

NEWSLETTER  
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# discover the COSMOS

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The Discover The COSMOS Project is financed by the European Commission's Framework Programme 7 (FP7)



## Introduction



**By Prof. Kourkoumeli Christina, National & Kapodistrian University of Athens, Coordinator of Discover the COSMOS project**

Dear All,

We would like to welcome you in the 2nd issue of Newsletters of the "Discover the COSMOS" EU funded project. In this issue you can have a quick but concrete view about Discover the COSMOS 1<sup>st</sup> year successful elaboration, some lead stories of our project, Contests, Summer Schools and training events for teachers, Masterclasses and other events that have been elaborated throughout the life cycle of the project.

Just a few words about the project:

*The "Discover the Cosmos" coordination action aims to demonstrate innovative ways to involve teachers and students in eScience through the use of existing e-infrastructures in order to spark young people's interest in science and in following scientific careers.*

We hope that you will enjoy it!

**We wish you all Merry Christmas.**





## 1<sup>st</sup> Year of Discover the COSMOS

During the first year of the project the consortium has already developed the main tools in order to start the implementation activities.

In October 2012, we received a successful review from the EU commission about the results of the 1<sup>st</sup> year of Discover the COSMOS project.

### PROJECT PERIODIC REPORT

By the 6<sup>th</sup> month of the project the main communication and dissemination tool, the web site, was already available as well as the portal of the project that is the most crucial tool for the user's communities. In parallel the responsible partners had already prepared and developed the necessary material for the users and the rest of the partners to have them as implementation guidelines.

The implementation and dissemination activities started very early in all the participating countries and workshops, summer schools as well as specific activities took place.

**14 Dissemination** activities organized by the Discover the COSMOS consortium and in **66** other events the project was extensively presented.

We have already achieved to motivate numerous users that are engaged in the projects activities and have formed a community of practice according to the project plan. This community of about **3,700 teachers** and **25,000 students** assures the effective implementation (in **489 schools**) of the project in the second year. **20 Demonstrators** delivered in month 8 whereas **114 Demonstrators** (in total) delivered in month 12 (final phase).

**36 Implementation** activities occurred in **National level** and **23 in International** (in **15 countries**). **19 Visionary Workshops** were realized.

Furthermore **464 teachers** have been trained in the framework of international workshops and summer schools that were implemented already from the 1<sup>st</sup> Year of the project. These teachers were trained on how to use as well as to create material according to the established methodologies of ISBE as well as were familiar with the tools and the e-Science applications.

This process will help the consortium to assess the project's implementation systematically during the large-scale implementation effort that will take place in the second year.

Also, the cooperation with the US partners and the financial support that the US team has received has helped the consortium to develop a global exploitation and dissemination strategy that will significantly support the sustainability of the project approach and outcomes.



## Lead Stories

***Bringing CERN to the School Classroom @ WND Dutch Physics and Didactics 2012 Conference, Noordwijkerhout, Netherlands, 14-15 December 2012***



From left to right:  
Prof. Sijbrand de Jong, Angelos Alexopoulos,  
Paul de Haas, Cor Heesbeen

There would be no better ending to a busy year than to bring Discover the COSMOS in the [Annual WND Physics and Didactics Conference](#), probably the biggest gathering of physics teachers, trainers and researchers in Physics education in the Netherlands. Together with Paul de Haas, participant of CERN's High School Teachers 2012 Programme, and with the support of Prof. Sijbrand de Jong, director of Radboud Pre-University College of Science and Dutch scientific delegate in CERN Council, we run an interactive workshop, "Bringing CERN to the School Classroom", on the second day of the conference where participants had the opportunity to learn and reflect on Paul's [take](#) about inspiring ways to instill enthusiasm and motivation in their students, so they are interested in and appreciate the importance of particle physics and science in general. Connecting [live](#) both with the Control Room of the [ATLAS Experiment](#) at CERN and Georgios Vasileiadis at the University of Athens proved to be a good idea, as it not only gave Dutch colleagues an opportunity to re-live Paul's experience at CERN, but also to

understand the added value of e-Masterclasses.



The previous evening's lively interactions at the Discover the COSMOS stand during the conference market also helped to prepare the ground. Special thanks to Paul de Haas, Sijbrand de Jong and Cor Heesbeen for their support, hospitality and generous help in organising such a successful event. See you all next year!

