Call for Participation
Science Challenges 2027

Location: ESRIN, Frascati, Italy
Dates: June & October 2027
Application Deadline: 07 December 2026

The European Space Agency (ESA) invites universities offering Master's or PhD programmes in Earth Observation (EO), Environmental Science, Remote Sensing, or related fields to apply for participation in the **Science Challenges 2027** workshop.

This one-week event, held at **ESA's ESRIN facility**, offers students a unique opportunity to engage directly with ESA experts, access cutting-edge EO data and tools, and showcase their work on an international stage.

Workshop Benefits

Selected participants will have the opportunity to:

- **Spend one week at ESRIN** immersed in the ESA Earth Observation environment.
- **Engage with EO Mission Managers and leading scientists** at the **ESA Science Hub**.
- Work on exciting science questions using ESA EO data and computing resources from the ESA **EarthCODE** and other Open Science initiatives such as **MAAP**, with full expert support.
- Receive **1 year of sponsored access** to continue using the computing resources via **ESA's Network of Resources (NoR).**
- Visit the **Phi Experience** and **Phi-lab**, experiencing the forefront of EO innovation.
- Publish your projects on the **ESA-NASA-JAXA Earth Observation Dashboard**.

Workshop Structure

The workshop is designed to provide a balanced mix of expert-led sessions and practical project work:

- **40%** – Expert lectures, meetings, and site visits (Phi-lab, Phi Experience).
- **60%** – Team-based project work (2–3 students per team) using Python and ESA-provided cloud computing resources and data.

Projects will use multivariate EO datasets, supported by continuous expert guidance. Access to the platforms will be sponsored by ESA.

Eligibility and Application Requirements

Universities may propose a **group of students (max. 16 participants)** who:

- Are enrolled in relevant Master's or PhD programmes.
- Have strong Python programming skills.
- Can work independently and collaboratively in small teams.

Each group must be accompanied by **1-2 university staff**, actively involved in defining the challenges and supporting student projects.

How to Apply

To apply, universities should submit a single PDF (max. 4 pages) including:

1. **Proposed Science Challenges**
    - Up to 3 challenges, each maximum half-page.
    - Must be solvable within 2 working days.
    - Structure:
        - Science question
        - Societal relevance
        - EO datasets to be used
        - Method

    Note: The final challenges will be defined in collaboration with ESA and the workshop science team, ensuring they meet the objectives of the event and leverage available resources.

2. **Student Details**
    - Names, affiliations, study discipline, level of study, and evidence of Python skills.
3. **Logistics**
    - Confirmation that the university will cover students' travel and subsistence costs. Universities are expected to cover **all the travel and subsistence costs** for their students and accompanying staff. ESA will provide on-site training, facilities, and expert guidance at no additional cost.
4. **Accompanying Staff**
    - Names and roles of 1–2 staff who will accompany and support the student group. Accompanying staff shall be responsible for the group during their visit at ESRIN. They shall be actively involved in the definition of the challenges, and shall support the students in the implementation of their projects.

Proposal Submission

Submit your proposal as a single PDF file to ScienceHub@esa.int by **07 December 2026**. Proposals should not exceed 4 pages.

Selection Criteria

Proposals will be evaluated based on the following:

1. **Relevance and feasibility of proposed challenges (40%)**
   - is the scientific question relevant?
   - is the challenge feasible to be solved within 15 effective working hours?
   - is the solution using ESA data?

2. **Student capacity and engagement (30%)**
   - Are the students well-prepared to work in a Python-based environment?
   - Do they have the necessary skills to complete a project in teams of 2-3 within two days?

3. **Impact on University Programme (20%)**
   - Does the proposal demonstrate how this participation could benefit the university to enhance its participation to ESA programmes or improve their educational programme?

4. **Logistical feasibility (10%)**
   - Can the university provide clear logistical support, including funding for student travel and accommodation, and accompanying staff?

ESA will organise up to 2 Workshops in 2027.

Participation Commitment

The Challenges typically receive a high level of interest, and the number of universities that can be accommodated is limited. Following the selection process, selected universities will therefore be asked to formally confirm their participation and commit to attending the workshop on the allocated dates.

Universities are encouraged to confirm only once they are confident that the proposed student group and accompanying staff will be able to participate. Cancellation after formal confirmation may result in the university not being considered for participation in the following year's Challenges, as late withdrawals may prevent another university from taking part.

Further Information

For questions or further details, please contact: ScienceHub@esa.int.

Previous workshop editions:

- Earth System Science Challenge 2026
- Earth System Science Challenges 2025
- Earth System Science Challenge 2024