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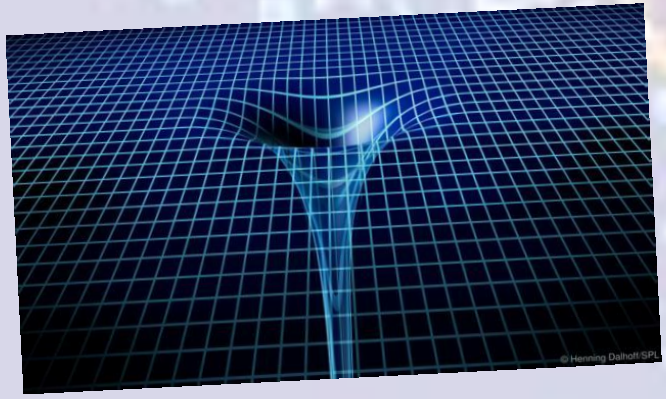
# 7 great mysteries of Modern Physics




**DR. CATALINA CURCEANU**
**LNF-INFN, FRASCATI (ITALY)**

**OCT 21 2016 AT 14:10**
**SALLE POLYVALENTE EEB1**

**For further informations or questions please contact M. L. Milone**

**marialetizia.milone@eeb1.eu**

INFN
Istituto Nazionale
di Fisica Nucleare

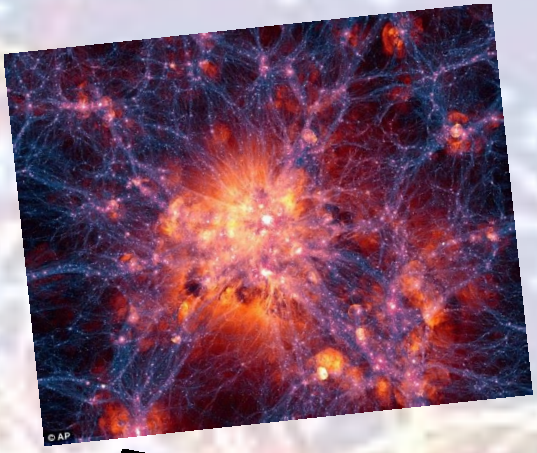
# 7 great mysteries of science

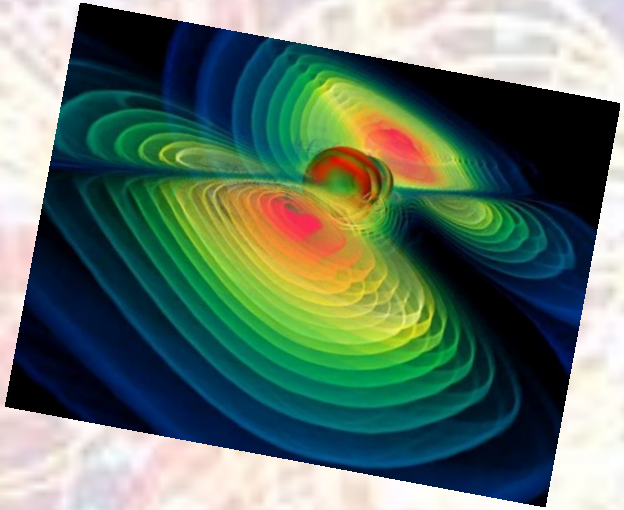
***Is there anything left to do for the next generations of researchers in fundamental physics?***

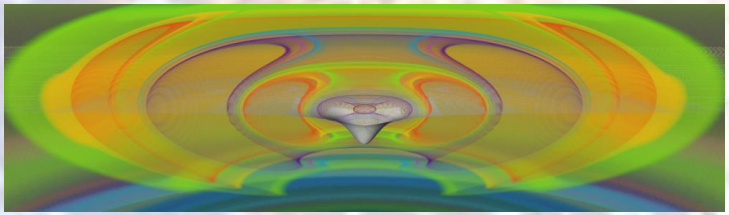
***We shall answer this provocative question by discussing seven major unsolved mysteries of Modern Physics, just to show to the next generation that there are many important things to be done in science, in physics in particular.***

***We will discuss items ranging from dark matter and energy, to the interior of black hole and the intimate structure of a neutron star, and explore the Schrodinger cat paradox, to end with something we know exists, but do not know how large it is: neutrino masses, and with something else we do not even know exists: one or more parallel Universes.***

***This is the best moment to study science!***





## Catalina Curceanu

***Dr Catalina Curceanu graduated in physics with the highest qualification in Bucharest and obtained her PhD Summa cum Laude in experimental particle and nuclear physics within the OBELIX experiment at world renowned particle laboratory CERN in Geneva. Since 1992 she has lived in Italy and worked at the Italys National Institute of Nuclear Physics, Laboratori Nazionali di Frascati. She leads a research team performing nuclear and fundamental physics experiments on the DAFNE collider at Frascati and also at the underground laboratory of Gran Sasso. Her team participates in experiments performed at CERN in Geneva and J-PARC in Japan. Dr Curceanu is an author of more than 200 scientific papers in international journals and has obtained prestigious international awards, including ( in 2015) those from the FQXI and from the John Templeton foundations for her studies in quantum physics. She is heavily engaged in science outreach. Her book From Black Holes to Hadron Therapy. A Journey into Modern Physics reflects her passion to explain beauty and importance of science.***