*Angelos Alexopoulos, CERN Education*

### ***Foundation of the working group "Astronomy for Education" in Austria***

In October 2012 the working group Astronomy for Education (or short A4E) was founded and incorporated in the Austrian Society of Astronomy and Astrophysics (short ÖGAA). The main aims of the working group is to be a platform **and forum** for teachers, lecturers and interested people which will use astronomy and astrophysics and implement scientific tools and infrastructures for educational purposes. All services and tools provided by **Discover the COSMOS** are implemented in the offer of the working group. The working group builds up a network of astronomy clubs, research institutes, schools and training centers of collaborating partners in Austria to support the initiatives of teachers and educators further.

Website: <http://www.oegaa.at>

Contact: Dr. Christian Reimers, University of Vienna



## Contests

### **Discover the COSMOS is in a Contests' mood!**

**Science contests** have proven their efficacy in motivating teachers to adopt a scientific methodology that helps them expand the limitations of classroom instruction. Moreover, the provoking of students' curiosity may also be achieved prior to engaging them to certain activities by involving them to science contests. Among various award some of the winners will have the chance to participate to some of the project's main events (summer schools, conferences) with their expenses covered from the project.

Check out the contests that are being organized by our project partners:

Discover the COSMOS **Open contests:**

#### **1. [National Educational Scenario Contest \(Germany\)](#)**

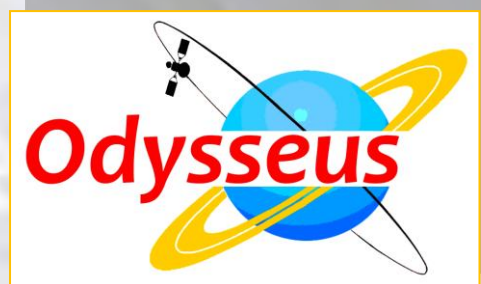
Teachers are invited (A) to develop either scenarios on the basis of the IBSE educational scenario template proposed by the Discover the Cosmos project and / or (B) to develop supporting materials to enforce students activities. The validated materials will be published than on the Discover the Cosmos Portal.

Key dates:

Start: 27.6.2012 Registration  
until **1.12.2012** Due to: **31.12.2012**

#### **2. [Odysseus contest](#)**

Odysseus is a pan-European contest on space exploration themes which aims to engage and inspire students around Europe in the "New Frontier".



Key dates:

May 1st, 2012: Opening of Teams' Registrations

July 1st, 2012: Opening of entries Submission

**January 8th, 2013: Team Registrations closing**

January 15th, 2013: Closing of entries Submission

February 1st, 2013: Announcement of Winners at National level

March 1st, 2013: Announcement of Winners at European level

#### **3. [National teacher competition \(UK\)](#)**

Do you want the chance to win a free place (includes travel, accommodation, meals and course fees) at the Discover the Cosmos summer school in Volos (Greece), together with a science resource pack for your school?

Take part to this competition and you will have your chance to win a free place in the Discover the COSMOS summer school.

Deadline: **Wednesday 24/4/2013**



#### 4. National Student competition (UK)

Do you want the chance to **name an asteroid**? Would you like to **own your own meteorite**?

Then get your thinking caps on and try to come up with a good name for an asteroid recently discovered by the [Faulkes Telescope Project](#).



Deadline: **Wednesday 24/4/2013**

#### 5. Upcoming contest: "El Universo a tu manera" in Spain

"Discover the Cosmos in Spain will launch a contest under the name of «El Universo a tu manera» (The Universe, at your own way) that will take part during the **first semester of 2013**.

Mainly focused on Astronomy and Physics, but also on Maths, Chemistry and ICTs, the contest aims to invite secondary school teachers from all over the country to participate sending their own proposals of interactive educational content.

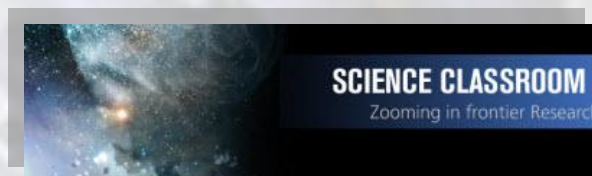
The main criteria for selecting the best proposals will be the closeness to inquiry based scientific education. The contest aims to incentivize teachers developing their own educational scenarios inspired by the ones that Discover the Cosmos has provided so far.

The contest will take part from February to May 2013.

Awards will be given during the Bienial Reunion of the Spanish Royal Society of Physics (RSEF) in July 2013 in Valencia."

