

RESEARCH

IN

FRANCE

Come to France.

**> WHAT WILL
YOUR PROJECT
BE?**



CONTENTS

> RESEARCH IN FRANCE

HOW RESEARCH IS ORGANIZED IN FRANCE	6
--	---

THE UNIVERSITIES	12
-------------------------------	----

THE MAJOR PUBLIC RESEARCH ORGANIZATIONS	16
--	----

CNRS , national center for scientific research	18
--	----

Earth and space sciences

BRGM , bureau of geological and mining research	20
---	----

CNES , national center for space research	21
--	----

ONERA , national aerospace research office	22
--	----

Marine sciences

IFREMER , French research institute for exploitation of the sea	23
---	----

Agricultural, ecological, and environmental sciences

CIRAD , center for international cooperation on agricultural research for development	24
--	----

INRA , national agronomic research institute	25
--	----

IRD , development research institute	26
--	----

IRSTEA , national institute of scientific and technical research in environment and agriculture	27
--	----

Life sciences and health sciences

INERIS , national institute on the industrial environment and risk management	28
---	----

INSERM , national institute of health and medical research	29
--	----

Physics, chemistry, and energy

CEA , atomic and alternative energy commission	30
--	----

IFPEN , IFP new energy	32
-------------------------------------	----

IRSN , institute on radiation protection and nuclear safety	33
---	----

Technology

IFSTTAR , French institute for the science and technology of transportation, land use, and urban networks	34
--	----

INRIA , national institute for research in computer science and automation	35
--	----

Economics, social sciences, and education

IFÉ , French institute of education	36
--	----

INED , national institute of demographic research	37
--	----

RESEARCH FOUNDATIONS	38
-----------------------------------	----

CEPH , center for research on human polymorphism	40
---	----

Curie Institute	41
------------------------------	----

Pasteur Institute	42
--------------------------------	----

NATIONAL AGENCIES	44
--------------------------------	----

ADEME , agency for the environment and energy management	45
--	----

ANDRA , national agency for the management of radioactive waste	46
---	----

INCA , national cancer institute	47
---	----

RESEARCH INSTRUMENTS, FACILITIES, AND RESOURCES	48
--	----

Very-large-scale research facilities	50
---	----

Other major research infrastructure	52
--	----

RESEARCH INSTITUTIONS OF HISTORIC IMPORTANCE

<i>Collège de France</i>	54
<i>Observatoire de Paris</i>	56
MNHN, national museum of natural history	57
EHESS school for advanced study in the social sciences	58
EPHE school for advanced applied studies	60
ENS (The <i>Écoles Normales Supérieures</i>)	61

THE INTERNATIONALIZATION OF RESEARCH IN FRANCE

Network of <i>Écoles Françaises</i> abroad	62
French research institutes abroad	64
A variety of research structures to promote internationalization	65

SCIENCE ALL AROUND US

> WHY NOT DO YOUR RESEARCH IN FRANCE?

The Doctorate in France	76
Doctoral schools	78
Doctoral training	80
The various ways of doing a Doctorate	82
Applying to a doctoral program	84
Selecting a dissertation topic and a doctoral department	85
Financing your doctoral studies	86
The Campus France research portal	88
Research support—the European way	90
Postdoctoral contracts	92
Short-term research opportunities	94

> LIVING IN FRANCE

Visas and residency permits	98
Support for new arrivals	100
Before departure	102
Daily life as a doctoral candidate	104
Associations and networks of doctoral candidates and researchers	105
Housing in France	106
Health care in France	108
Managing your money	110
Transportation in France	111
Culture in France	112
Useful links	114

RESEARCH IN FRANCE

> FRANCE'S STELLAR RESEARCH TRADITION

With respect to research, France is incontestably one of the greats. A research leader for centuries, France has never stopped rethinking and redefining its role at the center of international research.

Because its research strategy and policy have been continuously fine-tuned in response to scientific changes and challenges, France has never lost its place among the world's leading research powers, producing basic research of the highest quality in all domains.

As proof, France has maintained its position in the face of the rising power of China, Brazil, India, and other rapidly developing scientific powerhouses

- **French publications are ranked 4th** in the world for impact.
- **France ranks 5th among the OECD countries** in domestic spending on research and development, at more than €47 billion, or 2.24% of gross domestic product (behind Republic of Korea, 4.1%; Japan, 3.5%; United States, 2.7%; and Germany, 2.9%; and ahead of United Kingdom, 1.6%).

- **France is in world's top 3** in physics, mathematics, biology, and nano- and biotechnologies.
- **France's space budget is second** only to that of the United States.

> THE INTERNATIONAL HEART OF FRENCH RESEARCH

- 17% of researchers in the public sector are internationals; in the corporate world, the figure is 5%.
- 41% of France's doctoral candidates are from outside France.
- French research bodies maintain more than **250 facilities around the world.**
- Foreign firms account for 1/5 of R&D investment in France.
- **France holds 1st place**, ahead of the UK and Germany, in international research collaboration, with 51% of publications involving at least one foreign lab.
- French research teams receive 11% of the financing provided under the Horizon 2020 European framework program, making France the 3rd largest recipient.

> TOP RANKINGS

- **France is 4th worldwide** in Nobel prizes received (61).
- **It is 2nd in mathematics** with 14 Fields medals (the United States has 15); the 2017 Abel prize went to French mathematician Yves Meyer.
- **France ranks in the world's top 10** for number of scientific publications.
- **The CNRS** (national center for scientific research) **leads the world in scientific publications** (Nature Index ranking); **96% of CNRS research units partner with institutions of higher education and research.**

> PATENTS AND PUBLICATIONS

- France also performs well in the international competition for patents, ranking **4th in the world in the European patent system** (6.4% of applications filed) and **7th in the U.S. patent system** (2.1% of patents granted). France stands out particularly in transportation; nanotechnologies and microstructures; fine organic chemistry; engines, pumps, and turbines; building and public works; pharmaceuticals; and materials and metallurgy.
- **France currently holds 5th place in the world for scientific production in the life and health sciences.** The publications of the nation's major research bodies have an impact index greater than 1, which means that their influence, as measured by citations, is above the international average.

Choose France as the place to do your research. You'll benefit from the excellence and international recognition of the French research enterprise.

HOW RESEARCH IS ORGANIZED IN FRANCE

French research plays a leading role in the disciplines of mathematics, astronomy, and astrophysics, but the areas in which French researchers win the highest rates of international citation are agriculture and plant biology; civil engineering and mining; ecology and marine biology; and food processing.

A NATIONAL COMMITMENT TO RESEARCH AND INNOVATION

The Ministry of Higher Education, Research, and Innovation leads French research policy, overseeing the work of public research bodies and institutions of higher education and research. The ministry:

- sets the **national research strategy** (thematic priorities) around 10 social challenges
- **allocates resources** from the research budget, which, in 2016, amounted to **€13** billion for higher

education and **€7.71** billion for research efforts, **including an agency (ANR, the national research agency)** that awards funding in response to calls for proposals

www.agence-nationale-recherche.fr

- **evaluates** results through HCERES, the council for evaluation of research and higher education.

France's research strategy, StraNES:

www.enseignementsup-recherche.gouv.fr › Stratégie



Research organizations and universities are key players in France's public research effort.

A large share of public research is done in higher education institutions, particularly the universities, in close cooperation with research organizations.

**> A FRENCH ORIGINAL:
JOINT RESEARCH UNITS (UMR)**

Research bodies and university laboratories enter into contracts to form joint research units (UMRs), thus putting the **universities at the center of publicly funded research** efforts. UMRs ensure that the training of researchers keeps up with scientific advances and create the dynamism required to produce cutting-edge research.

France's higher education institutions maintain 3,000 research laboratories (many administered jointly with one or more other institutions). The labs are staffed by research faculty responsible for training future research scholars and scientists.

The excellence of basic research in France rests on the nexus between teaching and research. With 72 universities located all around France, this nexus spreads the development of research throughout the country.

**> TRAINING THROUGH RESEARCH:
THE DOCTORAL SCHOOLS (ED)**

Doctoral training is organized within doctoral schools (known as *Écoles Doctorales*, ED) that bring together the research units of one or more higher education institutions working on a given scientific theme. Each ED is affiliated with a university or other institution authorized to confer doctoral degrees. The ED structure guarantees candidates access to high-level research professors and other scientific personnel while preparing them for their research career by exposing them to industry (through training, instruction, seminars, internships, and practicums). The EDs are accredited by the Ministry of Higher Education, Research, and Innovation and evaluated every 5 years by HCERES.

◆ Directory of doctoral schools:

<https://doctorat.campusfrance.org/phd/dschools/main>



© Benoit RAJAU / CNRS Photothèque

> BY THE NUMBERS

- **72** universities plus about 100 other higher education institutions (including France's unique *Grandes Écoles*)
- **3,000** research units
- **271** doctoral schools
- **13,000** doctorates awarded annually
- **25** public research organizations
- **€13** billion budget for public research, 49% of which is earmarked for basic research conducted by research organizations (55%) and higher education institutions (40%)

BASIC RESEARCH AND INNOVATION

France is tied with Japan for second place in the Thomson-Reuters ranking of most-innovative research institutions, with 4 in the top 25.

www.reuters.com/article/innovative-institutions-ranking-idUSL2N1GC1NG

The ever-growing cooperation in R&D between France's research institutions (universities and research organizations) and manufacturing is another reason behind the recognition of French research.

15,000 firms in France engage in R&D; together they spend more than €30 billion on it each year, representing 2/3 of the country's overall research effort and involving more than **160,000 researchers**. The three industries most active in research (automotive industry,, aerospace, and pharmaceuticals) account for 34% of all R&D spending by firms. **More than 50%** of all in-house corporate spending on research takes place in six industries: the three just mentioned, plus specialized scientific and technical activities; computer science and data services; and chemicals.

> NATIONAL SUPPORT FOR CORPORATE RESEARCH

Long dedicated to basic research, the national research strategy now encompasses industrial research in a major way.

- **BpiFrance finances innovation programs** and guarantees bank loans made to innovating firms.

- **A “research tax credit” (CIR)** enables firms to recover up to 60% of their investments if they hire young doctorates. The program, which represents 20% of corporate research spending, is administered by ANRT, the national association for research and technology, which brings together public and private leaders in research and innovation.

- **CIFRE contracts**, administered by ANRT, allow firms to obtain financial assistance if they hire a doctoral candidate. By strengthening exchanges between public research laboratories and socioeconomic actors, the CIFRE mechanism promotes the employment of doctoral candidates and graduates while contributing to innovation within French firms.

www.anrt.asso.fr

RESEARCH DYNAMICS

Through investments, partnerships, labeling programs, and shared responsibility at the national and regional levels, France's government has deployed tools and levers that encourage research entities (universities, firms, and research organizations) to form and participate in networks and coordinate their efforts.

The purpose of these incentives for networking and coordination is to feed a national and regional dynamic among higher education and research actors, encouraging them to respond to the major scientific, technological, economic, and social challenges of the decades to come. They also improve the coherence of scientific projects and promote the visibility of French efforts on the international stage.

AT THE NATIONAL LEVEL

An ambitious €22 billion program of "Investments in the Future" encourages the formation of multidisciplinary education and research partnerships on a global scale, combined with a careful and deliberate policy of site selection.

[>strategie>investissements d'avenir](http://www.enseignementsup-recherche.gouv.fr)

- **EQUIPEX**: financing for advanced equipment for research laboratories.
- **LABEX**: large awards to the best French laboratories in all disciplines, throughout the country.
- **IDEX**: financing of excellence initiatives linked to site development (e.g., Paris Saclay).
- **IHU**: (university hospital institutes): financing to enable university hospital centers and public and private laboratories to form clusters of excellence in biomedical research.
- **I-SITE**: financing to allow universities to exploit specific scientific strengths.
- **Convergence institutes**: financing for the development of science sites focused on innovative, interdisciplinary research and top-notch training programs.

In charge of implementing and managing this bid-based program is ANR, the national research agency.

www.agence-nationale-recherche.fr

Coming in 2018

Écoles universitaires de recherche (loosely, university research departments) is a new program designed, through calls for proposals, to promote the formation of international partnerships dedicated to excellence in training and research based on the graduate-school model. 195 applications were submitted, including 124 under the framework of an IDEX or I-SITE.



> NATIONAL RESEARCH ALLIANCES

France's 5 national research alliances are thematic groupings of research organizations and higher education institutions. Their purpose is to improve coordination within a **given research field** and to encourage forward-looking discussion and debate.

The 5 national alliances operate in these key areas:

- **AllEnvi**, the alliance for the environment
www.allenvi.fr
- **ALLISTENE**, the alliance for information sciences and technologies
<https://www.allistene.fr>
- **ANCRE**, the national coordinating alliance for energy research
www.allianceenergie.fr
- **ATHENA**, the national alliance for the humanities and the human and social sciences
www.allianceathena.fr
- **AVIESAN**, the national alliance for life sciences and health sciences
www.aviesan.fr

> THE INSTITUT CARNOT LABEL, A CORPORATE PLUS

This label of excellence, created in 2006 by the Ministry of Higher Education, Research, and Innovation is intended to promote, through funding and labeling, research efforts carried out by public laboratories in tandem with private firms and other social and economic entities. It is designed to accelerate transfers of technology to economic actors by consolidating ties with industry.

- 38 research labs that have earned the Carnot label are found throughout France.
- They employ more than 7,500 doctoral candidates (1,400 under CIFRE contracts).

> EXAMPLES

- **Ifremer EDROME**: exploration and sustainable exploitation of oceanic mineral and energy resources

http://wwwz.ifremer.fr/institut_carnot ;

- **Énergies du futur**: Energies of the future: innovation in new energy technologies (INP, CEA-Liten, Université Joseph Fourier, CNRS)

www.energiesdufutur.fr

www.instituts-carnot.eu



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AT THE REGIONAL LEVEL

> ASSOCIATIONS AND CLUSTERS OF UNIVERSITIES AND OTHER INSTITUTIONS

Clusters of universities, *Grandes Écoles*, and research bodies operating **in the same geographical area** improve the cohesiveness of research and training policies in that area and set up a regional dynamic capable of drawing international attention.

Alongside their primary missions of coordinating training and research opportunities and improving the quality of the student experience on a regional level, many clusters are active in doctoral training, hosting of international students and scholars, and support for research programs, among others.

Eventually, **25 shared sites** will coordinate the efforts of their regions in education, research, and innovation.

◆ [www.campusfrance.org>students>studying>the different types of institutes of higher education](http://www.campusfrance.org>students>studying>the-different-types-of-institutes-of-higher-education)

MAP OF FRANCE'S HIGHER EDUCATION AND RESEARCH COMMUNITIES (COMUES) AND THE ASSOCIATED RESEARCH STRATEGY



> COMPETITIVENESS CLUSTERS, TOOLS FOR COLLABORATIVE REGIONAL RESEARCH PROJECTS

France's competitiveness clusters, officially recognized by an interministerial committee, bring together firms, educational institutions, and research laboratories **in a given geographical and technological space for the purpose of promoting collaborative research projects**.

The Ministry of Higher Education, Research, and Innovation ensures the coherence and scientific quality of projects and supports the clusters by cofinancing research projects.

71 competitiveness clusters are found all across France. Most economic sectors are represented—including nanotechnologies, biotechnologies, ecotechnologies, automobiles, aerospace, and so on.

<http://competitivite.gouv.fr/home-903.html>

> EXAMPLES

• UNIVERSITÉ GRENOBLE ALPES

4 recognized competitiveness clusters (e.g., Plastipolis www.plastipolis.fr ; Terralia www.pole-terralia.com...)

• UNIVERSITÉ MONTPELLIER

8 recognized competitiveness clusters (e.g., DERBI Énergie www.pole-derbi.com ; EAU www.pole-eau.com ; Eurobiomed www.eurobiomed.org...)

• UNIVERSITÉ BRETAGNE SUD

3 recognized competitiveness clusters (e.g., Pôle Mer Bretagne Atlantique www.pole-mer-bretagne-atlantique.com...)

THE UNIVERSITIES

RESEARCH, AN INTEGRAL PART OF FRANCE'S UNIVERSITIES

Research and training are tightly interwoven in France's universities. Students come to learn from and train with research faculty, and even classroom instruction is enriched by the research conducted in public research laboratories, the vast majority of which are located on university campuses. France's 72 universities are the engines of research in every region of the country.



The universities organize and oversee the doctoral training provided by doctoral schools. Although most of the institutions authorized to confer the Doctorate are universities, a growing number of France's free-standing schools of engineering (École des Mines, École des Ponts, and the École Polytechnique among them) and a few schools of management participate in joint doctoral arrangements.

> 25 ACADEMIC COMMUNITIES IN QUEST OF EXCELLENCE

www.enseignementsup-recherche.gouv.fr/pid24578/investissements-d-avenir.html

The university research landscape underwent a substantial change with the creation of 25 “communities” made up of universities and other educational and research institutions. The “COMUEs,” as they are known, comprise universities, *Grandes Écoles*, and research bodies located in a given region. The implementation of this policy of creating international-scale sites of education and research relies on financing tools from the Investments in the Future program: IDEX, LABEX, IHU, I-SITE (> € 22 billion).

> MAJOR GROUPINGS OF FRENCH INSTITUTIONS OF HIGHER EDUCATION AND RESEARCH

◆ www.campusfrance.org>students>studying>the different types of institutes of higher education

Aix-Marseille Université : www.univ-amu.fr

ComUE d'Aquitaine : www.cue-aquitaine.fr www.cue-aquitaine.fr

ComUE Languedoc-Roussillon Universités :

www.languedoc-roussillon-universites.fr

ComUE Lille Nord de France : www.cue-lillenorddefrance.fr

ComUE Normandie Université : www.normandie-univ.fr

ComUE Université Bourgogne Franche-Comté :

www.ubfc.fr

ComUE Université de Champagne : www.univ-champagne.fr

ComUE Université Grenoble Alpes :

www.communaute-univ-grenoble-alpes.fr

ComUE Université Paris Seine : www.universiteparisseine.fr

Hautes écoles Sorbonne arts et métiers - heSam :

www.hesam.eu

Paris Sciences et Lettres - PSL : www.univ-psl.fr

Picardie Universités : www.u-picardie.fr/apiu/

Sorbonne Universités : www.sorbonne-universites.fr

Université Bretagne Loire : <https://u-bretagne Loire.fr>

Université Clermont Auvergne : www.clermont-universite.fr

Université Confédérale Léonard de Vinci :

www.u-ldevinci.fr

Université Côte d'Azur : www.univ-cotedazur.fr

Université Fédérale Toulouse Midi-Pyrénées :

www.univ-toulouse.fr

Université de Lorraine : www.univ-lorraine.fr

Université de Lyon : www.universite-lyon.fr

Université Paris-Est : www.univ-paris-est.fr

Université Paris-Lumières : www.u-plum.fr

Université Paris-Saclay : www.universite-paris-saclay.fr

Université Sorbonne Paris Cité : www.sorbonne-paris-cite.fr

Université de Strasbourg (Alsace) : www.unistra.fr

> RESEARCH UNITS: THE BUILDING BLOCK OF UNIVERSITY-BASED RESEARCH

University research is organized into thematic clusters and, within those clusters, into entities that have different names and different standing. The principal entities are the research unit, research team, and research laboratory. These entities assemble research scholars and scientists (with or without teaching duties), doctoral candidates, staff, and equipment around a given set of scientific problems.

- **Host team (EA, for *équipe d'accueil*)**

EAs are administrative structures set up under contract with, and supported by, the Ministry of Higher Education, Research, and Innovation. They are managed by the university and are not linked contractually with outside research bodies.

- **Joint research unit (UMR, for *unité mixte de recherche*)**, UMRs operate under a contract between the university and one or more research organizations. The contracting parties contribute personnel and financing.

UMRs are the most evolved form of partnership between universities and research organizations; 80% of the laboratories affiliated with CNRS are UMRs.

- **Internal research unit (UPR, for *unité propre de recherche*)**

These are laboratories managed and evaluated solely by a given research organization but tied to the university by agreements.

> FULL PROFESSORS

Full professors are full-time members of the university faculty who divide their time between teaching and research. Lecturers and university professors who fall into this category help to enlarge and transmit knowledge, advise and direct students, contribute to the expansion of research and its applications, spread the culture of knowledge, and promote international cooperation.

Today some 90,000 professors support nearly 75,000 doctoral candidates in university laboratories.

Within universities, these professors make up approximately 61% of the teaching staff (2015). About 9% of them are internationals.

> DOCTORAL SCHOOLS, THE UNIVERSITIES' APPROACH TO DOCTORAL TRAINING

Doctoral schools (EDs, for *Écoles Doctorales*) provide the essential link between the university's teaching and research missions. They reflect the disciplinary themes spelled out in the university's science policy. Housing nationally recognized research units and teams, they are responsible for providing doctoral training (recruitment, monitoring of progress, thesis defense). While part of the university, a given ED may also involve other institutions with which the university is affiliated, often for the purpose of granting joint degrees.

France's 271 doctoral schools fall into 10 broad scientific themes.



> INFO

The 5-year engineer's degree granted by recognized schools of engineering (*Grandes Écoles*) is the equivalent of the Master's degree and, as such, enables the holder to pursue doctoral study. Of France's 271 doctoral schools, about 74 have a free-standing school of engineering as one of their co-accredited, degree-granting partners. Of the 75,000 doctoral candidates in France, 15,000 are enrolled in *Grandes Écoles*.

