

Astronomy for Development

Universe Awareness & Galileo Teacher Training Programme

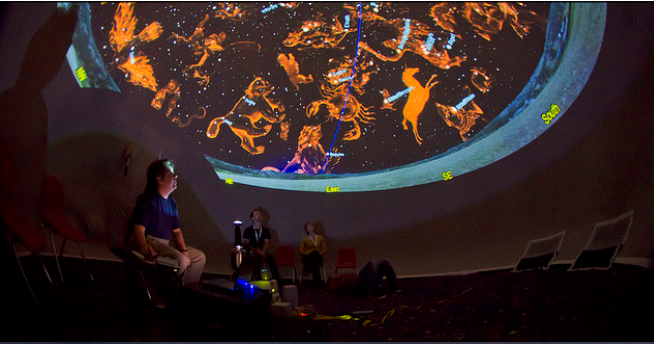
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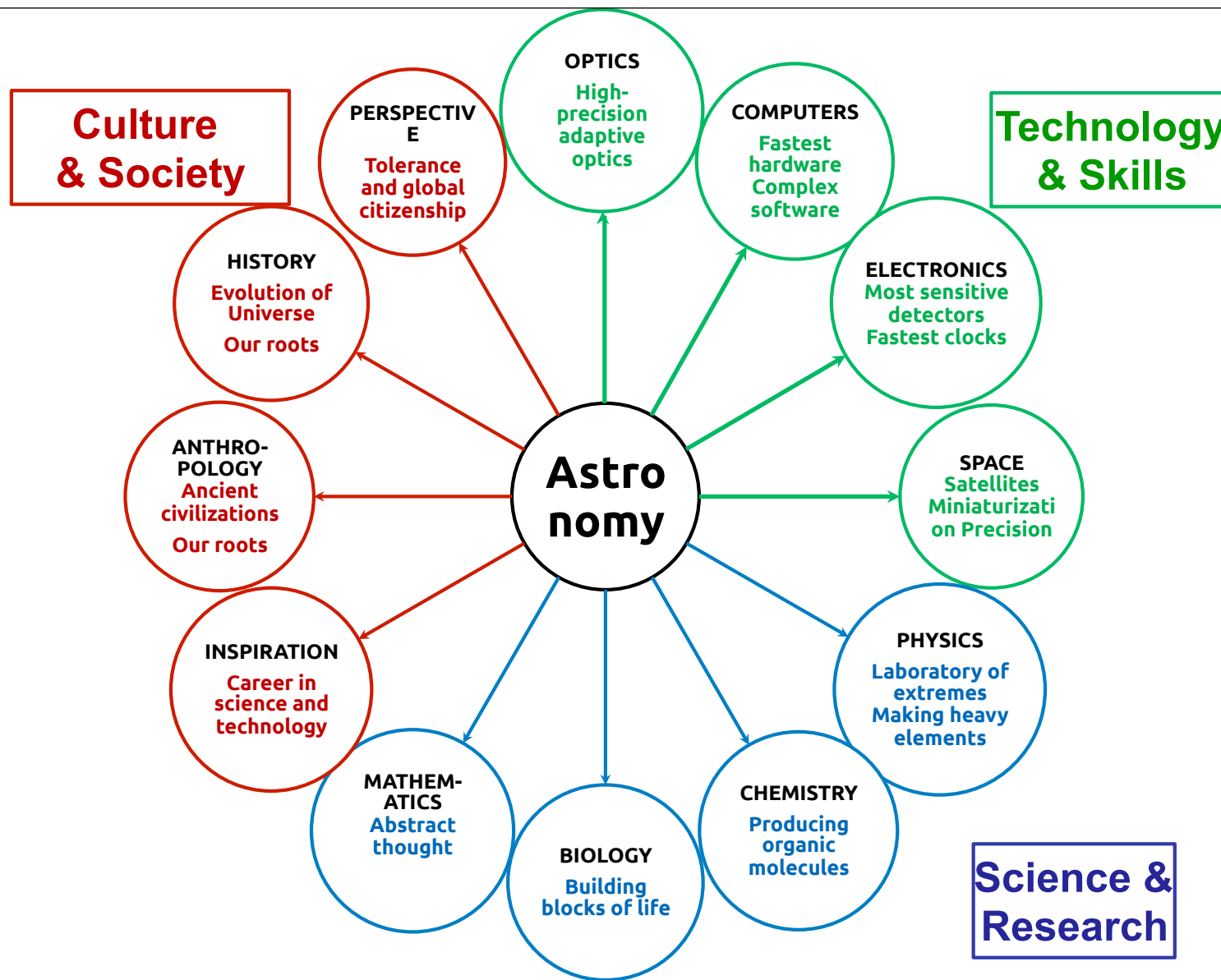
t. @pruss | @unawe











