. A small network of air quality sensors will be deployed for the provision of real time air quality concentrations.

The expected outcome of the AirPaP project is the creation of an observatory of environmental pollution, and therefore citizen health protection, through pollution alerts. The environmental footprint of areas of interest will be available, including all environmental information on pollutant sources and air quality. AirPaP will thus provide the opportunity for an in-depth study of the air quality characteristics with the use of the WRF/CAMx modeling system

The country as well as the general public will benefit from the AirPaP project as it will contribute to the provision of environmental services of high quality and enhance the access to environmental information. The expected outcomes of the AirPaP are connected to the identification of source-receptor relationships, pollution hot spots, emission control strategies and early prevention. They will be communicated to the public so as to inform and educate them on the impacts of emissions on air quality, the types of air pollutants and interplay, the contribution they can have to improving life quality and protecting their health. The governmental and public institutions working on monitoring air quality, protecting health and productivity and forming policies will also gain from the expected results of AirPap as for the first time an integrated analysis of air pollution from source to receptor using validated scientific tools will be available.

To me, H.F.R.I. funding
would mean...

“



The funding provided by H.F.R.I. gives me the opportunity to develop and continue my research expertise in the emission inventory development and the air quality study. Everything started a few years ago with the beginning of my PhD thesis on this field and now, through the AirPaP project, I have the opportunity to create my own research team with MSc and PhD students, post-doctoral associates and the support of prominent researchers and professors. I hope to be able to broaden my research experience and provide the general public and the relevant authorities with services and knowledge that will lead to the improvement of the life quality and health protection.

*The Principal Investigator,
Kyriaki-Maria Fameli*

Funding

Amount: **110,000 €**

Duration: **36 months**

Foundation: **H.F.R.I.**





H.F.R.I.
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