16TH EUROMATH & EUROSCIENCE 2025

2ND EUROPEAN STEAME-ACADEMY SYMPOSIUM 2025

www.euromamth.org, www.steaem-academy.eu

PROGRAMME HIGHLIGHTS (updated 26.11.2024)

PLENARY INVITED SPEAKER

Title of speech: What is intelligence?

By professor Tomasz Szemberg

Professor of Mathematics, University of the National Education Commission in Krakow, Poland.

ABSTRACT

In a world driven by rapid technological advancements and the rise of artificial intelligence, the concept of intelligence itself has become increasingly complex. But what exactly is intelligence? Is it the ability to solve complex mathematical problems, make decisions, or learn from experience? In this talk, we will explore the various facets of intelligence - ranging from human cognitive abilities to machine learning systems - and discuss how mathematics plays a crucial role in understanding and defining intelligence. We'll also delve into the differences between artificial intelligence and human intellect, examining how the two complement and challenge each other in today's world. Join the talk to explore the fascinating question: What does it really mean to be intelligent?

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Workshop for students (75 minutes) , 20 students each session, (offered twice):

Title: Blinking lights – solder you own electronic circuit

Workshop organizers:
DEUTSCHMANN Bernd, Head of Institute
MAIER Christoph, Master Student
JUCH Nikolaus, Bachelor Student
Institute of Electronics, Graz University of Technology, Austria

ABSTRACT

Can you imagine a world without electronics? Without electronics, there would be no smartphones, computers, tablets, televisions, etc.

In this workshop you will learn about the fascinating world of electronics and build your own electronic circuit. You will see that it is very easy to build a circuit, a so-called astable multivibrator, yourself. We will help you with this and first explain the various electronic components used, such as resistors, capacitors, transistors, etc. Then we will start soldering these components onto a printed circuit board together with the help of a soldering iron. If all the components are connected correctly at the end and we connect a battery, two LEDs should flash. If not, we will be on hand to help you find the fault. With a little patience and our help, you will certainly succeed in bringing your circuit to life. Of course you can take the circuit you have built home with you.

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Workshop for teachers (90 min), 13 or 14 March

Title: The ins and outs of embracing nature-based solutions in sustainability education as seen through the lens of NBS EduWORLD and Scientix®

BY SCIENTIX

ABSTRACT

This workshop, powered by the Horizon Europe project NBS EduWORLD, and Scientix® - the community for Science education in Europe, will introduce nature-based solutions (NBS) to teachers interested in environmental sustainability education. Participants will familiarise themselves with a range of tools, resources, and strategies to help integrate NBS into their activities, combining GreenComp and STE(A)M approaches. The workshop will also provide best practice examples of NBS implementation by schools.

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Workshop for teachers and researchers (90 min) (13-14 March)

Title: The STE(A)M Learning Ecologies

BY SCIENTIX

ABSTRACT

STE(A)M Learning Ecologies (SLEs) is a EU funded project that aims to use open schooling to develop science learning opportunities for all, connecting formal and informal learning environments, as well as enterprises and the civil society – and giving all actors space and motivation to take initiative and central roles. Read more about the project and its main achievements at this link.

During the workshop, participants will be briefly introduced to the main elements of the SLEs methodology, to delve right after into its practical aspects through an interactive role-play. Teachers, students and researchers will be tasked with creating their own SLEs following our pedagogical toolkit, and reflect on the experience in groups.

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STEAME-Academy Symposium:

Presentation title : The role of microelectronics in STEAM education.

There is currently a large skills gap in microelectronics in Europe and it is expected that by the end of 2030 there will be a shortage of around 200,000-300,000 engineers in the microelectronics industry. Therefore, there are currently several initiatives to get young people interested in microelectronics. I would be happy to give a brief overview of the current situation in Europe and report on the EU's so-called Chips Act. However, the main focus should be on the importance of initiatives to inspire students and teachers for microelectronics and to address the many career opportunities.

DEUTSCHMANN Bernd, Head of Institute of Electronics, Graz University of Technology, Austria

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Presentation Title: EuropeAn network of STEAM Educators : Advancing STEAM Education Across Europe

Dr. Iro Koliakou| Head of STEM
Anatolia College | Anna Papageorgiou STEM Center
EASE- EuropeAn network of STEAM Educators

Abstract: The EuropeAn network of STEAM Educators (EASE) is a non-profit organization dedicated to enhancing the work of educators in promoting STEAM skills among learners of all ages in both formal and non-formal education settings. Since its inception, EASE has undertaken several initiatives to support and connect STEAM educators across Europe. Notably, the association has organized annual European Summits for STEAM Educators, providing a platform for sharing insights and methodologies. Additionally, EASE has developed resources such as lesson plans, training programs, and an AI Experimental Lab to assist educators in integrating STEAM approaches into their teaching. This presentation will delve into EASE's mission, highlight key projects and achievements from recent years, and discuss future plans aimed at fostering a collaborative and innovative STEAM education community across Europe

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Workshops

"Blooming the Future: Empowering Gender Equality in STEAM Education"

Abstract:
This workshop presents an innovative approach to fostering diversity and inclusion in STEAM (Science, Technology, Engineering, Arts, and Mathematics) through the Blooming the Future project. Participants will explore tools and resources from the Blooming STEAM toolkit, designed to promote gender equality and empower young girls in STEAM fields. The workshop will showcase stories of influential STEAM women from history, a curated collection of scientific articles written by women leaders, and practical guidelines for educators on fostering an inclusive classroom environment. Join us in cultivating a sustainable, gender-balanced future in STEAM by empowering students and educators alike to champion inclusion and diversity in science and technology. https://www.erasmusblooming.eu/