THE UNIVERSE
YOURS TO DISCOVER



INTERNATIONAL YEAR OF
ASTRONOMY
2009

148

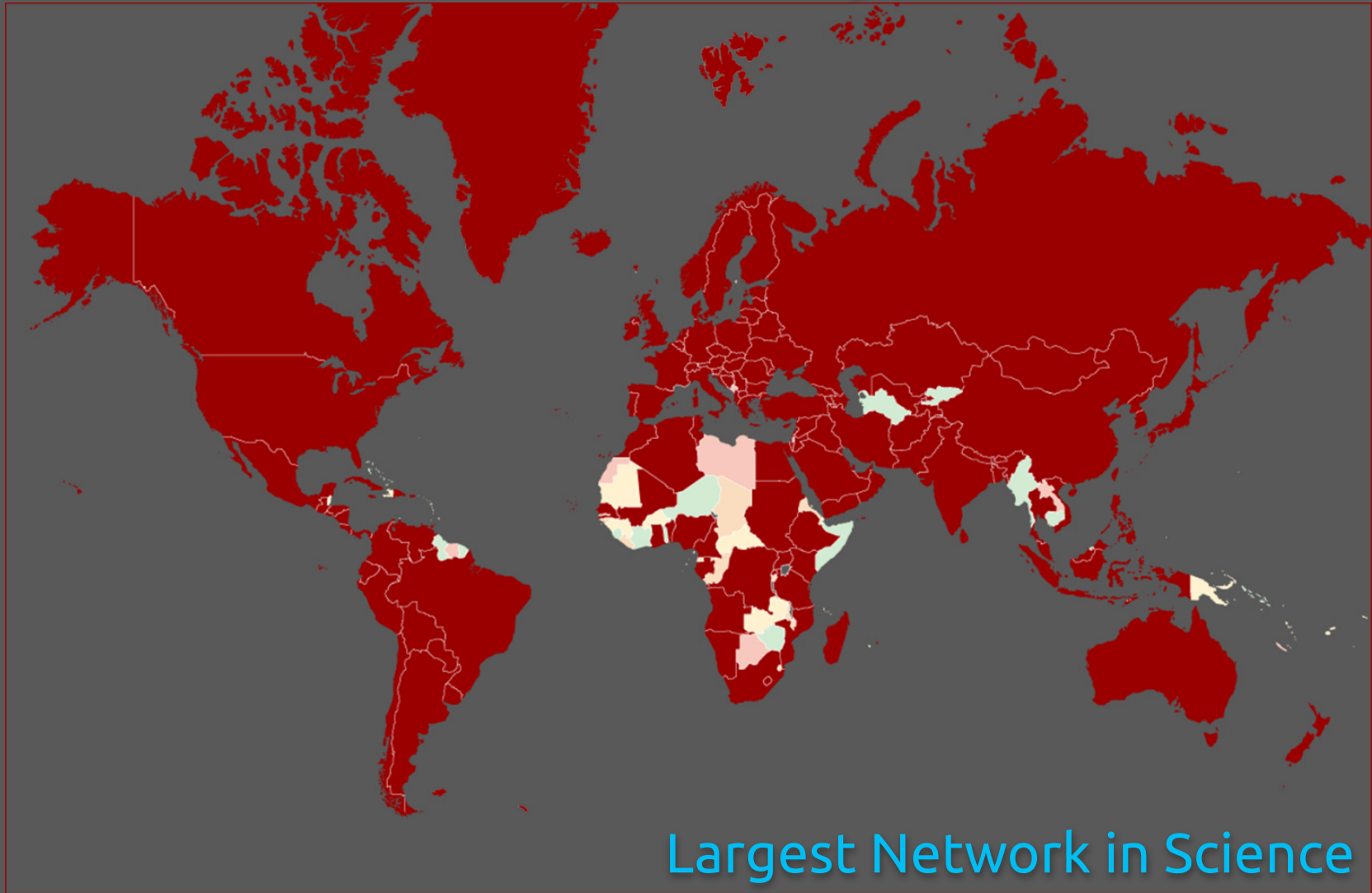
countries

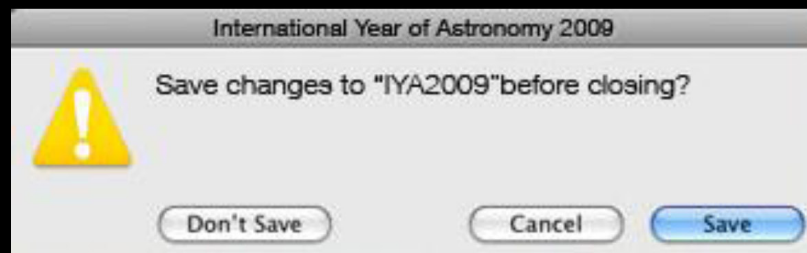
40 international organisations
and 28 global projects

