

# 2010 A year at CNRS

## Economic and Financial Report



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Just over a year ago, I became president of CNRS. In 2010, in a context of far-reaching changes on the French research scene, I took up a two-pronged challenge: to overhaul the organization of CNRS so as to help it adapt to ongoing evolution and anticipate future change, and to renew our partnership with the universities and other stakeholders involved in our research and educational efforts. As we move forward, CNRS must continue to make a key contribution to the evolution of the French academic model in the field of fundamental research.

To this end, CNRS established a new governance structure in 2010 to facilitate coordination between its scientific activities and the corresponding administrative and financial resources. With this new organization as a springboard, CNRS has taken a prominent role in the structures that have emerged from the French government's investment program, whose calls for tenders dotted the year 2010. The exceptional potential of its personnel has enabled CNRS to position itself as a key player in the development of tomorrow's regional university centers, as well as in the new technology enhancement and transfer procedures.

In 2010, in a gesture of openness and change, CNRS refocused its action around the two main driving forces currently bearing on French sciences: the emergence of a limited number of large university centers throughout the country, foreshadowing the research universities of the 21<sup>st</sup> century, and, simultaneously, a national and international coordination system. CNRS's action is aimed at achieving world-class scientific excellence. Within this framework, the 2010 results confirm the validity of this ambitious strategy, not only in terms of knowledge production, with more than two-thirds of all French scientific publications coming from joint CNRS units, but also with regard to our contribution to European and international research, as CNRS remains Europe's first ERC grant recipient.

In parallel, a new process for the internal allocation of resources has been implemented, allowing for greater transparency and globalized budgets, which can now be finalized much earlier in the year. This new management method, backed by the necessary tools, will strengthen existing ties between CNRS and its partners by providing a consolidated vision of the resources allocated to the different units.

These are only a few examples of the milestones reached in the past year. Many others feature in this report, which I hope will make an interesting read.

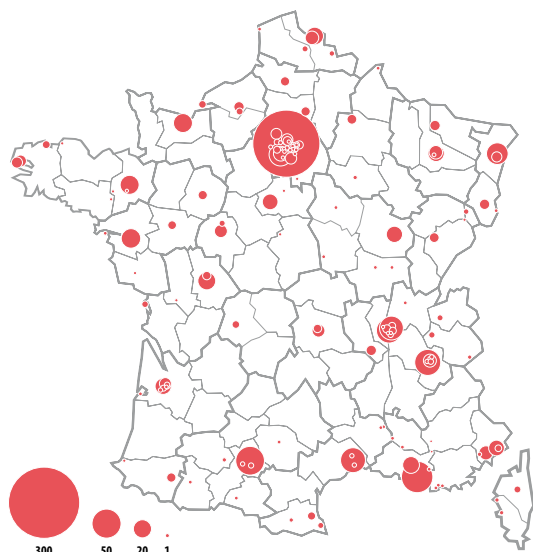
A handwritten signature in black ink, appearing to read 'A. Fuchs', with a long horizontal flourish extending to the right.

**Alain Fuchs**  
President of CNRS

# CNRS: generating knowledge

CNRS's core activity is to generate knowledge through its joint units across the country, which accounted for nearly 70% of all published papers in France in 2010, and 10.9% of published papers in the European Research Area.

## Locations of CNRS joint facilities



## Partnerships throughout France

With 1,149 units in 2010 (1,053 research units and 96 service units), CNRS is active in every region of France (see map), including the overseas territories, where it provided support to 11 research facilities last year. It is also present in other countries through 41 units.

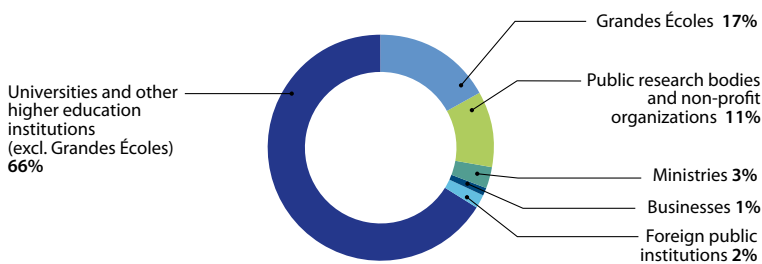
Nearly 93% of these units are jointly managed with universities and higher education institutions (66%), Grandes Écoles (17%) and, to a lesser degree, with public and private research bodies in France and abroad (see graph).