> NOTE

SATT – special corporations designed to speed technology transfer

www.satt.fr

www.enseignementsup-recherche.gouv.fr/cid67054/les-satt-societes-d-acceleration-du-transfert-de-technologies.html

Conceived as agents of regional economic development,

France's 14 SATTs were created as part of the Investments in the Future program. To achieve their purpose of protecting and exploiting intellectual property, the SATTs have absorbed the universities' individual research-commercialization functions. Today, 160 public research institutions in France have entrusted the commercialization of their research results to one of the 14 SATTs.

PUBLIC RESEARCH

ORGANIZATIONS

IN FRANCE

Internationally recognized for excellence and traditionally the research partners of the universities, France's public research organizations are major players in basic research and innovation.

Publicly funded research in France works because it is conducted through a close partnership between the nation's research organizations and its universities.

France's universities and research organizations are deeply entwined. The great majority of publicly funded research units and laboratories are situated within universities and tied by contracts with research organizations. In many fields of science, joint research units (UMRs) are the rule; UMRs are the form of cooperation favored by CNRS: **96% of its research laboratories operate under the UMR model.**

Researchers are involved in university education through research professorships. Research faculty engage in research, supervise doctoral

candidates, and teach courses at the university. Public research laboratories are financed chiefly through university budgets, public research bodies, and financing agencies such as ANR, the national research agency. They also benefit from funding from France's regions (under national-regional planning contracts), charitable organizations, and industry.

In 2015, MIREs, the interministerial research and higher education mission, was responsible for €13 billion in budgeted funds. About 80% of that amount was allocated to research organizations and higher education institutions. Nearly half (49%) of the total was earmarked for basic research conducted largely by research organizations (55%) and higher education institutions (40%).

> FRANCE'S 25 MAJOR RESEARCH BODIES* ARE ENGINES OF INNOVATION FOR CUTTING-EDGE SECTORS OF SCIENCE AND THE ECONOMY

The public research organizations described on the following pages perform 55% of publicly funded research in France.

The two largest—CNRS and CEA (nonmilitary) account for 33% of all public research (CNRS, 19%; CEA nonmilitary, 14%). The other organizations are smaller. INRA and INSERM each account for 5% of public research, with CNES

following at 3%. None of the others spends more than 2% of the total.

Some organizations focus their action on basic research. In 2014, basic research represented 89% of the internal R&D spending of CNRS and all of that of INED and IPEV. Other organizations are more oriented toward applied research. Examples include CEA nonmilitary (80% of internal R&D spending is applied, BRGM, and INERIS).

CIRAD and IRD stand out for investing more than 90% of their funds abroad, reflecting their missions and international facilities.

* List compiled by Ministry of Higher Education, Research, and Innovation, including research organizations, foundations, and large-scale facilities. Here we present the major entities by category. www.enseignementsup-recherche.gouv.fr

More than 100,000 researchers are engaged in publicly funded research, 10% of whom are internationals and 26% women. Worldwide, France ranks 7th in terms of the share of the active population engaged in research—behind South Korea and Japan but ahead of Germany, the United States, and the United Kingdom. In 2017, Thomson-Reuters ranked CEA as the 2nd-most innovative research institution in the world. The CNRS and INSERM were ranked 8th and 9th, respectively, making France the most represented country in the top 10 of the Thomson-Reuters ranking.



EARTH AND SPACE SCIENCES



MARINE SCIENCES



AGRICULTURAL, ECOLOGICAL, AND ENVIRONMENTAL SCIENCES



LIFE SCIENCES AND HEALTH SCIENCES



PHYSICS, CHEMISTRY, AND ENERGY



TECHNOLOGY



ECONOMICS, SOCIAL SCIENCES, AND EDUCATION



For more than 75 years, CNRS has contributed to great advances in every field of scientific research. It is number one in the Nature Index 2015 international ranking of scientific institutions.

> THE DISCIPLINARY DOMAINS OF THE CNRS

Biology	Mathematics
Chemistry	Nuclear and particles
Ecology and environment	Physics
Human and society	Information sciences
Engineering and systems	Earth and space

With 21 Nobel prizes and 12 Fields medals, CNRS has a long tradition of excellence. Each year it awards its own Gold Medal, considered the highest scientific honor in France.

> THE FLAGSHIP OF FRENCH SCIENTIFIC RESEARCH

The leading multidisciplinary research organization in France, CNRS has a staff of nearly 32,000—among them 11,000 researchers—and devotes 89% of its R&D budget to basic research. It is a driving force of French research and resolutely open to Europe and the world.

The CNRS has a presence in most university laboratories, maintaining more than 1,000 research units throughout France, 96% of them in partnership with institutions of higher education—either joint research units (UMRs) or associated research units (URAs). Within each laboratory are teams of researchers, engineers, technicians, administrators, research professors, doctoral candidates, and foreign scientists.

The CNRS network is the living tissue of public research, a site of continuous interaction with other research actors—among them higher education, other research organizations, economic actors, and foreign partners.

> 10 INSTITUTES THAT EVOLVE AT THE PACE OF SCIENTIFIC DISCOVERY

Being multidisciplinary, CNRS conducts research in all scientific, technical, and social domains—mathematics, physics, information and communication sciences and technologies, nuclear and high-energy physics, earth and space sciences, chemistry, the life sciences, the human and social sciences, environmental science, and engineering.

- Institute of biological sciences (INSB)
- Institute of chemistry (INC)
- Institute of ecology and environment (INEE)
- Institute of human and social sciences (INSHS)
- Institute of information sciences and their interactions (INS2I)
- Institute of engineering and systems sciences (INSIS)
- National institute of mathematical sciences and their interactions (INSMI)
- Institute of physics (INP)
- National institute of nuclear and particle physics (IN2P3)
- National institute of earth and space sciences (INSU)

The CNRS is also one of the founding members of the 5 national research alliances and an associate member of the COMUEs, the communities of universities and institutions.

> ACTIVE THROUGHOUT FRANCE

18 regional offices provide direct, local management of research facilities and maintain ties with regional and local government and with partners in the area.

Directory of laboratories:

<https://web-ast.dsi.cnrs.fr/l3c/owa/annuaire.recherche/index.htm>

Websites of CNRS institutes:

www.cnrs.fr/fr/recherche/instituts.htm

> INTERNATIONAL COOPERATION, A DRIVER OF RESEARCH

The world of research mirrors changes brought on by the internationalization of the world. The CNRS has never stopped expanding its footprint abroad or hosting foreign researchers to promote development of scientific cooperation.

Today CNRS comprises:

- **4,600** foreign researchers welcomed each year into laboratories associated with CNRS;
- **1,750** foreign researchers directly employed by CNRS and **420** engineers and technicians;
- **172** associated international laboratories;
- **101** international research groups;
- **35** international joint units;
- **26** joint units with French research institutes abroad;
- **8** permanent offices abroad (Brussels, New Delhi, Beijing, Pretoria, Rio de Janeiro, Singapore, Tokyo, Washington);
- Agreements with more than **60** countries.

According to the 2016 Scimago Institutions Rankings, CNRS is the world's leading research organization in terms of scientific publications and innovation, ranking ahead of the Chinese Academy of Sciences, the Russian Academy of Sciences, and Harvard University (United States).

The CNRS name appears on an average of 35,500 publications each year, 60% of them cosigned by at least one foreign lab. The United States is CNRS's leading partner overall; Brazil is its leading partner in South America.

www.cnrs.fr/fr/organisme/palmares-internationaux.htm

> EXTENDING REACH THROUGH INDUSTRY

Because innovation is no longer independent of basic research, CNRS has long cooperated with industry to develop innovative products:

- 100 public-private research arrangements, including 21 laboratories managed jointly by CNRS and a company.
- More than 1,000 innovative enterprises formed since 1999.
- Leading public institution in terms of patent applications in France; approximately 5,600 active patent families.
- 26 framework agreements with large industrial groups.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

CNRS laboratories employ many doctoral candidates. Candidates are enrolled in a university doctoral department and assigned to CNRS research laboratories under 3-year contracts. Throughout the year CNRS also hires postdocs on temporary contracts for specific research projects and scholarship opportunities, ...

www.cnrs.fr/en/ >join the CNRS



© BRGM

BRGM, BUREAU DE RECHERCHES GÉOLOGIQUES ET MINIÈRES
BUREAU OF GEOLOGICAL AND MINING RESEARCH

www.brgm.fr

BRGM is France's national geological service, the public point of reference in applications of the earth sciences to the management of resources and risks on and below the earth's surface.

Scientific research with an eye to applications is one of BRGM's missions. The bureau's overall objective is geological knowledge and understanding, through observation and modeling, of the processes at work under the earth's surface and subsoil.

BRGM is labeled by the Institut Carnot and a member of the AllEnvi and Ancre alliances.

It is active in the following fields: geology, mineral resources, geothermia, geological CO2 storage, risks, recovery of the land once mining ends, water, and the environment.

Through its school, ENAG (national school of geoscience applications), BRGM supports higher education in the geosciences. Its training arm, BRGM Formation, offers short-term continuing-education sessions to professionals in the field.

> ORGANIZATION

Active through metropolitan France and France's overseas possessions through 28 regional offices, BRGM fields 700 engineers and researchers, two-thirds of its total workforce.

> INTERNATIONAL

BRGM is active in 35 countries through more than 200 projects.

www.brgm.eu>international

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

BRGM offers fixed-term contracts to **doctoral candidates and postdocs**. Each year it welcomes **250 students** on **internships or gap years** in all areas of the bureau's activity.

www.brgm.eu/join-brgm/join-brgm



BRGM © Joëlle Arnaud, Pierre-Grégoire Scholl



© CNES

CNES, CENTRE NATIONAL D'ÉTUDES SPATIALES
NATIONAL CENTER FOR SPACE RESEARCH

www.cnes.fr - <https://cnes.fr/fr/sites-du-cnes>



At €30 per year per inhabitant, France's civilian space budget is the second highest in the world after that of the United States (€46), ahead of those of Germany (€16) and the United Kingdom (€6).

Responsible for developing France's space program, CNES occupies a central place on the national, European, and international space scene. It is simultaneously a motive force, a source of ideas, and a center of technical expertise.

The leading contributor to the European Space Agency, CNES has a hand in every aspect of space-related scientific and technological research in Europe.

CNES has 5 broad scientific missions in the areas of astronomy, exploration of the solar system, basic physics, study of the earth, and national defense:

- Access to space: development of launch vehicles (Arianespace)
- Earth, environment, and climate (data mining, observation satellites)
- Consumer and mass-market applications (Galileo, telecommunications)
- Science and innovation (COROT exoplanetary telescope, Rosetta)
- National security applications.

> ORGANIZATION

- The Toulouse space center is a vast academic and scientific complex that encompasses multiple postsecondary institutions (ISAE, ENAC, IAS), laboratories (Onera, LAAS), and corporations (Airbus, Thales, CLS Argos).

- The Kourou space center (Guyana) is known as the space port by virtue of its favorable geographic location.
- The space sector accounts for 16,000 jobs in metropolitan France and 40% of Europe's entire space industry.

> INTERNATIONAL

On its own, with the European Space Agency, or with NASA, CNES participates in most large-scale space missions, exploits data, and develops tools of exploration. CNES is also expanding partnerships with newcomers to space exploration, notably China and India.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

Each year CNES awards 60 doctoral research fellowships. Postdoctoral awards for a maximum of two years are open to recent doctorates working in space-related fields:

www.cnes.fr/en>CNES CAREES



ONERA, OFFICE NATIONAL D'ÉTUDES ET DE RECHERCHE AÉROSPATIALES
NATIONAL AEROSPACE RESEARCH OFFICE

www.onera.fr

ONERA

THE FRENCH AEROSPACE LAB

SiMA, in the French Alps, is the world's largest wind tunnel. It can produce wind at close to the speed of sound—Mach 1, or nearly 1,200 km/hour—through a tunnel 8 meters in diameter.

> 70 YEARS OF AERONAUTICAL RESEARCH

Established in 1946 and operating under the authority of the Ministry of Defense, ONERA is a leader in aeronautical, space, and defense research, with 47% of its activity in the form of contracts. ONERA's work results in innovations that benefit industry.

A force for innovation, expertise, and planning, ONERA has contributed to the major achievements of the aerospace and defense industries: the Ariane 5 launch vehicle, the Airbus civil aircraft line and Eurocopter helicopters, the Rafale fighter, the Falcon 7X business jet, the Graves spatial monitoring radar, and the Very Large Telescope, among others.

> ORGANIZATION

Scientific activity at ONERA is organized around the basic disciplines of aerodynamics, energetics, materials, structural resistance, and general physics. With 8 sites in France, ONERA maintains 7 scientific departments: **basic and experimental aerodynamics, electromagnetism and radar, space environments, physical measurement, composite materials and structures, optics, and planning and synthesis.**

> INTERNATIONAL

25% of ONERA's work falls in the category of European cooperation.

Because space research extends beyond national borders, research challenges and projects are shared with other major organizations such as DLR, NASA, and JAXA.

In aeronautics, ONERA, which is beginning a 2-year chairmanship of Erea, is involved in large-scale European projects such as Clean Sky and Future Sky. Outside Europe, engagement with major organizations like NASA in the United States, Tsagi and Ciam in Russia, and DSO in Singapore, is essential for achieving the objectives of the Passenger Service System.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

Each year ONERA welcomes a new cohort of doctoral candidates. In 2015, 72 dissertations were defended:

www.onera.fr/fr/rejoindre-onera/la-formation-par-la-recherche

Apply:

www.onera.fr/fr/rejoindre-onera/la-formation-par-la-recherche

<http://sites.onera.fr/stages/>



IFREMER, INSTITUT FRANÇAIS DE RECHERCHE POUR L'EXPLOITATION DE LA MER FRENCH RESEARCH INSTITUTE FOR EXPLOITATION OF THE SEA

www.ifremer.fr

Ifremer

Ifremer contributes through research and consulting services to the globe's awareness of the oceans and their resources, to monitoring marine and coastal environments, and to the sustainable development of maritime activities.

Much of the institute's research focuses on the effects of climate change, aspects of marine biodiversity, prevention of pollution, and the quality of sea products.

IFREMER contributes to the development and deployment of major research infrastructure (vessels, computational devices, oceanographic databases, test equipment, and experimental structures) for the French and European scientific community, including public-private research partnerships. IFREMER is a stakeholder in the oceanographic fleet that transports undersea systems heavy equipment (seismic surveyors, penetrometers, and so on).

www.flotteoceanographique.fr

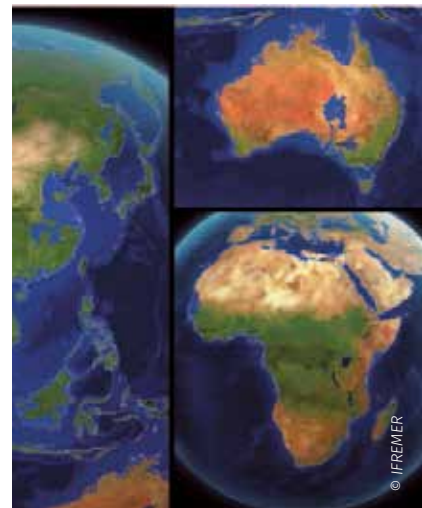
> ORGANIZATION

- 5 centers coordinate operations, one for each of France's coasts: Channel-North Sea, Brittany, Atlantic, Mediterranean, and Pacific (overseas).
- 26 sites dot the coasts of metropolitan and overseas France.
- IFREMER's fleet includes 6 ships (including 4 ocean-going vessels), 3 manned submersibles, 2 remotely guided craft for use in very deep waters (~ 6,000 m), and 2 autonomous undersea vehicles.

> INTERNATIONAL

Cooperative efforts are focused on large international programs, France's overseas possessions and several target countries (United States, Canada, Japan, China, Australia, Russia), and on a Mediterranean policy linking Europe with the southern rim of the Mediterranean.

www.ifremer.fr/L-institut/Europe-et-International



WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

IFREMER makes research grants available to students and recent doctorates, and supports foreign researchers on limited-term contracts:

[www.ifremer-en>JOIN US>Jobs](#)

Three-year dissertation grants are offered on research topics selected by IFREMER's committee on doctoral studies (list of topics and application materials):

[www.ifremer-en>JOIN US>Jobs>Postgraduate research studentships](#)



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CIRAD, CENTRE DE COOPÉRATION INTERNATIONALE EN RECHERCHE AGRONOMIQUE POUR LE DÉVELOPPEMENT
CENTER FOR INTERNATIONAL COOPERATION ON AGRICULTURAL RESEARCH FOR DEVELOPMENT

www.cirad.fr



CIRAD spends more than 95% of its research and development budget abroad owing to the nature of its mission and the international locations of its facilities.

CIRAD is the French organization for agricultural research and international cooperation for the sustainable development of tropical and Mediterranean regions.

Its activities fall within the life sciences, the social sciences, and engineering, all as applied to agriculture, food production, and rural areas, with special concern for food security, national resource management, inequality, and the fight against poverty.

CIRAD's top priority is to promote sustainable agriculture adapted to climate change and capable of feeding 10 billion human beings in 2050, all while preserving the environment.

CIRAD is a founding member of IAVFF, the French agronomic, veterinary, and forestry institute, and a member of AllEnvi, the national environmental research alliance.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

CIRAD has introduced **incentives and budgets** for doctoral candidates and postdocs working on topics deemed of strategic importance. More than 300 doctoral candidates are supported each year, 60% of whom are from countries of the South. Overall, 800 researchers and technicians are trained each year.

www.cirad.fr/en/teaching-training/higher-education/phd-training

> ORGANIZATION

In partnership with the countries of the global South, CIRAD supports agricultural development and contributes to the debate on the great global issues confronting agriculture. CIRAD's program of targeted research is shaped by partners' development needs—from the field into the lab, from the local to the global. The center has 3 scientific departments: biological systems (Bios), the performance of tropical production and transformation systems (Persyst), and environment and society (ES). Together, the 3 departments comprise 34 research units.

CIRAD represents for the national and international scientific community in France an important research and training asset based chiefly in Montpellier and in France's overseas possessions.

> INTERNATIONAL

To discharge its international mission, CIRAD maintains a worldwide network of partnerships and 12 regional divisions through which it conducts cooperative activities with more than 100 countries.

The center's work is done by 23 research and teaching partnerships involving 200 institutions in the countries of the global South to which 200 of CIRAD's researchers are assigned (100 in Africa, 50 in Asia, and 50 in South America).



© INRA B. Chaubet

INRA, INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE
NATIONAL AGRONOMIC RESEARCH INSTITUTE

www.inra.fr



Europe's leading agricultural research institute, INRA is second in the world for agricultural sciences.

> ORGANIZATION

• Food – Agriculture – Environment

INRA is notable for its closeness with the communities it serves, with 74% of its staff working in 150 field offices. The institute has a presence in nearly all of France's regions, including the overseas possessions. INRA's 200 research units and 50 experimental units and platforms make up a network that is unparalleled in Europe. Units include centers for genetic research, environmental monitoring stations, technical platforms, and experimental plantings. INRA is a founding member of IAVFF, the French agronomic, veterinary, and forestry institute.

The research agenda is divided among 13 departments:

- Human food • Plant biology and improvement
- Characterization and development of agricultural products • Forest, prairie, and aquatic ecology • Environment and agronomy • Animal genetics • Mathematics and applied computer science • Microbiology and the food chain • Animal physiology and livestock systems • Animal health • Plant health and the environment • Sciences for action and development
- Social sciences, agriculture and food, space environment

> INTERNATIONAL

• A dense network of collaborative arrangements

- More than 50% of INRA publications are coauthored by a partner from another country.
- 6 international laboratories are associated with INRA.
- 40% of the researchers hired in 2015 were from outside France.

• Major global initiatives in:

- Food security (Wheat Initiative, GAFSR)
- Climate change (GRA, Climate Smart Agriculture, AgMIP)

> NOTE

The goal of IAVFF, the French agronomic, veterinary, and forestry institute, is to create a tight synergy between higher education and research programs in agronomy, veterinary science, forestry, and land management so as to strengthen the programs and raise their international profile. IAVFF consists of 12 postsecondary agricultural institutions, 2 other institutions of higher education, and 4 research organizations.

www.ecohort.agreenium.org

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

Nearly 500 new doctoral candidates come to the institute each year, all funded by doctoral contracts:

<http://jobs.inra.fr/en>



IRD, INSTITUT DE RECHERCHE POUR LE DÉVELOPPEMENT
DEVELOPMENT RESEARCH INSTITUTE

© IRD

www.ird.fr



IRD is an institute for research into social and economic development, unique on the European scene

Taking a multidisciplinary approach for more than 65 years, IRD has conducted research on the relations between people and their environment in Africa, the Mediterranean, Latin America, Asia, and France's overseas possessions in the tropics.

Excellence in research—with a southern focus

IRD's scientific priorities fall within a global context dominated by climate change and a significant loss of biodiversity, and rising concerns about food security, the emergence of new infectious diseases, and the acceleration and deepening of globalization.

> ORGANIZATION

Owing to the nature of its mission, IRD is active in cooperative research in more than 50 countries in Africa, around the Mediterranean rim, in Asia, in Latin America, and in France's overseas possessions. Local research teams and those of the institute cooperate closely on projects.

5 scientific departments and 56 research units:

- Department of internal and surface dynamics of continents
- Department of ecology, biodiversity, and functioning of continental ecosystems
- Department of oceans, climate, and resources
- Department of health and society
- Department of societies and globalization

30 sites: 2 in metropolitan France (Bondy and Montpellier), 5 in overseas France (Réunion island, Guyana, Martinique, New Caledonia, and French Polynesia), and 23 in countries situated for the most part in the intertropical zone.