Number of People Reached by the
International Year of Astronomy 2009

815 million
people worldwide

International Year of Astronomy 2009

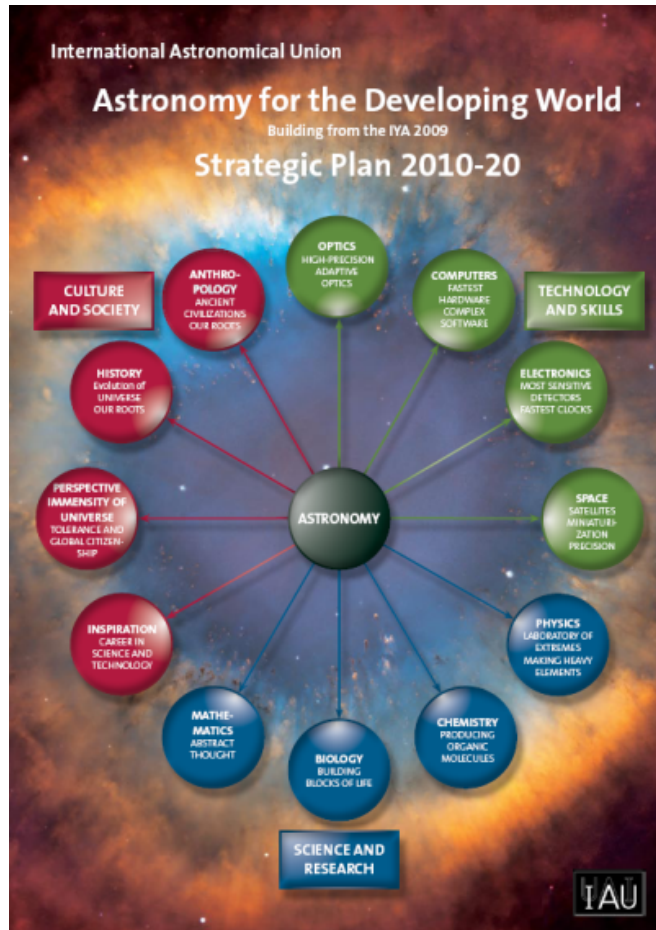




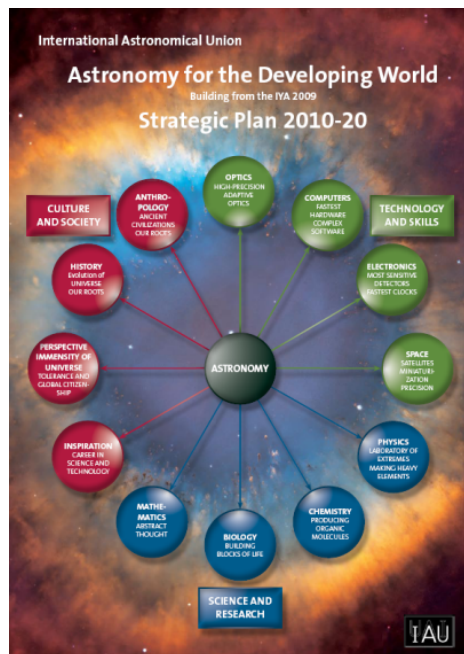
THE UNIVERSE
YOURS TO DISCOVER



B E Y O N D
INTERNATIONAL YEAR OF
