



Science with and for Society - SwafS – Partner search

X I offer **my expertise to participate as a Partner in a project**

I offer **my expertise as a Coordinator in a project**

→ **Please** complete all sections of the Form:

Call: Call for making science education and careers attractive for young people

Topic: Innovative ways to make science education and scientific careers attractive to young people

Offer valid until:

1 Project Information

Activity of the SwafS work Programme concerned:

Field of expertise related to the topic: History and Philosophy of Science

Potential Contribution to the project: A multidisciplinary team with expertise in the research areas of Chemistry, Biosciences, Physics, History and Philosophy of Science and with a background in Pedagogy, Science Teaching, Science Communication and Cultural Animation contribute to this project. Our goal is to promote a set of activities aiming to stimulate the interest and participation of young people for STEM - Science, Technology, Engineering and Mathematics. We offer creative activities as role play of historical experiments, hands-on approaches and the creative engagement through the production and viewing of animation movies and sketches, encouraging the critical discussion through History and Philosophy of Science.

Role in the project

☐ Research

☒ Dissemination

☒ Other

☒ Training

☐ Technology development

Project idea: To allow students to travel to the earliest years of the XX century in the context of a rich scientific environment. To discuss the role of experimentation in an historical and philosophical perspective. To foster the appropriation of concepts using art as a method. To create novel and creative dissemination tools.

Project description:

The Center for Philosophy of Sciences of the University of Lisbon (CFCUL), an interdisciplinary research unit located at the Faculty of Sciences, University of Lisbon, is offering a partner proposal under the "Call for making science education and careers attractive for young people".

It is intended to make students aware of the importance of some historical experiments (from the beginning of the 20th century) in the development of Science, mainly in Biology, Physics, Chemistry,



Biochemistry and Biomedics, using ancient and modern equipment. Guided by the previously mentioned main scientific line, students will be invited to compare old and modern lab techniques and instruments, that will allow them to recognize the advantages of knowing all the steps of the experiment methodology, to gain a better understanding of the huge progress underlying some modern procedures and technologies and to discuss the several varieties of instruments and the very notion of a scientific instrument. A special emphasis will be given to the importance of the scientific instrument as a key promoter in research, a subject that will be analysed in the context of Philosophy of Science. Students will also have the opportunity to understand the state of art in the area, at the time the experiment was held, using antique scientific documents. Experimental activities and document analysis will be complemented by philosophical discussions moderated by Philosophers of Science from the Center for Philosophy of Sciences of the University of Lisbon.

Furthermore, this project includes an animation cinema laboratory and contest. Stop motion video animation through the technique of pixilation also became notorious in the turn of the 20th century. Our training is designed for teenagers, aims to explore animation and cinema's language and work out concepts in a practical way by creating small movies. After the trainings, an open contest will take place. Starting from one research instrument, the challenge is the production of short animation films. We will also promote the production of small sketches inspired by scientific discoveries or based on scientific controversies.

The goal is to stimulate the interest and understanding of young people towards Science and Technology, using a rich scientific environment and to offer creative activities as hands-on approaches, role-playing, animation of short films and the creation of sketches.

Experiments, document's analysis, philosophy discussions and film animation will be performed in the Institute of Scientific Investigation Bento da Rocha Cabral (ISIBRC), a landmark institution in the History of Science in Portugal. Besides a very good conference room, ISIBRC provides relevant laboratories and a collection of scientific instruments with historical value. Most documents for this work can be found in the important scientific Library of the ISIBRC which is currently being recovered.

In the first half of 20th century ISIBRC hosted important European scientists, such as Kurt Jacobsohn (1929), who created an internationally recognized research program in Biochemistry. It was also one of the working places of Egas Moniz, a Portuguese Nobel prize in Physiology and Medicine (1949). During the project's activities, the importance of European scientists for the current scientific knowledge will be emphasized with a special focus discussion about women in science. ISIBRC has also a particular importance in this matter, since it hosted the work of one of the first Portuguese woman with a Science PhD (1918), Matilde Bensaúde, the only co-founder woman of the Portuguese Biology Society, still based in the Institute.