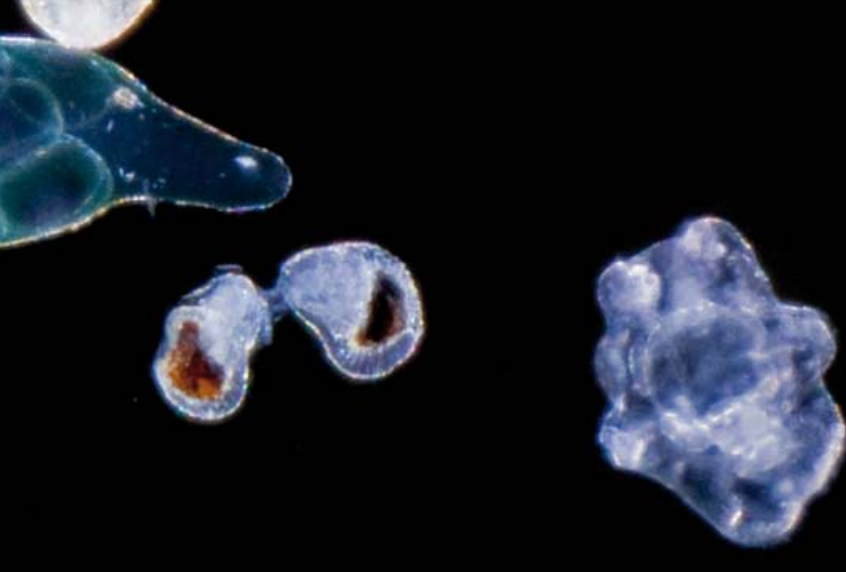
This partnership with higher education enables CNRS to develop an extensive network for knowledge dissemination and to promote research and innovation at the regional level. In 2010, CNRS researchers, engineers and technicians accounted for 36% of the permanent workforce of our joint research and service units. In all, some 40,200 researchers and academics and nearly 20,000 engineers and technicians contributed to generating knowledge in 2010, and provided theoretical and practical research training to more than 23,400 Ph.D. students in every scientific discipline.

## Permanent staff at CNRS joint research and service units, 2010



## CNRS research and service units' partnerships, 2010





## High-impact, top-quality papers

CNRS is a public scientific and technological institution whose primary mission is to generate knowledge in all disciplinary fields.

The importance of the organization's research activity is reflected in particular in its units' contribution to French scientific production (70%) in all sectors of the life and physical sciences, apart from medical research. In 2010, as in previous years, the impact of papers published by CNRS joint units equalled or exceeded that of all French papers.

Our contribution varied from one discipline to the other (see graph). It represented more than 80% of French papers on physics, chemistry, and the earth sciences and astronomy. Our presence was nearly as strong in mathematics, with 78% of published papers. In the engineering sciences and fundamental and applied biology, CNRS papers accounted for respectively 67% and 50% of national publications.

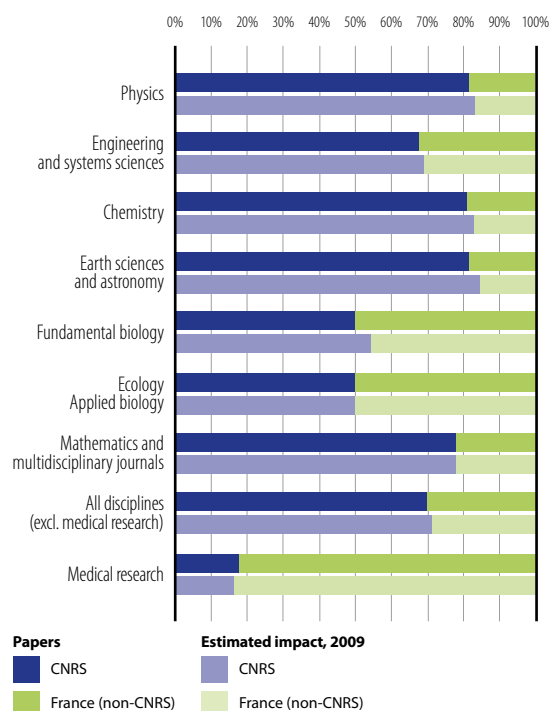
Within the European Research Area, the percentage of CNRS papers (10.9% as a proportion of the national total) is on par with that of Italy and Spain as a whole (see table). CNRS has repeatedly had the strongest presence in the earth sciences and astronomy (14.6%), physics (15.2%) and chemistry (13%). In the latter two fields, CNRS is only a single percentage point behind the United Kingdom.

### Percentage of CNRS papers in the European Research Area, by discipline (2008-2009)

Discipline	CNRS	France	UK	Germany	Italy	Spain
Physics	15.2%	18.5%	16.4 %	25.3 %	12.4 %	9.2 %
Engineering and systems sciences	10.8%	16.1%	16.8%	15.9%	11.8%	9.8%
Chemistry	13.0%	16.0%	14.0%	21.1%	9.8%	11.2%
Earth sciences and astronomy	14.6%	17.8%	23.1%	20.4%	13.0%	11.5%
Fundamental biology	6.3%	12.5%	21.7%	20.2%	11.0%	8.5%
Ecology - Applied biology	6.5%	12.9%	18.5%	16.7%	8.8%	13.5%
Mathematics and multidisciplinary journals	13.9%	17.9%	19.9%	19.2%	10.6%	9.5%
All disciplines (excluding medical research)	10.9%	15.6%	19.2%	20.7%	11.1%	9.8%

Source: SCI data (DVD Edition; Thomson Reuters); processed by CNRS / SAP2S

### Percentage of CNRS papers in French research publications and impact in each field excluding the Humanities and Social Sciences (2008-2009)



Due to the amount of time required for the registration of papers in the database and the necessary input of new data, the bibliometric indicators shown here are based on the results for year n-1.

Given the diversity of scientific production and national specificities in the Humanities and Social Sciences, the calculation of bibliometric indicators based on publication references is irrelevant for most of the fields covered by this discipline.