ASTRONOMY

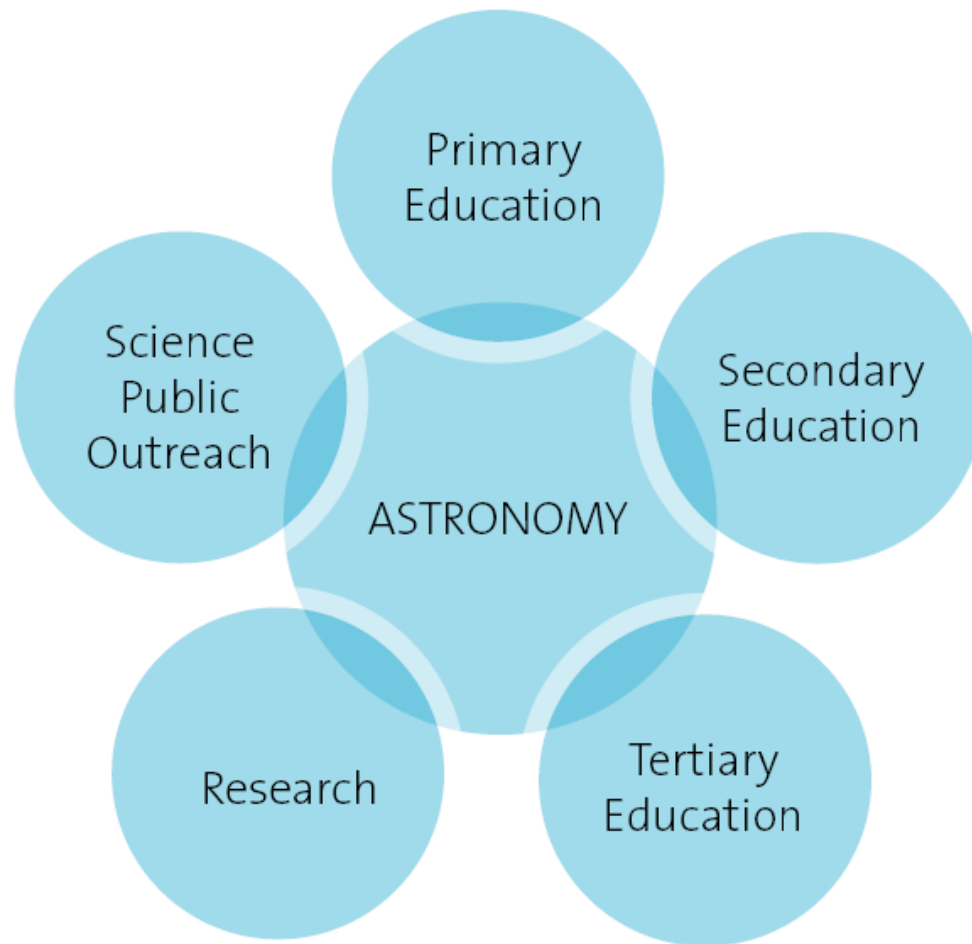


IAU - International Astronomical Union
OAD - Office of Astronomy
for Development



Use astronomy to stimulate development at all levels including primary, secondary and tertiary education, science research and the public understanding of science.

