

# Institutions and organizations: Who does what?

**ANR (Agence nationale de la recherche):** the French National Agency for Research, a public-interest group set up in 2005 as the funding agency for research projects. ANR looks to public-sector establishments and private corporations, with a twin remit: generating new knowledge, and fostering partnerships between public-sector laboratories and industry. Project selection, at the outcome of competitive calls for projects, is based on criteria of scientific quality, and economic relevance.

**APC (laboratoire Astroparticule et cosmologie):** the Astroparticle and Cosmology Laboratory, set up on 1 January 2005, brings together research workers belonging mainly to Paris-VII University, **CNRS** (in the guise of three departments: **IN2P3**, SPM, INSU), CEA (DAPNIA), and the Paris Observatory. The laboratory focuses on three research thrusts: cosmology and gravitation, high-energy astrophysics, and neutrinos.

**CERN:** set up in 1953 by the Conseil européen pour la recherche nucléaire, as the European Organization for Nuclear Research; now styled the European Laboratory for Particle Physics, this is the largest laboratory the world over in this field.

**CESR (Centre d'étude spatiale des rayonnements):** the Radiation Space Research Center, based in Toulouse (France), and sponsored by **CNES**, has operated since 2003 as a combined CNRS–Paul-Sabatier (Toulouse-III) University research unit, comprising three departments: Solar System, high energies, and cool Universe.

**CNES (Centre national d'études spatiales):** the French National Space Research Center, set up in 1961, as a public-sector establishment of industrial and commercial character, charged with drawing up French space policy within the European Union, as submitted to national government, and with its implementation. With a workforce of 2,500, it has achieved mastery of all space technologies, vouchsafing France's independent access to space, and drawing around itself scientific and industrial partners, with which its programs are carried through.

**CNRS (Centre national de la recherche scientifique):** a public-sector establishment of scientific and technological character, carrying out its research activity in all fields of knowledge.

**CTBTO:** the Comprehensive Nuclear Test Ban Treaty (CTBT) Organization.

**DGA (Délégation générale pour l'armement):** within the French Defense Ministry, the General Delegation for Armament (with a staff of 18,700) steers military equipment design and production. DGA invests 1.4 billion euros in R&D annually, including close to 900 million euros to fund research organizations, these including the National Aeronautical Design and Research Office (ONERA: Office national d'études et de recherches aéronautiques), CEA, and **CNES**.

**DOE (Department of Energy):** the energy department of the United States federal government.

**EPICA:** a European multinational project, for deep drilling in the Antarctic ice shelf, to investigate the climate and atmospheric "archives" it contains, at two sites: Dome C (Concordia Station), and Queen Maud Land (Kohnen Station).

**ESA (European Space Agency):** the Agency is charged with development of space activities, independently from the national programs implemented by the 17 member states (not counting Canada, Hungary or the Czech Republic, who are participants in some programs). With a budget of around 2.9 billion euros, ESA runs mandatory programs – scientific programs, in particular – and optional programs.

**Euratom:** set up in 1957 by the so-called Euratom Treaty, the European Atomic Energy Community contributes to the development of nuclear activities inside the European Union.

**European Commission:** one of the key organs of the European Union, it oversees the implementation of the regulations and directives adopted by the Council; it is empowered to refer matters to the European Court of Justice, and has sole power to propose legislation. It has broad powers to steer common policies, in particular in the area of science and technology, where its main instrument is the Framework Program (currently **FP6**, **FP7** presently being drawn up, to cover the years 2007–13).

**Fermilab:** the Fermi National Accelerator Laboratory, Batavia (Illinois), is one of the main US laboratories working in the field of high-energy physics. It is home to **Tevatron**, standing as the world's most powerful particle accelerator, until the European LHC comes into service in 2007.

**Gen IV:** short name for the initiative launched in 2000–2001 by **DOE**, bringing together, within the **Generation IV International Forum**,

countries (Argentina, Brazil, Canada, France, Japan, South Africa, South Korea, Switzerland, the United Kingdom, and the United States, together with **Euratom**) carrying out research on a new generation of nuclear power systems, affording advantages in terms of economy, improved safety, waste minimization, and proliferation resistance.