Source: SCI data (DVD Edition; Thomson Reuters); processed by CNRS / SAP2S



# CNRS, a corporate partner

Acting as an interface between research and industry, CNRS pursued its technology transfer policy in 2010, seeking to find commercial applications for its research while protecting its intellectual property rights. The organization has also become involved in new partnership structures arising from the French government's 'investments for the future' program.

## Ethera: a joint spin-off of CNRS and CEA

In its very first year of existence, Ethera became one of the winners of the national award for best innovative company, a competition

organized by the Ministry of Higher Education and Research and Oséo to promote innovation in France. Ethera develops and markets sensors based on nanoporous materials for measuring and eliminating indoor air pollution. Upon contact with the sensor molecules contained in these materials, the target pollutants are trapped and transformed into products that are easily detected and measured. The project was made possible by the porous colorimetric sensor technology developed at Laboratoire Francis Perrin, a joint CNRS-CEA unit.

## Breakdown of business startups (companies still in operation) by institute, 2008 to 2010 \*

INSB	17%	INSIS	29%
INC	16%	INSMI	1%
INEE	2%	INP	6%
INSHS	2%	IN2P3	1%
INS2I	22%	INSU	4%

\*See list of CNRS institutes on page 9.

## Protecting and sharing the fruit of our research

With nearly 500 patents registered in 2010, up from 392 the previous year (+27%), CNRS has consolidated its position as one of the main patent holders in France. By the end of 2010 it held nearly 4,400 active patent families. CNRS also stood out on the international scene by rising from tenth to ninth place in the rankings of Intellectual Property Today, a company that monitors the main patent-filing research bodies in the United States. Just as in 2009, CNRS was the only European organization in the rankings, alongside US and Asian institutions.

The number of declarations of invention by CNRS researchers also rose in 2010 (+12%), with a very high patentability rate: 97% of the declarations registered during the year resulted in the filing of a patent application. This proportion reflects both the effort to raise researchers' awareness of intellectual property issues and the quality of the declarations submitted by the laboratories.

In parallel, CNRS further supported laboratories in transferring their research findings by deploying 52 additional engineers and technicians in charge of patent development.

The organization's technology transfer policy is also reflected in the creation of some 60 start-ups in 2010. Thirty of them are directly based on technologies developed by CNRS laboratories (patents, software, know-how). One example is Ethera, the firm that won the 2010 national award for best innovative company in the creation-development category (see box). The personal involvement of CNRS researchers in these companies is stronger than ever: in 2010, some 50 CNRS researchers requested permission to take part in the setting up of an innovative start-up.

CNRS has also provided support to young companies that rely on its expertise to help them develop. In all, nearly 600 CNRS-affiliated innovative start-ups have been launched since 1999, and 78% of them are currently in operation.



> Nanoporous materials used by the company Ethers to develop air pollution sensors.

## Bolstering corporate partnerships

In 2010, CNRS updated the conditions of its corporate partnerships, offering new means of access to its patent portfolio, taking into account the strategic nature of protected knowledge, the type of partnership and the partner's perspectives for developing the invention.

CNRS also increased its support to SMEs in 2010, in particular through the École de l'Innovation, an 'idea school' that has been operated since 2006 by the ANRT (National Association for Research and Technology). Nearly 350 SMEs have formed associations with CNRS laboratories, which assist them in the development, coordination and implementation of innovative projects. CNRS has also signed a research collaboration framework agreement with the Seth group, which brings together several SMEs specializing in air management problems (the impact of industrial waste on the atmosphere, carbon footprint, meteorological measurements, etc.).

CNRS also strengthens its relations with major industrial groups, mainly through the negotiation and renewal of long-term research collaboration agreements. In parallel, a number of joint laboratories involving CNRS and large corporations were founded in 2010, including EDF in the field of photovoltaic energy, or Arkema for the study of carbon nanotubes (see box).

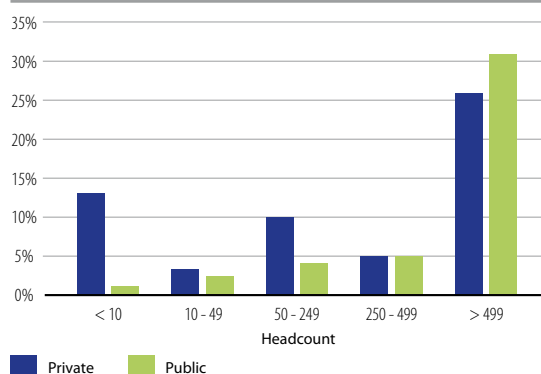
Lastly, many businesses have taken advantage of the scientific training provided by the CNRS corporate training program (CNRS Formation Entreprises), whose turnover rose by 20% on 2009. As in previous years, nearly 20% of the catalogue was updated in 2010 in order to meet our corporate clients' needs. This structure enjoys a solid reputation, and half of its 200 or so client companies called upon its services for the first time in 2010. This success is largely due to excellent referencing on the Internet: CNRS Formation Entreprises is one of the first results for a Google search combining the word 'formation' ('training') with a scientific theme (NMR, fluorescence, microscopy, etc.).