| Elements of Astronomy for Developments



| OAD Annual Call for Proposals

Astronomy for
Universities and
Research

e.g. University twinning,
summer schools,
equipment grants, etc

42 applications
€ 752 959 requested

Astronomy for
Children and Schools

e.g. Teacher training, resource
development, curriculum
research

94 applications
€ 772 079 requested

Astronomy for the
public

e.g. media training, citizen
science, astro-tourism

53 applications
€ 310 782 requested

Total Requested:
€1 835 820

After evaluations:
€ 968 940 on wish list

OAD Collaborations

- Visiting experts (Approximately 10 visits per year)
- Workshop for physics lecturers
- Use Virtual Observatory and small telescopes
- First workshop targets “historically black” universities in SA
- Associate Scientists (5 per year)
- Individual travel grants (5 per year)
- Meetings and workshops (2 per year)
- Schools for young scientists (2 per year)
- Distance learning scholarships (12 per year)



|Universe Awareness

- Use **perspective, inspiration** and **fun** of astronomy to:
 - Introduce young children from disadvantaged backgrounds to the **excitement** of science
 - Enhance their understanding of the world and demonstrate the **power of critical thinking**
 - **Broaden** children's minds
 - Stimulate world **citizenship**

IEU Universe Awareness

2011 EU awarded UNAWE 1.9 million euros to fund the 3-year programme in **6 countries** (The Netherlands, Germany, the UK, Spain, Italy and South Africa)

1. International Network

- Platform for teachers and development of professionals worldwide
- Exchange of ideas, experience and materials
- Coordinators and managers in each participating country, tailored to each country/community