> INTERNATIONAL

International collaboration is implicit in IRD's mission:

- 23 liaison offices are maintained abroad
- More than 95% of the institute's budget is spent outside France.
- 37% of IRD staff are posted abroad; IRD operates 31 international joint laboratories .
- 35% of IRD publications are coauthored with a partner in the South.

<https://www.ird.fr/l-ird-dans-le-monde>

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

IRD conducts an annual campaign to recruit postdoctoral researchers:

<https://en.ird.fr/join-us>



IRSTEA, INSTITUT NATIONAL DE RECHERCHE EN SCIENCES ET TECHNOLOGIES POUR L'ENVIRONNEMENT ET L'AGRICULTURE
NATIONAL INSTITUTE OF SCIENTIFIC AND TECHNICAL RESEARCH IN ENVIRONMENT AND AGRICULTURE

www.irstea.fr



IRSTEA's aim is to become a European leader in environmental research and to the scientific reference point underlying public policies.

Through 9 regional centers, IRSTEA has for more than 30 years supported local authorities in managing water, forests, natural risks, agriculture, and overall environmental quality. As a research organization focused on thorough scientific research, it jointly defines its research topics through consultations with its public and private partners.

> ORGANIZATION

3 scientific departments

- Department of water (availability of water resources, pollution, aquatic ecosystems, natural risks, irrigation, fisheries, land use ...).
- Department of ecotechnologies (agriculture and food processing, waste management and storage, purification, new technologies ...).
- Department of land management (sustainable development of residential and productive land, particularly for agriculture and forestry; environmental preservation).

Several themes (e.g., reduction of risks tied to pesticides; management of biomass for use in generating energy) figure in a joint research strategy with CIRAD, INRA, CNRS, and INRIA.

- 10 technological platforms (farm equipment, geomaterials, purification, processes) and a similar number of national experimental sites (natural risks, hydrology, ecotoxicology)
- 300 firms as direct partners or participants in collaborative projects

- Founding member of AllEnvi, the national alliance for environmental research

> INTERNATIONAL

The European and international dimension of the institute's work is evident from its involvement in European environmental research networks (such as PEER or EurAqua), in its assessments of European public policy, and in numerous exchanges and cooperative arrangements with research institutions in Australia, Brazil, Canada, and elsewhere in the world..

- 71 international researchers were hosted last year, 35 for long stays (longer than a month)
- 50 young international researchers make up more than 20% of the doctoral candidates and postdoctoral fellows at the institute.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

Each year IRSTEA enters into approximately 20 three-year dissertation contracts on priority topics. In 2013, the institute welcomed more than 220 doctoral candidates at various stages of their research:

While deepening their own scientific experience, postdoctoral fellows contribute to the institute's work through their knowledge of specific research topics:

www.irstea.fr/en/join-us



© INERIS

INERIS, INSTITUT NATIONAL DE L'ENVIRONNEMENT INDUSTRIEL ET DES RISQUES
NATIONAL INSTITUTE ON THE INDUSTRIAL ENVIRONMENT AND RISK MANAGEMENT

www.ineris.fr



INERIS's mission is to assess and prevent acute and chronic risks to humans and their environment.

The mission of INERIS is to assess and prevent risks to human health and the environment posed by industrial facilities, chemical substances, and underground operations such as mining and storage. The institute's research programs seek to improve understanding of phenomena likely to lead to risk or damage to human health or the environment and to increase the institute's expert capacity to prevent or mitigate those risks.

> ORGANIZATION

INERIS conducts research in various technical fields involving health risks, technological risks, and natural risks.

- The institute's 3 scientific priorities are chemical substances and products; technological risks and pollution; risks related to abandoned mines, underground storage, and natural risks.
- 40 geoscientists based in Nancy conduct research and offer expertise related to exhausted or abandoned mines.
- At the 40-hectare headquarters in Verneuil-en-Halatte (Oise), 15 hectares are occupied by test platforms.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

About 50 doctoral candidates are training at INERIS at any given time; 15 new candidates are welcomed each year:

www.ineris.fr/emplois/emploi-theses.php



© INERIS



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INSERM, INSTITUT NATIONAL DE LA SANTÉ ET DE LA RECHERCHE MÉDICALE
NATIONAL INSTITUTE OF HEALTH AND MEDICAL RESEARCH

www.inserm.fr



INSERM, a global leader in medicine and health, is ranked 9th in the Top 25 Global Innovators–Government by Reuters/Clarivate, which assesses the innovative capacity of public organizations as measured by the impact of their scientific output and their patents (2017).

Established in 1964, INSERM is the **only public research body in France devoted entirely to human health**. Since 2008, it has been responsible for the strategic, scientific, and operational coordination of biomedical research in the country.

INSERM is a member of AVIESAN, the national alliance for life sciences and health sciences.

> ORGANIZATION

INSERM is made up of **9 thematic institutes and 275 research structures**, nearly all of which are based in universities (as the fulcrum of France's research effort), including university hospital centers (joint research units).

CNRS, the Pasteur Institute, and the Curie Institute also house INSERM research structures. INSERM is headquartered in Paris and has 9 regional offices, in Bordeaux, Île de France, Lille, Lyon, Nantes, Marseille, Montpellier, Strasbourg, and Toulouse.

www.inserm.fr/qu-est-ce-que-l-inserm/l-inserm-en-region

> INTERNATIONAL

INSERM carries on a long tradition of European and international cooperation, as evidenced by the 6,300 distinct research agreements entered into between INSERM units and foreign partners and the growing number of the institute's publications that have a co-author from outside France (47.4% in 2012).

These cooperative agreements touch on all areas of the life sciences and health sciences and involve partners in nearly 100 countries. Half of all agreements are with a partner in the European Union, but the United States remains the single largest partner country, accounting for 20% of INSERM's international agreements.

- INSERM's 1,011 foreign researchers make up 13% of the institute's strength..

www.inserm.fr/qu-est-ce-que-l-inserm/europe-et-international/outils-de-cooperation

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

INSERM offers many different opportunities for doctoral candidates, postdoctoral fellows, and researchers under fixed-length contracts:

<http://english.inserm.fr/about-inserm/research-programs>

https://rh.inserm.fr/Documents/Inserm_MobiliteInternationale_GuideEN.pdf



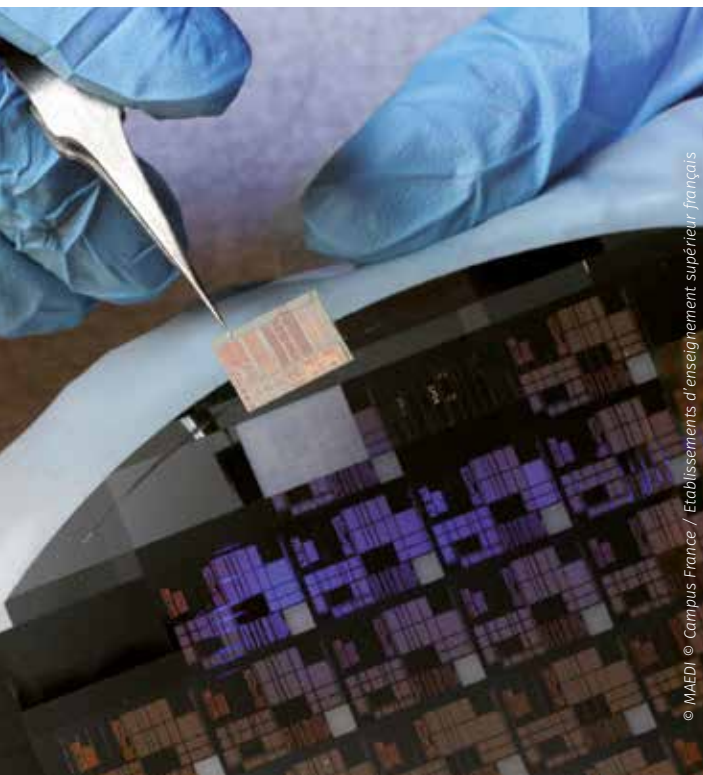
CEA is one of the largest research organizations in France, accounting for 14% of France's public research appropriations. The 2017 Thomson-Reuters classification ranks CEA the second most innovative public research institution in the world.

A public research entity focusing on applied research, CEA has historically been associated with research in atomic science. Nuclear energy remains a central topic, but CEA's research in physics, chemistry, and biology has expanded to encompass microelectronics, materials, and new energy technologies.

CEA has 4 missions: defense and national security; nuclear energy (fission and fusion); technological research for industry; basic research (matter and the life sciences).

> CEA IN FIGURES

- **16,000** technicians, engineers, researchers, and other staff,
- **51** research units managed jointly by CEA and academic partners,
- **743** priority patent applications in 2015,
- **> 700** industrial partners,
- **€4.1 billion** budget,
- **438** ongoing European projects in 2015,
- **30** competitiveness clusters in which CEA participates; **17** of which CEA manages,
- **27** Equipex, **33** Labex, **3** Idex.





> ORGANIZATION

CEA operates 9 centers located throughout France.

www.cea.fr/Pages/le-cea/les-centres-cea.aspx

CEA is a participant in 5 national alliances charged with coordinated French research.

Research fields

- Defense and national security
- Nuclear energy
- Renewable energy
- Technological research for industry
- Physical and space sciences
- Health and life sciences
- Climate and environment

<http://ceasciences.fr/index.php>

> INTERNATIONAL

Accommodation of international visitors has long been an essential aspect of CEA's policy of international openness. Each year, the commission welcomes nearly 800 foreign scientists and engineers from more than 70 different countries in fulfillment of its international policy and to advance its research agenda.

CEA comprises two special-purpose entities:

- **AFNI, the French international nuclear agency**, established as part of CEA in 2008, advises countries that request assistance in fashioning the institutional, human, and technical environment needed to implement a nuclear power project.

- **I2EN, the international nuclear energy institute**, inaugurated in 2011, helps international students gain access to French training programs in order to spread good practice in nuclear safety and other knowledge indispensable for the responsible development of a nuclear power program.

www-instn.cea.fr/formations/formation-par-la-recherche/post-doctorat.html



WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

Each year a new crop of young scientists comes to work in CEA's labs either to work on a dissertation in partnership with one of France's doctoral schools or to assume a post-doctoral fellowship.

To promote the professional integration of researchers who did their doctoral work in CEA laboratories, complementary training programs are offered by INSTN, the national institute of nuclear sciences and techniques, which is administered by CEA.

www-instn.cea.fr

- 1,500 doctoral candidates trained in CEA laboratories
- 360 researchers under postdoctoral contracts

www.cea.fr/emploi/Pages/doctorat-postdoc.aspx

CEA participates in the Enhanced Eurotalents program for postdoctoral mobility, which is cofinanced by the European Commission.



IFPEN, IFP ÉNERGIES NOUVELLES
IFP NEW ENERGIES

www.ifpenergiesnouvelles.fr



IFPEN is part of a dense collaborative network of French, European, and international research powerhouses whose partnerships in new energy technologies have been on a rapid upward trajectory for the last several years.

IFPEN is a publicly funded research and training organization. Its scope is international and spans the fields of energy, transportation, the environment, basic research, and innovation-oriented industrial research.

> ORGANIZATION

- Research priorities: sustainable mobility; new forms and sources of energy; responsible hydrocarbons
- Fields of expertise: earth sciences; fuel cell engineering; chemistry and physical chemistry; catalysis and separation; applied mechanics; analysis and instrumentation; mechatronics; process engineering; engines; economy
 - More than 60 researchers
 - An organization of 4,500 employees of 45 nationalities.

> INTERNATIONAL

IFPEN's strategy of cooperation extends throughout the world—including to the Middle East, Russia, Latin America, Sub-Saharan Africa, and Asia.

IFPEN builds partnerships with research centers in various countries (e.g., the United States) and pursues joint industry projects with industrial firms abroad

Internationalized training through IFP School

www.ifpenergiesnouvelles.fr/Formation/IFP-School

- 17 educational and training programs (master level), half of which are taught in English
- > 50% of students are internationals (from 46 countries)
- 13,000 active alumni in 100 countries.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

- 107 doctoral candidates and 17 postdocs
 - > 1,000 dissertations defended over past 50 years
- Each year, more than 40 dissertation topics are announced for doctoral candidates to pursue in IFPEN's research divisions or in partners' laboratories:

www.ifp-school.com/jcms/r_8284/en/2017-phd-subjects

IFPEN offers several postdoctoral fellowships to individuals who earned their doctorate within the past 3 years. These positions are formalized as 12-month full-time contracts, with an option to extend the period to a maximum of 18 months:

www.ifpenergiesnouvelles.fr/IFPEN/Nous-rejoindre/Nos-offres



© IRSN

IRSN, INSTITUT DE RADIOPROTECTION ET DE SÛRETÉ NUCLÉAIRE
INSTITUTE ON RADIATION PROTECTION AND NUCLEAR SAFETY

www.irsn.fr



IRSN is France's go-to source for research and expertise on nuclear and radiological risks.

Areas of research and expertise

- Environmental radiation monitoring and intervention in emergencies
- Protecting people from radiation
- Preventing accidents in nuclear facilities
- Reactor safety
- Safety within plants and laboratories, during transportation, and in handling and storing wastes
- Nuclear defenses

> ORGANIZATION

IRSN occupies 11 sites in metropolitan France and French overseas possessions. Research is conducted by three IRSN units:

- Protection of human beings from radiation
- Environment
- Nuclear safety

> INTERNATIONAL

To position itself to provide up-to-date expertise, IRSN maintains a research program centered on national and international collaborations structured as partnerships and joint research units. The institute also participates in numerous international research programs.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

IRSN puts forth about 30 new dissertation topics for consideration by university doctoral schools and prospective doctoral candidates.

Postdoctoral contracts enable scholars and scientists who have recently received their doctorate to deepen their skills while contributing to an IRSN research project.

<http://www.irsn.fr/EN> > Research > Theses-post-docs





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IFSTTAR, INSTITUT FRANÇAIS DES SCIENCES ET TECHNOLOGIES DES TRANSPORTS, DE L'AMÉNAGEMENT ET DES RÉSEAUX
FRENCH INSTITUTE FOR THE SCIENCE AND TECHNOLOGY OF TRANSPORTATION, LAND USE, AND URBAN NETWORKS

www.ifsttar.fr



A major force in European research on cities, regions, transportation, and civil engineering.

IFSTTAR carries out targeted research and provides consulting services in the fields of transportation, infrastructure, and natural and urban risks to improve living conditions and promote the sustainable development of societies.

- Ensuring sustainable mobility
- Adapting infrastructure
- Managing natural risks and human environmental impacts
- Promoting thoughtful growth of cities and regions.

> ORGANIZATION

• **5 departments and related laboratories:** AME, land use, mobility, and the environment; COSYS, components and systems; GERS, geotechnics, environment, natural risks, and earth sciences; MAST, materials and structures; TS2, transportation, health, and safety.

• **6 sites in France:** Lille, Lyon, Marne-la-Vallée, Marseille, Nantes, Versailles Satory.

• **A large endowment of scientific facilities** that support high-level research and expertise.

www.ifsttar.fr/equipements-remarquables/

> INTERNATIONAL

Europe has been and remains a priority, as evidenced by IFSTTAR's participation in 70 European projects and 5 Marie Curie activities (promoting the mobility of researchers). Beyond Europe, the institute focuses on close partnerships with the countries of the OECD, as well as Brazil, India, China, and the countries of the Mediterranean Rim.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

A share of the institute's annual budget is allocated for funding foreign researchers.

About 15% of doctoral candidates at IFSTTAR are under CIFRE contracts

<http://www.ifsttar.fr/en/welcome> > CAREERS AT IFFSTAR



INRIA, INSTITUT NATIONAL DE RECHERCHE EN INFORMATIQUE ET EN AUTOMATIQUE
NATIONAL INSTITUTE FOR RESEARCH IN COMPUTER SCIENCE AND AUTOMATION

www.inria.fr

inria
AVANTURES DU MONDE NUMÉRIQUE

Operating from the early days of computers into the present digital age, INRIA in 2017 celebrates 50 years of support for the information sciences through top-echelon basic research and a vital mission to transfer technology to industry and society.

Today's INRIA responds to the multidisciplinary and practical challenges of the digital transition by sharing with firms large and small its discoveries and knowledge in fields such as health, transportation, energy, communications, information security and privacy protection, intelligent cities, and the factories of the future.

With more than 30 active partnerships with universities, schools of management, schools of engineering, and research organizations, INRIA promotes the emergence of centers of excellence in the digital sciences in France and abroad.

> ORGANIZATION

INRIA's scientific work is divided into 5 research areas:

- Applied mathematics, computing, and simulation
- Algorithms, programming, software, and architectures
- Networks, systems and services, and distributed computing
- Perception, cognition, and interaction
- The digital planet, health, and biology

The importance of industrial partnerships

INRIA maintains close, long-term cooperative relationships with large industrial groups (e.g., Alcatel-Lucent, Alstom, EADS, Google, Microsoft Research, and Total).

INRIA has 2,600 employees of 87 different nationalities. Of that number 1,750 scientists work in small project teams toward clearly defined research goals. Those research teams are the basic building block of

the research function at INRIA.

<https://www.inria.fr/recherches/structures-de-recherche/modele-equipe-projet>

> INTERNATIONAL

INRIA's international presence takes the form of joint laboratories, INRIA International Labs (in Europe, Africa, Chile, China, and the United States, and on the Mediterranean Rim), and more than 60 active associated team programs throughout the world. INRIA also takes part in the international structures of CNRS (Brazil, India, Japan, Russia, and Taiwan).

www.inria.fr/europe-international/partenariats-internationaux

> Did you know?

Since 2013, INRIA and the French academy of sciences have partnered to confer three INRIA science prizes: a grand prize, an early career prize, and an innovation prize.

www.inria.fr/institut/inria-en-bref/prix-inria/presentation

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

Young researchers (1,250 doctoral candidates; 260 post-doctoral fellows and contracted scientists) are essential to INRIA's research function, representing almost half of the institute's scientific staff. More than half of the doctoral candidates are from outside France (about 66 nationalities).

<https://www.inria.fr/en/research>international-mobility>



IFÉ, INSTITUT FRANÇAIS DE L'ÉDUCATION
FRENCH INSTITUTE OF EDUCATION

<http://ife.ens-lyon.fr>



IFÉ is a national organization for research, training, and knowledge sharing in the field of education. It operates on the principle of continuous interaction with educational communities, achieved through recruitment of educators on temporary reassignment from their permanent positions.

> ORGANIZATION

IFÉ's educational research efforts draw simultaneously on the basic sciences and to engineering. Research is participatory at every step of the way, bringing together instructors, trainers, and researchers.

The research department, managed jointly by IFÉ and the École Normale Supérieure de Lyon, functions as a national platform for educational research and other joint work on questions of education. The

implementation of LEAs (associated education sites) reinforces the participatory nature of IFÉ's research function.

<http://ife.ens-lyon.fr/lea>

> INTERNATIONAL

IFÉ is well integrated within all of the major research networks, from UNESCO to the OECD. Thanks to its documentary resources and a simple and effective orientation and support process, IFÉ is the port of entry for foreign researchers working on the French educational system.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

IFÉ has established a program of medium-term invitations (1–6 months) for foreign research scholars. The invitations are open to French and foreign scholars holding a doctorate and teaching or pursuing research at a postsecondary institution abroad. An honorarium is paid.

IFÉ also welcomes foreign doctoral candidates:

<http://ife.ens-lyon.fr/ife/partenariat/international/invitations-de-chercheurs>





INED, INSTITUT NATIONAL D'ÉTUDES DÉMOGRAPHIQUES
NATIONAL INSTITUTE OF DEMOGRAPHIC RESEARCH

www.ined.fr

INED is the world's largest demographic research institute.



INED, a public research body specializing in the study of populations, is a close partner and ally of the higher education and research community at the national and international levels.

With its open approach to demography, INED embraces a wide range of disciplines—among them economics, history, geography, sociology, anthropology, biology, and epidemiology.

> ORGANIZATION

The institute operates **11 research units and 4 research-support services**, including a statistical methods service and a survey service.

INED's scientific activity is broken down into 70 multiyear research projects, about 30 of which are large projects and often international. The fields investigated are related to contemporary social issues: the end of life, the changing nature of the family, forms of discrimination, the trajectories of immigrants and their descendants, inequalities in the workplace, violence, and gender relations.

> INTERNATIONAL

Setting INED apart is its capacity to conduct research covering not only France but also a large part of the world. Its work is divided roughly equally between French demographics and the demographics of other countries. The most-studied areas are, in descending order, Western Europe, Central Europe, the Arab world, West Africa, Asia, and Latin America.

The institute's international scope is reflected in its many foreign partnerships and its active role in the global scientific community.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

Each year, the institute welcomes a new cohort of doctoral candidates, selected on the basis of written applications. In 2016, nearly 40 new doctoral candidates were selected.

[http://www.ined.fr/en > research> PhD-students](http://www.ined.fr/en>research>PhD-students)

INED offers postdoctoral contracts of 1 to 2 years' duration to French and international scholars.

<http://www.ined.fr/en>research>post-doc>



RESEARCH

FOUNDATIONS

France's few research foundations are very active and internationally renowned, particularly in medicine.

Because research has historically been organized and financed at the national level in France, the country has relatively few research foundations.

Because of that tradition, France's research foundations have tended to emerge from a scientific tradition, a specific scientist, or a discovery of global significance. Some are of relatively recent origin. Most are in the medical field, and several of these are significant actors in world research.