### A better understanding of nanomaterials

In 2010, CNRS signed a framework agreement with Arkema, the National Polytechnic Institute of

Toulouse and Paul Sabatier University to set up a joint research laboratory called Nautile. It will be the first joint public/private laboratory to specialize in the study of the ecotoxicological impact of carbon nanotubes on the aquatic environment. These ultra-lightweight, robust materials, prized for their electrical and thermal conductivity, are used in a wide range of applications (coatings, catalysis, energy storage, etc.). However, their potential effects on health and the environment are still not fully known. The agreement with Arkema should enable CNRS to make new breakthroughs in the characterization of carbon nanotubes.

Breakdown of CNRS Formation Entreprises (corporate training) client companies, 2010



# CNRS, an international institution

While maintaining its commitment to pan-European research programs and continuing the cooperative actions that ensure its prominence and attractiveness at the international level, in 2010 CNRS pursued a strategy of consolidation and mutualization aimed at increasing French research visibility worldwide.

> Lorraine Campus of the Georgia Tech-CNRS international joint unit, a collaboration renewed in 2010.

## A global research player

CNRS pursues a policy of European and worldwide cooperation in every scientific discipline. While initial contacts are most often made by researchers themselves, reflecting the unquestionably international nature of research, CNRS strives to structure and sustain these actions over time. To this end, it relies on a variety of structures, establishing close collaborations through bilateral agreements, international programs for scientific cooperation (PICS), European and international associated laboratories (LEA, LIA), European and international research networks (GDRE, GDRI) and international joint units (UMI). In 2010, 131 PICS, 16 LIA and 19 GDRI projects, plus one UMI, were set up in 50 countries.

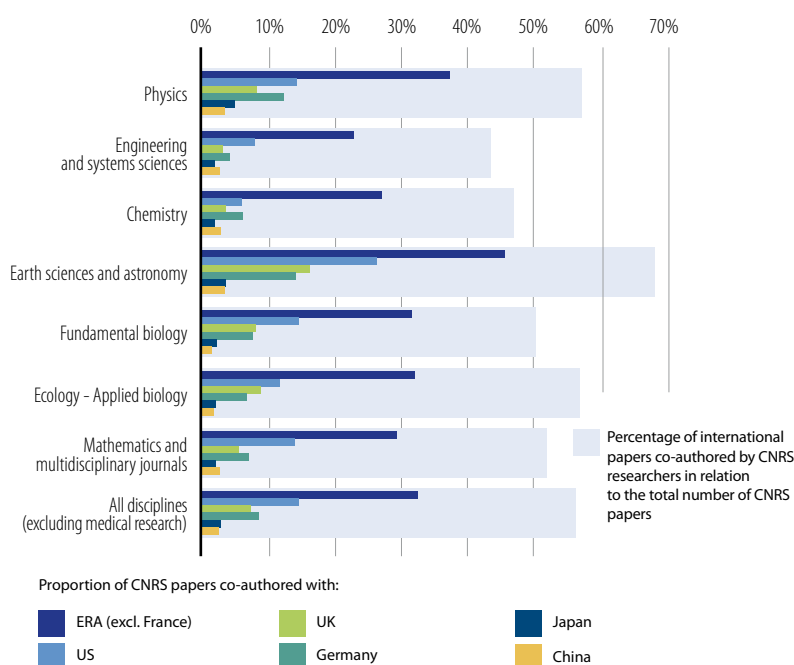
The organization's international action is carried out through a network of 11 representative offices in countries where CNRS is maintaining regular and intensive collaborations, as well as countries where it hopes to establish or bolster its presence. Among the major international events of 2010, new offices were opened in emerging regions of the world where CNRS seeks to play a greater role: in Rio de Janeiro for Brazil, New Delhi for India, Pretoria for South Africa and Malta for the Mediterranean. In parallel, the geographic scope of all CNRS offices abroad was extended. The Washington office, which previously covered only the United States, is now also in charge of Mexico and Canada.

The openness of CNRS is also reflected in the number of its researchers working in foreign educational and research institutions. In 2010, 19 secondment agreements were concluded for a minimum duration of one year, primarily in the Americas and in the European Research Area (ERA). Also during the year, 58,000 research missions were carried out abroad, with an average duration of 9.3 days. Six countries – Germany, the US, Switzerland (especially for the CERN), Italy, the UK and Spain – represented half of the destinations, and ERA countries accounted for two-thirds of the missions.

Exchanges like these, as well as the participation of CNRS researchers in joint structures, contribute to the production of papers co-authored with foreign partners, which accounted for 53% of the papers published by CNRS in 2010. One-third of all CNRS papers are co-authored with researchers from at least one ERA country. The top three partner countries for international co-authored papers are the US (25%), Germany (16%) and the UK (14%).



