



**Universe Awareness meeting  
Armagh Observatory  
November 22, 2006**

## ORGANISERS

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Mark Bailey and Simon Jeffery, Armagh Observatory

## PRESENT

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Michael Grehan, Dublin  
Sean McCabe, Dublin  
Norbert McCabe, Co. Meath  
Leanne Young, NUI Maynooth  
Brian Espey, Trinity College Dublin  
Rachel Ryan, Trinity College Dublin  
Tom Mason, Armagh Planetarium  
Julie Thompson, Armagh Planetarium  
Colin Johnston, Armagh Planetarium  
Naomi Francey, Armagh Planetarium  
Paul O'Neill, Armagh Planetarium  
Mark Bailey, Armagh Observatory  
Simon Jeffery, Armagh Observatory  
Martin Murphy, Armagh Observatory  
Geoff Coxhead, Armagh Observatory  
Rhona Maclean, Armagh Observatory  
David Pérez-Suárez, Armagh Observatory  
Timur Sahin, Armagh Observatory  
Tobias Hinse, Armagh Observatory  
Srividya Subramanian, Armagh Observatory  
Anthony Moraghan, Armagh Observatory  
Caroline Pereira, Armagh Observatory  
Prakash Atreya, Armagh Observatory  
Amir Ahmad, Armagh Observatory  
Carolina Ödman, Leiden Observatory, the Netherlands.

## INTRODUCTION

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The purpose of the meeting was to present Universe Awareness (UNAWE) to representatives of the Irish astronomy and education communities. This was followed by a general discussion aimed at motivating a group of enthusiasts to try to develop an Irish Universe Awareness programme.

The meeting proved successful with participants from both the Republic and Northern Ireland. It is hoped that this will lead to another meeting in 2007 to devise a project development plan in view of implementing UNAWE in 2009, the International Year of Astronomy.



Some participants at the entrance of the newly re-opened Armagh Planetarium

## PROGRAMME

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11.00 – 11.30	Dining room	Coffee
11.30 – 11.45	Library	Welcome and Introduction <i>Mark Bailey</i>
11.45 – 12.45	Library	Presentation of Universe Awareness <i>Carolina Ödman (UNAWE Project manager)</i>
13.00 – 14.00	Dining Room	Lunch
14.00 – 14.45	Armagh Planetarium	Presentation of the new planetarium <i>Julie Thompson</i> Tour of the exhibition halls <i>Tom Mason</i>
14.45 – 15.15	Astropark	Tour of the Astropark and Human Orrery <i>Mark Bailey and Simon Jeffery</i>
15.15 – 16.00	Library	General discussion on UNAWE Ireland
16.00 – 16.30	Dining Room	Tea

## DISCUSSION

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The presentation ended with suggested questions to think about for UNAWE Ireland, some of which are listed below. Not all questions could be addressed in such a short time. Useful comments and recommendations for the next steps in the development of UNAWE Ireland were reached. The presentation can be downloaded on the Universe Awareness website at the following address:

[http://www.unawe.org/files/unawe\\_armagh.pdf](http://www.unawe.org/files/unawe_armagh.pdf) (27 MB)

A list of reflection points can be found in the appendix.

- *Who are the children who would benefit the most from UNAWE (location, cultural background, language, learning environment, family structure, rural/urban, etc.)?*

Two groups of underprivileged children were identified.

1. Rural areas are too remote for children to have access to large facilities such as Armagh Planetarium. Universe Awareness would have to reach out to those children. Any extra-curricular activity requires dedicated parents, and teachers often do not have the budget to organise school expeditions. It was mentioned that parents in rural setting most likely are in possession of binoculars. UNAWE would work best if families are involved. Regional after-school activities could be organised. Such events are usually popular with both teachers and parents. A mobile planetarium visiting each region, and school, village or church halls, about once a year could accompany those activities.
2. In urban areas the inner city problems arise; conflicts between neighbouring communities, poverty, etc. There is also a lot of light pollution, which prevents naked eye observations. In this case children would benefit from going out of the city after some preparatory activities. Existing programmes were mentioned, which could be the vehicle of UNAWE activities in this environment (see below). The issue of reducing light pollution aligns closely with those of minimizing unnecessary energy usage and improving the urban built environment, two key areas of government policy associated with UK and EU sustainability development plans.