## Summer Schools

### *Discover the COSMOS Summer School*



Our second **DISCOVER THE COSMOS Summer School** will take place in Volos, Greece (30/7-4/8/2013).

Title: "From Telescopes to Accelerators - Enhancing Science Education by Exploring Science's Past, Present, and Future"

**Apply NOW and obtain a full scholarship to attend the course!**

The initial description of the event can be found here:

<http://ec.europa.eu/education/trainingdata/base/index.cfm?fuseaction=DisplayCourse&cid=35058>

Participation in this event is funded by the European Commission through the Comenius and Grundtvig programmes: therefore **interested teachers or trainers** can simply **contact** their relevant **National Agency**.

The list of eligible countries (EU ones plus Turkey, Croatia, FYROM) and the contact details of the National Agencies can be found

here: [http://ec.europa.eu/education/lifelong-learning-programme/doc1208\\_en.htm](http://ec.europa.eu/education/lifelong-learning-programme/doc1208_en.htm).

The **deadline** for applications is **January 16th, 2013**.

The summer school's website

<http://dtc.ea.gr>

has been updated (**check it out!**).



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**Grundtvig Training Course: "Investigation of Science fields: Training methodology and communication tools".**



**Volos, Greece: 29/07-03/08/2013**

*Apply Now for a full scholarship!*

*The Course will be held in the framework of Discover the COSMOS project supporting activities. The attendees of our course will have the chance to attend (on their free time) events of the International Olympiad on Astronomy & Astrophysics (IOAA) in Volos as well.*

*The course has already been published in the [Comenius - Grundtvig Training Database](#) and the participants can apply for grants to their national authorities.*

The **deadline** for applications submission to the National Authorities is the:  
**16th of January 2013!**

*Further info:*

<http://en.scienceview.gr/seminars/17>



**Comenius Training Session:  
EUHOU: Hands-On Universe, Europe.**



**Bringing frontline interactive astronomy in the classroom** –a 5-days training session,  
ID: 49239.

**Dates: 27-31 May 2013**

**Place: Université Pierre et Marie Curie,  
Paris, France**

If you are a teacher from the EU, you can apply for funding from your Comenius National Agency to attend these courses/seminars. The funding should (in principle) cover everything - course cost, accommodation, subsistence and travel.

The pre-registrations and applications for this session to national agencies are **due for 16th January 2013.**

More information at:

<http://www.euhou.net/index.php/training-sessions-mainmenu-184>

### **More Training Events**

- Global Online Science Labs for Inquiry Learning at School: <http://golab.ea.gr/>
- Open Discovery Space: A socially-powered and multilingual open learning infrastructure to boost the adoption of eLearning resources: <http://ods.ea.gr/>

- PSKILLS: Developing Programming Skills by means of modern Educational Programming languages:  
[http://pskills.ced.tuc.gr/Summer\\_School\\_2013](http://pskills.ced.tuc.gr/Summer_School_2013)

#### GTTP/NUCLIO training events:

- Universe Quest:  
<http://www.site.galileoteachers.org/gttp-sessions/212-nuclio-a-gttp-comenius-and-gruntvig-training-courses>
- Astronomy@MyBackPack:  
<http://www.site.galileoteachers.org/gttp-sessions/212-nuclio-a-gttp-comenius-and-gruntvig-training-courses>
- Astronomy@MyPC:  
<http://www.site.galileoteachers.org/gttp-sessions/212-nuclio-a-gttp-comenius-and-gruntvig-training-courses>

The above training events can be fully funded by the EC.

Applicants may obtain a full scholarship covering expenses:  
course fees,  
accommodation and subsistence,  
transportation.

**The deadline for applications is January 16<sup>th</sup> 2013.**

## Masterclasses

### International Masterclasses 2013



Preparations are in full swing! More than 160 research institutes have already signed in for the particle physics research days. In **March 2013** they will open their doors and invite high school students to become particle physicists for one day. About **10.000 students** from **37 countries** around the whole world will participate in the **International Masterclasses** and analyze real data from the **Large Hadron Collider (LHC)**, the new and powerful particle accelerator at **CERN**, near Geneva, Switzerland.

The basic idea of the annual program is to let students work as much as possible like real scientists.

*"International Masterclasses are a unique opportunity for students to work elbow-to-elbow with scientists and get a taste of how modern research in physics works,"* says Michael Kobel, Physics Professor from Technical University Dresden, who leads the program. In an authentic environment students are allowed to gain insight into the





international organization of modern research; at the same time, they learn about the world of subatomic particles through easy-to-understand presentations by physicists who are themselves involved in particle physics research. In a video linkup with students in other countries and CERN or Fermilab participants present their findings – just like actual particle physicists do in international collaborations.