## International co-authored papers by discipline



## Ever-greater attractiveness

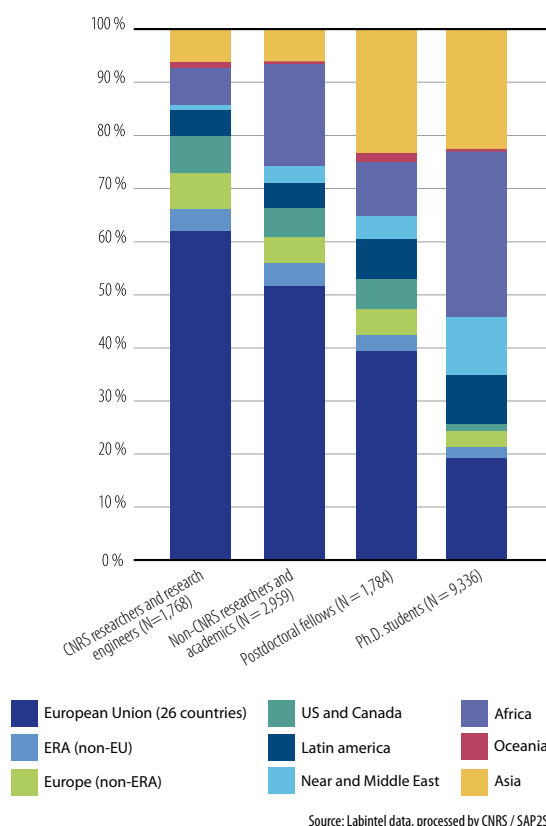
The global prominence of CNRS goes hand in hand with a policy of openness intended to attract students and researchers from outside France (see graph). This appeal, which in turn enhances the organization's international visibility, can be appreciated in terms of recruitment: in 2010, 16% of all permanent CNRS researchers were foreign nationals, of whom two-thirds came from ERA countries. This proportion reached 27.5% for new researchers recruited during the year.

Information on CNRS and its recruitment opportunities is relayed to foreign scientists and French students studying abroad through the representative offices and the presence of CNRS at job fairs. In 2010, the Washington office was especially active in its efforts to encourage the return of France's 'young brains' (see box).

2010 also brought an opportunity to affirm the role of 'mirror UMIs' in boosting the attractiveness of CNRS. These dual structures combine an international joint unit established by CNRS in another country with a 'mirror' unit based in France. This association offers UMIs the services of a steady flow of French Ph.D. students and postdoctoral fellows, while facilitating the young researchers' future reintegration into the national scientific community. Similarly, the presence of a foreign UMI in France helps bring in young researchers from outside the country. The agreement for the Georgia Tech-CNRS UMI, the European branch of the Georgia Institute of Technology in Atlanta and the first American UMI to be created in France (in Metz in 1990), was renewed in 2010. The mirror UMI for France was opened in Atlanta in 2009.

Throughout the year 2010, CNRS hosted 45 official delegations, over half of which from Asian countries (Japan, South Korea, China, Vietnam), thus confirming the regularity and frequency of the organization's scientific contacts with its international partners.

## Breakdown of foreign CNRS staff members



### Bringing the 'young brains' back

In recent years, many young French researchers have gone to the US for postdoctoral studies and

ended up settling there permanently, primarily due to the relative scarcity of jobs in France and higher wages in America. To stem this 'brain drain', the CNRS Washington office mounted a proactive operation in 2010. Working with the INSERM office and in conjunction with the French Embassy, it published a weekly newsletter to inform more than 1,500 young researchers about employment opportunities in France, calls for proposals, repatriation aid, etc. The office also initiated 'Les Rendez-vous du CNRS', a series of conferences to inform the public, especially young people, about the organization and its activities. Similar operations were launched targeting French secondary schools in Washington, San Francisco and Montreal. Lastly, the Washington office participates in many job fairs to publicize employment possibilities at CNRS and other French research institutions.



## Spotlighting French research

Aware that the number and diversity of its cooperative projects can in some cases be an obstacle to their visibility, CNRS initiated a program in 2010 to consolidate its resources and mutualize its operations with its French partners, in order to highlight its international presence (see box).

For example, in 2010 CNRS investigated the possibility of merging its various teams working on information technologies through different structures (UMI, LIA and consortia) in Asia. This initiative could help improve research, R&D and training coordination while enhancing the visibility of CNRS and its partners. This line of strategic thinking could lead to the creation of a coordination platform based in Singapore, in which the CNRS Hanoi office would play a major role.

In 2010, CNRS also focused on the international development of its new interdisciplinary tool for global ecology, the OHMs (Human-Environment Observatories). The first international OHM, or OHM.I, was opened in Tessékéré, Senegal, to observe the impact of the Great Green

Wall on the environment and native populations of the Sahel. Conducted in partnership with Cheikh Anta Diop University in Dakar, the project is also in line with the organization's effort to establish the environmental sciences as a distinct scientific discipline.

Also launched in 2010, the MISTRALS (Mediterranean Integrated Studies at Regional and Local Scales) project is another joint and multidisciplinary observation and research structure. This ten-year program will monitor changes in the environmental process of the Mediterranean Basin under the influence of global change, both natural and anthropogenic. The CNRS Malta office is in charge of logistical coordination.