In both environments UNAWE activities could be organised on school premises but outside school hours. After-school programmes are less formal and curriculum-driven and also align with recent UK government initiatives (see, for example, the summary provided at: <http://www.charity-commission.gov.uk/supportingcharities/esi.asp>).

- *What material captures their attention?*

During the discussion about materials a number of ideas for toys and activities were suggested (observing exercises with the moon, colouring in books, constellation boxes, etc.).

One important aspect of any material is its interactivity. It is crucial that materials entertain and engage children actively. Interactivity is a way to reach children who are already (passively) overloaded with information. An important point is that young children prefer simple materials that can fulfil several functions. They get easily bored with finished manufactured toys that do only one thing.

It is important to follow-up on UNAWE activities. Astronomical events can be used for that. Changes in the appearance of the moon are easy to observe in rural areas and feasible in an urban setting. Each

year there are several observable events that could be exploited to reinforce the UNAWE message. In case of observations, provisions must be made for cloudy skies.

- *Who should we involve and how?*
  - ⇒ *Educators/teachers/families/parents/teenagers*
  - ⇒ *Enthusiasm, interest, time, incentives?*

The idea of work packs for teachers is usually popular but in the case of an inspirational programme teachers are often limited by curricular requirements and performance. On the other hand, UNAWE could be included in Art classes for example. Teachers of creative classes are always happy to find new themes to work on, and bridging the gap between science and art is a perennial favourite.

The involvement of families in rural environments was re-emphasised. In inner cities peer learning often plays an important role in disadvantaged communities. It was suggested that teenagers could be involved in the delivery of the programme.

- *What related programmes exist in Ireland already and what do they do?*
  - **Armagh Planetarium**

Armagh Planetarium works all over Ireland. They travel with a portable planetarium and welcome visitors in Armagh for various events such as the astrogazers' evenings  
Contact: Tom Mason, Julie Thompson, Robert Hill  
website: <http://www.armaghplanet.com/>
  - **Armagh Observatory**

The Armagh Observatory Grounds and Astropark include scale models of the solar system and the Universe, two sundials and historic telescopes and telescope domes and other outdoor exhibits. The Armagh Human Orrery is a new facility located close to the main building of the modern Observatory. The Grounds and Astropark are open all year round; group tours of the Observatory, Grounds and Astropark can be arranged by appointment.  
Contact: J. McFarland (Tel: 028-3752-2928; E-mail: [jmf@arm.ac.uk](mailto:jmf@arm.ac.uk))  
website: <http://star.arm.ac.uk/> and <http://climate.arm.ac.uk/>
  - **iSCAN Irish Science Centres Awareness Network.**

iSCAN was set up in 1997 to promote co-operation and collaboration between organisations and individuals that share the common aim of fostering public understanding of science and technology in Ireland. They hold regular meetings and promote travelling exhibitions.  
Contact: Eoin Gill, Robert Hill, Tom Mason  
website: <http://www.iscan.ie/>

○ **IFAS            The Irish Federation of Astronomy Societies.**

There are many very active groups of amateur astronomers throughout the island of Ireland, including groups such as the Irish Astronomical Society, the Irish Astronomical Association, Astronomy Ireland, the East Antrim Astronomical Society and the South Dublin Astronomy Society, among many others.

website: <http://www.irishastronomy.org/>

○ **Exploration Station**

Exploration Station will be part of the Irish Children's Museum in Dublin. It will be a purpose-built interactive learning centre on the sciences. The project is being built with funding from the Ministry of Arts, Sports and Tourism and the Ministry for Enterprise, Trade and Employment. One of Exploration Station's core goals is to provide the opportunity for children to explore and discover Science, History, Culture and the Arts.

