

### Inspiring Science Education

Providing access to inspirational digital resources and learning opportunities



The mission of the Inspiring Science Education is to provide digital resources and opportunities for teachers to help them make science education more attractive and relevant to students' lives. Through the Inspiring Science Education website and the activities organised by the partners, teachers can help students make

their own scientific discoveries, witness and understand natural and scientific phenomena and access the latest, interactive tools and digital resources from within their classrooms.

Inspirational science teachers are at the heart of successful science teaching – ask any scientific Nobel prize-winner who had the greatest influence on their decision to become a scientist and invariably the answer will be – my Science Teacher! So what is it that makes a science teacher truly inspirational? That's one of the conundrums we aim to unravel in the Inspiring Science Education project. That's why we will be setting up workshops and exchanges, communities of practice and learning opportunities for science teachers and teacher trainers aimed at helping them find ways to make their teaching of science more inspirational.

As a project team we are aiming for large-scale take-up of these opportunities amongst European science teachers. Pilot activities will take place in 5000 primary and secondary schools in 15 European countries. During these pilots, teachers will be accessing interactive simulations, educational games and eScience applications and integrating them with extra-curricular activities, such as field trips to science centres and discovery parks, and virtual visits to research centres. Teachers will also have the possibility to access remote and online labs, and relevant scenarios for their use in the school classroom. Students will be inspired to use eTools and digital resources to learn Science, Technology, Engineering and Maths (STEMrelated subjects) in a practical, competitive and exciting way.

<http://portal.opendiscovery.space.eu/ise>

### Schools Study Earthquakes



The "Schools Study Earthquakes" (SSE) Erasmus+ project focuses on the study of a physical phenomenon with great societal impact and proposes pedagogical practices based on inquiry-based methods that are more effective in science education. The objective of this combination is on one hand to increase children's and students' interest in science, on how science is made and how it affects everyday life, and on the other to stimulate teacher motivation on up-taking innovative teaching methods, subjects and practices to enrich and renew the science curriculum. One key objective of the project is to provide increased opportunities for cooperation and collaboration between schools across European countries and encourage relationships between stakeholders of both formal and informal education by establishing a network of schools that will study real data, do real analysis of real seismic activity in real time. The SSE project will enhance secondary science teachers' capacity to teach science effectively based on the pedagogical principles of inquiry-based science education while being able to engage students in employing real-problem solving skills, handling and studying situations, and participating in meaningful and motivating science inquiry activities. SSE is carried out by a consortium of educational institutes from five countries across Europe, namely Greece, Italy, Cyprus, Turkey and Bulgaria, all with significant seismic activity.

### Open Discovery Space Academy ([ods.ea.gr](http://ods.ea.gr))



The Open Discovery Space Academy for School Innovation, exploiting and expanding the outputs, experiences and heritage of the Open Discovery Space project, offers a multitude of courses to school leaders, teachers acting as change agents in their schools and teachers with a newly acquired taste for innovative practices from all over Europe. Participants will exploit the experiences and lessons learnt from the largest European network of pilot schools (2500) that participated in Open Discovery Space, together with the school innovation toolkit that was designed based on empirical research and data from actual school settings across Europe.