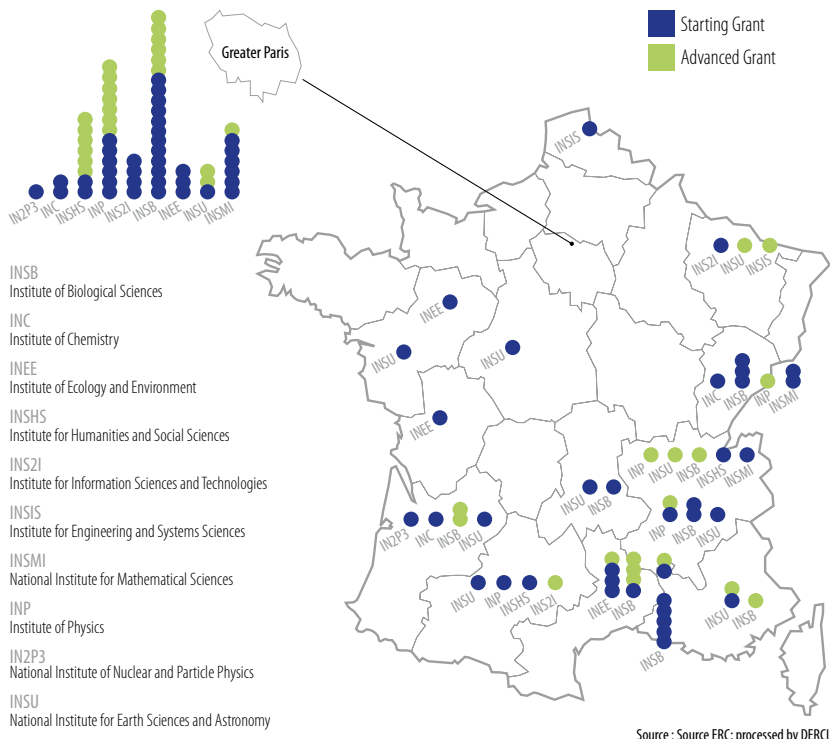
Finally, the 'China: Environment and Sustainable Development' cooperation program launched in 2008 by CNRS and the Chinese Academy of Sciences, has been refocused on four priority areas of cooperation: urban ecology and the environment, biodiversity, coastal resources management and water resources management. These themes could prefigure the research orientations of an interdisciplinary cooperation program gathering CNRS and other French institutions, which would further increase the prestige of CNRS in the eyes of its Chinese partners.

### A showcase for French research around the world

**In 2010, in an effort to improve its visibility**

**and that of French research among embassies and local partners abroad, CNRS decided to consolidate and mutualize the resources of its representative offices with those of other French institutions active in the same parts of the world (IRD, INRA, INSERM, CIRAD, etc.). An agreement signed in late 2009 gathered the IRD and CNRS in a single office in Santiago, Chile. The new Pretoria office, which will take over the operations of the Johannesburg office in 2011, will be shared with the IRD from the start.**

## Geographical and institutional breakdown of the 113 permanent CNRS researchers who received ERC grants, between 2007 and 2010



> Construction of a bridge over the Oyapock River, which marks the border between Brazil and French Guiana. CNRS has opened an OHM (Human-Environment Observatory) to study its impact.

## Building and bolstering European research

CNRS's European strategy is in line with the EU research and innovation policy, which seeks to unite the national scientific communities in a cohesive network. CNRS has taken a leading role in European integration and the establishment of the European Research Area through its involvement in the major research programs of the European Commission, with which it has signed a total of 676 active contracts since the launch of the 7th Framework Program for Research and Development (FP7).

Through the scope and variety of its calls for proposals, the FP7 Cooperation program relies extensively on the pluridisciplinary nature of CNRS's activities. This has led to the signing of many contracts: 300 by the end of 2010, for a total of €100 million in funding for the CNRS units involved in the projects. This program seeks to promote both fundamental research and technology transfer.

A key element of CNRS's European policy, the People program has contributed to the signing of 200 contracts since the launch of FP7. It promotes mobility and training for researchers throughout their careers, and also facilitates their return to their home countries. Since the start of the People program, €33 million have been allocated to projects involving CNRS laboratories.

Although it entails fewer contracts (80 at the end of 2010), the FP7 Capacities program represents €36 million in funding. It seeks to bolster the research and innovation capacities of EU countries in order to build and maintain the knowledge base necessary for sustaining a competitive economy.

CNRS is also a very active participant in the projects of the specific FP7 Capacities program concerning international cooperation (Inco-Net, Bilat, Era-Net). This initiative was launched as part of the previous FP and has been an ongoing success.


These projects promote the networking and coordination of regional, national and international research programs. For international research, the Era-Net scheme makes it possible to initiate or strengthen collaborations with countries in which CNRS sees great scientific potential, such as India, Brazil and Asian countries or key partners like Russia.

Finally, CNRS is closely involved in the Ideas program, which stands out from the other FP7 programs through its support for exploratory research in all fields, without setting priorities. Its implementation is entrusted to the European Research Council (ERC) and its strategic guidelines are defined by an independent scientific board. In 2010, CNRS was once again the number one beneficiary institution of ERC grants in Europe, with 39 young researchers receiving funding through the Starting Grants program (out of a total of 440 grantees), and 13 established researchers through the Advanced Grants scheme (out of 266 grantees). Since the Council's first call for proposals in 2007, CNRS researchers have won 113 ERC grants (see map). In addition to the scientific excellence of its researchers, the pluridisciplinary nature of its work enables CNRS to cover all the scientific fields included in the calls for proposals.



# CNRS, a force for regional development

While playing an active role in the emergence of large-scale research sites centered around France's universities and academic institutions, CNRS took action in 2010 to further strengthen its close ties with the country's regional authorities through partnership agreements and national-regional cooperation projects (CPER).



> The measurement of gas exchanges between the soil and the atmosphere in an enclosure of the European Ecotron in the southern French town of Montpellier. The Ecotron's first phase of construction was completed in 2010.