Contact: Jane Jerry, Executive Director

○ **Birr Castle**

Birr Castle is located in Co. Offaly. It belongs to a family with a long history in science. In order to preserve this heritage a historic Science centre was formed.

website: <http://www.birrcastle.com/>

○ **IoPI                    Institute of Physics, in Ireland**

The Institute of Physics in Ireland is the professional body for the advancement of physics and physics education on the island.

They have a network of teachers with three co-ordinators and a schools affiliation scheme.

website: <http://ireland.iop.org/>

○ **Other**

- There are Science Communication Graduate courses for example at DCU and NUI Maynooth.
- Star parties are organised by various amateur clubs across the island.
- Discovery 2006 is a travelling interactive science exhibition.
- IT Colleges (Institutes of Technology) are very active in the field of Science Education
- Lab in a Lorry is designed to inspire the next generation of scientists and engineers. It offers 11-14 year olds the opportunity to explore science through specially created interactive experiments.
- Fun physics experiments have been developed at NUI Maynooth for disadvantaged children
- "Science on Stage" Ireland is based in Dublin.  
website: <http://ireland.iop.org/sos/index.html>

- The UK part of the European Hands-on Universe (EU-HOU) is organised by Armagh Planetarium  
website: <http://www.uk.euhou.net/>
- Dunsink Observatory is DIAS' outreach facility  
website:  
[http://www.dias.ie/index.php?section=cosmic&subsection=dunsink\\_obs&school=astrophysics](http://www.dias.ie/index.php?section=cosmic&subsection=dunsink_obs&school=astrophysics)
- Other mentioned organisations include Astronomy Ireland, the Royal Irish Academy, Astronomy Societies
- There was mention of holiday camps for underprivileged children in inner cities. Those camps consist of a weeklong trip to another county in Ireland with various accompanied activities, of which UNAWE could be one. This would be a short activity but the impact of a holiday camp is greater than that of an event taking place at home.

- *Funding remarks*

Various remarks were made on funding possibilities, priorities and limitations.

Projects often need to specify a "target area" in order to obtain funding.

Funding for UNAWE could be argued as a sort of compensation for the fact that there is no astronomy at all in the primary school curriculum.

#### Future UNAWE activities in Ireland

All participants at the meeting expressed the intention of talking about UNAWE around them so that everyone who might want to be involved hears about it. **It is hoped that a meeting can be organised in the first few months of 2007 to set up an Irish action group for UNAWE and a development strategy for a 2009 implementation.**

In order to obtain support for UNAWE we need to demonstrate the idea of Universe Awareness in practice. We also need one or more people with connections in various governmental institutions to act as champions for the programme. Finally we need a group of enthusiasts with diverse backgrounds for the practical aspects of the programme development phase.

Sean McCabe has prepared a pilot activity consisting of four lesson plans for an infant class in Dublin. The class activities will be followed by a supervised visit to Armagh Observatory. This will be filmed for further reference. The project has the backing of UNAWE and of Armagh Observatory and will serve as demonstration of UNAWE.

List of points to think about in view of setting up UNAWE in Ireland.

### **Structure**

- Is passive/active support from the authorities likely?
- Is it better to aim for formal or informal education systems?
- Are there synergetic programmes to work with in joint ventures?
- Are there specific requirements for the training of co-ordinators?
- Are there potential sources of funding that could be approached to support UNAWE in Ireland?

### **National Action Committee / Group**

- Collect background information and feedback to ensure adapted programme
- Project plan for implementation
- People, places, best practice, budget, funding possibilities, etc.
- Organise national pilot activities (teachers)
- Participate in International pilot activities
- Person to champion funding applications and give political support

### **Benefits of international collaboration**

- Twinning between children but also teachers
- Networking, exchange & showcase of ideas
- 2009 International Year of Astronomy
- Global events and projects
- EU Funding in FP7?