SCIENCE AND TECHNOLOGY
ICARUS, FROM THE NATIONAL LABORATORIES OF GRAN SASSO TO CERN

The long journey of the largest liquid argon detector in the world is reaching its destination: the gigantic neutrino hunter ICARUS T600 has left the INFN laboratories of Gran Sasso heading towards CERN in Geneva. Until 2012, ICARUS observed the neutrino beam coming from CERN, after a journey of 730 miles through the Earth's crust. Now, with a delicate transport operation by means of two special convoys, it is being transferred to CERN for maintenance and upgrading of its performance, in anticipation of its probable future use in the United States: physicists consider it an essential element for an experiment with low-energy neutrinos at the Fermilab in Chicago. ICARUS is a liquid argon ionization detector (600 tons of liquefied gas): its technology was proposed in 1977 by the Nobel Prize winner in physics, Carlo Rubbia, spokesman of the experiment, and represents an example of the Italian supremacy of INFN in proposing an original solution, the validity of which is proven by its success. ICARUS thus combines the originality of the idea with the precision and efficiency of the technical implementation. ■

MEDICINE
THE PRE-CLINICAL ROOM OF THE NEW HADRON THERAPY CENTRE IN PRAGUE WILL BE BUILT BY INFN

INFN has been awarded the public tender for construction of the pre-clinical room of the new hadron therapy centre to be built in Prague, Czech Republic, within the scope of the European ELI (Extreme Light Infrastructure) project, and more specifically of the ELIMAIA (ELI Multidisciplinary Applications of Laser Ion Acceleration) project. It will be the first complete room of its kind in the world, with state-of-the-art facilities for research in physics, dosimetry and pre-clinical tests. The INFN National Laboratories of the South will, over the next three years, manage the partnership for implementation of the project. The new hadron therapy centre to be built in Prague will differ from those already in existence in terms of the technique for production of the accelerated particle beams: in this case, in fact, instead of using a traditional accelerator, particles will be accelerated in plasmas, exploiting the interaction between matter and laser. This technique enables high quality proton beams to be produced at low cost for use in cancer therapy. ■