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Joan Ballester Wins European Research Council Grant to Forecast the Health Effects of Air Pollution

The FORECAST-AIR project aims to tailor health alerts of air pollution for vulnerable groups

The European Research Council (ERC) has awarded a **'Proof of Concept' grant** to Joan Ballester, Associate Research Professor at ISGlobal, for the FORECAST-AIR project, to develop an **open-access forecasting system of the health effects of air pollution**. It is one among 66 winning projects selected from 122 evaluated proposals in the ERC-2023-POC call.

The ERC Proof of Concept funding is designed to support ERC-funded research projects to go a step further and explore their commercial and societal innovation potential. With this award of 150,000 euros, Ballester's new FORECAST-AIR project will exploit the database and knowledge of his ongoing ERC-funded EARLY-ADAPT project. FORECAST-AIR stands out from other similar projects in the area of **early warning systems** due to its specific focus on the **health effects in vulnerable populations** such as the elderly, children, or people with pre-existing or chronic cardiorespiratory diseases.

Air pollution causes **hundreds of thousands of premature deaths** in Europe every year. Though early warning systems of air quality already exist, there are several gaps that remain to be filled. Ballester proposes an interdisciplinary approach by integrating existing operational air pollution forecasting systems with epidemiological models applied to health data disaggregated by population subgroups. "This will help create a new generation of early warning systems that account for the real risks and impacts of air pollution on vulnerable populations, and tailor air pollution alerts accordingly," explains Ballester.

The path from ground-breaking research to innovation will include a predictability assessment, which will analyse the spatiotemporal scales of predictability of the resulting health early warning system. Ballester adds, "**FORECAST-AIR is designed to meet the needs of public health agencies** that issue health-related early warnings, and consequently, we intend to analyse the predictability of the platform so that it generates trust among end-users."

The objectives of this project align with the recently established ISGlobal PR3 Research Hub. The Hub aims to improve preparedness and promote resilience to health and climate emergencies by conducting multidisciplinary research and translating its results and activities.

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