*International Masterclasses* will take place from **February 25 to March 23, 2013**.

More information on

[www.physicsmasterclasses.org](http://www.physicsmasterclasses.org)



### ***NTW National Masterclasses in Particle Physics***

Hands on Particle Physics Activity, for dates and places check:

<http://www.teilchenwelt.de/aktuelles/termine/>

Masterclasses are being elaborated in partnership with **Netzwerk Teilchenwelt (NTW)** (<http://www.teilchenwelt.de/>)



## **Previous Masterclasses**

### ***Masterclass for Y12***

***University of Birmingham, 5 December 2012***

The masterclass included Intro Talk to outline particle physics research at the LHC at CERN and principles of particle detectors, Demonstrations and Workshop.

Accompanying teachers left with a resource pack, including memory stick with all talks, worksheets and software, while students were introduced to the Discover the COSMOS National competitions taking place in UK these days!



### ***2<sup>nd</sup> HYPATIA e-Masterclass with polish students @ CERN***

***Geneva, 23 November 2012***

The **second Discover the COSMOS HYPATIA e-Masterclass** with the participation of 43 Polish students from the [Mikotaz Kopernik High School](#) in Kalisz and the XIV Liceum Ogólnokształcące im. Kazimierza Wielkiego was held on 22 November 2012 in CERN. The students and their teachers, including [Malgorzata Maslowska](#) (a participant of the [High School Teachers 2012 Programme at CERN](#)), were connected with Prof. Christine Kourkoumelis and George Vasileiadis at the [University of Athens](#) and learned hands-on how to analyse real physics events, including Higgs-like ones, from the [ATLAS experiment](#) at the

LHC using the [HYPATIA e-science tool](#). The e-Masterclass was combined with a live connection to the [CERN Hangout "Higgs, the unanswered questions"](#), during which the students had the opportunity to ask CERN physicists questions about the recent discovery of the Higgs boson and its impact on science and society.



Click [here](#) to see some photos from the HYPATIA e-Masterclass.

### **1<sup>st</sup> HYPATIA e-Masterclass @ CERN**

**Geneva, 8 November 2012**

The first Discover the COSMOS [HYPATIA e-Masterclass](#) with nine senior high school students of the [Kandinsky College](#) in Nijmegen (Netherlands) was held at CERN. The students and their teacher, Paul de Haas (a participant of the [High School Teachers 2012 Programme at CERN](#)) were connected with Prof. Christine Kourkouvelis and George Vasileiadis at the University of Athens and learned hands-on how to analyse real physics events, including Higgs-like ones, from the ATLAS



experiment at the LHC using the [HYPATIA Applet](#).

The HYPATIA e-Masterclass was an integral part of Kandinsky College's five-day trip to CERN, during which the students visited many of CERN's experimental facilities, took part in a Cloud Chamber workshop, attended talks and roundtable discussions of [SpacePart12](#) and worked on the evaluation of the [Microcosm exhibition](#) as part of their master research project.

You may watch the entire e-Masterclass if you go to:  
<http://www.discoverthecosmos.eu/news/167>

## **Agenda**

### ***Some of the up to date activities***

1. DtCOSMOS presentation in eLearning Conference 2012, „Bildung ohne Grenzen – Neue Bildungsräume im digitalen Zeitalter“, Austria (29/11-01/12/2012)
2. Discover the COSMOS Teaching Training Workshop, Birmingham Metropolitan College, Birmingham, UK (29/11/2012)
3. Discover the COSMOS Teaching Training Workshop in University of Birmingham, UK (28/11/2012)
4. DtCOSMOS presentation in Interpädagogica, 2012, Austria, (22-24/11/2012)
5. DtCOSMOS presentation in LAG – Tagung, Austria (22-23/11/2012)
6. Universe Quest training events, Lisbon, Portugal, (29/10-02/11/2012)
7. Training Seminar: “The Experiment of the century in Classroom”, Cyprus (20/10/2012)
8. Discover the Cosmos High School Students Workshop in cooperation with NTW High School Students Workshop at CERN (07/10-12/10/2012, 31/10-03/11/2012)
9. NTW Project weeks at CERN for High School Students (07-19/10/2012)
10. CERN's Mini-Expo in Cyprus (5/31-10/2012)



## Further Information

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