

ITALIAN RESEARCHER ANTONELLA CASTELLINA LEADING THE AUGER EXPERIMENT IN ARGENTINA



Antonella Castellina, researcher of INAF's Astrophysical Observatory of Turin, who works at the INFN Turin Division, was elected scientific coordinator of the Pierre Auger Observatory. This is an international collaboration of more than 400 scientists in 17 countries, of which INFN is part. The Pierre Auger Observatory studies the origins of high-energy astroparticles thanks to a big detector spread across the Argentinian Pampas, near the town of Malargüe (Mendoza province). Recently, the Observatory underwent an important upgrading programme for the

detectors, AugerPrime, in which INFN performed an important role. The addition of plastic scintillators, antennas able to measure radio pulses from showers, and buried muon detectors will enable significant improvements in the Observatory's capacity to determine the mass composition of the highest-energy cosmic rays. This information is crucially important for discriminating between different astrophysics models for identifying sources and studying hadronic interactions. The data collected by Auger are very valuable to the international scientific community and constitute the necessary basis for future projects envisaged for the next decade.