INTERNATIONAL COLLABORATION

ENVIRONMENTAL RADIOACTIVITY: AGREEMENT BETWEEN THE INFN AND THE ALBANIAN ENVIRONMENTAL AGENCY

The development of nuclear research and technology to monitor environmental radioactivity. This is the subject of the agreement signed on 9 April in Tirana by the Italian Institute of Nuclear Physics (INFN) and the Albanian Environmental Agency (*Agjencia Kombetare e Mjedisit*, AKM). The Memorandum of Understanding (MoU) was signed by the president of the INFN Fernando Ferroni and the director of the AKM Julian Beqiri, in the presence of representatives from the Albanian Ministry of the Environment and Ministry of Education and Science and from the Italian Embassy in Albania. It promotes the development of joint research projects to be submitted to international financial institutions and the EU. Having recently been granted "official candidate" status for membership of the EU, Albania must now adopt standards and procedures to monitor natural and artificial radioactivity in the country.

The MoU represents the natural continuation of an educational programme that has seen the participation of many young Albanians working as undergraduate, PhD and post-doctoral researchers at the INFN Legnaro National Laboratory (LNL) and universities involved in the ITALRAD (*ITALian RADioactivity*) project. The MoU between the INFN and AKM is of strategic importance for the cooperation and development of projects that will also be included in the EU framework programme for research and technological development. ■

NOMINATION

EUROPEAN RESEARCH COUNCIL: INFN RESEARCHERS AWARDED TWO GRANTS FOR STUDIES ON PROTONS

The European Research Council (ERC) has awarded two of its Consolidator Grants to two researchers at the Italian Institute for Nuclear Physics (INFN). The grants, designed to support excellent European research teams, have been awarded to Piero Giubilato, researcher at the Padua division of the INFN and Padua University, and Alessandro Bacchetta, from the INFN's division in Pavia and University of Pavia. Piero Giubilato received a 1.8 million euro grant for the "iMPACT" (*innovative Medical Protons Achromatic Calorimeter and Tracker*) project to develop a new hadron therapy cancer treatment that uses protons. The 1.5 million euro grant awarded to Alessandro Bacchetta is for the "3DSPIN" project to study the internal structure of protons. Both research projects will last five years.

"The aim of the project in Padua is to create a 3D image of the patient using protons, rather than photons, as elementary particles. Although conventional systems use the latter, these are less capable of distinguishing between the types of tissue affected by the tumour", explained Piero Giubilato. The project in Pavia will study the distribution of quarks and gluons, the elementary particles that make up protons, in 3D rather than 1D. "Mapping a proton in 3D is an entirely different level of technical complexity and… enjoyment", explained Alessandro Bacchetta. ■