

# **EU-Universe Awareness Workshop:**

## **Astronomy to Inspire and Educate Young Children.**

26 – 30 March 2012, Lorentz Center, Leiden, the Netherlands

### **Scientific Report**

The EU Universe Awareness (EU-UNAWE) International Workshop was a big success. The weeklong programme of talks and discussions covered several key areas of astronomy education. An overview of the problems in astronomy education and proposed solutions to these issues, which had been discussed in sub-groups throughout week, were presented to the entire workshop participants

Participants were asked to contribute ideas to one sub-group, so that each topic could be explored in detail. The sub-groups were Curricula for Different Ages, Culture in Astronomy Education, Teacher Training, Resources, and Evaluation. A few of the key findings of the groups are outlined below, and all of the presentations from the workshop are available on EU-UNAWE SlideShare site: <http://www.slideshare.net/unawe>.

Below you can find an overview of the discussions and results of the key areas in astronomy education.

#### **Curricula for Different Ages**

Teachers need guidelines about suitable topics to introduce into their classroom, but that these should take into consideration the different ages that children start school around the world. Furthermore, children in remote villages don't have the same resources at home to follow-up on classroom topics as children in cities. The sub-group proposed that guidelines for suitable topics should be provided in stages or levels, rather than associated to a specific age group, with recommendations for what stages should be used that are based on, for example, the location of the school.

#### **Evaluation**

It is vital to evaluate the impact of EU-UNAWE activities around the world. Given the global scale of the programme, this may seem like a difficult task, but the sub-group proposes that the methods used to measure impact in inspiring children are the same everywhere. The sub-group gave several examples of tools to measure impact via a survey, such as assessing children's drawings about an astronomy topic before and after an educational workshop.

#### **Educational Resources**

Members of the sub-group recognised the need for an online platform to act as a central hub for the many educational materials that are available around the world, which EU-UNAWE has already started to implement through the repository on its website. Such a platform should be easy to search, with materials categorised by, for example, level of difficulty and the languages that they are available in, and that such features should be added to the EU-UNAWE repository. It was also noted that the currently EU-UNAWE repository needs to be populated with more content, but these new materials should be high quality. In response, Pedro Russo, International Project Manager of EU-UNAWE, spoke of the long-term goal to provide a "Google-like experience" in searching for educational materials and the programme's future plans to create a peer review process to review educational materials.

## Teacher Training

The sub-group fully supported EU-UNAWE's existing methodology for teacher training of giving educators the confidence to introduce astronomy into the classroom and to listen to the needs and recommendations of teachers, as they understand the needs of their students. They also recommended the need to follow-up with teachers for maximum impact.

## Culture in Astronomy Education

The sub-group proposes a need to collect high quality materials about the connection between culture and astronomy, as it is currently difficult to find such resources. The sub-group noted that it is likely that there will be gaps in available materials, as a lot of stories about astronomy in indigenous cultures haven't yet been recorded in a written format. Furthermore, the sub-group proposes that new hands-on activities should be produced to supplement and support such stories in order to have greater impact when introducing cultural astronomy to young children.

The EU-UNAWE international network will now work towards implementing all of the action points that arose from the discussions. Finally, the EU-UNAWE International Office would like to thank all of the participants for making this an immensely interesting event. We look forward to welcoming you back next year for the fourth International Workshop!

### **Scientific organizers:**

Mark Bailey (Armagh, United Kingdom)

Kevin Govender (Cape Town, South-Africa)

Claus Madsen (Garching, Germany)

Sivuyile Manxoyi (Cape Town, South Africa)

George Miley -> co-chair (Leiden, Netherlands)

Carolina Ödman (Cape Town, South-Africa)

Franco Pacini (Firenze, Italy)

Andreas Quirrenbach (Heidelberg, Germany)

Rosa Ros (Barcelona, Spain)

Pedro Russo -> co-chair (Leiden, Netherlands)

Cecilia Scorza (Heidelberg, Germany)

**Workshop Coordinator:** Sietske Kroon,



*Figure 1. Group picture from the workshop. More pictures are available here: <http://goo.gl/VddOR>.*