## Shaping tomorrow's higher education

A long-standing goal set out in the agreement on objectives, the strengthening of CNRS partnerships with universities was a priority in 2010. Working hand in hand with France's academic institutions as they expand their competence and responsibilities, CNRS has adapted its partnership approach to facilitate their evolution toward an enhanced scientific profile and greater visibility. Pursuing a local site policy, CNRS participated in the consolidation of various fields of research that fall under a common scientific strategy.

In 2010, CNRS devoted considerable financial resources to its units, with funding totaling some €2,719 million. This figure comprises financial support (€893 million) as well as human resources (€1,826 million), which must be included for a clear overview. In all, 84% of the organization's total budget was channeled directly to the units, which also have privileged access to mutualized resources such as very large-scale research facilities, research transfer initiatives, permanent training for researchers and engineers, technicians and administrative staff, as well as international research facilities, which make up about 8% of the organization's budget.



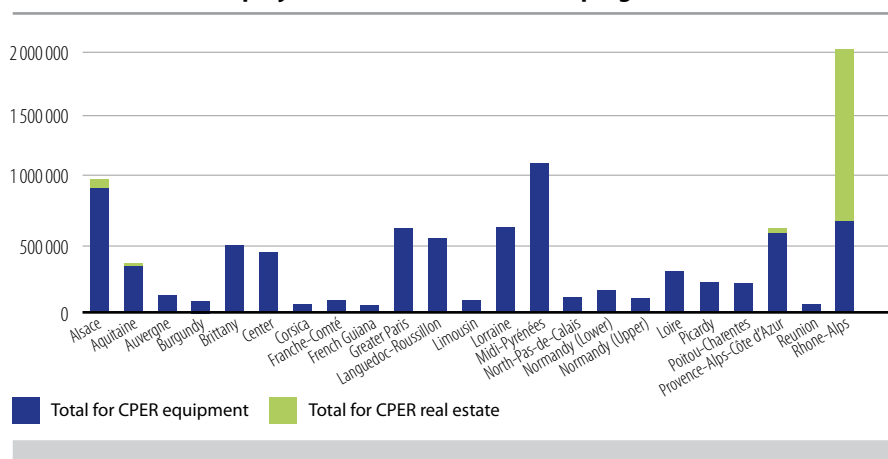
## Pursuing the implementation of CPER 2007-2013

In the course of 2010, CNRS maintained its financial commitment to the 2007-2013 CPER national-regional cooperative projects, which represent a major part of the structural partnerships forged between CNRS and the French regional authorities. In 2010, €8,143 million were thus allocated to equipment financing and €1,395 million to real-estate financing for the research units.

In all, CNRS, the Ministry of Higher Education and Research, the regional authorities and EU funds jointly financed 80 equipment installations and five real estate operations across 23 French regions, including two overseas territories, in 2010. European funding was granted on the condition that three-quarters of the EU contribution be devoted specifically to innovation, competitiveness or sustainable development.

Twenty CPER initiatives were completed in 2010, bringing to 52 the total number of projects finalized since the start of the program. This represents nearly one-third of the 164 projects backed by CNRS, all of which must meet the scientific requirements of both the organization and the French government, as well as regional economic objectives.

### CNRS contribution to projects of the CPER 2007-2013 program (in euros) in 2010



## Extending regional cooperation

Although the majority of CNRS's regional operations are carried out through the CPER program, the organization also proposes partnership agreements to local authorities willing to take additional action to support CNRS-affiliated research units or to build a reputation as a hub for a promising field of scientific research.

The partnership agreements will gradually be phased out in the coming years, to be replaced by new structural operations for the implementation of the national 'investments for the future' program. Regional authorities will be able to co-finance projects for the benefit of their local communities, such as Equipex ('equipment of excellence') installations or IRT (technological research institutes) programs. CNRS will be closely involved in this evolution, by providing scientific backing and advice for instance.

### Three of the projects completed in 2010

#### The most powerful spectrometer in northeastern France

In the Alsatian town of Illkirch, the IGBMC (Institute of Genetics and Molecular and Cellular Biology) has been equipped with a 700 MHz nuclear magnetic resonance (NMR) spectrometer – the most powerful instrument of its kind in the entire northeastern quarter of France.

#### At the forefront of nanosciences

New equipment installed in 2010, including a clean room, a spectrometer and an ultrahigh vacuum thin film deposition system, has enabled the Jean Lamour Institute in Nancy (Lorraine region) to bolster its already prominent position in Europe in the nanosciences and the study of surfaces.

#### Crystalline compounds X-rayed

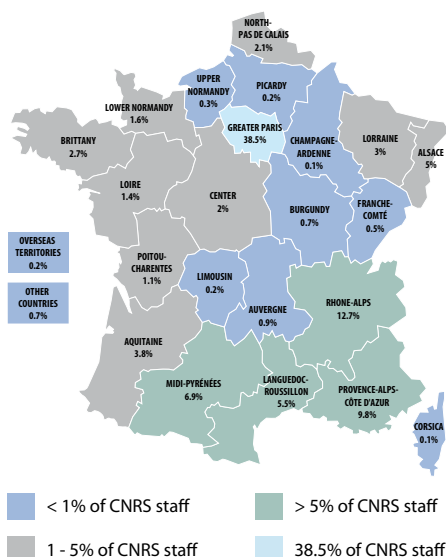
In Lille (North-Pas-de-Calais region), the X-ray diffraction capacities of the Chevreul Federation were expanded in 2010 with the addition of three diffractometers allowing the structural characterization of crystalline compounds. The new installations are available to the scientific community and the federation's industrial partners.