Among the best known are the Pasteur Institute (established in 1888 and named for Louis Pasteur), the Curie Institute (1909, Marie Curie), the Jean Dausset Foundation–CEPH (1984, named for a leader in mapping the human genome), and the Alzheimer Plan Foundation (2008).

www.centre-francais-fondations.org



CEPH was established 1984 by Jean Dausset (winner of the 1980 Nobel prize in medicine) and three of his collaborators: Daniel Cohen, Howard Cann, and Mark Lathrop.

CEPH's goal was to initiate and coordinate international collaboration toward mapping the human genome. It has since gained international renown.

Thanks to its biological resource center and high-output analytical platform, CEPH is an international point of reference in the study of human genetics. Following on its role in completing the genetic and physical maps of the human genome, CEPH is presently engaged in programs of research to identify the genes involved in diseases. Its expertise also extends to the analysis of data generated using so-called next-generation sequencing methods.

The Jean Dausset Foundation coordinates **GENMED**, a French laboratory of excellence (LABEX) whose purpose is promote the development of projects of genomic research focused on human pathologies.

www.genmed.fr/index.php/fr/

> INTERNATIONAL

The innovative model of international cooperation initiated by CEPH in 1984 has been replicated in other international projects on sequencing the human genome and studying human genetic diversity.

The foundation coordinates European program FP7 CAGEKID (Cancer Genomics of the Kidney).





A foundation operating in the public interest, the Curie Institute combines a research center of international renown and a leading cancer treatment center.

Founded in 1909 on a model that is as pertinent today as when first articulated by Marie Curie—"from basic research to innovative treatments"—the Curie Institute has pursued its three missions: research, care, and the preservation and transmission of knowledge.

The institute employs 3,000 researchers, physicians, caregivers, technicians, and administrators.

> ORGANIZATION

A research center housed at sites in Paris and Orsay is made up of more than 80 teams of biologists, chemists, physicists, physicians, and bioinformaticians. **12 research units** at the center are associated with CNRS, INSERM, and several universities. Multidisciplinary research work is supported by cutting-edge equipment for cellular imaging, bioinformatics, genomics, and proteomics.

Clinical research has played a major role at the Curie Institute since its founding. In 2011, a department of clinical research was formed at the hospital complex. More than 15% of the Curie Institute's patients participate in clinical trials, compared with the average of 5% at large American cancer centers.

<https://science.curie.fr>

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

The Curie Institute's research center maintains programs for foreign researchers, postdocs, and senior scientists on sabbatical:

<http://curie.fr/fondation/nous-rejoindre>Recherche>

Doctoral level

- About 10 international students are admitted each year to an international doctoral program financed through partnerships with university doctoral schools in the Île-de-France region:

<http://enseignement.curie.fr/en/studies/career>

- For the past 6 years, Curie Institute grants have enabled interns, assistants, and pharmacists to prepare a scientific dissertation. The grants are awarded through a competitive selection process:

<http://enseignement.curie.fr/en/content/phd-grant-physicians-0>

Postdoctoral level

Each year, some 80 new postdoctoral fellows, about half of whom are from outside France, join the pool of 300 postdocs working in Curie Institute labs:

<http://enseignement.curie.fr/en/studies/career>

Doctoral candidates and recent doctorates at the Curie Institute have their own association: <https://adic.curie.fr>



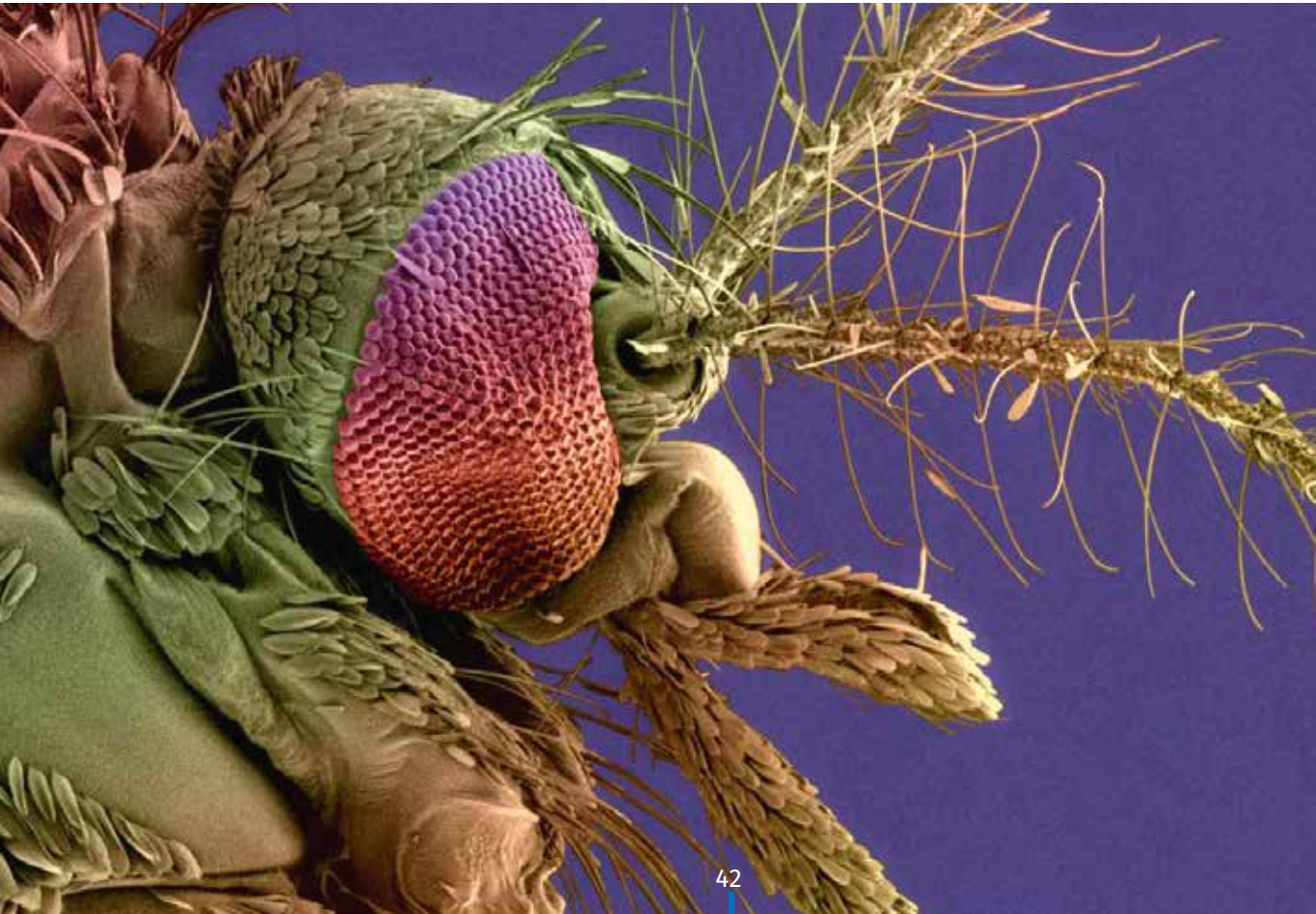
PASTEUR INSTITUTE

<https://www.pasteur.fr>



Founded by Louis Pasteur in 1888, the private, nonprofit foundation is a unique site of international biomedical research.

The Pasteur Institute's scientific strategy is based on strong support for curiosity-driven basic research.



> ORGANIZATION

The Pasteur approach to research rests on a tradition of investigating all levels of the living organism, multidisciplinary techniques, and a unique technological support structure.

Some 2,400 employees work together on the Paris campus. Of the total staff, more than 1,500 researchers, engineers, and students are grouped into **11 departments and 137 research unit** linked to CNRS, INSERM, or another major research organization.

19 major projects (e.g., Labex, Institut Carnot...)

10 Nobel prizes

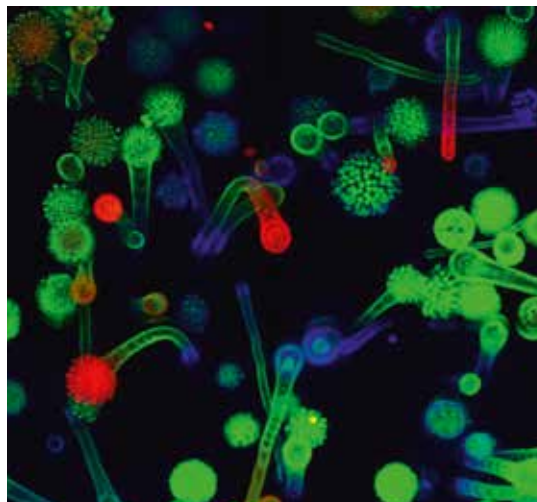
1,425 patents in the institute's portfolio are held jointly with CNRS (300) INSERM (228) or another patentee. Some have even been issued in the name of more than two patentees, evidence of scientific cooperation among several research organizations.

> INTERNATIONAL

32 institutes throughout the world

From the beginning, the Pasteur Institute has established facilities near the sites of pandemics. The first Pasteur Institute outside France was set up in 1891 in Saigon to vaccinate Vietnamese against rabies and smallpox. Proximity to sites of infection gives the Pasteur network a unique capacity for response and analysis and is a major factor in research, teaching, and public health. A web of cooperative training programs and an ability to intervene quickly place the Pasteur Institute on the front line of the fight against new, resurgent, and established infectious diseases.

<https://www.pasteur.fr/en/institut-pasteur/institut-pasteur-throughout-world>



© PASTEUR

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

The Pasteur offers funding and mobility assistance for dissertation research and writing, postdoctoral fellowships, internships, and periods of practical training for students, researchers, and technicians in science, with priority given to applicants from low-income countries:

<https://www.pasteur.fr/en/education>

<https://www.pasteur.fr/en/international-en>

<https://research.pasteur.fr/en/jobs/>

NATIONAL AGENCIES

Within the French government a number of institutes and national agencies support research action plans in specific fields (e.g., nuclear energy, the battle against cancer, or ecology).*

They conduct assessments, collect data and research results, and support young researchers.

[www.enseignementsup-recherche.gouv.fr/Recherche/Acteurs de la recherche](http://www.enseignementsup-recherche.gouv.fr/Recherche/Acteurs_de_la_recherche)

* Presented here are several agencies that have a dedicated research component. Agencies whose mission is to manage funding (such as ANR and ANRT) are not profiled here.



ADEME is the French government agency tasked with managing the ecological and energy transition. Its support for research, development, and innovation is an expression of public policies on energy and the environment, particularly those related to the energy transition: energy and climate; consumption, substances, and wastes; land development and media (soil, water).

ADEME is able to support doctoral candidates whose dissertations have one of the following aims:

- to strengthen human R&D capacity in the agency's areas of responsibility;
- to promote the production of new scientific or technological knowledge.

Over 25 years, more than 1,500 students have benefited from ADEME's assistance.

www.ademe.fr/en/the-thesis-programme





© ANDRA V. Paul Graphix

ANDRA, AGENCE NATIONALE POUR LA GESTION DES DÉCHETS RADIOACTIFS
NATIONAL AGENCY FOR THE MANAGEMENT OF RADIOACTIVE WASTE

www.andra.fr



ANDRA is responsible for the long-term management of radioactive waste products in France.

The aim of the agency's scientific programs is to plan for the storage of radioactive waste. France's experience with nuclear energy makes ANDRA a leading international source of knowledge and expertise. Accordingly, the agency takes part in numerous European and global projects and exchanges.

ANDRA has an annual program of funding for doctoral candidates.

© ANDRA M. Aubert





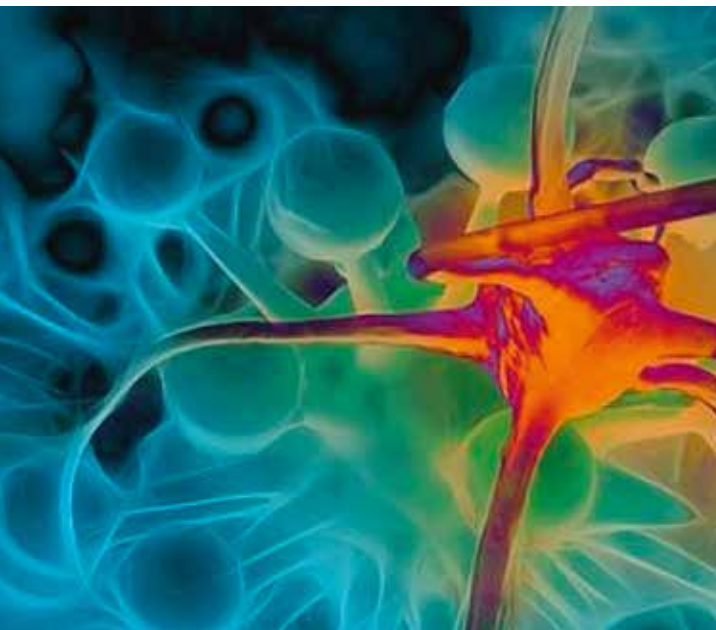
INCA, INSTITUT NATIONAL DU CANCER
NATIONAL CANCER INSTITUTE

www.e-cancer.fr



*INCA is France's center for scientific and health assessments related to cancer.
It is responsible for coordinating actions in the battle against cancer.*

One of INCA's principal objectives is to support cancer research (calls for proposals, assessments, data analysis). It brings together the French government, the major cancer associations, insurers, and the research arms of hospital federations.



WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

Each year INCA offers a variety of forms of financing: targeted programs, dissertation funding, and postdoctoral fellowships:

[www.e-cancer.fr/Professionnels-de-la-recherche/
Jeunes-chercheurs](http://www.e-cancer.fr/Professionnels-de-la-recherche/Jeunes-chercheurs)

[www.e-cancer.fr/Professionnels-de-la-recherche/
Jeunes-chercheurs/Programme-ATIP-AVENIR](http://www.e-cancer.fr/Professionnels-de-la-recherche/Jeunes-chercheurs/Programme-ATIP-AVENIR)

[www.e-cancer.fr/Professionnels-de-la-recherche/
Jeunes-chercheurs/Appels-a-candidature-en-SHS](http://www.e-cancer.fr/Professionnels-de-la-recherche/Jeunes-chercheurs/Appels-a-candidature-en-SHS)



RESEARCH INSTRUMENTS, FACILITIES, AND RESOURCES



France builds and participates in the deployment of cutting-edge instruments and infrastructure at the national, European, and international levels so that researchers in all disciplines (among them astronomy, biology, physics, chemistry, the earth sciences, and the human and social sciences) will have access to the best equipment in the best possible international scientific environment. **A pioneer in this regard, France is home to major international research infrastructure. Strategies for the development of future facilities are planned within a framework of European and international cooperation.**

Advanced instruments are built and deployed to make very sophisticated measurements at several **Très Grandes Infrastructures**

de Recherche (very-large-scale research infrastructures) facilities in France. At other **research infrastructure facilities**, only slightly more modest in scale, advanced equipment and research laboratories operate side by side, generating and analyzing data. Examples are observatories, particle accelerators, computing centers, and seismographs. The result of European and international partnerships, such facilities are essential elements of the French research landscape that welcome researchers from all over the world.

The development and management of such facilities, resources, and instruments are part of the mission of CNRS, which shares management responsibilities with its European and international partners.



TRÈS GRANDES INFRASTRUCTURES DE RECHERCHE (TGIR)

www.cnrs.fr/fr/recherche/tgir/les-tgir.htm

France's national research infrastructure of a very large scale (known in France as TGIR) and French participation in international TGIRs can be broken down into 6 broad groups.

- **Neutron and synchrotron radiation sources**

Examples: ESRF, the European synchrotron radiation facility, founded in 1988 in Grenoble, has 12 member countries and 22 associated countries; 7,000 scientists pass through the facility in any given year. In 2001, CNRS and CEA established the Soleil Synchrotron in Saint Aubin.

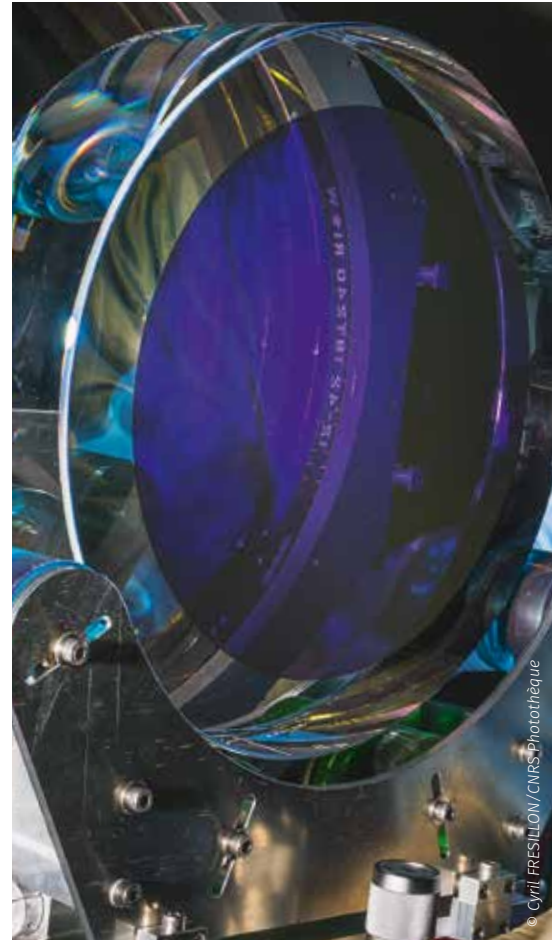
- **Space sciences**

- **Nuclear and particle physics** - Example: GANIL, the national large heavy ion accelerator in Caen (Basse-Normandie) is recognized as a major European research facility. It is one of the world's four major laboratories for research using ion beams.

- **Astroparticles** - Example: EGO, the European Gravitational Observatory and the VIRGO laser interferometer for detection of gravitational waves.

- **Human and social sciences** - Example: Humanum, which focuses on the digital revolution in the human and social sciences.

- **Computing** - Example: IDRIS, founded in 1993, is a major CNRS center for ultra-high-performance intensive digital computing.



© Cyril FRESILLON/CNRS-Photothèque



A TGIR for the earth sciences, the French oceanographic fleet plays a leading role on the international scene.

www.flotteoceanographique.fr

France's oceanographic fleet is composed of the naval research vessels of CNRS, IFREMER, IPEV, and IRD, which gather data in all domains of oceanography—among them marine geosciences, physical and biological oceanography, biogeochemistry and ocean chemistry, paleoclimatology, and marine biodiversity. The fleet consists primarily of ocean-going, coastal, and observation vessels, as well as other specialized equipment (Nautile, ROV Victor 6000, gliders, core drills, etc.).

The Marion Dufresne is one of Europe's largest oceanographic ships (120.5 meters in length) and the flagship of France's oceanographic fleet. Its substantial onboard scientific facilities, including sedimentary drilling equipment, make it unique in the world.



www.flotteoceanographique.fr/Calendriers-des-campagnes



> IPEV, THE PAUL-ÉMILE VICTOR FRENCH POLAR INSTITUTE

www.institut-polaire.fr

IPEV supports research at the earth's poles. From its headquarters in Brest, IPEV organizes the means required for scientific polar expeditions:

- 6 scientific bases: 1 in the Arctic, 2 in Antarctica, and 3 in the Austral Islands
- 70– 80 scientific programs
- an average of 10 oceanographic expeditions each year (by the polar vessel *Astrolabe* and the oceanographic vessel *Marion Dufresne*)

www.institut-polaire.fr/ipev-en/recrutement/



LES INFRASTRUCTURES DE RECHERCHE (IR)

www.cnrs.fr/fr/recherche/tgir/ir.htm

Major research facilities house advanced instrumentation and research laboratories under one roof. National at the time of their founding, the expansion of such facilities today has a European and usually more broadly international dimension. CNRS is the driving force of French participation in such ventures.

> 3 CNRS INSTITUTES MANAGE MAJOR RESEARCH INFRASTRUCTURE

- **INP, national institute of physics**

As an example, the European Magnetic Field Laboratory (EMFL) represents the merger of facilities for scientific applications of intense magnetic fields. The EMFL will combine 4 existing facilities: LNCMI (in Grenoble and Toulouse), Hochfeld Labor (Dresden), and the High Field Magnet Laboratory (Nijmegen).

- **INSU, institute of earth and space sciences**

The European Southern Observatory (ESO) is the largest intergovernmental scientific and technical organization. Its 13 member states operate a series of astronomic telescopes at the La Silla site near La Serena, 2,450 meters up in the Chilean Andes. CNRS participates directly in the funding of several aspects of the observatory, notably the Muse and Sphere instruments.



Within INSU, a unique regional network of observatories

France's 27 space science observatories include the Institut du Globe, founded in 1667, the *Observatoire de Paris*, the largest national center for research in astronomy, IMCCE (the institute of celestial mechanics and computation of ephemeris data), and the Observatoire de la Côte d'Azur.

