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## CHEMISTRY RESEARCH FUNDING SCENE IN ITALY

### OVERVIEW

In Italy national programmes for R&D are mainly managed by the Ministry of Education, University and Research (MIUR) and the National Research Council (CNR).

The National Research Council (CNR) is the single largest R&D funding agency in Italy. It is responsible for a large network of research institutes and laboratories throughout the country, and it also sponsors individual projects in various disciplines

The Italian Government has defined a new strategy in order to strengthen scientific and technological research in Italy with the approval in 2002 of the S&T guidelines addressing the Italian S&T national policy in the 2003-2006 period. The guidelines are the basis of the National Research Plan 2003-2006 and have been defined afterwards a wide consultation and agreement among all actors of the Italian research system: the scientific community, universities, public research bodies, enterprises and trade unions. Strategic choices derive from a deep analysis of the Italian research system and from a punctual identification of its strengths and weakness, as well as from the evaluation of the opportunities for research in the international scenario.

The guidelines identify four strategic lines, which will be complemented by horizontal activities:

- Advancing of the knowledge frontiers, with the aim to train the new human capital necessary to support the development of the national scientific system and to carry out fundamental research activities.
- Supporting research for the development of key multi-sectors enabling technologies, through 'mission oriented' priority programmes
- Strengthening of industrial research and technological development activities
- Promoting SMEs capacity in innovating products and processes
- A fifth horizontal area is represented by the strengthening of the large infrastructure network for basic, basic-oriented and applied research, and by fostering of research activities

The Government, through the implementation of the guidelines, aims to increase the public investments in research from the present 0,6% to 1% of GDP (Gross Domestic Product). This means that, considering an annual GDP average rise of 2,5% for the next four years, the increase of public investment of 14.175 million Euros will be achieved in the period 2003-2006. This increased public expenditure will automatically determine, through the co-financing mechanism, a global public/private investment of about 23.625 million Euros, which do not include further investments made independently by industries.

In the next four years, the total investment in research (public + private) will be brought from the present 1,07% to more than 2% of GDP.

The main key players for the R&D and Innovation policy in Italy are the following:

The Ministry of Education, University and Research - MIUR

The Ministry of Productive Activities - MAP

The Ministry of Environment

The Ministry of Cultural Heritage

The Ministry of Health

The Ministry of Innovation and Technology – MIT

The Ministry for Universities and Scientific and Technological Research (MIUR) defines the Italian government's overall research and technology policy. The ministry prepare a Report on the status of the university instruction and of the scientific and technological research, proposes or decides the policy actions foreseen by the law, co-ordinates the national and international scientific activity, distributes the budgets to the Universities and Research Institutions. MIUR also funds research projects supporting most major socioeconomic objectives.

The Italian Universities have teaching and research activities; they have didactic, research, organisational, financial and book-keeping autonomy. The Universities and their service and research infrastructures are funded by MIUR with the ordinary fund and with a series of other contributions (buildings, large facilities, international co-operation and projects of national interest). Italian Research Institutions have research, organisational, financial and book keeping autonomy and are funded mainly by MIUR.

The relevant sources of funds for chemical research arising from the Italian Ministries are the following:

- 1 PRIN: Funds addressed to the University researchers (mainly networks of researchers belonging to several Universities), managed by the Ministry of Education, University and Research (MIUR). The approach is a bottom-up one, the projects last two years and the selection is made by a peer review system
- 2 FIRB: Funds addressed to basic research, managed by MIUR. The approach is a top-down one: e.g. in 2003 the following two topics were launched:
  - i) Chemistry for innovative materials and for the environment (total budget 15 MEuro)
  - ii) Advanced methodologies and technologies for pharmaceuticals (total budget 15 MEuro). The selection, as it is common in all the research calls, is made by a peer review system.
- 3 FAR: Funds addressed to industrial research, managed by MIUR.
- 4 FISR: Funds addressed to public administrations and companies, managed by the Treasury.
- 5 PON: National programs managed by MIUR through the European social funds, addressed to southern regions (Objective 1)

## MAJOR CHEMISTRY FUNDING BODIES IN ITALY

### **Italian National Research Council, CNR**

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<http://www.cnr.it/sitocnr/home.html>

The Italian National Research Council (CNR) is a public organization of great relevance in the field of scientific and technological research of the Country whose original institution goes back to year 1923. The process of improvement of the national scientific research, through the use of specific laws, (see Law 59/1997), affects many research organizations, and between them CNR, whose "primary function is to carry on, through its own organs, advanced basic and applied research, both to develop and maintain its own scientific competitiveness, and to be ready to effectively and timely take part in the strategic fields defined by the national planning system".