# CNRS, employment provider

Set out as a priority in the agreement on objectives, the CNRS human resources policy aims to attract the finest talents in order to meet current and future scientific challenges. This strategy is based on dynamic, attractive and socially responsible career management.

> Uncovering the monumental façade of a Roman praetor's mausoleum, dating from the end of the 1<sup>st</sup> century BC.

## Breakdown by region of the 25,630 permanent staff members of CNRS



## Recruitment in line with scientific policy

The results of the recruitment process through entrance examinations in 2010 once again confirmed the attractiveness of CNRS. Each job offer drew an average of 20 applications, a figure that has remained stable for several years. Out of a total of 900 new recruits (400 researchers and 500 engineers and technicians), 27.5% were foreign, bearing witness to the prominence of CNRS on the international scene.

The recruitment of researchers is part of the institution's forward-thinking effort to maintain the necessary levels of expertise for its research programs. In 2010, biological sciences boasted the highest percentage of new recruits (18.4%), followed by chemistry (13.2%), engineering and systems sciences (12.7%), the humanities and social sciences (11.7%) and physics (10.7%).

As part of its active monitoring of the technical professions specific to its operations, CNRS posted 300 sample job profiles on its engineer-technician careers portal in 2010. New studies have also been scheduled.

During the year, CNRS also welcomed 52 young professors recruited jointly with French universities under the auspices of the CNRS-higher education chairs program. Launched in 2009, the system aims to attract young talents, who are given the opportunity to devote five years to a research project while teaching reduced course loads.





## Attractive career management

Since 2007, CNRS has pursued a personnel management strategy based on career enhancement and advancement opportunities. In 2010, special effort went into promotions, which reached higher levels than in previous years. Among researchers, the number of promotions rose from 439 in 2009 to 645 in 2010 (up by around 50%), reflecting the institution's desire to offer the same advantages as a career in higher education.

For engineers and technicians, the percentage of internal recruitments and mobility, which has been rising steadily in recent years, reached a new peak: nearly 1,200 engineers and technicians were promoted to a higher grade or rank.

As a result of a government decree dated 8 July 2009, a Scientific Excellence Bonus (PES) was introduced to recognize researchers' and academics' outstanding commitment to research. In 2010, 795 winners, selected on the basis of a call for candidates, were awarded sums ranging from €3,500 to €10,000 per annum, to be paid over a period of four years.

Special emphasis was also put on training: in 2010, the government-subsidized fund devoted to training operations was increased by 6% on 2009 to allow the implementation of the new CNRS training orientation plan. The €11.4 million budget made it possible to finance 105 specialized schools (accounting for 11% of the total), 150 national operations (24%) and local operations by the 19 CNRS regional offices (65%). Nearly 13,000 staff members benefited from these training efforts.

Also in 2010, CNRS improved the follow-up of its senior executives' and managers' careers by merging the management institute and the executive professional development department to form a new senior executive delegation. This delegation is in charge of identifying, recruiting, training and supporting executives in the exercise of their responsibilities throughout their careers.

## A responsible employer

As part of an ongoing effort to guarantee the professional equality of its personnel, both at the recruitment stage and over the course of their careers, in 2010 CNRS published the second edition of its statement on gender parity. This document, which gives an overview of the professional status of women and men at CNRS, has been expanded with a comparative analysis covering several years. In 2010, one-third of researchers recruited by CNRS were women.

Regarding disabled personnel, CNRS pursues its proactive policy. Following the action plan approved by French trade unions in 2007, a qualitative study on disability in the workplace and handicap awareness at CNRS was conducted in 2010 among the staff. It will contribute to defining the main outlines of the new three-year plan for 2011-2014.

Moreover, in order to facilitate the integration of its temporary personnel, CNRS encouraged the implementation of personalized coaching systems in 2010, for example in the Midi-Pyrénées region (see box).

### A partnership for the professionalization of human resources

The CNRS Île de France Sud regional office has joined forces with

Paris Sud 11 University to set up a professionalization system for computer technicians who want to move up to a systems management position. The program includes 250 hours of training at CNRS, a corporate internship and the preparation of a technical thesis. It integrates an accreditation of experience that qualifies the trainee for a level L2 degree from Paris Sud 11 University. The possibility of extending this initiative with an L1 professional degree is currently under consideration.

### From career plan to recruitment

The CNRS Midi-Pyrénées regional office, which had already pioneered a coaching

system for temporary personnel in 2008, continued its action in this field in 2010. A new training program was developed for non-permanent staff members (Ph.D. students, postdoctoral fellows, fixed-term contracts) looking for support in their search for a permanent job. Alternating methodology and personalized consulting, the program helps participants define a career plan, sell the skills acquired at CNRS, draft a convincing application and master job interview techniques. In 2010, seven sessions were provided and 34 staff members were trained.



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> Copepods (left), an ostracod (orange, on the right)  
and a 1 cm pteropod (right) captured in a plankton  
net by the research schooner Tara off the coast of the  
Maldives in the Indian Ocean.