Each observatory houses a joint research unit and, as such, employs doctoral candidates and postdoctoral fellows.

www.insu.cnrs.fr/osu

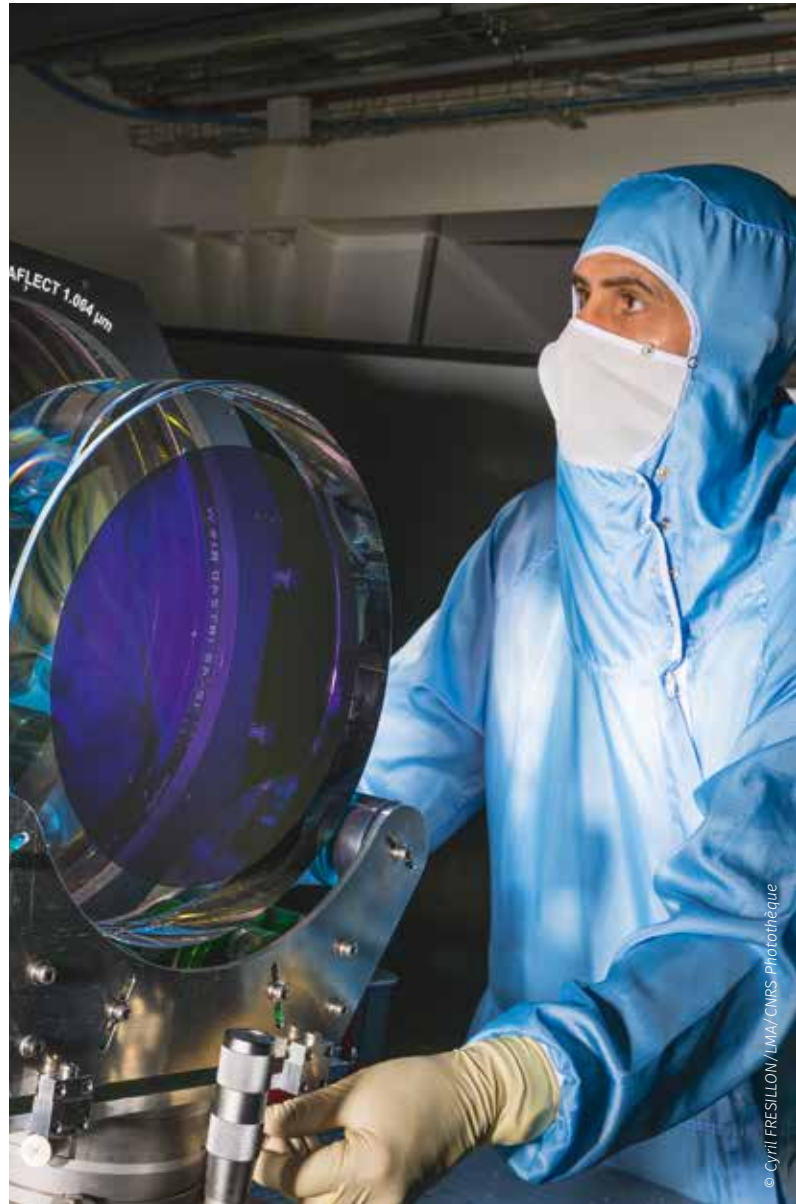
© Erwan AMICE / LEMAR / CNRS Photothèque



© Pascal ROBERT/OTELo/CNRS Photothèque

- **IN2P3, the national institute of nuclear and particle physics**

The best known of the institute's facilities are the Large Hadron Collider and the CC-IN2P3 computing center. But the institute also encompasses the Large Synoptic Survey Telescope and MEUST/KM3, which will deploy off the coast of Toulon a second-generation undersea facility that will eventually house a neutrino telescope in the Mediterranean Sea.



© Cyril FRESILLON/LMA/CNRS Photothèque

The background is a vibrant, abstract composition featuring various molecular models and data visualizations. In the upper right, a green DNA double helix is visible with the word 'DNA' in a light blue font. Below it, a large yellow sphere is surrounded by smaller white dots. To the right, a blue molecular structure with white spheres is shown. In the lower left, a blue and green molecular model is prominent. The overall color palette is dominated by blues, greens, and yellows, with a bright, glowing light source in the center-right creating a lens flare effect. The text is overlaid on this background in four colored banners.

RESEARCH INSTITUTIONS OF HISTORIC IMPORTANCE

Alongside France's universities and several of the Grandes Écoles, a number of historically important French educational and learned institutions have gained global prominence for their research work. This achievement attests to the place of research in French intellectual history and its ability to propel scientific advances.



These institutions are active participants in France's formation of major science clusters by grouping institutions of higher education with research bodies located nearby, using funding from the Investments in the Future program (€22 billion). The clusters are France's response to intensifying global competition in education, research, and innovation.



LE COLLÈGE DE FRANCE

www.college-de-france.fr

COLLÈGE
DE FRANCE
1530

Enseigner la recherche en train de se faire

The Collège de France, a public institution of higher education, is unique in France and has no equivalent abroad. Since the 16th century, it has had a twin vocation as the locus of bold and original research and as a lofty forum for the dissemination of knowledge.

Devoted to basic research, the *Collège de France*, dispenses “knowledge in the process of formation in all aspects of letters, the sciences, and the arts.” Its original structure of 47 chairs (4 of which are up for renewal each year and 3 are international) ensures academic freedom and responsive teaching and gives the college its **unique status as a thought leader for the scientific community.**

www.college-de-france.fr/site/en-research/index.htm

To be named professor at the Collège de France is considered one of the highest distinctions and forms of recognition in the scientific world. Among the great intellectuals who have held chairs are R. Aron, R. Barthes, E. Benveniste, H. Bergson, P. Boulez, P. Bourdieu, F. Braudel, G. Dumézil, P.G. de

Gennes, C. Lévi Strauss, and P. Descola. Holders of the chairs are elected by the full assembly of their peers.

> FREE ACCESS TO KNOWLEDGE

Famous throughout the world, the teaching dispensed at the Collège de France by the chair holders, notably the inaugural lectures, is of the highest academic and scientific value. Moreover, it is **open to the public without prior registration.** Publication of lecture and seminar schedules on the college’s website attests to the strength of the policy of free access to intellectual life.

www.college-de-france.fr/site/en > Teachings

www.college-de-france.fr/site/en-audio-video/index.htm

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

- Since 2006, the Collège de France has encouraged doctoral schools to offer doctoral candidates students credit for their attendance at lectures given by the professors of the Collège de France.
- The Collège de France accepts advanced doctoral students and postdocs from outside France as assistants to its chairholders and in its laboratories.
- ChAdoC, an association of research associates and doctoral candidates at Collège de France, organizes the network of young researchers. <http://chadoc-cdf.fr>



Founded in 1667, the Observatoire de Paris, France's largest center for research in astronomy, accounts for fully 30% of the nation's work in the discipline. Research topics cover all fields of contemporary astronomy and astrophysics. The observatory lends support to large projects devoted to the observation of the universe, contributes to the construction of large instruments (land- and space-based), and participates in major surveys, simulations, and virtual exercises.

> ORGANIZATION

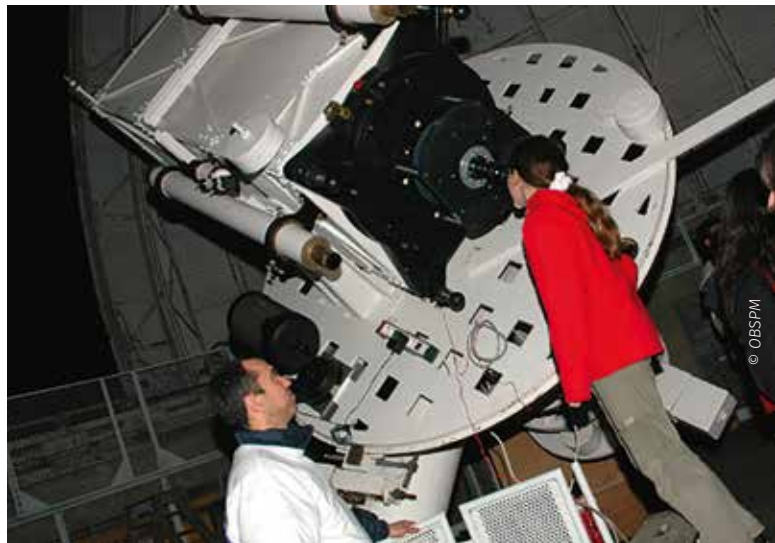
The *Observatoire de Paris* is made up of 5 scientific departments, an institute (the institute of celestial mechanics and computation of ephemeris data), and two scientific sections (the Nançay radioastronomy station and a teaching and research department akin to a university department). All of these components are affiliated with CNRS.

The *Observatoire de Paris* is a founding member of the Paris Science and Letters Initiative of Excellence, the goal of which is to create a "research university" of global renown in the next several years.

> INTERNATIONAL

CIAS, the international center for scientific workshops, housed at the observatory, is an important point of international interest. CIAS organizes lectures and workshops for French and foreign scientists, while also offering sessions for doctoral candidates and recent doctoral recipients from France and abroad.

<http://cias.obspm.fr>



WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

The *Observatoire de Paris* is associated with the doctoral department of astronomy and astrophysics of the Île-de-France.

<http://ufe.obspm.fr/Ecole-Doctorale/>

<https://www.obspm.fr/theses.html>



MNHN, NATIONAL MUSEUM OF NATURAL HISTORY



www.mnhn.fr

Founded in 1635, MNHN is a public institution dedicated to research and the dissemination of scientific knowledge about the natural world. It is one of the top institutions of its type in the world, rivaling London's Natural History Museum. Confronted with present-day threats to the health of our planet, MNHN occupies an important position reflecting its varied missions: basic and applied research, the conservation and expansion of its collections, education, expert advice, and the dissemination of knowledge.

> ORGANIZATION

12 sites in France

One of the historic hearts of Paris, the *Jardin des Plantes*, hosts MNHN's laboratories, galleries, small zoo, and classrooms, as well as the Paris Zoo, the *Musée de l'Homme*, two marine stations, an arboretum, botanical gardens, a prehistoric excavation site, and more laboratories.

As a center for research, the Museum has a staff of about 2,000—among them 500 researchers who alternate laboratory work with expeditions throughout the world in exercise of a wide range of disciplines: geology, paleontology, systematics, ecology, biology, microbiology, physiology, genetics, chemistry, biophysics, prehistory, anthropology, ethnology, and more.

7 research departments

- Ecology and management of biodiversity
- History of the Earth
- Human, nature, and society
- Aquatic settings and settlements

- Prehistory
- Molecular regulation, development, and diversity

<https://www.mnhn.fr/en> > [Research&Expertise](#)

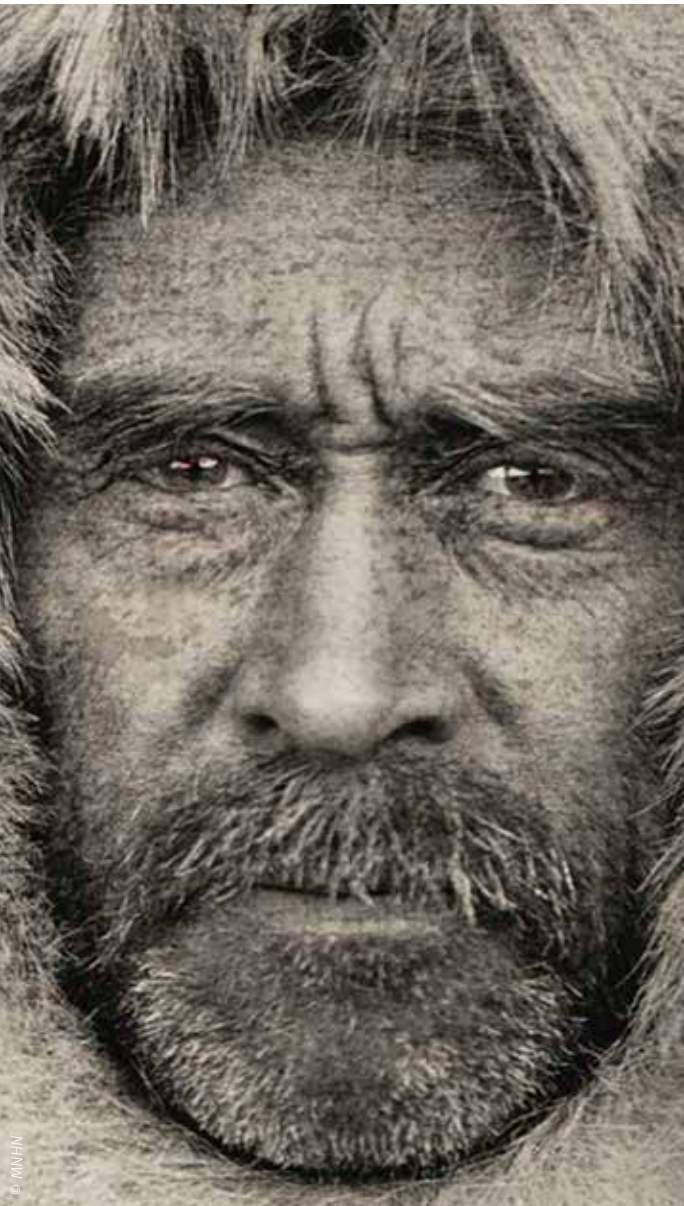
> THE EARTH'S MEMORY

MNHN houses one of the world's top three natural history collections (the National Herbarium, with 8 million items, including insect specimens and unique vertebrates), cultural objects and curiosities for the general public, and facilities for scientific research.

<https://www.mnhn.fr/en> > [Collections](#)

> INTERNATIONAL

Every year a thousand field missions spread out across the surface of every continent, as well as the oceans and the poles. Research in many disciplines is conducted with foreign teams under nearly a hundred cooperative agreements with other museums, universities, and research laboratories.



For 4 centuries, the Museum has produced major scientific discoveries in the natural sciences, including those made by Buffon in the 18th century and, in the 19th, Daubenton, Lamarck, Geoffroy Saint-Hilaire, and Cuvier.

Much of its activity today takes place in the context of international research on biodiversity and the preservation of species.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

By virtue of its many foreign partnerships, 30% of the museum's students are from outside France.

www.mnhn.fr/fr/enseignement-formation/enseignement-superieur



ENS, EHESS, AND EPHE—EMBLEMS OF THE HISTORY OF FRENCH RESEARCH



Émile Benveniste, Pierre Bourdieu, Fernand Braudel, Claude Bernard, Jacques Derrida, Georges Dumézil, François Furet, Françoise Héritier, Claude Lévi-Strauss, Gaston Maspero, Louis Massignon, Marcel Mauss, Gabriel Monod, Louis Pasteur, Lucie Randoin, Jean Paul Sartre, Ferdinand de Saussure, Germaine Tillion, Cédric Villani... These are just a few of the world-renowned thinkers associated with the historic schools that established France's reputation for research excellence.

ÉCOLE PRATIQUE DES HAUTES ÉTUDES (EPHE) - ÉCOLE DES HAUTES ÉTUDES EN SCIENCES SOCIALES (EHESS)

www.ephe.fr - www.ehess.fr

Founded in 1868 for the express purpose of preparing students to conduct high-level research, the *École Pratique des Hautes Études* is known today for specific fields of research pursued by its 3 sections: earth and life sciences, history and philology,

and religious studies. In 1975, the school's section on economics and the social sciences, then directed by Fernand Braudel, became the *École des Hautes Études en Sciences Sociales* under the direction of Jacques Le Goff.

Attesting to their modernity, EHESS and EPHE are taking leading roles in Campus Condorcet, a campus complex of European and international scope that will house more than 100 units for research in the human and social sciences.

> ORGANIZATION

The original model underpinning the two schools has enabled them to become leading (and sometimes unique) sites for research in very specific areas—among them the history, anthropology, sociology, language, and religions of pre-Islamic Central Asia; the great monotheistic religions; Chinese archaeology; Hebraic paleography; Greek dialectology; biodiversity in coral reefs; neurosciences; and cognitive sciences.

3 institutes: The European Institute for the Science of Religions; the Institute on Pacific Coral Reefs; and the Transdisciplinary Institute for the Study of Aging.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

The international mobility of students and faculty and the accommodation of doctoral candidates and invited foreign faculty are priorities of the two institutions.

Doctoral level

<https://www.ephe.fr/en/research/doctoral-school>

<https://www.ehess.fr/fr/travailler-lehess>

Postdoctoral level

<https://www.ephe.fr/en/international/researcher-mobility>

<https://www.ehess.fr/fr/accueil-chercheurs-%C3%A9trangers>

<https://www.ehess.fr/fr/taxonomie-rh/recrutement-post-doctorants>



RESEARCH AND SCHOLARSHIP

THE ÉCOLES NORMALES SUPÉRIEURES

www.ens.fr - www.ens-cacahan.fr -
www.ens-lyon.fr - www.ens-rennes.fr

The first *École Normale Supérieure (ENS)* was founded in Paris in 1794 during the French Revolution (on 9 Brumaire, Year III). By the beginning of the 19th century, it had already become the apex of French intellectual and scientific life.

There are now 4 ENSs: Paris, Lyon, Cachan (now known as ENS Paris-Saclay), and Rennes.

ENS Lyon, *ENS Paris* and *ENS Paris-Saclay* cover the literary and scientific disciplines. Rennes focuses on law, economics, management, computer science and telecommunications, mathematics, mechatronics, and sport sciences.

Research and instruction are closely linked at all four schools. The quality of their basic research is renowned in France and abroad. They fare well in international rankings:

www.ens.fr/en/ens/facts-and-rankings
www.ens-lyon.fr/en>events-awards

All four ENSs are participating in the formation of centers of scientific excellence. *ENS Paris* is a founding member of *Paris Sciences et Lettres*. *ENS Paris-Saclay* is affiliated with *Université Paris-Saclay*. *ENS Rennes* is a founding member of *Université Bretagne Loire*. *ENS Lyon* is a founding member of *Université de Lyon*.

> DID YOU KNOW?

A national network of centers for the human sciences
www.msh-reseau.fr

France's 23 *Maisons des Sciences de l'Homme* (centers for the human sciences),

full-fledged institutions for research and the dissemination of knowledge, are located all across the country. They house research facilities that operate under the authority of the universities and CNRS.

The *Fondation Maison des Sciences de l'Homme*, created by Fernand Braudel in 1963 in Paris, is an international crossroads of the human and social sciences, creating synergies among international scientific networks and communities and promoting interdisciplinary dialogue.

www.fmsh.fr/fr/la-fondation

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

The ENSs maintain the tradition of international openness through numerous international agreements that provide mobility grants and other modalities for the accommodation of international doctoral candidates, faculty, and researchers.

www.ens-lyon.fr/docteurant-scientifique/
www.ens-cachan.fr/version-francaise/international/ouverture-internationale/
www.ens-rennes.fr>international

THE INTERNATIONALIZATION OF RESEARCH IN FRANCE

The international orientation of French research is historically anchored in the creation, during the 19th century, of French overseas research institutes and Écoles Françaises abroad. These entities soon began to grapple with problems of the contemporary world and geopolitical changes.

The French research organizations described in this section have developed structures and mechanisms to facilitate international cooperation: joint international research units, associated international laboratories, associated research teams, overseas facilities, and integration of foreign researchers.



THE NETWORK OF ÉCOLES FRANÇAISES ABROAD

www.resefe.fr



ÉCOLES FRANÇAISES
À L'ÉTRANGER

Founded between 1846 and 1928, France's 5 Écoles Françaises abroad facilitate exchanges between French and foreign researchers. They also spread the benefits of France's scientific accomplishments.

All 5 schools have programs to fund doctoral study, internships, and academic stays by early-career researchers.

> École française d'Athènes - www.efa.gr

Dedicated to the study of Greece in its Balkan and Mediterranean context from prehistory to the present day, the school welcomes more than 300 researchers each year in 7 residences connected to archaeological work.

Apply: www.efa.gr>formation

> École française de Rome - www.efrome.it

The school is active not only in Rome but also the rest of Italy, North Africa, and the countries of southeastern Europe on or near the Adriatic Sea. Ten archaeological sites are active in Albania, Croatia, Italy, and Morocco.

Apply: www.efrome.it/candidater.html

> French Institute of Near Eastern

Archaeology in Cairo - <http://ifao.egnet.net>

Research work covers all periods of Egyptian history, with ongoing excavations all over the country (Nile Valley and Delta, oases, eastern and western deserts).

Apply: www.ifao.egnet.net/annonces/emplois/#84

> École française of the Far East - www.efeo.fr

Founded in Saigon in 1900, the school's research focus is the civilizations of Asia, from India to Japan. Through its 18 branches, the school has a presence in 12 Asian countries.

Apply: www.efeo>Recherche>Bourses

> La Casa de Velázquez - www.casadevelazquez.org

The school's research efforts cover the arts, languages, literatures, and societies of the Iberian countries, Latin America, and the Maghreb.

Apply:

www.casadevelazquez.org/es/inicio/candidaturas/investigadores/

> DID YOU KNOW?

A new form of **doctoral contracts with an international focus** is available to doctoral candidates whose dissertation research falls within the scientific programs of the five French schools abroad: www.resefe.fr>appels à candidatures



© IFRE

FRENCH RESEARCH INSTITUTES ABROAD

www.ifre.fr

Operating under the joint authority of the French foreign ministry and the CNRS, the network of French research institutes abroad comprises 27 institutions in 34 countries, to which 146 researchers and 244 doctoral candidates are welcomed each year.



Joint research units housed in French research institutes abroad constitute an exceptionally dense network of international laboratories. Thanks to close ties with prestigious scientific institutions in these countries, the network plays an essential role in France's overall research effort in the human and social sciences. Because of the presence of French research institutes abroad CNRS scholars and scientists in a wide variety of domains are able to spend long periods abroad in close proximity to the object of their research.

