

## PRESS RELEASE

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### **The Virtual Telescope project: Enjoy the Universe from your Desktop.**

**This week will see the launch of a new revolutionary initiative bringing the exploration of the Universe to our very fingertips.**

A group of astronomers have just begun a new project to operate a global network of robotic telescopes devoted to educational purposes. The Virtual Telescope currently has the ability to track any kind of astronomical object with no restrictions on observing time and will be controlled by students, teachers, professional and amateur astronomers. The network of telescopes once in place will have the ability to provide rapid observations of sudden changes in astronomical objects, such as violent Gamma Ray Bursts, Supernovae, Variable stars and act as an early detection station for newly discovered Near-Earth Orbiting Asteroids and Comets.

The Virtual Telescope is the brainchild of Dr Gianluca Masi who has developed the online resource that can be accessed from any where on the globe and allows teachers, students, and everyone in-between the opportunity to use their very own "Virtual Telescope". The potential for the use of such instruments as an educational resource plays an important role in the project. The Virtual Telescope's main priority is to make a scientific instrument available to members of the community who may otherwise never have access to one. By having a telescope a few clicks away is the first step to apply the benefits of the learning and discovery process.

The telescope is set in the heart of Italy in the town of Ceccano which is 90km from Rome. On a clear night the telescope becomes accessible from the Bellatrix Observatory run by Dr Masi and is fully robotic. Users simply log online through the Virtual Telescope website, request time and can observe to their hearts content unassisted or use Gianluca's guidance in a personal tutoring service designed to allow the user to observe and image process their own astronomical images.

The Virtual Telescope is unique in its ability to provide real time observations with additional live interactive support services. Current robotic telescopes face restrictions on their ability to track unpredicted changes or new phenomena in a short time span. The Virtual Telescope uses innovative observing techniques and software which gives it a unique capability to allow flexible scheduling and a rapid

response giving UK observers the opportunity to be at the first to access this exciting tool.

"This new facility enables educators, learners and individuals interested in exploring the heavens to enter their own journey of discovery" explains Sotira Trifourki, who is UK coordinator for the Virtual Telescope. "Allowing the UK access to robotic telescopes with no restrictions on observing for specified astronomical objects and allowing unlimited real time observing will strengthen the educational aspects and appeal of science to people of all ages. The possibilities for supporting science in the national curriculum for classroom and current research activities are endless. The Virtual Telescope gives users the capability of making a real contribution to science by giving them the chance to make discoveries of their own and even help evaluating the impact risk from Near-Earth Orbiting objects, allowing accurate calculations of their paths and potential hazard".

Observers in Italy were the first to enjoy spectacular live shows presented from the Bellatrix Observatory with groups of school children now being able to join the activities which will be available through Greater Manchester SETPOINT.

The telescopes are powerful and technologically advanced, having been successful in discovering several asteroids and variable stars. The telescopes are also used in collaborative efforts for observations of Extra Terrestrial Planets orbiting other stars. In 1999 Dr Masi discovered an asteroid which he named "Romaplanetario" in honour of the Rome planetarium where he is now based as member of the scientific staff.

These instruments are not only useful for scientific research but are extremely valuable to bring the universe to students of any age, in their classrooms or homes anywhere and everywhere on the globe. This way, they can personally discover the wonders of the Universe, its endless fashion while feeling like scientists unveiling the unknown. The Virtual Telescope's main winning factor is that students are attracted to the technologies they love, finally finding themselves handling physics, mathematics and other "critical" sciences learning and having fun at the same time.

"While it is good to leave to them the whole meaning of the experience, assistance is still urged, at several levels", says Gianluca Masi, manager and owner of the Virtual Telescope. "First of all, they need to be properly introduced and trained to the instruments, in order to use them at their best: this can be easier if the user interface is as simple as possible. Also having human interaction in assisting queries when raised is a must. Then, they need to be helped understanding all the potential of the facility: once done, they will be able to fully exploit its almost endless possibilities, creating observing projects fitting their very needs. Third, they should be able to choose a given experience/experiment, helped by a tutorial (particularly important for teachers to prepare the work), so that they will not waste their time (teachers and students, while they can observe and learn like scientists, are not scientists, so they cannot – and they should not required to - master the astronomical matter). Finally, they may need further, qualified assistance while processing the grabbed data and understanding it; very likely, while the previous points are big, this is the most important: having such assistance can make the difference between a big and remarkable experience and a simply interesting one".

The Virtual Telescope offers two different and technologically advanced instruments: a 11 inch Celestron Schmidt-Cassegrain OTA on a robotic mount and a 4 inch Takahashi OTA, also on a robotic mount, both equipped with state of the art CCD cameras and scientific filters. The online services provided offer "Laboratory" section

where students can download astronomical measurements to experiment with before and after using the telescope. Instruments for observing the Sun will be available soon, to make possible daylight astronomical observations.

The Virtual Telescope is easily accessible using the Internet and once logged in the user has full control of the telescopes, detectors and filters. For the time that the telescope is in use, it will truly be the very own telescope of the user! The user has the opportunity to be fully trained so that they can gain the full experience from professional astronomers during observing sessions.

