Discovery Space

Traditional assessments of cognitive skills and knowledge acquisition are in place in most educational systems. These approaches though are not harmonized with the innovative and multidisciplinary curricula proposed by current reforms focusing on the development of 21st century skills that require in-depth understanding and authentic application. This divergence must be addressed if STEM education is to become a fulfilling learning experience and an essential part of the core education paradigm everywhere. Discovery Space based on rooted research in the field and long-lasting experience employing ICT-based innovations in education is proposing the development of a roadmap for the AI-Enhanced Classroom for Deeper Learning in STEM that facilitates the transformation of the traditional classroom to an environment that promotes the scientific exploration and monitors and supports the development of key skills for all students. The project starts with a foresight research exercise to increase the understanding of the potential, opportunities, barriers, accessibility issues and risks of using emerging technologies (AI-enabled assessment systems combined with AR/VR interfaces) for STEM teaching, considering at the same time a framework for the sustainable digitisation of education. The project will design an Exploratory Learning Environment (Discovery Space) to facilitate students' inquiry and problem-solving while they are working with virtual and remote labs. This will be enabled with AI-driven lifelong learning companions to provide support and guidance and with VR/AR interfaces to enhance the learning experience, to facilitate collaboration and problem solving. It will also provide Good Practices of Scenarios and pilots to equip teachers and learners with the skills necessary for the use of technology in creative, critical and inclusive ways as well as to develop an adequate Teacher Training Academy in relation with the practices in the AI-Enhanced Classroom. **https://discoveryspace.eu**

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Discovery Space

SUMMER SCHOOL 2023

Programme
July 9th-14th, 2023
Attica, Greece

Organised by

ELLINOGERMANIKI AGOGI

PROGRAMME

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
9 July 2023	10 July 2023	11 July 2023	12 July 2023	13 July 2023	14 July 2023
Participants' arrival and Registration	09:30 - 12:30 Identifying links to the STEM curriculum Dr. Sofoklis Sotiriou *Ellinogermaniki Agogi*	09:30 - 12:30 Presentation of a detailed Scenario: Pendulum, Time Measurment, Periodic Motions, Oscillations and Key Parameters Asimina Kontogeorgiou and Sofoklis Sotiriou *Ellinogermaniki Agogi*	09:00 - 11:00 Visit to Marathon Tumuli	09:30 - 12:30 Workshop: Bringing the pieces together: An integrated AI-enables system to support students with different competencies Dr. Dimitris Apostolou *National Technical University of Athens*	09:30 - 11:30 Participants Presentations and Views for the Future and next steps Franz Bogner *Univeristy of Bayreuth*
	LUNCH BREAK		11:00 - 12:30 Design a dialogue between the student and an AI Agent (groups according to the level of complexity and the level of students) Dimitris Koulentianos and Asimina Kontogeorgiou *Ellinogermaniki Agogi*		
18:00-20:00 Keynote Talks AI-enabled Assessment Methos in STEM Education Prof. Franz Bogner *University of Beyreuth*	15:00 - 16:30 Conversational Agents in the Assessment Process Sofoklis Sotiriou *Ellinogermaniki Agogi* Franz Bogner *Univeristy of Bayreuth*	15:00 – 17:00 Workshop: Design a dialogue between the student and an AI Agent (groups according to the level of complexity and the level of students) Dimitris Koulentianos and Asimina Kontogeorgiou *Ellinogermaniki Agogi*	15:00 - 24:00 Visit to the Acropolis Museum and the Acropolis - Dinner in Plaka	15:00 – 17:00 Workshop: Providing feedback to the development Team Dr. Dimitris Apostolou *National Technical University of Athens*	
				17:00 – 18:00 Finalization of Participants Presentations Dimitris Koulentianos and Asimina Kontogeorgiou *Ellinogermaniki Agogi*	Participants' Departure
	17:30 - 24:30 Visit to Cape Sounion - Dinner			20:30 - 23:00 Farewell - Dinner	

EVENTS

Visit to Cape Sounio, Sanctuary of Poseidon (July 10th, 17:30 – 24:30)

Cape Sounio is a promontory located 69 kilometres from Athens, at the southernmost tip of the Attica peninsula. According to legend, Cape Sounion is the spot where Aegeus, king of Athens, leapt to his death off the cliff, thus giving his name to the Aegean Sea. The sanctuary of Poseidon, one of the most important sanctuaries in Attica, is also located at Sounio. Archaeological finds on the site date from as early as 700 BC. Herodotus tells us that in the sixth century BC, the Athenians celebrated a quadrennial festival at Sounion, which involved Athens' leaders sailing to the cape in a sacred boat. The later temple at Sounion, whose columns still stand today, was probably constructed in 450-440 BC. over the ruins of a temple dating from the Archaic Period. Poseidon, the "God of the Sea" was considered to be a powerful god, second only to Zeus (Jupiter). The temple at Cape Sounion, was a venue where mariners, and also entire cities or states, could propitiate Poseidon, by making animal sacrifice, or leaving gifts.

Visit to the Acropolis Museum (July 12th, 15:00 – 24:00)

The New Acropolis Museum under the Acropolis of Athens "came to life" when at 2000, the Organization for the Construction of the New Acropolis Museum announced an invitation to a new tender, which came to fruition with the awarding of the design tender to Bernard Tschumi with Michael Photiadis and their associates and the completion of construction in 2007. The Museum has a total area of 25,000 square meters, with exhibition space of over 14,000 square meters, ten times more than that of the old museum on the Hill of the Acropolis. The new Museum offers all the amenities expected in an international museum of the 21st century. Permanent exhibitions: The Gallery of the Slopes of the Acropolis, The Archaic Gallery, The Parthenon Gallery, Propylaia-Athena Nike-Erechtheion, from 5th century BC to 5th century AC.

Visit to the Acropolis of Athens (July 12th, 15:00 – 24:00)

The greatest and finest sanctuary of ancient Athens, dedicated to the goddess Athena, dominates the centre of Athens from the rocky crag of the Acropolis. The most celebrated myths; religious festivals; earliest cults are all connected to this sacred precinct. These unique masterpieces of ancient architecture combine different orders and styles of Classical art in a most innovative manner and have influenced art and culture for many centuries. The Acropolis of the 5th century BC is the most accurate reflection of the splendour, power and wealth of Athens at its greatest peak, the Golden Age of Pericles. In the mid-fifth century BC, when the Acropolis became the seat of the Athenian League, Pericles initiated an ambitious building project which lasted the entire second half of the fifth century BC. The architects, Ictinos and Callicrates, began the erection of this unique monument at 447 BC and the building was substantially completed by 432 BC. The most important buildings visible on the Acropolis are the Parthenon, the Propylaia, the Erechtheion and the temple of Athena Nike.