WELCOMING

DOCTORAL CANDIDATES, POSTDOCS, AND RESEARCHERS

www.ifre.fr/bourses

www.ifre.fr/postes



A VARIETY OF RESEARCH STRUCTURES TO PROMOTE INTERNATIONALIZATION

LIAS, LEAS, AND LMIS: THREE FORMS OF LABORATORIES WITH AN INTERNATIONAL CONNECTION

International associated laboratories (LIAs), associated joint laboratories (LMIs), and associated European laboratories (LEAs) are three ways of structuring joint projects in research, training, and innovation between one or more French teams and a lead partner abroad. All three forms are often precursors to a UMI, or international joint unit.

GDRIS, OR INTERNATIONAL RESEARCH GROUPS,

enable teams from two or more countries to network in pursuit of a joint scientific project.

UMIS, OR INTERNATIONAL JOINT UNITS,

are full-fledged joint laboratories having the same academic status as French UMRs (joint research units). UMIs are usually attached to one or more French laboratories that form a “mirror UMI.”

CNRS, a major player

has 182 LIAs, 107 GDRIs, 34 UMIs, 26 joint units with French research institutes abroad, and 8 offices abroad.

INRIA :

maintains 7 international labs.

INSERM :

has 2 UMIs, 2 GDRIs, and 35 LIAs / LEAs.

The Pasteur Institute

has 33 branches through the world

IRD :

maintains 31 LIAs.

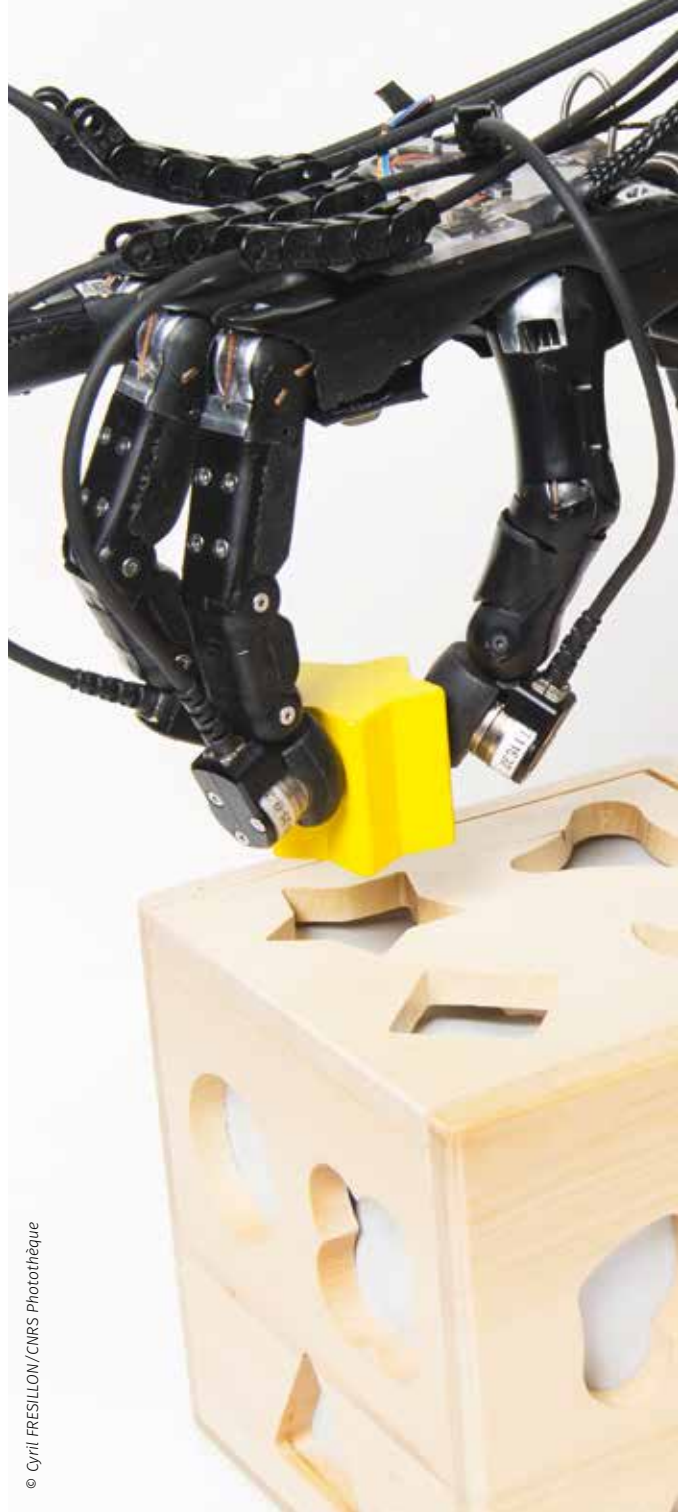
> FRANCE'S TRADITION OF WELCOMING FOREIGN RESEARCHERS

All of France's research organizations welcome large numbers (especially in proportion to the nation's size) of doctoral candidates, postdoctoral scholars and scientists, and researchers. In the same vein, France's universities and other postsecondary institutions have a policy of issuing invitations to established lecturers, scholars, and scientists. **This tradition of openness has enabled France to form close links with leading research bodies abroad and in this way to maintain an active international presence in all fields of science and to contribute to the solution of the most varied scientific problems.**

In France's three largest research organizations, the share of foreign researchers averages 14%. (The share at CNRS is 15%; at INSERM, 13%; and INRA, 8%.)

> KEY FIGURES

- **5%** of the researchers employed by French industry are from outside France.
- **41%** of the doctoral candidates in France are internationals.
- **CNRS** : 4,600 foreign researchers are welcomed each year into CNRS-affiliated laboratories; 1,750 full-time CNRS research personnel are internationals; agreements have been signed with more than 60 countries; CNRS maintains 392 different international cooperative programs in science and joint research projects.
- **CIRAD** : 800 researchers and technicians from all over the globe are trained each year. More than 400 doctoral candidates are doing dissertation research at CIRAD in any given year, 60% of them from the countries of the global South.
- **INRA** : 40% of the researchers hired in 2015 were not French nationals.
- **INRIA** : Of 2,600 collaborators from 87 different nations, 1,750 were scientific personnel.



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SCIENCE

ALL

AROUND US

*From museums to science expos,
science parks, media programs, and events,
science permeates everyday
life in France—at work and at play.*



© INRIA - C. Morel



SCIENCE—AN INTEGRAL PART OF CULTURE

Science is omnipresent in France in the form of events, exhibitions, and demonstrations. It is a vital and vibrant part of French culture, from the sublime to the everyday.

UNIVERSCIENCE

#1 science center Europe

4th most-visited cultural site in France



> CITY OF SCIENCE AND INDUSTRY

www.cite-sciences.fr

Dedicating to spreading the culture of science and technology, the Cité des Sciences pioneered an innovative model of promoting science that is now internationally famous (exhibitions, animation, the Géode, a media center, a children's section) and particularly well-suited for children.

> PALAIS DE LA DÉCOUVERTE

www.palais-decouverte.fr

Created in 1935 to demonstrate to the most varied audiences “how science is done” and to “bring science out of the lab,” the driving force of the Palais de la Découverte is to present basic research and its methods. Today, 20 exhibit halls and 80 daily presentations advance public understanding of science.



NETWORK OF TECHNICAL MUSEUMS AND COLLECTIONS

www.remut.fr

Founded in 1794 with the motto, "We must enlighten the ignorant, who do not know, as well as the poor, who lack the means to know," the Musée des Arts et Métiers in Paris is one of the world's oldest technical and industrial museums. It coordinates the network of technical museums and collections, which consists of more than 150 museums throughout France and 12 categories of collections (among them machinery, agriculture, transportation, and construction).

CENTERS OF SCIENTIFIC, TECHNICAL, AND INDUSTRIAL CULTURE

www.ccsti.fr

The history of France's centers of scientific, technical, and industrial culture, or CCSTIs, parallels the ongoing popularization of the sciences: from the museums of natural history of the 17th century to the creation of the first CCSTI in Grenoble in 1979. Dedicated to making science intelligible to the general public, CCSTIs are found throughout France.

> **NAUSICAÀ** - At the national center on the sea in Boulogne-sur-Mer in northern France visitors can explore marine environments.

www.nausicaa.fr

> **CAP SCIENCES** in Bordeaux. www.cap-sciences.net

> **LA CASEMATE** in Grenoble. <http://lacasemate.fr>

> **LA CITÉ DE L'ESPACE** in Toulouse.

www.cite-espace.com



THE INSTITUT DE FRANCE

www.institut-de-france.fr

Founded on 3 Brumaire of Year IV (October 25, 1795), the *Institut de France* comprises 5 academies: the French Academy (founded in 1635); the Academy of Inscriptions and Literature (founded in 1663); the Academy of Sciences (founded 1666); the Academy of Fine Arts (created in 1816); and the Academy of Moral and Political Sciences (founded in 1795, abolished in 1803, and reestablished in 1832).

Their common mission is the diffusion and application of knowledge. Each organizes exhibitions, colloquia, and events; each confers prizes and makes monetary awards.

SCIENCE—AN INTEGRAL PART OF CULTURE

THEME PARKS AND NATURE PRESERVES

> 341 NATURE PRESERVES

www.reserves-naturelles.org

> FUTUROSCOPE, www.futuroslope.com

> MICROPOLIS, la cité des insectes

www.micropolis-aveyron.com

> VULCANIA, www.vulcania.com



SCIENCE MONTH

<https://www.fetedelascience.fr>

October is science month in France; events and meetings are held throughout the country.

> AN ANNUAL PRIZE FOR THE POPULARIZATION OF SCIENCE

The “*Goût des Sciences*” (flair for science) prize is awarded annually to an author who has made a substantial contribution to the public understanding of science.

> A EUROPEAN NIGHT OUT WITH LOCAL RESEARCHERS

<http://nuitdeschercheurs-france.eu>

Every September in a hundred cities of Europe, including 12 in France, an evening event gives people an opportunity to get to know researchers in all disciplines. The events are held in unusual or specially staged settings.





FESTIVALS OF SCIENCE FILMS

www.film-documentaire.fr

Numerous festivals are held throughout the year, often in partnership with CNRS Images. Examples include Pariscience, the international science film festival; the astronomy film festival in the Vendée; and the research film festival in Nancy.



MY DISSERTATION IN 180 SECONDS

<http://mt180.fr>

A contest in which doctoral candidates are given 3 minutes to present their research project in simple, convincing language to a diverse lay audience with the help of a single slide!



STAR NIGHT

<https://www.afastronomie.fr/les-nuits-des-etoiles>

In summer, the season for shooting stars in France, more than 300 stargazing events are held. The events center on a different theme each year.

EUROPEAN MUSEUM NIGHT

<http://nuitdesmusees.culturecommunication.gouv.fr>

Designed to be fun, this event is a public invitation to discover the culture treasures of museums in France and 30 other countries in Europe. Special attention is paid to young audiences.



WHY NOT DO

YOUR

RESEARCH IN FRANCE?

**CHOOSE FRANCE FOR YOUR RESEARCH PROJECT
AND ENJOY EXCELLENT FACILITIES
AND A GREAT RESEARCH TRADITION**

> A NON-STOP RESEARCH-SUPPORT EFFORT

Even in the face of the rising research capabilities of China, South Korea, Brazil, India, and other countries experiencing rapid growth in science and technology, France has been able to retain its place among the world's great research powers.

In 2014, with more than 266,000 researchers (expressed as full-time equivalents), France ranked 8th in the world and 2nd in the European Union (after Germany).

Since 2000, the number of researchers in France has increased 55%, which equates to an annual growth rate of 3.4%, higher than the rates of Germany (2.5% annual growth, on average), the United States (2%) and Japan (0.2%).

> INTERNATIONAL RECOGNITION OF FRANCE'S MAJOR RESEARCH ORGANIZATIONS

■ **3 of France's research organizations are in the world's top 10** for innovation in the Thomson-Reuters ranking of the 25 public institutions that are doing the most to advance science and technology in the world.

CEA is number 2 in this classification, CNRS number 8, and INSERM number 9. The Pasteur Institute also made the grade, ranking 17th.

CNRS always does well in international rankings.

■ For the 6th year running CNRS is among the globe's 100 greatest innovators, appearing in the Thomson-Reuters Top 100 Global Innovators in 2016 and ranking 8th in the Top 25 Global Innovators in 2017.

■ In the 2016 Scimago Institutions Rankings, CNRS held its place as the world's leading research institution in terms of scientific publications, beating out the Chinese Academy of Sciences, Harvard University (United States), and the Russian Academy of Sciences.

■ In 2017, CNRS earned the HR Excellence in Research label from the European Commission for its strategy of human resources in research. In garnering the label, CNRS joins INRA, INSERM, and several of France's universities.

> THE APPEAL AND THE EXCELLENCE OF FRENCH RESEARCH TRAINING

By virtue of its traditions of excellence and international openness, France has always been one of the most attractive countries for international doctoral candidates. In fact, 41% of the doctoral candidates in France are from outside the country, performing research in every conceivable field.



THE DOCTORATE IN FRANCE

The Doctorate in France dates back to the formation of the University of Paris (Sorbonne) in the 13th century. In the course of many changes and with the development of the higher education system, the French doctorate retained its original characteristics: learning to do research by doing it—specifically, pursuing a project of original research, describing that research in a dissertation, defending the dissertation before a jury, and receiving a diploma in recognition of the original research performed and conferring the title of “doctor,” the top level in the postsecondary system.

The medieval theological tradition gave rise to the first “Doctors,” an honorific indicating a person qualified to generate ideas and expand on them.

The English PhD, or Doctor of Philosophy, is based on the Greek expression Philosophiae Doctor meaning “love of knowledge” and suggesting the French connotation of an expert in a given field of knowledge.





The Doctorate is the highest of the three levels formalized by the so-called Bologna process dating from the 1990s. The levels rise from Bachelor (*Licence*, in France) to Master to Doctorate.

Universities have been and remain the source of most of the Doctorates granted in France. But growing numbers of schools of engineering and a few schools of management are now jointly empowered (under various arrangements but always in association with a university doctoral department) to grant the doctorate.

In the publicly funded research sector, a Doctorate is a prerequisite for employment as a researcher or research faculty member (a researcher with limited teaching responsibilities).

In 2015, **14,540** Doctorates were conferred in France. Half were in the sciences, **20%** in the human sciences or humanities, and **14%** in the social sciences.

DOCTORAL SCHOOLS

> DOCTORAL SCHOOLS ARE THE NERVE CENTER OF DOCTORAL TRAINING

University-affiliated doctoral schools (known as *Écoles Doctorales - ED*) across France assure prospective scientists and scholars that they will be trained in research by conducting research within research teams responsible for supporting their development and career preparation. Training lasts 3 years and concludes with the defense of a thesis.

Doctoral candidates are the lifeblood of the research enterprise.

The doctoral department is defined as a federation of research units or laboratories. It oversees the recruitment of doctoral candidates, monitors the quality of doctoral research, and tracks the progress of candidates' unfolding careers. All the while it participates in the international scientific cooperation conducted by the university of which it is a part.

In 2017, 271 doctoral schools affiliated with 72 universities were operating throughout France.

Directory of doctoral schools:

<http://ecoledoctorales.campusfrance.org/phd/dschools/main>

> HOW DOCTORAL SCHOOLS ARE ORGANIZED

Nearly all doctoral schools are affiliated with universities. They are accredited by the French government and evaluated every 5 years by HCERES. The accreditation is valid for specified fields of science and scholarship.

Doctoral schools are led by a director who is assisted by a council. The director is the link between doctoral candidates and the university.

The council, which determines and adopts the department's action program, is primarily made up of representatives of the





institutions, research units, and research teams associated with and active in the department. Up to 20% of the council's members are candidates within the department, elected by their peers.

The doctoral schools organize and oversee doctoral training.

Their functions include recruitment and registration of candidates, allocation of funding, tracking the progress of work, organizing training sessions, and clearance for the dissertation defense. Their overarching responsibility is to provide future scholars and scientists with a high level of academic and professional support and to help them take the first steps toward their career in research.

The department's individual research units are responsible for choosing candidates and drafting their research plan, but the department must ratify both the hiring decision and the research plan.

Candidates enroll in the university with which the department is affiliated.

> DID YOU KNOW?

THE DISSERTATION AGREEMENT

Preparation of a dissertation rests on an agreement between the candidate and the dissertation director that lays out mutual commitments. The agreement covers the choice of topic and the working conditions required for advancement of the research. Once candidates register with the university, they sign the agreement, as do the dissertation director, the director of the department, and the head of the laboratory in which the candidate will work. Ultimately, the agreement is a guarantee of academic quality.

The Ministry of Higher Education, Research, and Innovation has developed a model dissertation agreement that can be adapted by individual universities and doctoral schools. Some examples follow:

Université Lille 1

www.univ-lille1.fr/digitalAssets/41/41578_Charte_theses_2014.pdf

Université Paris-Sorbonne

www.paris-sorbonne.fr/IMG/pdf/CHARTE_DES_THESSES_2011-2.pdf

Université Fédérale Toulouse Midi Pyrénées

https://www.univ-toulouse.fr/sites/default/files/chartetheses_2014.pdf

Paris-Saclay: https://www.universite-paris-saclay.fr/sites/default/files/2015_08_10_charte_du_doctorat_1.pdf

DOCTORAL TRAINING

Over a period of 3 years (or, exceptionally, as long as 6) doctoral candidates learn by doing, performing research so as to master its techniques and develop a nose for innovation. Training begins **once a dissertation topic has been approved** by a doctoral department. The heart of the doctoral enterprise is original research performed within a research unit over a limited period under the supervision of a director of doctoral research. It concludes with the preparation and defense of a dissertation. The defense involves a presentation of the scientific work performed by the candidate; the defense is validated by the scientific community in the form of the jury that hears and accepts the defense.

> INFO

The director of doctoral research is a key figure. He or she is responsible for the development and evolution of the doctoral plan over the 3-year training period. As the candidate's direct supervisor in the lab, he or she must co-sign the dissertation agreement, monitor the research project, and support its progress. To direct doctoral research, individuals must have earned a specific qualification known as *Habilitation à Diriger des Recherches* (HDR).

> THE PROFESSIONALIZATION OF DOCTORAL TRAINING

In addition to their research-support functions, doctoral schools offer complementary education and training:

- Candidates complete approximately 160 hours of instruction over the 3-year period of doctoral training.
- Some parts of the instruction are required; the rest may be freely chosen by the candidate.
- Each doctoral department manages its own program of complementary education.

Examples:

- Methodology and language mastery: editing of scientific articles, French language courses, etc.
- Business and innovation: startups, management, project management, etc.
- Academic courses: summer sessions, seminars, etc.
- Teaching and presenting science to lay audiences: communication, science journalism, etc.





> WRITING, DEFENDING, AND SUBMITTING THE DISSERTATION

Writing a dissertation is an integral part of the doctoral enterprise. The objective of the dissertation is to ensure dissemination to the scientific community of the results of the research performed. The task of preparing the dissertation is also a test that the candidate possesses certain skills required of good researchers. Among these are (i) the ability to synthesize and a critical eye with respect both to the literature and to one's own results; (ii) the ability to express oneself in writing; and (iii) the ability to manage one's time.

Defending the dissertation is the oral test that caps the dissertation process. It gives young researchers the opportunity to present their research and to discuss it critically with a jury composed of researchers and professors.

Submitting the dissertation: The institution granting the doctorate is required to provide public notice of defended dissertations, but the candidate is responsible for submitting the final manuscript, before the defense, to the institution. The submission is a formal filing that serves to archive the dissertation.

National database of dissertations:

www.theses.fr

A dissertation portal is maintained by ABES, the bibliographic agency for higher education:

www.abes.fr/Theses/Mission-Theses-signallement-et-valorisation

> INFO

SUDOC, the university documentation system, publishes a joint catalog of the libraries of France's institutions of higher education and research. The SUDOC catalog comprises more than 12 million entries covering books, dissertations, master's theses, periodicals, electronic resources, audiovisual documents, letters, musical scores, and ancient books and manuscripts. One of SUDOC's missions is to collect all of the dissertations produced in France. www.sudoc.abes.fr



THE VARIOUS WAYS

OF DOING A DOCTORATE

> TRADITIONAL DOCTORATE

The candidate works in single research unit under a single dissertation director. He is enrolled in an institution accredited to grant doctoral degrees, defends his dissertation within that institution, and receives a French Doctorate.

> JOINTLY DIRECTED DOCTORATE

The candidate works in 2 different research units, at least one of which is French. (The 2 units may be in the same lab but have 2 different directors.) The candidate has 2 dissertation directors, is enrolled in a single university, defends the dissertation in that university or another (if another is involved), and receives a French Doctorate. This arrangement allows for a sharing of resources and expertise.

> JOINTLY AWARDED DOCTORATE

The candidate works in 2 research units (1 in France and the other abroad) under 2 research directors. She is enrolled in both universities under an agreement spelling out the conditions for jointly awarded degrees. She defends her dissertation in either of the two universities and either receives a single degree awarded jointly by the two institutions (joint diploma) or 2 separate degrees (double diploma).

