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Italian among Nature's Top Ten for 2017 (3)

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For VIRGO work on gravitational waves from neutron stars

Rome, December 18 - The Italian astrophysicist Marica Branchesi has made nature magazine's Top Ten scientific figures for 2017. An associate professor at the Gran Sasso Science Institute (GSSI), Branchesi works in the National Laboratories of the Gran Sasso of the National Institute for Nuclear Physics (INFN) and is a member of the VIRGO project. Nature cited her for her role in the discovery of the first signs of gravitational waves from the collision of two neutron stars. On October 16 fresh findings by the US LIGO and the Italian VIRGO detectors and the Fermi satellite showed that gravitational waves travel at the speed of light. The data prove yet again that Einstein was right. The phenomenon was predicted over a century ago by his theory of relativity. The data picked up by all the instruments also enabled a measurement of the Hubble constant, that is the rate at which the universe is expanding. Education, University and Research Minister Valeria Fedeli called the findings "another marvelous result, the fruit of a joint effort in which Italy had a very important role". She thanked all the Italian researchers who worked on the "extraordinary" project "with great passion, dedication and vision". Fedeli dedicated the advent of the "new astronomy" to Adalberto Giazotto, the visionary physicist who had the idea of building VIRGO 30 years ago. "He is the father of the results presented here today," she aid at a press conference with the National Nuclear Physics Institute (INFN), The National Astrophysics Institute (INAF)) and the Italian Space Agency (ASI). For the first time, scientists directly detected gravitational waves - ripples in space-time - in addition to light from the spectacular collision of two neutron stars. This marked the first time that a cosmic event had been viewed in both gravitational waves and light. The discovery was made using the U.S.-based Laser Interferometer Gravitational-Wave Observatory (LIGO); the Europe-based Virgo detector, with its detection centre at Pisa; and some 70 ground- and space-based observatories. The dual observation of the collision of the neutron stars was hailed by scientists as "a Rosetta Stone for astronomy". A factory of gold and platinum was observed. Also cited by Nature Monday was another project in which the INFN had a hand, the Mideast's first particle accelerator SESAME, led by Khaled Toukan.