

## Invitation to participate/collaborate in the RIALE –EU

### (Remote Intelligent Access to Lab Experiments in Europe) project

The RIALE (Remote Intelligent Access to Lab Experiments) was developed by the Educational Technology experts of the High Performance and Quantum Computing, Biosciences and Advanced Studies Sector of CRS4. RIALE is an educational platform that brings together schools and high level technical-scientific labs that are not normally accessible to schools, but which activities can be linked to the school curriculum. Our targets are high school students, but we are planning to include university students. The project promotes dialogue between the scientific community and schools, encourages students to use the scientific method, facilitates students' orientation activities for the choice of their study pathway. For the coming school year, 2024/2025, we aim to extend the project from Sardinia to mainland Italy and Europe. Therefore, **RIALE becomes RIALE-EU**. In fact, we want to give Italian and European researchers the opportunity to tell about their research field from their own perspective.

The project is developed in two main steps: the synchronous (live) and asynchronous sessions.

**Synchronous sessions:** through the platform, students can remotely access the hosting laboratory **and** watch live the lab researcher's actions while carrying out the experiments; interact with her/him through video conferencing. **Asynchronous sessions:** through the **Timeline**, students can access: a video registration of the whole experiment as well as additional interactive educational objects that will enhance their understanding of the experimental steps.

- **To learn more about CRS4:** <https://www.crs4.it/> and [https://www.crs4.it/repository/documents/press/media-kit/the\\_future\\_is\\_close.pdf](https://www.crs4.it/repository/documents/press/media-kit/the_future_is_close.pdf)
- **To learn more about the project:** <https://www.crs4.it/riale/>
- **To find out** which hosting laboratories are presently involved in the project and to access the catalogue of experiments: <https://riale.ideab3.it>.

Experiments found in the catalogue cover a **wide range of topics** such as Genomics and DNA sequencing; Physics; Neuropsychopharmacology, Translational models and behaviour analysis, Neuromorphology; Robotics, Food analysis and testing; Microbiology; Biotechnology; Renewable Energy; Marine biology; Mineralogy, etc.

If your laboratory has an interest in **scientific communication and education**, in catching students' interest while introducing them to various aspects of the competences needed in your field of expertise, we cordially invite you to collaborate on our project.

Joining the project will require **no financial investment on your part**, but the will to conduct experiments and interact with students during the synchronous sessions. CRS4 will provide and install the tools and devices required for the live session to take place, with the consent of the hosting lab head.

If You be interested in learning more about the RIALE project, please contact the head of the project:

**Carole Salis**  
**[riale@crs4.it](mailto:riale@crs4.it)**

We will be glad to organize a video conference in which RIALE's methodological approach will be illustrated and a demo shown.

Enc.: information sheet about the project

The RIALE-EU project is financed by the Development and Cohesion Plan of the Autonomous Region of Sardinia. It is carried out with the financial support and collaboration of the Sardinian Department of education ("Servizio Istruzione della Direzione Generale della Pubblica Istruzione dell'Assessorato della Pubblica Istruzione, Beni Culturali, Informazione, Spettacolo e Sport della Regione Autonoma della Sardegna") and the Sardinian Regional Agency for Research and Technology Development "Sardegna Ricerche".

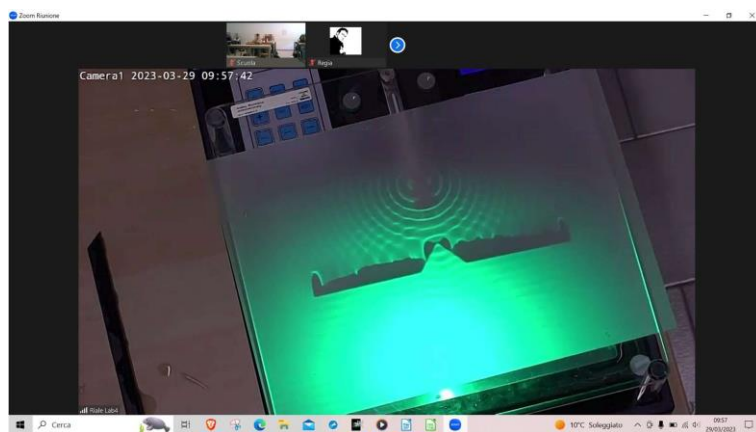


## RIALE-EU

### Remote Intelligent Access to Lab Experiments in EUrope

(ADVANCED STUDIES AND COMPUTATIONAL MODELING - CRS4)

**RIALE-EU** is a **didactic platform** that gives teachers and high school students **remote access** (live and asynchronously) to experimental activities of **technical and scientific laboratories** of universities, research institutions and schools.



*Fig. 1 Live session*

During the **live sessions**, teachers and their classes participate to an experiment carried out by the lab researcher or lab technician. The **remote interactions between classes and the domain expert** is possible thanks to the video cameras and the sensors/actuators installed in the hosting laboratory.

The **asynchronous sessions** allow users to access and use the content of an **Interactive Timeline** (TL) that includes the video recording of a lab live session and other multimedia contents supplied by the hosting lab experts (audio, videos, texts, documents, links). Students can therefore view, at leisure, the **educational contents** necessary to comprehend each step of the scientific process investigated.



Fig. 2 Timeline displaying the video of the experiment and related educational contents

## OBJECTIVES

- To enable students to explore the world of **scientific research**;
- To foster the **dialogue** between the scientific and school communities;
- To experiment with an **innovative teaching environment** aimed at developing technical and scientific knowledge;
- To facilitate students' **orientation**;
- To promote **scientific excellence** among schools;
- To support **education continuity** through remote access to laboratories in condition of confinement measures.

## ENTITIES TO WHICH THE PROJECT IS ADDRESSED

Secondary state schools, universities and research centres.

## WHAT IS REQUIRED FROM THE HOSTING LABS?

- To sign a joint agreement with CRS4
- To select, in collaboration with CRS4 educational team, the experimental proposals to be included in the catalogue
- To suggest teaching materials related to experiments to share with students
- To be willing to give teachers information on the scientific aspects of experiments, if requested
- To conduct experiments and interact with students during the synchronous sessions

## ROLE OF CRS4

- To establish, in collaboration with the hosting lab experts, the experimental proposals to be included in RIALE-EU, keeping in mind the educational objectives that can be associated with the scientific topic
- To provide and install the devices required for the synchronous session to take place, in

agreement with the heads of the hosting laboratories

- To create and update a catalogue of experiments from which teachers can choose and book live sessions
- To manage the bookings of live experimental sessions
- To develop and keep running both the RIALE-EU platform and the interactive TLs containing videos and other materials related to the experiments
- To coordinate the experimental set up

## FUNDING

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