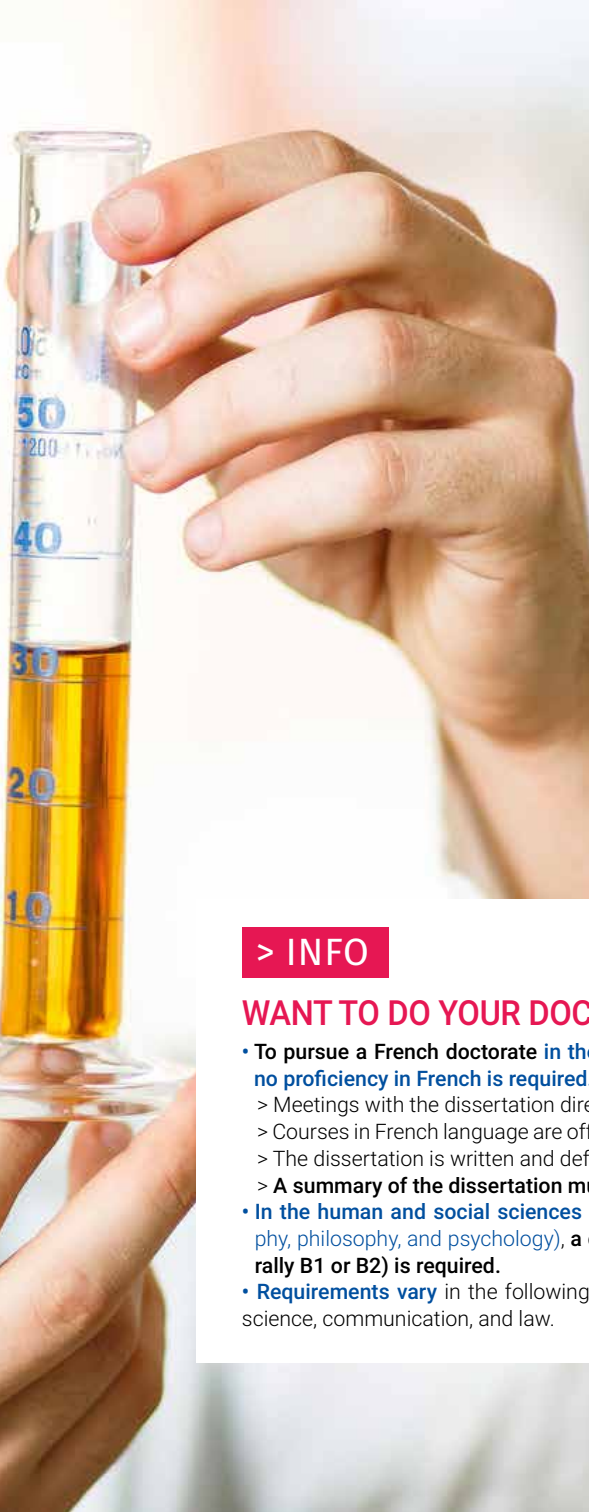


> DOCTORATE FOR RESEARCH PERFORMED IN A CORPORATE SETTING

The CIFRE mechanism (the acronym stands for industrial agreements for training through research), managed by ANRT, the French national agency for research and technology, offers financial incentives to

The French government's Eiffel Excellence Program provides funds to allow international doctoral candidates to spend up to 10 months in France while working toward a jointly directed or jointly awarded Doctorate.





French corporations that employ doctoral candidates in a program of collaborative research with a publicly funded laboratory. The period of employment lasts 3 years and ends with the dissertation defense.

The firm proposes a research goal that becomes the subject of the dissertation of the employed doctoral candidate.

The research lab oversees the research work of the doctoral candidate, who is enrolled in the doctoral department with which the lab is affiliated.

Some offers of employment may pertain to specific countries (e.g., India, Morocco) or to specific programs (such as CIFRE EITDigital).

www.anrt.asso.fr/fr/espace_cifre/accueil.jsp

> DID YOU KNOW?



THE EUROPEAN JOINT DOCTORATE

Horizon 2020, the European Union's program for research and innovation, has implemented the European Joint Doctorate within the framework of the Marie Skłodowska-Curie Actions. The program provides international students with financing for a 36-month period of doctoral training at a European institution of higher education belonging to a consortium of at least 3 institutions from 3 different countries.

Upon successful completion of the program, students receive a joint doctoral degree (double or even triple diploma).

Applications for funding are made through the coordinating institution of the consortium. http://ec.europa.eu/research/mariecurieactions/about/innovative-training-networks_en

> INFO

WANT TO DO YOUR DOCTORATE IN ENGLISH?

- To pursue a French doctorate **in the exact sciences, engineering, or biology no proficiency in French is required.**
 - > Meetings with the dissertation director are conducted in English.
 - > Courses in French language are offered during the candidate's time in France.
 - > The dissertation is written and defended in English.
 - > **A summary of the dissertation must be provided in French.**
- **In the human and social sciences** (linguistics, anthropology, history, geography, philosophy, and psychology), **a certain level of French proficiency (generally B1 or B2) is required.**
- **Requirements vary** in the following disciplines: business, marketing, political science, communication, and law.



APPLYING TO

TO A

DOCTORAL PROGRAM

> PREREQUISITES

Anyone holding a European Master's degree or the equivalent may apply for admission to a doctoral program.

> ADMISSION

Admission decisions are made following submission by the candidate of a research proposal (dissertation topic) backed by a qualified research director affiliated with one of France's 271 doctoral schools. A doctoral plan is drawn up in concert with one of the department's research units and then approved by the department. The candidate then enrolls in the university (or other institution) to which the doctoral department is attached.

> THE DISSERTATION PROPOSAL

Because admission often depends on the availability of financing, the procedure for proposing a dissertation topic has evolved. Traditionally developed by the student and proposed to a research director, the research topic is now usually proposed by representatives of institutions (doctoral schools; research labs; national, European, or international research sponsors; industrial firms) in light of what financing may be available.

In the exact sciences (physics, chemistry, mathematics, biology, engineering), **where financing is a requirement**, prospective candidates should apply by responding to announcements of proposed topics from dissertation directors; such topics are often already financed.

In the human and social sciences (history, law, political science, philosophy, geography, etc.), **where financing is not necessarily required**, prospective candidates are free to propose a topic to a research director, who may then have it approved by the doctoral department.



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SELECTING A DISSERTATION TOPIC AND

A DOCTORAL DEPARTMENT AND OBTAINING FINANCING

The prospective candidate's preferred dissertation topic will influence the choice of an appropriate doctoral department. The topic is also often influenced by the likelihood of finding financing for the proposed research.

> TODAY, FUNDED OR FUNDABLE DISSERTATION TOPICS ARE SUGGESTED ON A VARIETY OF WEBSITES

- Doctoral schools and research organizations
- CIFRE, for doctoral research to be performed within an industrial firm: www.anrt.asso.fr/fr/espace_cifre/accueil.jsp
- ADUM, the network of doctoral schools, which publishes calls for proposals and funded dissertation topics: <http://www.adum.fr>
- Financing programs of the European Union: <https://euraxess.ec.europa.eu/funding/search>

> TUITION

The annual tuition for French doctoral programs is €391.

In 2016, for the convenience of international students, Campus France began building a research portal that will compile and publish suggested dissertation topics and offers of financing. The purpose of the portal is to serve as a point of departure for planning a research period in France. As of April 2017, the portal included ADUM's dissertation offers (1,400 offers on line).

FINANCING

YOUR

DOCTORAL STUDIES

Because earning a doctorate is recognized as a professional research experience, most candidates benefit from an employment contract and must be financed.

> SEVERAL FINANCING OPTIONS ARE POSSIBLE

1/ Financing from the host institution. French doctoral schools, laboratories, research organizations, and firms publicize on their websites dissertation topics that they are willing to fund.

- University doctoral contracts pay roughly €1,400 a month (net) for a period of 3 years. The doctoral department funds the dissertation topic from its own budget, either entirely or to complement the candidate's own funds.
- Contracts from research organizations such as CNES, CNRS, or CEA pay approximately €1,500 a month (net).

2/ Financing from the candidate's government. The governments of some countries provide funds for overseas doctoral study by their nationals. Examples are Mexico's Conacyt scholarships and Algeria's ProFas B+ program. These programs typically pay between €900 and €1,500 a month. Candidates may obtain information from the French embassy in their country.

3/ The European Joint Doctorate. Financing generally extends over 36 months. http://ec.europa.eu/research/mariecurieactions/about/innovative-training-networks_en

4/ Corporate financing under a CIFRE contract. Doctoral candidates working under CIFRE contracts receive approximately €1,800 a month (net) for 3 years. www.anrt.asso.fr/fr/espace_cifre/accueil.jsp

5/ Personal funds. Prospective candidates may choose a topic and apply to a doctoral department, specifying that they intend to meet their living expenses from their own funds.



> DID YOU KNOW?

L'INTELL'AGENCE: THE BERNARD GREGORY ASSOCIATION

The website of the Bernard Gregory Association compiles and publicizes offers from employers seeking doctoral recipients in all fields and of all ages. It also publishes funded thesis topics for master's-level programs (including engineering) and internship offers connected with 2-year research master's programs www.abg.asso.fr/Page/Offer/SearchOffer.aspx

> INFO

ANDES, the national association of doctoral recipients, publishes a financing guide: <http://financements.andes.asso.fr>

Doctoral contracts:

www.etudiant.gouv.fr/cid96370/contrats-doctoraux.html

> ADMISSION TO A DOCTORAL PROGRAM—STEP BY STEP

- Identify the research field (and specializations) most closely related to your master's degree
- Identify the doctoral schools and research organizations active in that field
- Visit their websites to respond to online offers or propose a dissertation topic
- Contact the dissertation director
- Locate a source of financing
- Following agreement on a dissertation topic, apply for admission to the doctoral department
- Upon acceptance by the doctoral department and dissertation director, sign the dissertation agreement

THE CAMPUS FRANCE RESEARCH PORTAL



www.campusfrance.org/researchers

In 2016, Campus France launched a research portal designed to provide one-stop access to all the information international students need to plan a research project. The portal includes (or will soon cover) the following:

- A directory of doctoral schools
- A compilation of current doctoral research offers (financed or not), postdoctoral fellowships, and internships at the research master level announced on the sites of France's doctoral schools, research organizations, and other actors
- Information and contacts for research organizations and laboratories
- News about research in France
- Campus France profiles
 - > doctoral schools, including a description of the department, contact information, associated laboratories, practical advice on preparing a dissertation
 - > degrees, including international joint doctorates
 - > research fields in France, with information on how they are organized and their current areas of focus

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> FIND A DOCTORAL DEPARTMENT

The Campus France directory of French doctoral schools is a search tool that enables users to rapidly identify the doctoral schools and laboratories that are the best match for their research theme. The directory provides contact information, links, research directions, admission requirements and contacts, international student support services, funding opportunities, international activities, and more.

The entry for each department lists associated research laboratories and their contact information, thereby providing access to all publicly funded French research labs (about 2,500 facilities).

<http://doctorat.campusfrance.org/phd/dschools/main>

> FIND A PROPOSED DISSERTATION TOPIC

Linked to this directory is a tool that searches for dissertation topics of interest to French doctoral schools and research organizations.

<http://ecolesdoctorales.campusfrance.org/fr/phd/offers>

The platform includes:

- **topics financed by the host institution** (academic doctoral contracts; corporate CIFRE contracts)
- **topics of interest to scholarship programs** financed by foreign governments, European institutions, and others
- **laboratory internship opportunities**
- **postdoctoral openings** in French laboratories
- **topics not accompanied by financing**

Users may elect to receive alerts whenever a topic that matches their criteria is posted.

**Currently,
about 1,400 proposed
dissertation topics are online.**



RESEARCH SUPPORT

THE EUROPEAN WAY

Horizon 2020, the ambitious European research-support program, provides opportunities for young researchers from all over the world.



The Marie Skłodowska-Curie Actions (MSCA)

The European Union's framework program for research and innovation includes the MSCA, a set of excellence initiatives designed to promote career development among researchers from Europe and elsewhere in the world. Several actions support international mobility for researchers at the doctoral and postdoctoral levels. <http://ec.europa.eu/research/mariecurieactions/>

French government site for the MSCA:

www.horizon2020.gouv.fr/pid29758/actions-marie-sklodowska-curie.html

EU program search engine: http://cordis.europa.eu/projects/home_en.html



In 2017, Europe will pass the milestone of 100,000 researchers supported by the MSCA.

> DOCTORAL LEVEL

MSCA-ITN (Innovative Training Networks)

As part of the MSCA, ITNs offer an innovative doctoral training framework to promote career development among academic and nonacademic researchers.

The ITN program provides support for doctoral programs offered jointly by groups of universities, research organizations, firms, and other socioeconomic actors in different countries of Europe and beyond. A variant is the European Training Network. Two of the degrees offered are:

- European Industrial Doctorate
- European Joint Doctorate

http://cordis.europa.eu/search/simple_en>Programme>Horizon 2020

European Joint Doctorates (EJD)

Ces programmes sont accessibles à tous les étudiants étrangers.

EJD programs are open to all international students. They offer a stipend of approximately €3,000 a month, generally for a period of 36 months, to enable qualified students to complete a doctoral program with a European institution of higher education belonging to a consortium of at least 3 institutions in 3 different countries. Applications for funding are made through the coordinating institution of the consortium.

http://ec.europa.eu/research/mariecurieactions/about/innovative-training-networks_en

MSA-COFUND

http://cordis.europa.eu/projects/home_en.html

This action encompasses the formation or international expansion of regional or national doctoral programs. Various French institutions manage COFUND programs in order to strengthen the international mobility of researchers.

Some examples from 2016:

IC-3i International PhD Program, managed by the Curie Institute (sciences, medicine): <http://enseignement.curie.fr/en/ic3iphd>

Pasteur-Paris University International Doctoral Program, managed by the Pasteur Institute (sciences, medicine): [https://www.pasteur.fr/en>Education Programs >Doctoral and Post-doctoral programs >Pasteur Paris University International program \(PPU\)](https://www.pasteur.fr/en/Education/Programs/Doctoral%20and%20post-doctoral%20programs/Pasteur%20Paris%20University%20International%20program%20(PPU))

INSPIRE, managed by Université Paris Sorbonne Cité (multidisciplinary): <http://www.sorbonne-paris-cite.fr/fr/node/1017>

DOC2AMU, managed by Aix Marseille Université (multidisciplinary): <http://doc2amu.univ-amu.fr/en>

> POSTDOCTORAL LEVEL

Individual fellowships

The goal of the program is to enable experienced (postdoctoral) researchers to develop their potential through international mobility. Interested candidates must submit an application to a host institution in France, which will pass it on to the European Commission for evaluation. There is one filing date each year!

MSCA – COFUND

http://cordis.europa.eu/search/simple_en>Programme>Horizon 2020

This action encompasses the formation or international expansion of regional or national postdoctoral programs. Various French institutions manage COFUND programs in order to strengthen the international mobility of researchers to and from France.

Some examples:

AgreenSkills plus, managed by Agreenium and INRA (agriculture, nutrition, environment, animal health): <https://www.agreenskills.eu>

EURIAS, managed by the French network of institutes of advanced study (human and social sciences): www.2017-2018.eurias-fp.eu

SMART Loire Valley Programme, managed by Studium (multidisciplinary):

www.lestudium-ias.com/content/studium-research-fellowship



PRESTIGE, A EUROPEAN PROGRAM FOR RESEARCHERS TRAVELING TO OR FROM FRANCE, MANAGED BY CAMPUS FRANCE

<http://prestige-postdoc.fr>

Launched in 2014 for a period of 5 years, coordinated by Campus France, and cofinanced by the European Union via €6 million from the Marie Curie Actions (COFUND/FP7), the PRESTIGE program supports the international mobility of researchers to and from France. Encompassing all fields of science and scholarship, PRESTIGE grants cofinancing subsidies to institutions for use in supporting international researchers selected by international experts. To assemble its panel of experts, Campus France compiled a database that in 2016 contained some 1,300 experts from all over the world.

In 2016 more than 130 researchers of more than 30 nationalities in more than 60 French host institutions (universities, postsecondary schools, research centers, researcher organizations) were assisted by PRESTIGE funds.



POSTDOCTORAL

CONTRACTS

Once you have earned your doctorate, consider a postdoctoral contract in France to gain real professional research experience and get your career in motion.

> THE POSTDOC—THE FIRST REAL PROFESSIONAL EXPERIENCE AS A RESEARCHER

Fixed-term postdoctoral contracts are designed to permit holders of a Doctorate (typically those who earned their degree within the past 10 years) to spend a short period of time in France (usually between 12 and 24 months) engaged in a research activity.

During their stay, the postdoc works as a full-time researcher in a laboratory and participates fully in all research-related activities: publishing articles, attending seminars, participating in conferences.

> OBTAINING A POSTDOCTORAL CONTRACT

- All of France's research organizations, university laboratories, and corporate R&D departments announce opportunities for postdoctoral contracts on their website.
- Many sites collect, compile, and republish such announcements, often in specific fields or for certain geographical areas.

FRANCE

- The Campus France research portal

www.campusfrance.org/researchers



- L'Intelli'Agence to promote training through research in the social and economic spheres and help young doctoral recipients launch their career:

www.intelliagence.fr





- **Indeed**, an employment search platform:

<https://www.indeed.fr>post-docs>

- **Opération Postes**, a job-search platform run by research faculty in mathematics:

<http://postes.smai.emath.fr/postdoc/> (*Mathématiques*)

EUROPE

- **Academic Positions**, the job portal for academic and research positions in northern and central Europe:

<http://academicpositions.fr>

- **Research Science Jobs** and Postdocs in Europe:

www.eurosciencejobs.com/job_search

WORLD

- **EURAXESS**, European initiative to support mobile researchers, has developed a platform called EURAXESS Jobs that publishes position openings and funding opportunities around the world: <https://euraxess.ec.europa.eu/jobs>

- **More:** www.lifescience.net

> DID YOU KNOW?

EUROPEAN RESEARCH COUNCIL (ERC), HORIZON 2020 PROGRAM

<https://erc.europa.eu>

ERC is dedicated to exploratory research. Its sole selection criterion is scientific excellence.

Each year, ERC awards 5-year individual research grants to scientists from any country in the world who agree to perform their research at a European institution.

- **Starting Grant for junior researchers (2–7 years following award of doctorate)**

- *Consolidator Grant for researchers (7–12 years from doctorate)*

- *Advanced Grant for established researchers (up to €3.5 million)*

- *Proof of Concept grant for previous grantees to support testing of results obtained under an ERC grant*

SHORT-TERM

RESEARCH

OPPORTUNITIES

Spending a few months performing research in a lab, traveling around on a cooperative work project, attending lectures or summer sessions—short periods of mobility are an important part of the research enterprise. Often short absences are financed by the researcher's home lab, but there are other means as well..

- Country-specific mobility grants: for information, contact the French embassy. For example, Ukraine: www.ambafrance-ua.org/Aide-a-la-mobilite-pour-des-courts-sejours-post-doctoraux-Appel-2017
- IFRE grants from the international joint units of CNRS: www.ifre.fr/bourses
- AUF grants: www.auf.org

> THE HUBERT CURIEN PARTNERSHIPS (PHC), A FRENCH INITIATIVE TO SUPPORT THE MOBILITY OF INTERNATIONAL RESEARCHERS

Financed in equal parts by France and the foreign partner and managed by Campus France, PHCs reinforce scientific and technological exchanges of excellence. Funds are allocated to research teams to enable them to fund mobility (travel and living expenses) by members of the team.

These programs act as a springboard for development of research projects—and sometimes even for the initiation of new projects. They are designed for public or private labs, academic or corporate, in all fields of science.

The allocations are made for a period of two years.

Campus France also manages other research mobility programs targeted on specific geographic areas, such as Brazil (COFECUB Brésil) or Asia (STIC-Asie).

◆ Learn more: www.campusfrance.org>researchers

> PHC IN FIGURES

- €1,000–€30,000 contributed by France per PHC project
- 59 PHCs or equivalent programs, and 59 partner countries
- ± 4,000 mobile researchers managed by Campus France in 2016
- 80% of projects result in copublication of one or more articles in indexed journals





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> SUMMER SESSIONS

Short thematic sessions organized annually—often in summer—by research organizations, universities, and laboratories are designed to promote interdisciplinary thinking around pressing scientific questions. They provide opportunities for researchers to transmit fundamental knowledge and exchange ideas. The sessions generally feature guest lecturers from France or abroad.

CNRS alone offers more than a hundred such sessions each year. Details are available on the CNRS site.

Other examples:

EHESS summer session:

<https://www.ehess.fr/fr/types-d-evenements/ecole-dete>

Université Grenoble Alpes, Institut Fourier:

https://www-fourier.ujf-grenoble.fr/activites_scientifiques

CNES: www.cnes.fr>Nous rejoindre> École d'été d'Alpbach 2017

> PRE-DOCS

In many places (e.g., UK, Belgium, Norway), pre-doctoral preparation sessions seems to have taken hold. These short research experiences enable future doctoral candidates to get a sense of what research is all about. They also allow research directors to put future candidates to the test.

Not yet common in France, a few programs have nevertheless begun to surface.

- **FIER, French international experience in research**

www.nplusi.com/fier



Through FIER, the n+i network of engineering schools offers a 5-month research stay in France that combines 3 months of laboratory research with 2 months of seminars in research management. The package program (airport pickup, cultural immersion, visits to firms and labs, seminars, and lodging) carries 30 ECTS credits and may help students improve their chances of admission to a 3-year doctoral program.

- **The PSL-ITI predoctoral year** is offered by the Institute of Technology and Innovation at Université Paris Sciences et Lettres.

<https://www.univ-psl.fr/fr/actualites/ouverture-des-inscriptions-lannee-pre-doctorale-psl-iti>

<https://www.univ-psl.fr/fr/iti>

- **The Mathematical Sciences Foundation of Paris** is a federation of 11 mathematics labs employing 1,200 researchers, including 5 Fields medal winners. Alongside its doctoral and postdoctoral programs, the foundation offers predoctoral sessions.