With the issuing of the legislative decree of 30/01/1999, n. 19, which defines "The reorganization of the National Research Council " the central role of CNR in the Italian research system is confirmed.

In particular CNR is defined as a "national research organization, with general scientific competence and with scientific research institutes distributed over Italy, which carries out activity of primary interest for the promotion of science and the progress of the Country".

CNR has the legal status of a public organization, and defines for itself autonomous rules and regulations, in accordance with the existing laws and the Civil Code.

The above mentioned legislative decree attributes to the new CNR the following mission and activities:

- It promotes and carry on research activities, in pursuit of excellence and strategic relevance within the national and international ambit, in the frame of European cooperation and integration; in cooperation with the academic research and with other private and public organizations, ensures the dissemination of results inside the Country;
- in the scope of its triennial plan of activity and in the frame of the collaboration with universities and other private and public organizations, CNR defines, manages and coordinates national and international research programs, in addition to support scientific and research activities of major relevance for the national system;
- it promotes the valorization, the precompetitive development and the technological transfer of research results carried on by its own scientific network and by third parties with whom cooperation relationships have been established;
- it promotes the collaboration in the scientific and technological field, and in the technical regulations field, with organizations and institutions of other Countries, and with supranational organizations in the frame of extra-governmental agreements; it provides,

upon request of government authorities, specific skills for the participation of Italy to organizations or international scientific programs of inter-governmental nature;

- it carries on, through its own program of scholarships and research fellowships, educational and training activities in Ph.D. courses, in advanced after-university specialization courses, and in programs of continuous or recurrent education; CNR can also perform activities of non university related higher education;
- it provides supervision over those organizations designated to issue rules and regulations (see Law of 21/06/86, n. 317), activity of dissemination of technical specifications in the frame of its institutional tasks, and, on demand, activities of certification, test and accreditation for Public Administrations;
- provides technical and scientific support to Public Administrations, upon their request;
- in the frame of fulfilling its institutional activities, CNR can supply private law services to third parties

For the execution of the activities mentioned above, and any other activity related to them, CNR can stipulate agreements and contracts, establish or participate in consortia, foundations or societies with private or public parties, Italian or foreign. In addition, through agreements or participation, CNR can implement programs, directives and regulations of the Regional governments or other Public Administrations, aimed to the dissemination of the research results in the economic system; it can also contribute to the realization of the conditions needed for the establishment of highly innovative enterprises.

Finally, CNR can participate in international research centers, in collaboration with analogous scientific institutions of other Countries.

All the chemical activities of the CNR Institutes will be grouped in the Department of Molecular Design, Director (to be confirmed) Prof. Carlo Scolastico, University of Milan.

Within this Department the following projects are planned:

Project 1 – Molecular design of biochemical properties

Project 2 – Design of macromolecules with structural properties of biocompatibility and design of micro and meso porosity materials with transportation properties

Project 3 - Design of molecules and nanostructured systems with catalytical properties

Project 4 - Design of molecular – supramolecular – macromolecular structures and of organized systems with electric, photonic and magnetic properties

Project 5 - Design and modification, on molecular basis, of films and interfaces

Project 6 - Enabling biotechnologies

**Ministry of Education, University and Research, MIUR**

<http://www.miur.it/>

In 2001 the former Ministry for Universities and Scientific and Technological Research (MURST) was merged with the Ministry for Education (MPI) to establish the new Ministry of Education, Universities and Research (MIUR). All financial resources, staff and functions of the former MPI and MURST have been transferred to MIUR.

MIUR promotes scientific and technological research as well as the development of both universities and other higher institutions endowed with university status. It plans and coordinates developments and changes in the university system. It allocates funds to individual universities and co-ordinates Italian participation in EU and international programmes relating to higher education and scientific and technological research.