

IoT, Big Data and AI: Innovating STEM Teaching Through Strengthening Teacher Professionalisation

Thematic Training Session #3: “Interactive Session on Building the Connection: STEM, ESD and 21st Century Skills”

Monday, 11 October 2021 | 13:30 – 15:00 (CEST)

Join Us at the Thematic Training Session:

<https://zoom.us/j/437007825?pwd=K2l2QU1FdWFKN3ZzWEFwNzMrUjBFUT09>

Password: classnet

Introduction

Globalisation and rapid technological advancements are constantly changing and re-shaping our world. Likewise, there are growing concerns on the sustainability of our planet. To prepare students for the future and an increasingly volatile, uncertain, complex and ambiguous (VUCA) world, it is crucial to innovate STEM (Science, Technology, Engineering & Mathematics) teaching and integrate learning objectives of ESD (Education for Sustainable Development) in school, as these pave the way for students to acquire necessary 21st Century Skills to thrive.

The Thematic Session on “Interactive Session on Building the Connection: STEM, ESD and 21st Century Skills” is designed to help the participants understand the strong connection between STEM, ESD and 21st Century Skills. Participants will learn about current education trends and critically reflect on their own preparedness to connect these 3 topics during the session. We warmly invite to gain additional insights on the necessary pedagogical knowledge to create innovative subject lessons.

About the Speakers & Facilitators



Ms Leonie Nagarajan
Director, Education Department
Asia-Europe Foundation (ASEF)

As the Director of the Education Department, Ms Nagarajan is responsible for leading the department in the conceptualisation and execution of a programme portfolio covering 51 countries across Asia and Europe. Her work addresses education policies and higher education cooperation, activities in the field of lifelong learning as well as experiential learning and skills development for young people. Her professional career covers the fields of international relations, communication, and public affairs. She has a Master's degree in Communication Sciences with minors in Cultural and Political Sciences from the Free University and the Humboldt University of Berlin.



Ms Jyoti RAHAMAN
Project Executive, Education Department
Asia-Europe Foundation (ASEF)

Ms Rahaman leads the research, policy & programme development of projects under the ASEF's Teaching and Learning Programme and co-coordinates the ASEF Classroom Network (ASEFClassNet) Project. Prior to joining ASEF, she worked with the Education Policy Unit Team at the UNESCO HQ in Paris and the Norwegian Centre for ICT in Education in Oslo. She obtained her Erasmus Mundus Joint Master Degree (EMJMD) on Education Policies for Global Development from the Autonomous University of Barcelona, University of Oslo and University of Malta. Her dissertation based on a field research in an innovation award winning Norwegian High School explored the challenges of innovating learning environment in schools to prepare learners for the 4th Industrial Era.

Recommended Reading List

- 1) "Resetting the way we teach science is vital for all our futures" by World Economic Forum: <https://www.weforum.org/agenda/2020/08/science-education-reset-stem-technology/>
- 2) "ESD Starts Where STEM Stops: Integrating the Social Sciences into STEM" <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.663.7578&rep=rep1&type=pdf>
- 3) "Exploring STEM Competences for the 21st Century" by UNESCO: <https://unesdoc.unesco.org/ark:/48223/pf0000368485>
- 4) "Using Science to Do Social Good: STEM Education for Sustainable Development" [Position paper developed in preparation for the second "International Dialogue on STEM Education" (IDoS) in Berlin, December 5-6, 2019]: <https://innovec.org.mx/home/images/positionpaper-idos2019-usingsciencetodosocialgood.pdf>
- 5) "The Future of Education and Skills: Education 2030" by OECD: [https://www.oecd.org/education/2030/E2030%20Position%20Paper%20\(05.04.2018\).pdf](https://www.oecd.org/education/2030/E2030%20Position%20Paper%20(05.04.2018).pdf)
- 6) Resources on "Design Thinking in STEM" by Siemens Stiftung: <https://www.siemens-stiftung.org/en/projects/design-thinking-in-stem/>
- 7) "Practical pedagogy for embedding ESD in science, technology, engineering, and mathematics curricula" by the University of Bradford: <https://bradscholars.brad.ac.uk/handle/10454/4795>
- 8) 21st Century Skills: Ancient, ubiquitous, enigmatic? By the University of Cambridge: <https://www.cambridgeassessment.org.uk/Images/130437-21st-century-skills-ancient-ubiquitous-enigmatic-.pdf>