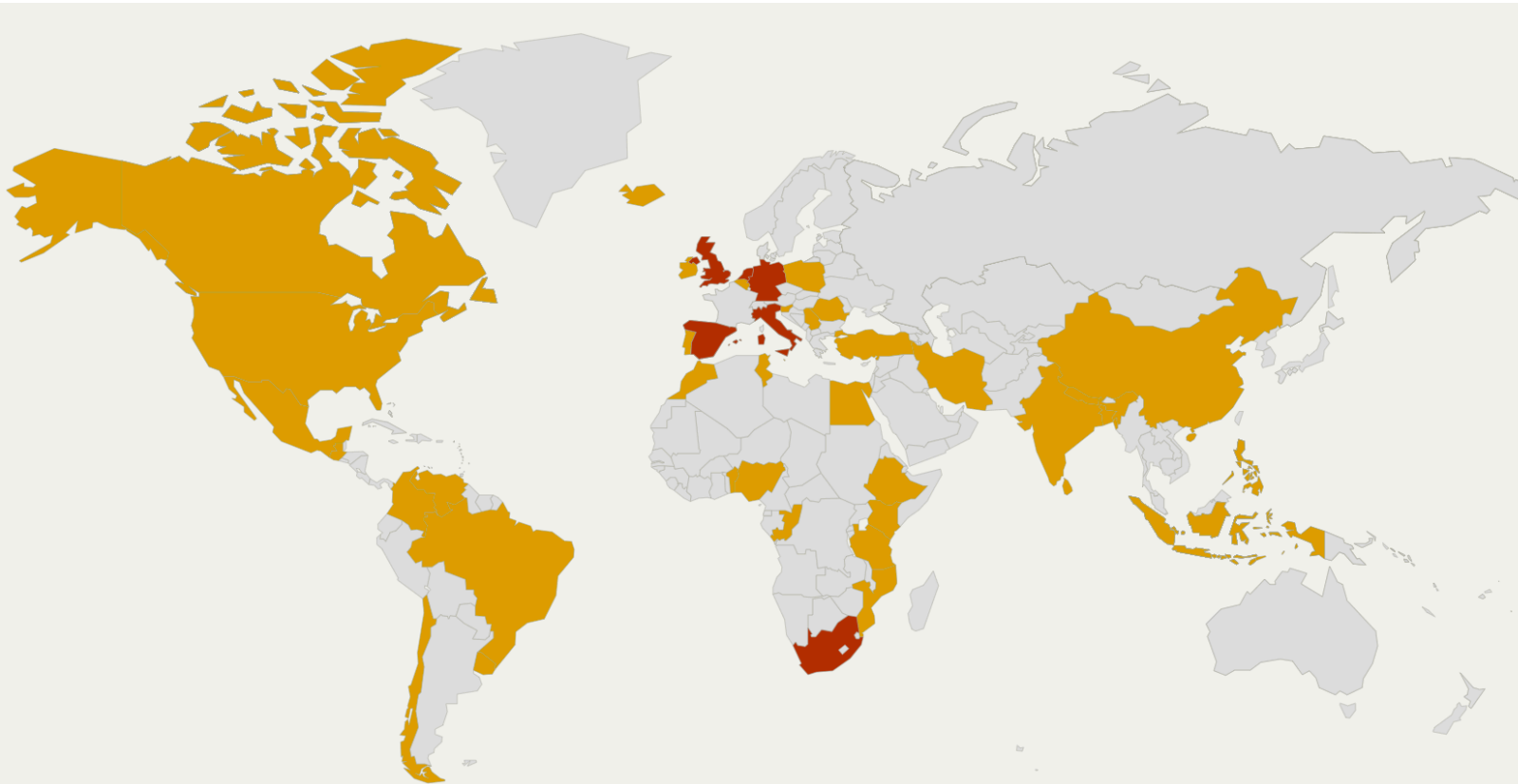
2. Educational Material

- Games, cartoons, songs, hands-on material, etc.
- Needs to be FUN and INTERACTIVE

3. Teacher Training

- Give teachers the confidence to introduce astronomy and other science topics in their classrooms
- Teacher = strong multiplier