Outputs of the project includes the created videos, small learning modules and the screenplay of the sketches. All the outputs will be used as dissemination tools.

This project has 7 members:

Ângela Inácio, a Researcher and Professor of Genetics in the Faculty of Medicine; Baudouin Jurdant, a Professor in the University of Paris and a History and Philosophy of Science Researcher (in the field of Popularization of Science); Elisa Maia, a Professor of Chemistry in the Faculty of Sciences and a



History and Philosophy of Science Researcher; Eunice Carriço, a Secondary School teacher in the area of Biology; Isabel Serra, a Professor of Mathematics in the Faculty of Sciences and a History and Philosophy of Science Researcher; João Duarte, mediator and master student in History and Philosophy of Science (in the field of Citizen Science) and Olga Pombo, a Professor of Philosophy of Science in the Faculty of Sciences, a History and Philosophy of Science Researcher and the Head of the Centre of Philosophy of Sciences of Lisbon University. All the 7 members are integrated researchers in the Center for Philosophy of Science of Lisbon University and 4 of them (Ângela Inácio, Eunice Carriço, Elisa Maia and Isabel Serra) belong to the ISIBRC. The group has regular working contacts in several secondary schools in Lisbon.

Funding is required for the maintenance of the instruments, disposable laboratory material and human resources.

Already experience as a coordinator ☐ yes ☒ no or partner ☐ yes ☒ no
If yes, in which projects?

Other partners in the consortium already identified (with their countries):

2 Target Coordinator/Partner Sought

Organisation details:

X higher education / university	<input type="checkbox"/> industry/SME
X research institution	<input type="checkbox"/> consultancies
X public partner	X private partner
<input type="checkbox"/> NGOs / voluntary organisations	<input type="checkbox"/> other (specify)
X education	<input type="checkbox"/> No preferences

Expertise / competency :

3 Contact Details

Contact person	Ângela Inácio		
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Short Profile of Organisation

The Center for Philosophy of Science, University of Lisbon (CFCUL) is a unit of R&D, funded by the



Portuguese Foundation for Science and Technology and committed to:

- the promotion and development of research excellence in the area of Philosophy of Science in line with international best practice, with the production of results with national and international impact;
- the implementation and development of an advanced training program in Philosophy of Science from recognized international merit with a strong ability to attract national and international students;
- the promotion and enhancement of cross-fertilization between disciplines and development of cutting edge themes by creating an incubator of ideas involving several interdisciplinary areas of knowledge and thematic convergence;
- the wide dissemination of research results developed within their research groups and establishing a channel of communication with civil society through the dissemination and open discussion of the challenges and tasks that run through contemporary science and how the philosophy of Science can contribute to their understanding.

The CFCUL's mission is to develop a broad understanding of science taking into account the two great traditions of contemporary philosophy of science, from the more formalized oriented approaches that attempt to describe the science through the analysis of its procedures and languages, to the phenomenological approaches to describe the forms of scientific awareness, including cognitive sciences. The CFCUL also seeks to develop an analysis of the assumptions and the ethical, political and aesthetic implications of scientific rationality.

The Institute of Scientific Investigation Bento da Rocha Cabral (ISIBRC) is a portuguese non-profit foundation based in Lisbon with public interest. It was created in 1922 in compliance with the testamentary disposition of Bento da Rocha Cabral to conduct scientific research, especially in the field of biological sciences. Initially with four sections (Physiology, Histology, Bacteriology and Biological Chemistry) later evolved in the direction of Biochemistry, History and Philosophy of Science.

Date:

I agree with the publication of my contact data on the NCP Network website and on other national websites

yes X no ☐

Please fill in the partner search form and return it to the national contact point for Science with and for Society.