

Action Research To Innovate Science Teaching

Capacity Building in Higher Education supported by ERASMUS+

Our Vision

The vision of ARTIST is to innovate science education through classroom-based and teacher-driven Action Research in the years 2016-2019. It aims for the innovation of authentic science education practices through the Action Research cycle of innovation, research, reflection and further improvement of the innovation approach. Beyond the interest of concrete change and innovation, Action Research aims for the generation of knowledge and best practice strategies, serving as a pattern for innovations in the field of interest in general, but also in contributing to the continuous professional development of teachers. ARTIST considers Action Research to be one of the most promising strategies for innovating science education and creating evidence-based classroom practices in domain-specific educational studies.

The approaches chosen in ARTIST are accompanied, participatory, and teacher-centred interpretations of Action Research. Innovations are thought out, implemented, researched, and reflected by the practitioners under the direction of science education researchers from the HEIs leading towards the next step of innovation. The curricular focus behind ARTIST is introducing science education researchers and prospective and practicing secondary and tertiary level science teachers towards the philosophy and methods of Action Research, in order to form a basis for research-based innovation in science education. ARTIST provides the framework for the development of appropriate training materials, courses and activities. ARTIST will be the platform for the exchange and sustainable implementation of Action Research into science education within the participating HEIs.

In order to give Action Research activities within ARTIST a joint and valuable focus, ARTIST aims to raise motivation and achievement in science education and to enhance interest and improve the opportunities of the young generation in careers and further education in science and engineering. To connect the idea of Action Research for innovating science education with the aim of improving the career opportunities of the young generation in science and engineering, a unique feature of ARTIST is the development of networks of universities with schools and industry/SMEs. Each HEI within ARTIST will build up a regional network around it, consisting of the HEI, secondary schools and representatives of industry/SMEs.

ARTIST partners



ARTIST training courses and materials

A course and teaching materials about how to do Action Research in educational settings and how to establish and maintain partnership networks of HEIs and schools will be developed. Training materials, teaching guides, slide shows and handouts will be prepared.

An Action Research Guide focusing on science education will be developed, which will help secondary and tertiary science teachers to plan, conduct and evaluate their research. Materials will cover basics of conducting Action Research for informing practice and introduction of innovations in teaching science.

ARTIST centres and networks

Networks of the universities, schools and enterprises are formed around each of the ARTIST universities, to ensure sufficient background and impact of the project. Institutions will develop existing infrastructure by procuring and installing specific equipment and materials needed to promote teacher education for career orientation related to the industries in the partnership network. Equipment includes special media or items for demonstrating, studying and investigating, e.g., biochemical, genetic or technological processes. Equipment will be purchased and installed in all ARTIST universities in the partner countries.

ARTIST centres will officially be launched as supporters and facilitators for schools and teachers doing Action Research in science education.

Case studies and the ARISE journal

The ARTIST communication will be diversified in order to achieve the maximum outreach.

To promote long term sustainability and for the stimulation of the interest into Action Research, the international electronic peer reviewed journal will be established on Action Research and Innovation in Science Education (ARISE).

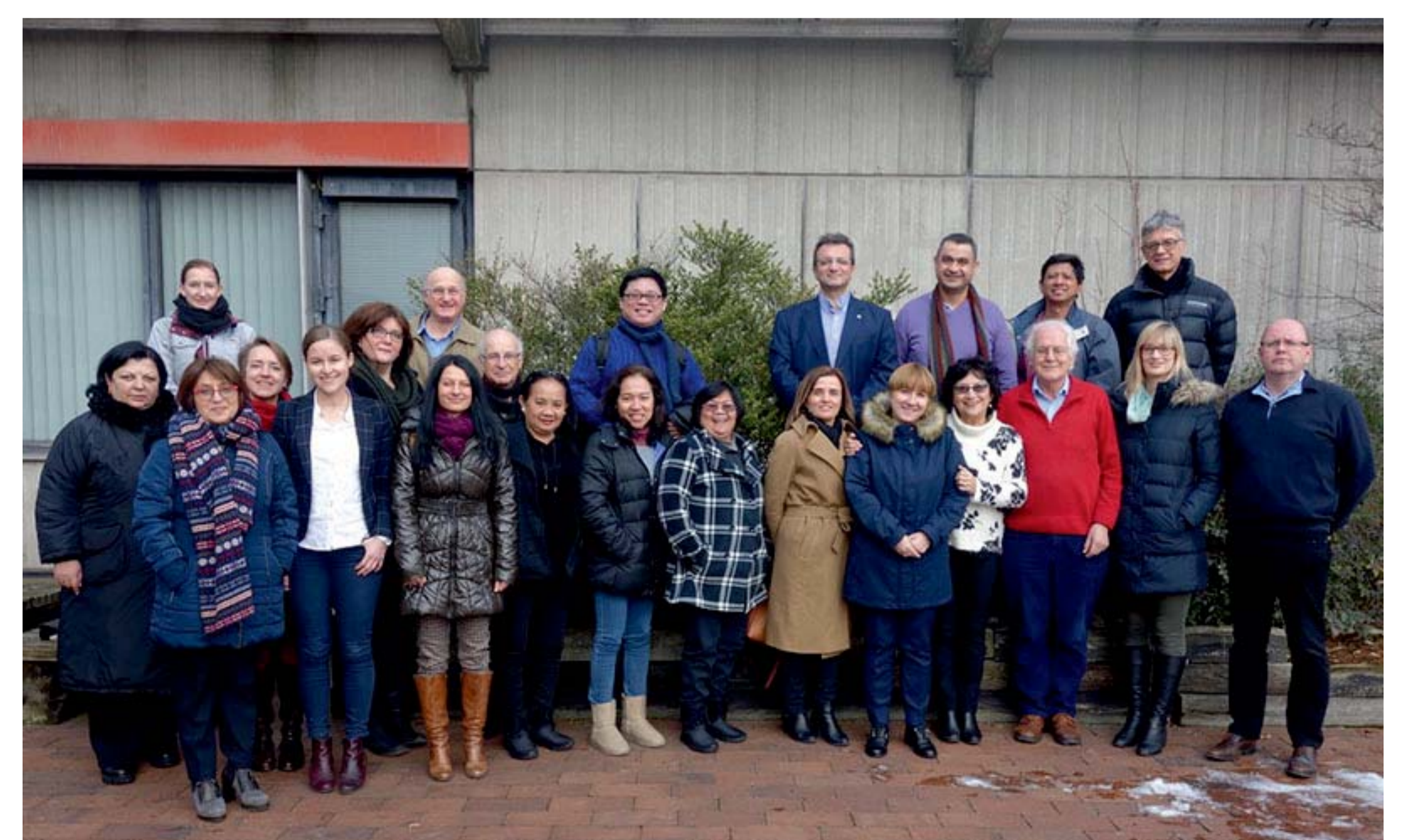
In order to feed the first volume of the ARISE journal Actions Research and innovation case studies are to be conducted by all partners focusing on aspects of inquiry-based science education, teaching and learning of science, and career orientation in science education.

Coordinators and contact



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