| EU-UNAWE: Network



46 Countries
(10 from Africa)

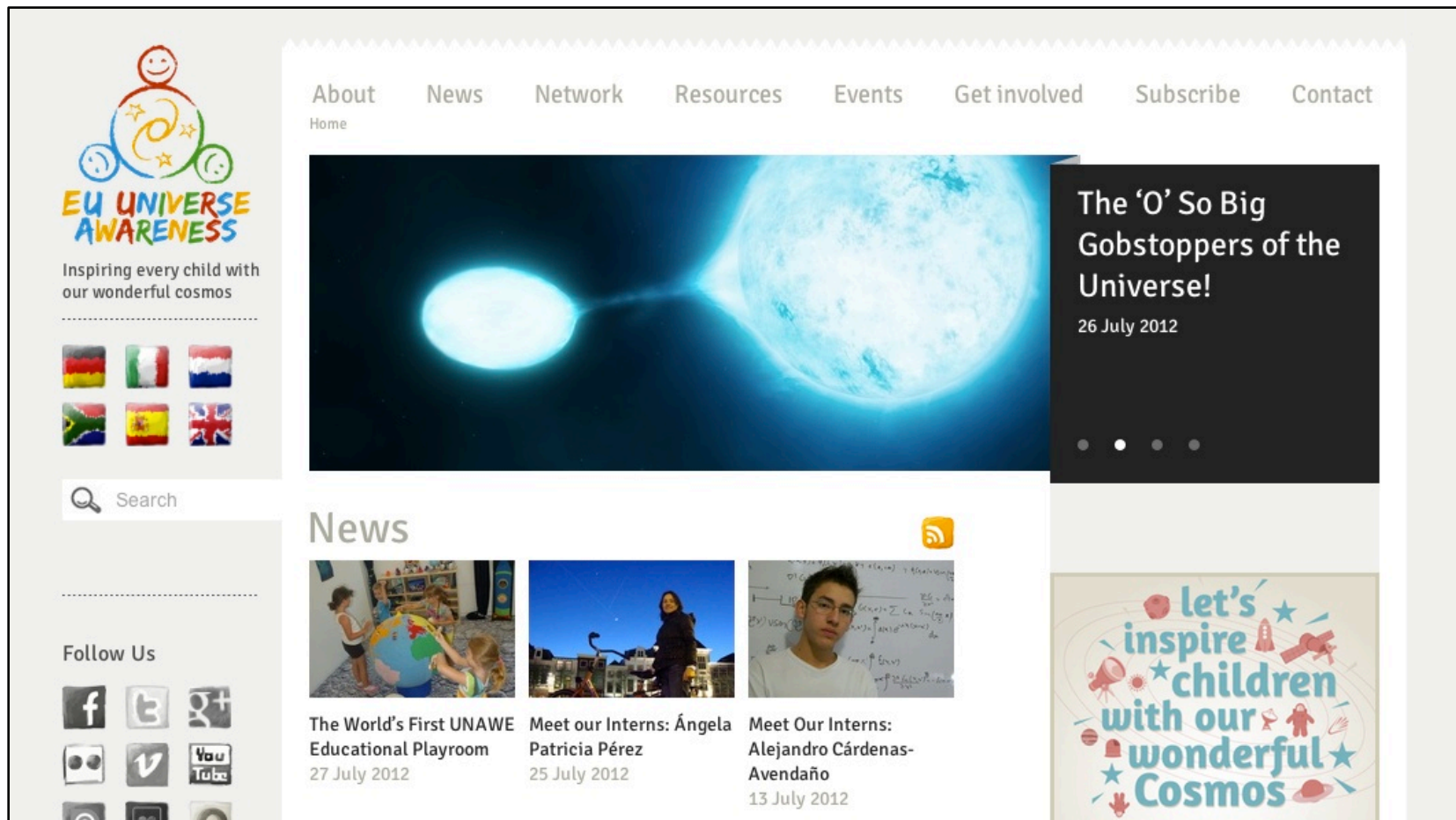
6 EU-UNAWE

- The Netherlands
- The UK
- Germany
- South Africa
- Italy
- Spain

500+ Educators,
Teachers &
Astronomers

EU-UNAWE: Network

www.unawe.org



The screenshot displays the EU-UNAWE website homepage. On the left, the logo features a stylized figure with a smiley face and stars, with the text "EU UNIVERSE AWARENESS" and the tagline "Inspiring every child with our wonderful cosmos". Below this are flags of EU member states and a search bar. The main navigation bar includes links for "About", "News", "Network", "Resources", "Events", "Get involved", "Subscribe", and "Contact". The "Home" link is highlighted. The central banner shows a large, glowing blue celestial body with the headline "The 'O' So Big Gobstoppers of the Universe!" and the date "26 July 2012". Below the banner, the "News" section features three articles: "The World's First UNAW Educational Playroom" (27 July 2012), "Meet our Interns: Ángela Patricia Pérez" (25 July 2012), and "Meet Our Interns: Alejandro Cárdenas-Avendaño" (13 July 2012). A social media section titled "Follow Us" includes icons for Facebook, Twitter, Google+, YouTube, and others. A sidebar on the right contains the text "let's inspire children with our wonderful Cosmos" surrounded by space-themed icons.