**IAP (Institut d'astrophysique de Paris):** a CNRS research laboratory, operated in association with Pierre-et-Marie-Curie (Paris-VI) University, this is one of six laboratories participating in the European Association for Research in Astronomy (EARA). IAP brings together physicist drawn from the CNRS sciences of the Universe sector (INSU), and theorists from the physical and mathematical sciences (SPM) sector.

**IN2P3:** the **CNRS** National Institute of Nuclear Physics and Particle Physics.

**IPGP (Institut de physique du globe de Paris):** the Paris Physics of the Earth Institute is a higher education and research establishment, working in the field of geosciences and the observation of natural processes.

**ITER (International Thermonuclear Experimental Reactor):** a program having the goal of demonstrating the scientific and technical feasibility of magnetic-confinement fusion energy. The partners involved are the European Union (Euratom), Japan, China, India, South Korea, the Russian Federation, and the United States.

**Jefferson Lab:** the Thomas Jefferson National Accelerator Facility, managed for **DOE** by the Jefferson Science Associates (JSA) company, bringing together the Southeastern Universities Research Association (SURA) and the CSC corporation, has as its main remit research on the atomic nucleus, at quark level. It is home to the CEBAF (Continuous Electron Beam Accelerator Facility) accelerator, sited in Newport News (Virginia).

**LANL (Los Alamos National Laboratory):** a US national laboratory, coming under **DOE**.

**LGGE (Laboratoire de glaciologie et géophysique de l'environnement):** based in Grenoble (France), the Glaciology and Geophysics of the Environment Laboratory brings together CNRS and Joseph-Fourier (Grenoble-I) University.

**LNGS (Gran Sasso National Laboratory):** sited about 120 km from Rome (Italy), this is one of four national laboratories coming under the Italian Nuclear Physics Institute (INFN: Istituto Nazionale di Fisica Nucleare). The largest underground laboratory in the world, it is currently used by some 750 research workers, from 22 countries, working on some 15 experiments.

**LSCE (Laboratoire des sciences du climat et de l'environnement):** the Climate and Environmental Sciences Laboratory is a combined CEA–**CNRS**–Versailles - Saint-Quentin-en-Yvelines University research unit, formed in 1998 through merger of the Low Radioactivity Center (CFR: Centre des faibles radioactivités), and Climate and Environment Modeling Laboratory (LMCE). Within the Pierre-Simon Laplace Institute, LSCE carries out work along three directions: understanding of climate variability mechanisms on various timescales, investigation of biogeochemical cycles, geochronology and geomarker analysis.

**Modane Underground Laboratory:** a combined **IN2P3 (CNRS)** and DAPNIA (CEA) research unit, LSM (Laboratoire souterrain de Modane) has been operating since 1982 under 1,700 m of bedrock, alongside the Fréjus road tunnel, in the French Alps. It enables, in particular, research on neutrinos and dark matter in the Universe, and measurements of low radioactivity.

**NASA (National Aeronautics and Space Administration):** the US space agency, formed in 1961 by the Kennedy administration, from NACA (National Advisory Committee for Aeronautics): it manages all United States civilian government space activities, along with collaborations with agencies in other countries.

**NOAA (National Oceanic and Atmospheric Administration):** a federal agency, coming under the US Department of Commerce, playing a major role in applied research in the areas of the environment, and marine resources.

**SLAC (Stanford Linear Accelerator Center):** operated by Stanford University for **DOE**, the center is home, at Menlo Park (California) to a 3.2-km linear accelerator, SLC (Stanford Linear Collider).

**SNO (Sudbury Neutrino Observatory):** sited in Creighton (Ontario), Canada, near Sudbury, this accommodates one of the main neutrino detection experiments, on which universities from North America and the UK are collaborating, along with the US Los Alamos, Lawrence Berkeley, and Brookhaven National Laboratories.