



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



## Postdoctoral fellowship starting fall 2025

### Horizon Europe Project



Funded by  
the European Union

The Earth System Physics (ESP, <https://www.ictp.it/research/esp.aspx>) section seeks applications for two postdoctoral positions for a two years period and renewable for an additional third year subject to performance and starting not later than in October 2025.

The two postdoctoral positions will be under the framework of the HORIZON LIQUIDICE project no. 101184962 **LINKING AND QUANTIFYING THE IMPACTS OF CLIMATE CHANGE ON INLAND ICE, SNOW COVER, AND PERMAFROST ON WATER RESOURCES AND SOCIETY IN VULNERABLE REGIONS** (<https://cordis.europa.eu/project/id/101184962/pl> <https://www.ictp.it/news/2025/1/arctic-pillars-climate> ). The project seeks to thoroughly reevaluate the past and future century-long impacts of climate change on the Greenland ice sheet and climate-sensitive regions in the Alps, Norway, High Mountain Asia (HMA), and Svalbard, including permafrost zones and their ecosystems.

Candidates must have completed a PhD in Atmospheric Physics and Climate sciences, geophysical science or related disciplines prior to the start of their fellowship and have experience in the research areas mentioned above.

In the first position the candidate will implement the coupling of an ice sheet dynamics model in the ICTP RegCM-ES. The target model may possibly be the CISM2.1 (Community Ice Sheet Model), which is part of the CESM-2 (Community Earth System Model) with the aim of evaluating the impact of climate change on the glaciers of the Alpine region by performing high resolution km-scale convection permitting climate simulations.

Specific requirements for this position are:

- Expertise in high resolution regional climate modelling, coupled regional earth system modelling, hydroclimate modelling
- Strong background in Fortran Programming language
- Ability to work with parallel codes on an HPC-MPI platform

In the second position the candidate will implement a machine learning regional climate emulator to be able to complement the dynamical downscaling methods for high resolution climate projections.

Specific requirements for this position are:

- Expertise in ML (with a focus on DL) theory and application for climate science
- Strong background in PYTHON Programming Language and Pytorch or Tensorflow libraries
- Ability to build distributed ML pipelines on HPC infrastructures

ICTP offers internationally competitive remuneration and a number of benefits, 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.

The appointment will be initially made for one year, renewable for up to an additional two years, to start no later than October 2025. Candidates should apply through the ICTP online application system at <https://e-applications.ictp.it/applicant/login/4155>

**Application deadline: 31 May 2025** Please note that only short-listed candidates will be contacted by e-mail after the selection process (end-June 2025).

**For further information please contact: Dr. Erika Coppola ([coppolae@ictp.it](mailto:coppolae@ictp.it))**