EU UNIVERSE AWARENESS
Inspiring every child with our wonderful cosmos

Search

Follow Us

News

The 'O' So Big Gobstoppers of the Universe!
26 July 2012

The World's First UNAW Educational Playroom
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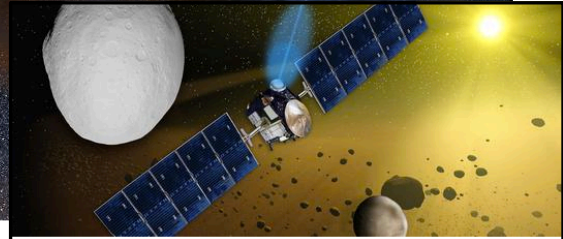
IEU- UNAWE: Resources

- Online resources: open-source (*creative commons license*)
- ~70 educational resources (from activity plans to books)
- August 2011: *Science Magazine's* **SPORE** (Science Prize for Online Resources in Education) **Award**



UNAWE: Space Scoop

- Astronomy news service for children aged 8+ in collaboration with **ESO, NASA Chandra, Europlanet, ASTRON, RAS, ...**
- Share with children the excitement that the *latest* scientific discoveries bring
- Demonstrate that there is still much to learn about the Universe (research that they could contribute to in the future)
- 93 Space Scoops since March 2011
- Translations in 16 languages
- Distributed by AAAS Science EurekaAlert!, national newspapers and magazines.



A Big Discovery on a Little Space Rock
Day 1 at Space Scoop Camp '11
3 October 2011

Day 1 at Space Scoop Camp '11

Today, scientists working on the spacecraft [Dawn](#) made a big impact with an exciting new discovery: one of the largest mountains in the Solar System has been found on an asteroid!

Asteroids are lumps of rocky and icy material in space. They are very old and formed at the birth of the Solar System. Most of the asteroids in the Solar System are found between the planets Mars and Jupiter – a region that is called the Asteroid Belt.

By studying asteroids, astronomers hope to learn more about the formation of the Solar System. That's why astronomers sent the spacecraft Dawn on a 4-year voyage to an asteroid called Vesta, which is found in the Asteroid Belt. Since July, it has been in orbit around the asteroid, photographing the surface of this space rock.

Vesta is much smaller than the Earth – you could fit about 14,000 of this asteroid inside the Earth! Yet, despite being a small rock, the pictures taken by the Dawn spacecraft show that Vesta has one of the largest mountains in the Solar System on its surface. This huge mountain is about 20,000 metres high – that's about double the height of the tallest mountain on Earth!

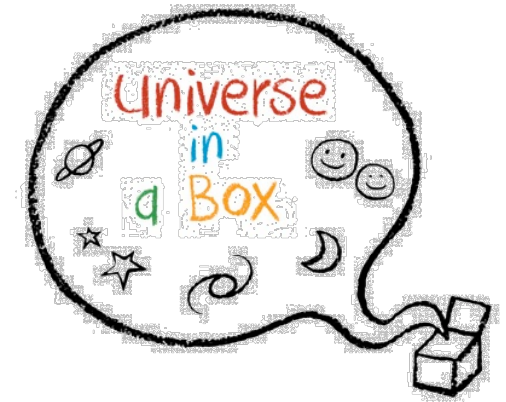
Next July, the Dawn spacecraft will leave Vesta and head towards the largest asteroid in the Solar System, which is called Ceres. To travel to these two asteroids, the spacecraft is using a new type of engine, called an 'ion drive' – it sounds like something straight out of Star Trek!

Cool fact: About 1 in 20 of the meteorites that have been found on Earth are thought to have come from the asteroid Vesta! The meteorites were broken off from Vesta during collisions with other asteroids. Eventually, these bits of rocks ended up falling to Earth!

Image credit: NASA/JPL-Caltech/UCLA/McREL

Universe in a Box

- Educational Kit Modular and Customizable
- Low-cost Materials
- Localizable with UNAWE Network
- Easy to Reproduce
- Phase: Prototyping (to 30 countries)
- By the end of 2013, distribution of 1000 boxes in 1000 primary schools



UNAWE: Teacher Training

- Multiple teacher trainings per country each year:
- Give teachers confidence through hands-on astronomy activities
- ~ 30 teachers per session: ~ 60 students per session
- # teachers trained in 6 countries : 931
- # children reached directly : 5020
- # children reached by teachers trained: ~ 31 320
- (June 2011 – July 2012)

