

Computer programmer for software development [ERC PoC HHS-EWS + Horizon Europe CATALYSE]

The Barcelona Institute for Global Health (ISGlobal) is a cutting-edge institute addressing global public health challenges through research, translation into policy and education. ISGlobal has a broad portfolio in communicable and non-communicable diseases including environmental and climate determinants, and applies a multidisciplinary scientific approach ranging from the molecular to the population level. Research is organized in the following main areas, Malaria and other Infectious Diseases, Maternal, Child and reproductive Health, Urban Health and Child and environmental health, Climate & Non-Communicable Diseases. ISGlobal is accredited with the Severo Ochoa distinction, a seal of excellence of the Spanish Science Ministry.



Venue:

Barcelona

What we are looking for:

We are seeking a talented and highly motivated computer programmer or software engineer to join the research team of [Dr. Joan Ballester](#) at [ISGlobal](#) within the framework of various research projects, mainly the ERC Proof-of-Concept project HHS-EWS and the Horizon Europe Research and Innovation Action CATALYSE (see “Project information” below). The team is at the forefront of environmental research by analysing a novel database of human health in Europe, which incorporates a range of environmental, socioeconomic and demographic variables and novel digital data streams at different spatiotemporal scales.

The main duty of the candidate is to create and automatize software tools to develop operational heat-health early warning systems driven by real-time weather forecasts. The chosen candidate will also contribute to the design, creation, harmonisation and management of the team research database. This includes the data collection process, the creation of subroutines that automatically download new, real-time or updated datasets, such as climate and air quality forecasts and projections, and the post-processing of large data files to support the research of other team members. The candidate is expected to closely interact with all the other members of the team, in order to better design and update the database, and address any need in terms of data, programming and specialized software. The candidate is not

requested to contribute to scientific research, but any interest in that regard will be taken into consideration.

Competences and duties

The candidate is expected to meet as many of the following criteria as possible:

- have a MSc in informatics or related areas;
- have experience in Linux environment and scripting, and common programming languages such as R, Shiny, Python and/or NetCDF;
- preferably, have experience with the management and analysis of climate and/or health data;
- have a good level of English;
- be willing to work in an inter-disciplinary project team within a highly collaborative research institute.

Conditions

- Dedication: Full time.
- Starting date: As soon as possible.

How to apply

Applicants must fill in the [request form](#) including the following reference: **CompProg_CATALYSE_Mar22**.

Applications should include:

- the Curriculum Vitae;
- copy of the highest diploma.

Interviews will be conducted on a rolling basis until a candidate is selected.

Only the applications submitted through the request form will be considered.

Only shortlisted candidates will be contacted.

Project information

EARLY-ADAPT (“Signs of Early Adaptation to Climate Change”, 2021-2026) is a European Research Council Consolidator Grant ([ERC-2019-CoG](#)), whose overarching aim is to jointly analyse the multiple drivers of recent trends in human health. Its driving hypothesis is that societies are starting to adapt to climate change, but the effectiveness of early adaptation is heterogeneous in space and time. EARLY-ADAPT is creating a daily, continental-wide database with multiple health outcomes, climate variables, air pollutants, desert dust and winter infectious diseases. The database is being used to model the relation between health and the environment, quantify the modifying effect of the societal factors, and perform a predictability analysis to determine the most realistic adaptation scenarios for the projections of future health. The project will allow to detect, understand and quantify the inequalities in adaptation between countries, regions, cities and social groups. More information is available [here](#).

HHS-EWS (“Operational Heat-Health-Social Early Warning System”, 2022-2024) is a European Research Council Proof-of-Concept Grant ([ERC-2022-PoC](#)), which aims to create a novel operational early warning system for environmental temperatures that incorporates the real risks to people's health, especially that of the most vulnerable

populations. The system will transform the predictability of atmospheric variables into health predictions using epidemiological models specifically designed for the most vulnerable social groups. HHS-EWS is funded by the ERC Proof-of Concept scheme, which is intended to transform the theoretical research of the parent project into high-risk but potentially high-benefit innovations. In this case, the innovation aims to increase society's resilience to climate change, building on the theoretical research in epidemiology and social sciences being carried out in the context of EARLY-ADAPT. More information is available [here](#).

CATALYSE (“Climate Action to Advance Healthy Societies in Europe”, 2022-2027) is a Horizon Europe Research and Innovation Action ([HORIZON-HLTH-2021-ENVHLTH-02-03](#)), whose overarching aim is to provide new knowledge, data, and tools on: i) the relationships between changes in environmental hazards caused by climate change, ecosystems, and human health; ii) the health co-benefits of climate action; iii) the role of health evidence in decision making; and iv) the societal implications of climate change for health systems. CATALYSE will develop innovative surveillance and forecasting tools that facilitate effective response to environmental health hazards, including a heat-health early warning system that incorporates weather forecasting, health data and epidemiological modelling. The early warning system

will focus on Catalonia, Spain, based on high-quality health data, high-resolution weather forecasts from the Catalan Meteorological Agency, and established links with local public health stakeholders.

Project acknowledgments

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In ISGlobal we are committed to maintaining and developing a work environment in which the values and principles of our organization are respected and equal opportunities between women and men be promoted in each of the areas in which we operate, not tolerating discrimination based on criteria such as age, gender, marital status, race, ethnicity, functional diversity, political leanings, religion, sexual orientation, gender identity or gender expression.

ISGlobal supports the initiative [#ScienceforUkraine](#). Therefore, to sustain Ukraine's presence in the

European Research Area and international scholarly community, candidates from Ukraine on all levels of scholarly career are welcome: students, PhD candidates, early career researchers and senior scholars.

We confirm our commitment towards the value of the diversity of our staff and student population and seek to promote peace, equity, diversity and inclusion as essential elements in contribution to improving health worldwide.