



# NEWSLETTER

09/2015

Nº 1

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## EDITORIAL

**N**ASE (*Network for Astronomy School Education*) was created as a working group at the General Assembly of the **IAU** (*International Astronomical Union*) in Rio de Janeiro in 2009. After the 2015 General Assembly in Hawaii this working group was confirmed, making it necessary to find with a voice that allowed us to make regular contact all the members of the local groups and all the participants in any of the courses: so the **NASE Newsletter** was born.

**W**e want this to provide information about what we do together and to share the contents that are added to the website:

<http://sac.csic.es/astrosecundaria/es/Presentacion.php>



**N**ow we want to inform you of some developments that have emerged from the General Assembly. For example, the **IAU** has been restructured completely and the Commission 46 (Education and Development), where **NASE** was born, now retains its name but is designated as C1 Commission within the C Division, which includes Education, Communication and Heritage. We continue as a Working Group of this Commission, whose president and vice president are members of **NASE**. The vice president of the C Division is also a member. Congratulations to all of them.

Comission C1: Education and Development  
President: Beatriz García (Argentina)  
Vicepresident: Paulo Bretones (Brasil)

Division C: Education, Outreach and Heritage  
President: John Hearnshaw (New Zealand)  
Vicepresident: Susana Deustua (USA)

**A**nd **NASE** is still growing. Since 2009, 69 courses have been held, and thousands of teachers have learned how to improve the way of teaching Astronomy in Primary and Secondary schools. We have also collaborated in the generation of other courses, like the one which will begin this summer in London with the **EAAE** (*European Association for Astronomy Education*). And we have gone a long way towards the organization of these courses in 2015:

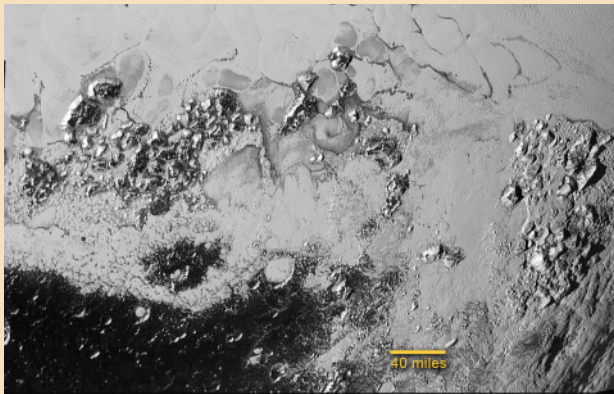
October 5 to 8 in Bogota (Colombia)  
October 13 to 16 in Havana (Cuba)  
October 12 to 14 in Bucaramanga (Colombia)  
December 12 to 15 Cluj (Romania)

**M**oreover, the Ministry of Education of Bolivia has published the book "**14 Steps ...**" and sent it to all schools. It is also about to complete the translation into Romanian and Chinese.

**W**e encourage you to keep the address file up to date. You can send any suggestions or material to email: [newsletter.nase@gmail.com](mailto:newsletter.nase@gmail.com).

Rosa Mª Ros

# NEWS



## NEW HORIZONS VISIT PLUTO

Man had sent probes to every planet in the solar system, but not to the bodies beyond Neptune. The spacecraft New Horizon, after a journey of nearly 10 years, flew over Pluto and its moons on July 14, 2015. The ship is so far away the data and photographs have 4.5 hours to arrive, traveling at the speed of light.

In the first picture you can see that Pluto is reddish, with few craters. It has a clear heart-shaped region, no accidents, indicating the youth of this area.

Pluto was discovered by Clyde Tombaugh in 1930, and had the status of planet until 2006. That year the IAU (International Astronomical Union) established three conditions for being considered planet: rotating around the sun, being large enough for its gravity to form spherical shape, and that it has swept aside other bodies in the same orbit around the sun. Large asteroids such as Ceres, or objects in the Kuiper belt, like Pluto, do not fulfil this last condition, so that they were classified as dwarf planets.

The image below is a closeup of the rugged equatorial terrain. The mountains, which have a height of 3,500 meters, are probably of water ice and suggest a surprising geological activity. In the picture there is a line of 40 miles = 65 km.

# COURSES



## NASE Course in Guatemala June 25 to 27, 2015

In cooperation with University of San Carlos of Guatemala, the NASE Course No. 67 took place from 25 to 27 June 2015.

The 21% of those attending were teachers in Primary, 28% in Secondary, and 38% worked with students over 18 years. For more than half of them this was their first contact with Astronomy, and 93% thought the course content to be very useful.





## **NASE Course in Medellin (Colombia), June 24 to 27, 2015**

**T**his course took place in cooperation with the Planetarium of Medellín.

**A**ccording to the final survey, 91% of the participants found the course very useful. For 36% it was their first contact with Astronomy. 69% were High School Science teachers, and 15% Primary school teachers.



## **NASE Course in Managua (Nicaragua), July 13 to 15, 2015**

**I**t was conducted in cooperation with the Ministry of Education of Nicaragua and the Astronomical Observatory of the National Autonomous University of Nicaragua, Managua.

**A**ccording to the final survey, the majority of the audience found the course very useful.



## **NASE Course in Honolulu, Hawaii July 31 to August 2, 2015**

**T**his course has been made on the island of Oahu, on the Hawaiian archipelago. The institution that hosted it was the Bishop Museum.

**E**veryone was very happy, according to the final survey. Even one attendant said from the pedagogical point of view, this course had been more useful than several NASA courses he had done before.



# MATERIAL

## DIORAMAS OF PLANETS

Each planet and its moons have a different surface, a particular color of sky, etc. The reddish surface of Mars and pink sky are not the same as the gray surface of the moon and its black sky. Some are rocky, others have an icy surface, others are composed of gases with colorful swirls.



Choose the body in the solar system you want to reproduce. Those with a solid, not gaseous surface are better. Search for photos of the surface.

Take a cardboard box. Cut out a side face, for us to see the diorama. On the side which will be the ground, try to reproduce the ground or an accident on the planet or moon: for example, if you choose Mars, you can copy his reddish and sandy ground, full of stones, or you can reproduce the *Olympus Mons* or *Marineris Valley*. If you choose our Moon, you must imitate the ash-gray

colour craters and "seas". Use clay, sand, plasticine, etc. and paint it with appropriate colours. You must use some photographs of planets for reference.

Paint the sides of the box with the colour of the sky on that planet or moon: pink on Mars; black on the moon, with perhaps a crescent Earth in the background, etc. You can finish it as you like: adding an inner light, painting the outside, putting a glass in the window ...

More like this you can find on the website of NASE:

