



## PhD call in "Energy balance, radiation and climate feedbacks in Earth System models"

One of the fundamental quantities when studying the response of the climate system to anthropogenic forcing is the equilibrium climate sensitivity (ECS), i. e. how much will the planet warm in response to a doubling of the atmospheric concentration of carbon dioxide with respect to pre-industrial levels. Despite decades of research, the uncertainty in the climate sensitivity is still significant, reducing the reliability of the climate projections for the next century. The proposed PhD topic aims at inspecting the processes that drive the spread in equilibrium and transient climate sensitivity between global climate models, focussing on the impact of model parameterizations (and their tuning) on individual feedback processes. Also, limitations in the model capacity of replicating the observed radiative budget will be explored and possibly linked to key processes associated with the climate response.

**Institute of Atmospheric Sciences and Climate** of the Italian National Research Council (CNR-ISAC), in collaboration with the University of Bologna, will be opening a 3-year PhD position on this topic, with the aim to explain the spread in climate feedbacks and sensitivity in Earth System models.

- **Goal:** Understand climate feedbacks and climate sensitivity and the processes behind. Explore the impact of model tuning and individual model parameterizations on the individual feedbacks in Earth System models.
- **Degree:** physics, chemistry, mathematics, engineering, informatics.
- **Experience:** A basic knowledge of climate dynamics is required. Experience in Earth-system modeling and data analysis is welcome but not fundamental.
- **Coding:** Python, other languages welcome (R, Julia, etc.)
- **Salary level:** 1250 per month (net)
- **Deadline for application:** 20/06/2023
- **Starting date:** November 2023
- **Contract length:** 36 months
- **Location:** CNR-ISAC, Bologna, Italy. Courses will be held during the first year at the University of Bologna.

**If you are interested in joining our team for this exciting project and for any further information please contact:**

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**The official link to the call can be found here: [Unibo PhD page](#)**

**Additional details will be available here soon: [Unibo PhD description](#)**