INSPIRING SCIENCE EDUCATION

# Discover the Cosmos: From Telescopes to Accelerators Summer School 2016

## Programme

July 10<sup>th</sup> – July 15<sup>th</sup>, 2016  
Marathon, Attica, Greece

PROGRAMME

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	10 July 2016	11 July 2016	12 July 2016	13 July 2016	14 July 2016	15 July 2016
<b>09:00 to 12:30</b>	Participants' Arrivals and Registration	<p><b>Welcome</b> Dr. Angelos Lazoudis <i>Ellinogermaniki Agogi</i></p> <p><b>The Inspiring Science Education portal</b> Dr. Lamprini Kolovou <i>Intrasoft International</i></p> <p><b>Joining teachers' communities and exploring the educational tools repository</b> Rosa Doran <i>NUCLIO</i></p> <p><b>Searching, Adapting and Creating inquiry-based educational scenarios</b> Dr. Angelos Lazoudis <i>Ellinogermaniki Agogi</i></p> <p>Rosa Doran <i>NUCLIO</i></p>	<p><b>Meet the universe from the comfort of your classroom with robotic telescopes</b></p> <p><b>Live connection and observation with Faulkes telescope</b> Rosa Doran <i>NUCLIO</i></p> <p><b>Introduction to the Physics of CERN</b> Prof. Christine Kourkoumelis <i>National and Kapodistrian University of Athens</i></p>	<p><b>From general relativity to light pollution. Cutting edge tools at your fingertips</b> Rosa Doran <i>NUCLIO</i></p> <p><b>Simplifying galaxy classification and modeling for educational purposes</b> Serafeim Spanos <i>Hellenic Agency for Astronomy &amp; Space</i></p> <p><b>The Eratosthenes experiment</b> Dr. Angelos Lazoudis <i>Ellinogermaniki Agogi</i></p>	<p>Preparation of participants' educational scenarios</p> <p><b>Short Introduction</b> (12:30 – 13:00)</p> <p><b>Augmented Reality in Education: the SCeTGo system</b> Dr. Angelos Lazoudis <i>Ellinogermaniki Agogi</i></p>	Participants' Presentations, reflection and certificates
<b>15:00 to 17:00</b>	<p><b>Ice-breaker</b> (17:00-18:00)</p> <p><b>Opening Session</b> <i>Chair</i> Dr. Sofoklis Sotiriou</p> <p><b>Journeys in Science</b> Dr. Marge Bardeen <i>QuarkNet Collaboration Spokesperson</i></p> <p><b>Inspiring Science Education</b> Prof. Franz Bogner <i>University of Bayreuth</i></p> <p><b>Geospatial thinking in school education</b> Prof. Marinos Kavouras <i>National Technical University of Athens</i></p> <p><b>Developing Teachers' Communities</b> Rosa Doran <i>NUCLIO</i></p>	<p><b>Indicators of success - the development of problem solving questions for ISE scenarios</b> Amany Annaggar <i>Humboldt University of Berlin</i></p> <p><b>Visit at Cape Sounio, Sanctuary of Poseidon</b></p>	<p><b>CERN Virtual Visit</b> (14:00-15:00)</p> <p><b>Nobel Prize Physics in the classroom: work with HYPATIA data analysis tool and assess your students' problem solving skills</b> Prof. Christine Kourkoumelis <i>National and Kapodistrian University of Athens</i></p> <p>Stelios Vourakis <i>National and Kapodistrian University of Athens</i></p> <p><b>Celebrating Juno's arrival at Jupiter</b></p>	<p><b>Visit to the Acropolis Museum and the Acropolis</b></p> <p><b>Dinner</b></p>	<p>Preparation of participants' educational scenarios (continued)</p> <p><b>(European teachers)</b> (17:00-18:00) <b>Exploring EU funding opportunities: guidelines for submitting an Erasmus+ KA1 &amp; KA2 proposal</b> Dr. Sofoklis Sotiriou <i>Ellinogermaniki Agogi</i></p> <p><b>(U.S. teachers)</b> (17:00-19:00) <b>Coding in schools: using Scratch to enhance students' computational skills and concepts</b> George Papadopoulos <i>Ellinogermaniki Agogi</i></p> <p><b>Farewell Dinner</b></p>	Participants' departures

EVENTS

**Visit to Cape Sounio, Sanctuary of Poseidon**  
(July 11<sup>th</sup>, 18:00 – 24:00)



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 13<sup>th</sup>, 16:00 – 18:30)



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 21<sup>st</sup> century. Permanent exhibitions: The Gallery of the Slopes of the Acropolis, The Archaic Gallery, The Parthenon Gallery, Propylaea-Athena Nike-Erechtheion, from 5<sup>th</sup> century BC to 5<sup>th</sup> century AC.

**Visit to the Acropolis of Athens**  
(July 13<sup>th</sup>, 19:00 – 20:30)



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 Propylaea, the Erechtheion and the temple of Athena Nike.