Teachers and students can choose a number of tutorials to do make their own journey while unveiling the science and beauty of our Solar System, of our galaxy and the Universe, with a step by step guide still leaving a lot of space to imagination and creativity.

Through its successful operations, The Virtual Telescope is planning to expand its operations to develop a larger, dedicated global network of up to three more robotic telescopes based Chile, Australia and Cyprus.

The launch of the Virtual Telescope in Italy was a great success with over 350 participants being allowed access to the observatory and having the opportunity to use the telescope in real time.

### **The Virtual Telescope “Discover the Sky!” Competition**

The Virtual Telescope, to celebrate its launch, invites participants to design projects and activities involving the use of its facilities which will be made available for schools to use.

**What would you do with a Virtual Telescope? Imagine being an astronomer for one night: what would you like to observe and why? Asteroids, comets, variable stars, galaxies, nebulae are just some of the objects you can consider: fly away with your imagination!**

Joining the Virtual Telescope forum, students and teachers can form international teams for joint projects.

There are three categories in the competition:

**Age group 1:** Pupils less than 15 years old

**Age group 2:** Pupils between 15 and 19 years old

**Age group 3:** Adults.

The competition entries, to be sent no later than 28 Feb. 2007, will be judged in March 2007 and participants will be awarded prizes for their personal enjoyment and allocated schools. Prizes will consists in free observing time at the Virtual Telescope, books and other astronomical gadgets. Prize winners will be invited to share their experiences at the 2<sup>nd</sup> Virtual Meeting on Amateur Astronomy to be held on the Internet late in late April.

**The Virtual Telescope site is at: <http://virtualtelescope.bellatrixobservatory.org/>**

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## Images and further information



The planetary nebula M 27, also called "Dumbbell" Nebula for its shape, imaged with the Virtual Telescope. Filters were used to built a colour pictures.

Hi-Res image at:  
<http://virtualtelescope.bellatrixobservatory.org/>



The famous Great Nebula in Orion (M 42), imaged in colours with the Virtual Telescope.

Hi-Res image at:  
<http://virtualtelescope.bellatrixobservatory.org/>



Comet C/2006 M4 SWAN did a nice show late in Oct. Here is an image grabbed with the Virtual Telescope, showing its fine tail.

Hi-Res images and movies at:  
<http://virtualtelescope.bellatrixobservatory.org/>

- Further images, animations and information can be found on the Virtual Telescope Website <http://virtualtelescope.bellatrixobservatory.org>

## **Notes for Editors**

The initiative is run by professional astronomers having a long experience in research and be deeply involved in astronomical communication. The Virtual Telescope is run by the Director, Gianluca Masi, an astrophysicist who earned a PhD in Astronomy and member of the scientific staff (curator) of the Rome Planetarium of Rome and received several prizes for his activity in this field; also, he has a long experience with robotic telescopes, while a number of publications show his scientific research.

The Virtual Telescope is a not for profit community project that aims to run solely through low cost hire to allow more instruments and educational services to become accessible to the general public. All of the funding has been personally raised by Dr. Gianluca Masi for the Virtual Telescope Project: sponsors are welcome to support this effort.

The Virtual Telescope is a project of the Bellatrix Astronomical Observatory, a facility which started its operations in 1997; the Observatory's website, started on the same year, totalized 460,000 visitors in less than 10 years, being the most visited non-commercial website of Italy. Since its foundation, the Observatory contributes to the astronomical research, mainly on potentially hazardous, near-Earth asteroids and comets, variable stars and, recently, exo-planets. In 2004 Gianluca Masi organized the 1st Virtual Meeting on Amateur Astronomy, which turned to be a big success with almost 200 participants, both professionals and amateurs, from any part of the world. Dr. Masi received several national and international prizes and grants, like the 2005 "Shoemaker NEO Grant" from the Planetary Society, the 2006 "Tacchini" Prize from the Italian Astronomical Society and the 2003 "Ruggieri" Prize from the Italian Amateur Astronomers Union. Asteroid (21795) is named Masi after him, acknowledging his activities and researches in astronomy.

## **Cosmos Media Publications**

Cosmos Media is a new educational service created to support the teaching and research of Astronomy and the Space Sciences. The project is designed to encourage people of all age groups and walks of life to learn more about our Universe. Cosmos Media is a non-profit organisation that exists to address the state of science education in the UK and Internationally. In March 2005 Cosmos Media formed a partnership with the European Space Agency to promote Lifelong Learning in Astronomy and Space Science.

### **NASA's Space Science for Kids**

<http://spacekids.hq.nasa.gov/osskids/orgs/masi.htm>

### **The Virtual Telescope's participation in the Genova Science Festival**

<http://www.lestelle-astronomia.it/collana.asp>

### **RAI NEWS24**

<http://www.rainews24.it/Notizia.asp?NewsID=63860>

**LA Stampa**

[http://www.lastampa.it/cmstp/rubriche/girata.asp?ID\\_blog=49&ID\\_articolo=43&ID\\_sezione=72&sezione=11%2BCielo](http://www.lastampa.it/cmstp/rubriche/girata.asp?ID_blog=49&ID_articolo=43&ID_sezione=72&sezione=11%2BCielo)

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<http://www.tgcom.mediaset.it/tgtech/articoli/articolo325733.shtml>