

## I SEE pre-conference workshop

1. Title of the workshop

**Futurizing Science Education: the I SEE project**

2. Contact information:

[g.dimastrogiovanni@fondazionegolinelli.it](mailto:g.dimastrogiovanni@fondazionegolinelli.it)

Fondazione Golinelli

Via P. Nanni Costa, 14 – Bologna

Tel. +39 051 0923219

3. Requested maximum number of participants

**40 participants**

4. Short description of relevant areas of expertise for each workshop facilitator

**STEM education, climate change, artificial intelligence, quantum computing, future-oriented science education**

5. **Workshop abstract**

In the workshop we will present the Erasmus+ project called I SEE: Inclusive STEM Education to Enhance the capacity to aspire and imagine future careers ([www.iseeproject.eu](http://www.iseeproject.eu)). The project started in September 2016 and will end just during the conference, August 2019. The partnership is comprised of: two universities (Alma Mater Studiorum - Università di Bologna – coordinator; University of Helsinki), three secondary schools (Normal Lyceum, Helsinki; Liceo A. Einstein, Rimini; Hamrahlid College, Reykjavik), an Environmental Association (Icelandic Environment Association - IEA), the Association for Science Education (ASE), London and Fondazione Golinelli, Bologna.

In the workshop we will present the teaching approach and the modules that we designed in order to reach the aims of the project: to foster students' capacities to imagine the future and aspire to STEM careers. The goal is not only to develop professional skills but also to foster students' identities as capable persons and citizens in a global, fragile and changing world.

The workshop will include an introduction to the field of futures studies from the founder of "Teach the future", prof. Bishop and group discussions about examples of activities we realized during the project.

A special emphasis will be given also to the impact of the modules on students' perception of the future and the role that science learning can offer to that. More specifically we will present the main results of the studies we carried out on students' interviews, questionnaires and focus groups in the different countries and we will show how I SEE modules were effective to develop what we called future-scaffolding skills: skills that refer to the ability to construct visions of the future that empower action in the present with an eye on the horizon.

## 6. Workshop description

### a) Goal of the workshop:

international multiplier event, aimed to disseminate the projects within the research community of science education, teachers, science communicators and policy makers.

### b) Schedule:

9:30-9:50: Welcome and overview of the project (prof. Olivia Levrini)

9:50-10:45: “From the Futures Studies to Teach the Future” (prof. Peter Bishop) and discussion

10:45-11:00: Break

11:00-11:15: Introduction to the I SEE teaching modules: their common structure and the implementations (prof. Antti Laherto)

11:15-11:35: Discussion of examples of future-oriented activities (drs. Laura Branchetti and Giulia Tasquier, profs. Paola Fantini, Fabio Filippi and Michela Clementi)

11:35-12:15: Presentation of the modules on Artificial Intelligence and Quantum Computing: students and teachers’ reactions (Giovanni Ravaioli, Eleonora Barelli and Elina Palmgren)

12:15-12:30: Final discussion

### c) Activities of all participants

Both general talks and working groups are foreseen.

### d) List of literature relevant to the workshop topic and/or format

The literature and materials can be found in the website of the project: [www.iseeproject.eu](http://www.iseeproject.eu)

### e) Materials or artefacts needed (note: local working group may redeem additional costs from the organizer for special equipment)

Fondazione Golinelli and ASE will cover the extra-costs (printing materials, gadgets, travelling cost for P. Bishop)