



The Abdus Salam
**International Centre
for Theoretical Physics**



Climate and Health Impact Modelling

Postdoctoral fellowship
starting summer 2025

WELLCOME TRUST (U.K.) ACCLIMATE: Attribution of a Changing CLIMate in the AssessmenT of malaria Intervention Strategy Efficiency

The Earth System Physics (ESP) section of the Abdus Salam International Centre for Theoretical Physics (ICTP) seeks applications for two postdoctoral positions for an initial period of two years, renewable for an additional year subject to performance, from an outstanding early career scientist with a strong research record of accomplishment. Start date is flexible, but ideally between Sept 2025 and January 2026.

This post-doctoral position is linked to the **WELLCOME TRUST (U.K.) ACCLIMATE: Attribution of a Changing CLIMate in the AssessmenT of malaria Intervention Strategy Efficiency (2025-2028)**, with **Dr. Adrian Tompkins as Principal Investigator** at ICTP. ACCLIMATE aims to integrate climate information into the assessment of malaria interventions for three countries in Africa and includes the implementation of high resolution monitoring networks in two cities in Senegal. The project consists of a consortium of 8 institutions, based in Africa, Europe and the USA and will interact with health ministry representatives in 3 countries. The selected candidates will be joining an exciting international project that aims to bring its research to operational application in Senegal, Kenya and Ethiopia.

The selected postdoctoral researchers are expected to carry out active, independent and multidisciplinary research in the broad area of the project with two distinct foci.

Position 1: The first vacancy is to work in the area of understanding the drivers of variability and longer term trends of the African monsoon system. The researcher will be expected to work with a range of tools, such as conceptual climate models, high resolution cloud permitting simulations, as well as CMIP and other available k-scale climate simulations from current projects such as destination Earth and Nextgems.

Position 2: The second vacancy instead focuses on the improvement and development of ICTP's climate sensitive malaria model (VECTRI). This position will explore exciting novel research questions, such as how population mobility can affect malaria transmission, how climate change recently influenced malaria risk in Africa and what was the impact of current vector control interventions in modulating transmission risk. The work will involve collaborating with the ESP group to couple the current version of the VECTRI malaria model with ICTP's agent-based mobility model to produce a first-of-its-kind modelling system that accounts for climate, mobility and interventions.

Candidates should have a background in some of the following disciplines:

- Position 1: Atmospheric Physics and Climate sciences, particularly with a focus on the tropics.
- Position 2: Atmospheric sciences, dynamic disease modelling, epidemiology, artificial intelligence.

Following skills will be preferred:

- Ability to collaborate in an interdisciplinary environment.
- Proficiency in a programming language adapted to epidemiological modelling (Fortran, Python)
- Strong analytical skills
- Good spoken and written English essential, and ability to converse in French would be an advantage
- Independence and critical thinking

These positions are in the Earth System Physics (ESP) section in the broad areas of ***climate and health impact modeling***. Both positions involve joining a highly motivated, international and interdisciplinary team, collaborating with international partners of the utmost calibre and reputation in an exciting and dynamic project in which travel to Africa is expected. The ESP section provides a vibrant international research environment with an intense programme of workshops and conferences. Postdoctoral fellows are also encouraged, and supported, to participate in activities in developing countries in order to promote the mission of ICTP. The ICTP takes seriously its commitment to equal opportunity and diversity in hiring, and in its global mission to promote science in the developing world.

Applicants must have completed a PhD in climate dynamics, epidemiology or mathematical modeling prior to the start of this post-doctoral position. Priority consideration, at equal competence in the aforementioned research areas, will be given to candidates who obtained their PhD after 2022.

ICTP offers competitive remuneration and a number of benefits. Candidates should apply through the ICTP online application system (see link below).

For further information please contact: Dr. Adrian Tompkins (tompkins@ictp.it)

Application deadline: 15 June 2025. Please note that only short-listed candidates will be contacted by e-mail after the selection process (mid-June 2025).

- Contact emails: esp@ictp.it; tompkins@ictp.it
- Application, <https://e-applications.ictp.it/applicant/login/4156>