<https://www.sciencesmaths-paris.fr/en/the-foundations-research-chair-244.htm>



LIVING

IN

FRANCE

France has a long tradition of welcoming scholars and scientists. Mobility grants, partnerships, and international cooperation are just a few of the more recent ways of encouraging the influx of researchers from abroad.

To make a research stay even more appealing, France has simplified procedures for visas and residency permits. The country strives to provide a warm welcome for those who come to develop and share their talents in France's universities and research facilities.



VISAS

AND RESIDENCY PERMITS

The type of visa you need depends on the circumstances of your doctoral study or research activity—for example, salaried employee, scholarship recipient, self-financed student. Once you have been accepted by a host institution and know the details of your financing, visit the French embassy or consulate in your home country for visa requirements.

> THE « PASSEPORT TALENT »

The visa category known as the “*Passeport Talent*” entitles the bearer to obtain a residency permit valid for the entire period of his or her stay (up to 4 years), sparing visa holders the trouble of annual renewals. This visa and the corresponding “Talent” residency permit indicate that the bearer is a researcher.

- www.immigration.interieur.gouv.fr/Immigration/L-immigration-professionnelle/Le-passeport-talent
- www.accueil-etrangers.gouv.fr

Individuals eligible for the “Talent/Chercheur” visa and residency permit

- Doctoral candidates who have earned a degree equivalent to the French master and who wish to enter France to perform research under a convention d’accueil (host agreement) with a recognized educational or research entity, whether public or private.
- Foreign scholars and scientists who intend to perform research governed by an agreement entered into with the host institution.

For stays longer than 1 year

A **3-month visa** is issued, enabling the researcher, within 2 months of arriving in France, to obtain a **Talent/Chercheur residency permit valid for the period specified in the host agreement** (up to 4 years). To obtain the permit, the researcher must visit the local Prefecture of Policy and pay a fee of €269.

For stays shorter than 1 year

The visa issued to the researcher serves as a residency permit for the duration of the stay specified in the host agreement. A separate residency permit is not required, but the researcher must visit the local office of the OFII (French immigration office) and pay a fee of €269. www.ofii.fr





Accompanying family

If your family will accompany you to France, your spouse and each of your minor children (under 18 years of age) must apply for a long-stay visa marked to indicate that they are members of your family. The application(s) must be made at the time you apply for your own visa. Your spouse is eligible for this type of visa only if you are legally married. The visa confers the right to work in France in any capacity. Minor children need not have residency permits. Children over the age of 18 must apply separately for a visa if they intend to live with you in France.

> DID YOU KNOW?

THE "TALENT/CHERCHEUR" RESIDENCY PERMIT may also be granted to foreign scientists who have an active host agreement with an institution in another EU member state and wish to do part of their work in France (for up to 3 months). To obtain the visa, applicants must present (i) a residency permit issued by the other EU member state specifying that the holder is a scholar, scientist, or researcher; (ii) a host agreement with an institution in that state; and (iii) proof that they have sufficient support to meet their expenses in France.

> LONG-STAY VISA VALID AS A RESIDENCY PERMIT (VLS-TS) – MULTIYEAR RESIDENCY PERMIT (CSP)

This is the visa granted to doctoral candidates who are meeting their own expenses rather than working under a doctoral contract. Applicants must prove that they have sufficient means of support. The multiyear residency permit is granted upon completion of the first year of study in France. It is valid for 2 to 4 years, depending on the duration of the applicant's educational program.

> VISA AND STATUS AS DOCTORAL CANDIDATE EMPLOYED UNDER CIFRE CONTRACT

Doctoral candidates intending to enter France to work under a CIFRE contract (see page 82) should apply for a student visa. Once in France, they should request temporary employment authorization (APT), which will entail no change in their immigration status.

> INFO

THE HOST AGREEMENT (CONVENTION D'ACCUEIL)

Host agreements are issued to visiting researchers by recognized educational and research institutions. They identify the bearer as a researcher and describe the nature and duration of his or her research project. The dates specified in the host agreement determine the duration of the residency permit for which the researcher is eligible. **A host agreement must be produced upon application for a Talent/Chercheur visa.**

SUPPORT FOR NEW ARRIVALS

All of France's higher education institutions, doctoral schools, and research laboratories maintain offices specializing in providing services for international visitors, both upon arrival and throughout their stay. Some institutions also have very active associations of doctoral candidates that help new arrivals become familiar with their new surroundings by providing orientation sessions, tours of facilities, and assistance with administrative and legal procedures.

These support services draw on the resources of the EURAXESS network, launched by the European Commission in 2004 to support internationally mobile researchers.

> THE EURAXESS NETWORK, SQUARE ONE FOR PLANNING A RESEARCH VISIT TO EUROPE

www.euraxess.fr/en

- **EURAXESS Services** is a network of more than 200 centers in 40 countries of Europe. The centers help researchers and their families plan and organize their stay.
- **EURAXESS Jobs** is a web platform that publishes notices of research-related positions and financing opportunities. Researchers can post their CVs on the site.
- **EURAXESS Rights** provides information about the European Charter and Code for Researchers, which includes a code of conduct for recruitment and hiring.
- **EURAXESS Links** provides interactive web services to European researchers working abroad, enabling them to stay connected with one another and with Europe.





> EURAXESS CENTERS IN FRANCE— ASSISTANCE WHERE AND WHEN NEEDED

www.euraxess.fr/en/centre-de-services-par-region

Every Euraxess center offers free personal assistance to international researchers and their family in close cooperation with the host city. Centers offer other services at negotiated prices.

60,000 researchers from 130 countries and working in all fields of science have already benefitted from the services of the EURAXESS FRANCE network.

Here are some of the centers in the network:

Nantes: www.nantes-chercheur.org

Lyon: www.espace-ulys.fr/bienvenue

Université Paris-Sud Saclay: www.science-accueil.org

Université de Reims: www.univ-reims.eu>research-at-urca

> ACC&SS FNAK, FRANCE'S NATIONAL PORTAL TO SUPPORT AND ASSIST RESEARCHERS

<https://www.fnak.fr>

The primary mission of Acc&ss FnAK, a service of the Alfred Kastler Foundation, is to make life easier for international researchers coming to France and to maintain contact with them after they depart. Acc&ss FnAK provides essential services at negotiated prices (housing, insurance, banking, language instruction), a database of mobile researchers (ALFRED®), and practical information.

By registering on the website, researchers and doctoral candidates qualify for support from EURAXESS service centers.

After candidates complete an online form, the closest EURAXESS center is notified of their eligibility for assistance.

<https://www.fnak.fr/inscrivez-vous/>

<https://www.fnak.fr/en-mobilite-cartographie/>

BEFORE

DEPARTURE

■ AS SOON AS YOU KNOW WHERE YOU WILL BE DOING YOUR RESEARCH, REGISTER IN THE EURAXESS DATABASE

- Either via the Acc&ss FnAK portal:
<https://www.fnak.fr/inscrivez-vous/>
- Or at the Euraxess center in your host region:
www.euraxess.fr/fr/centre-de-services-par-region

Your Euraxess center will help you comply with legal and administrative requirements before and during your stay. Each center has developed an array of services tailored to the city and region in which you will live, such as:

- Preparing for your stay (help with visas, employment authorization, residency permits);
- Getting settled in France (help finding housing, appropriate health insurance, opening a bank account);
- Meeting legal requirements while you are in France (making social security and pension payments, paying taxes, qualifying for family assistance benefits, visiting the Prefecture and the immigration office as necessary);
- Feeling comfortable in your new surroundings (French courses, cultural and recreational activities, childcare and schooling);
- Enjoying advantageous negotiated prices on services (housing, banking, insurance).

■ OBTAIN A COPY OF YOUR HOST AGREEMENT

- Apply for a visa through the nearest French consulate. You will need to present your host agreement.
- Collect the documents you will need during your stay. Do not forget your diplomas, marriage certificate, vaccination records, driver's license, and children's school records. Your Euraxess center will provide a detailed list tailored to your legal and academic status.

- **SECURE AT LEAST TEMPORARY HOUSING**, so you will have a place to stay upon arrival! Discuss housing options with your Euraxess center. Download the FnAK housing guide:
<https://www.fnak.fr/doc/Logement2011.pdf>

■ VERIFY YOUR HEALTH AND MEDICAL COVERAGE

Everyone in France must have health (medical) insurance, but coverage and plan requirements differ depending on one's immigration status (e.g., employee, student, grant recipient). Euraxess can provide details.





UPON

ARRIVAL

- **APPLY FOR YOUR RESIDENCY PERMIT (AND THOSE OF YOUR SPOUSE AND CHILDREN) WITHIN 2 MONTHS OF YOUR ARRIVAL IN FRANCE**
- **ENROLL IN A MEDICAL INSURANCE PLAN APPROPRIATE TO YOUR STATUS**
- **OPEN A BANK ACCOUNT (REQUIRED IF YOUR STAY IS LONGER THAN 3 MONTHS)**
- **LOCATE PERMANENT HOUSING**

- ◆ Campus France publishes profiles of individual cities containing practical information on housing, transportation, residency permits, medical insurance, and recreation.

www.campusfrance.org>resources center



> DID YOU KNOW?

LEARN FRENCH

Acc&ss FNAK has negotiated a special agreement with the Alliance Française to benefit international researchers wishing to learn French. Consult your Euraxess center, which may have other offers of interest.

SUPPORT FOR FAMILIES

The international office at your institution offers services that will help your family adapt quickly to French life. Services include informal social gatherings, special events, and help finding jobs for spouses.

CHILDREN'S SCHOOLING

In France, the school year begins in September. All children between the ages of 6 and 16 must attend school, regardless of nationality or immigration status. Schooling is free in public institutions. Private schools charge tuition but cover the same basic curriculum.

At the time of enrollment, your child will be evaluated and placed in a grade appropriate to his or her proficiency in French. Detailed information is available from the city hall (or municipal government center) in your area.

LIVING

IN

FRANCE

> DAILY LIFE AS A DOCTORAL CANDIDATE

Life as a doctoral candidate is more than working in the lab or library. Scientific, cultural, and athletic activities help you preserve balance in your life, so that your dissertation remains an adventure. Once you have earned your doctorate, professional networks will enable you to maintain ties to your colleagues and expand your circle of contacts.

ASSOCIATIONS AT YOUR HOST INSTITUTION

Associations of doctoral candidates are active in nearly all institutions, organized by field, doctoral department, or laboratory. They enable junior researchers to support each other, share experiences, and promote their research work through blogs, videos, articles and briefs, and even cartoons. Associations stage lectures and meetings, provide dissertation advice and support, and organize athletic and sporting events, providing welcome distractions from the sometimes solitary work of preparing a dissertation.

Some examples: <https://redocparisest.wordpress.com>

- www.paris-sorbonne.fr/associations-des-doctorants
- <https://doctorat.clermont-universite.fr/Association-des-Doctorants>
- www.asso-doctorants-agap.fr/actus/actualites
- www.mines-paristech.fr/Formation/Doctorat/Associations-de-doctorants-et-docteurs/

THE DOCTORAL COLLEGE

The doctoral college of a university or cluster of higher education institutions coordinates the functioning of the doctoral schools operating within the university or cluster. It is responsible for providing the complementary

courses (required and elective) that are part of every doctoral program. It also promotes a sense of community and shared culture among candidates, as well as providing assistance with career development. Throughout the year the college presents activities that cut across disciplinary lines, such as orientations for new candidates, events featuring noted scientists, “My Dissertation in 180 Seconds” (page 73), corporate visits, lectures and conferences, and, of course, the graduation ceremony at which candidates receive their diploma. A primary goal of all such activities is to ensure that candidates are well integrated into life at the institution.

Examples: <http://college.doctoral.sorbonne-universites.fr>

• <http://collegedoctoral.univ-psl.fr>

• <http://collegedoctoral.languedoc-roussillon-universites.fr>

DOCTORAL ENCOUNTERS

Many universities and clusters, in partnership with firms in the region, organize encounters between junior researchers and the world of industry. Known as “doctoriales,” such encounters provide opportunities to talk or work in multidisciplinary groups, to develop new contacts, and to discuss and refine one’s career plans. The encounters may include simulated launches of innovative projects or workshops on how to present research results to colleagues or prospective employers.

Examples: <http://doctoriales.cue-lillenorddefrance.fr/accueil.html>

• www.univ-nantes.fr/Formation-des-docteurs>Le Collège Doctoral

• <http://doctorat.clermont-universite.fr>

• <https://www.unistra.fr/index.php?id=doctoriales>

> INFO

ABES, the bibliographic agency for higher education, maintains a web space for doctoral candidates that gathers together information essential to preparing a doctorate, such as the texts of pertinent regulations, procedures for formally submitting your dissertation, tutorials, and a candidate’s guide.

www.abes.fr/Theses/Espace-pour-les-doctorants

Universities, doctoral schools, and some laboratories also publish online guides for doctoral candidates.

> ASSOCIATIONS AND NETWORKS OF DOCTORAL CANDIDATES AND RESEARCHERS

An array of associations and networks (by discipline, by doctoral department, or by institution) enable doctoral candidates to maintain a lively professional network.

ANDES, THE NATIONAL ASSOCIATION OF DOCTORAL RECIPIENTS

<http://andes.asso.free.fr>

ANDES is for anyone who holds a doctorate, regardless of age, discipline, professional status, or country of residence. Its purpose is to promote the doctorate, form networks of doctoral recipients, and derive synergies from those networks.

ADUM <https://www.adum.fr>

A distributed network of institutions and doctoral schools, ADUM provides information and networking

opportunities for doctoral candidates and recipients. Its website has a jobs section, a CV section, and a list, by region, of associations of doctoral candidates. ADUM's notices of funded dissertation topics are also available through the Campus France research portal.

CONFEDERATION OF JUNIOR RESEARCHERS

<http://cjc.jeunes-chercheurs.org>

Bringing together about 40 associations of doctoral candidates, the confederation represents its members before French and European policy makers and participates in deliberations over doctoral issues within the EURODOC federation of associations, of which it is a founding member.

L'INTELL'AGENCE

www.intelliagence.fr -

Featuring notices from employers seeking researchers, this recruitment site has also developed a platform called DOC PRO for promoting the doctorate to recruiters: www.mydocpro.org



FRANCE ALUMNI

<https://www.francealumni.fr>

Developed by Campus France in 2014 for the French Ministry of Foreign Affairs and International Development, France Alumni is a global network of graduates of French institutions and professionals who formerly worked in France. The site's tools enable alumni to connect online and discuss topics of shared interest. An international website and local sites in 29 languages serve alumni in more than 100 countries.

- Sections on events and news help alumni keep in touch with France.
- An alumni directory offers functionality to facilitate networking: in-depth profiles, a multicriteria search tool, and messaging.
- A careers space features targeted offers of internships and jobs, plus career advice and tips from alumni.
- By joining thematic groups, like-minded alumni can deepen their connections.

HOUSING IN FRANCE

The cost of housing in France tends to be high, so begin looking as soon as possible. Your host institution and Euraxess center can help in your search. If you have student status and intend to take advantage of student housing, apply early! Student housing fills up fast.

> PRACTICAL MATTERS

Utilities

Electricity and gas service is almost always the tenant's responsibility. (In other words, utility service is not covered in your rent.) Once you take possession of your home, you should contact the utilities to start service, which is billed every two months. You should retain the bills you receive, because they constitute proof of residence. In addition to the long-standing utilities—EDF and Engie—new suppliers have appeared in the market, allowing consumers to compare rates and terms: <https://www.jechange.fr>
EDF : <https://particulier.edf.fr/fr/accueil.html> - Engie : www.gdfsuez-dolcevita.fr

Housing subsidies

There are two types of housing assistance for which you may be eligible, depending on the type of housing you choose. (You cannot receive both forms.) The two types are ALS (social housing allocation) and APL (personal housing assistance). The amount of assistance will depend on your rent and financial circumstances. Information and terms are available from your local office of CAF (Caisse d'Allocations Familiales, or family assistance fund): www.caf.fr

Comprehensive renter's insurance

Your residence must be insured against theft, fires, water damage, and other risks. Insurance is available for a lump sum from private insurance companies and student mutual insurance funds.

Lease

A lease is a written contract with a property owner that spells out the terms of your rental: the period of occupancy, the amount of rent and any other charges you must pay each month, the amount you will be required to deposit as a guarantee that you will fulfill the terms of the lease, the length of the notice you must provide before vacating, and the conditions under which you may renew or extend the lease. Renters are responsible for the cost of drawing up the lease. The lease constitutes proof of residence and of housing cost (the latter for purposes of determining the amount of housing assistance for which you may be eligible). Property owners issue receipts for rent paid.





> PRACTICAL MATTERS

CAF (Caisse d'Allocations Familiales, family assistance fund)

CAF (Caisse d'Allocations Familiales, family assistance fund)
The agency that handles requests for and payments of various forms of social assistance, such as housing subsidies, family assistance, and assistance to single parents. www.caf.fr

CROUS (regional student and social service centers)

CROUS services (student housing, dining facilities, and cultural activities) are available to all students enrolled in an institution of higher education and possessing a student ID card. www.etudiant.gouv.fr

Security deposit (dépôt de garantie, caution)

Property owners usually require tenants (renters) to deposit an amount equivalent to a month's rent at the beginning of the lease term. At the end of the lease, the deposit is refunded to the tenant if the premises are in the same condition as they were when the tenant assumed possession. www.lokaviz.fr

Guarantor (garant, garantie solidaire)

Property owners may require tenants to have a guarantor who will pay the rent if the tenant fails to do so.

LOKAVIZ, the housing platform of the French national student service agency

Use the Lokaviz site to search for student housing and related advice and information. www.lokaviz.fr

Rent (loyer)

Monthly payment for occupancy of a house or apartment. Rents are high in France, especially in Paris. Apartments measuring 20m² start at €700 in Paris and €400 outside the capital; for 50m² expect to pay at least €1,000 in Paris and €600 elsewhere.

Notice (préavis)

A tenants must notify the property owner of his intent to move out. The lease specifies how far in advance the notice must be given.

Rent receipt (quittance de loyer)

Monthly receipt for payment of rent. (Keep these as proof of residence!)

University residences (Cités-U)

Located on campus or in town, university residences are managed by CROUS. Typical monthly rents range from €120 to €350. In private buildings, rents are higher, as noted above.

Property tax (taxe d'habitation)

Property owners and renters alike are subject to local property tax. The annual amount due varies with the property but may be as much as 2 months' rent.

HEALTH CARE IN FRANCE

Everyone in France is required to have health insurance, which allows you to be reimbursed for much of the cost of medical care. Enrollment in the French national health insurance system (*Sécurité Sociale*) depends on your status.

- If you have an employment contract (such as a doctoral contract), you are automatically enrolled in the Social Security system. The cost of coverage is deducted from your pay.
- If you do not have an employment contract and are under 28 years of age, you are required to join the student division of the Social Security system. You will be enrolled when you register at your university or other institution of higher education.
- If you do not have an employment contract and are 28 or older, you must obtain private health insurance.

Health insurance reimburses about 70% of the cost of medical care. Supplemental insurance plans are available to provide reimbursement for the share not covered by Social Security. Some such plans are specifically designed for students.

> DID YOU KNOW?

Holders of the “*Talent Chercheur*” residency permit can obtain health insurance within 1 month. The Caisse Primaire d’Assurance Maladie in Paris processes applications:

Assurance Maladie SRI/Talents
75948 PARIS Cedex 19 - Tél : 0 811 712 726

> PRACTICAL MATTERS

"Carte Vitale"



The Carte Vitale is distributed at no charge to all members of the Social Security system. Using the card, health-care providers are able to submit electronic requests for reimbursement of services and medicines. Reimbursements are deposited directly into the member's bank account.

Hospitals The several types of hospitals in France differ not in the quality of care but in the extent of reimbursement of charges. Eighty percent (80%) of the charges of public hospitals and of clinics having contracts with the Social Security system are reimbursed. The remainder (referred to as the ticket modérateur or co-pay) is the patient's responsibility, unless he or she has purchased supplemental insurance. By contrast, just 10% of the charges of private hospitals and of clinics that do not maintain contracts with the Social Security system are reimbursed. Dental and vision care is reimbursed at a low rate unless one has purchased supplemental insurance. Free services are available at dispensaries affiliated with the schools that train health-care practitioners.

Prescriptions (ordonnances) and orders for laboratory tests (feuilles de maladie): Physicians issue written prescriptions that enable patients to purchase controlled medications from a pharmacy. They also write orders that patients use to obtain medical tests.

Pharmacies: In France, many medications are available only by prescription (see above) and are sold only in licensed pharmacies. Pharmacists are trained professionals who are able to provide advice on the proper use of the products they sell. France's pharmacies cooperate to ensure that some are open at any given time, even on holidays and at night.

Fire department: Enter 18 on a conventional telephone or 112 on a cell phone.

Ambulance / emergency medical services (SAMU): Enter 15 or 116 117

University preventive medicine services (SUMPPS)

Preventive services are available to university students.

Night and emergency services

The names and addresses of physicians and pharmacies providing emergency service on any given date are publicized by pharmacies, in newspapers, and via the Internet.

> HOW MUCH?

DENTIST: At least €30, depending on the service (e.g., cleaning, filling, root canal).

INTERNIST, GENERAL PRACTITIONER: Starting at €25.

SPECIALIST: (e.g., gynecologist, ophthalmologist, dermatologist): Starting at €30.

MANAGING YOUR MONEY

The cost of living in France is high, especially in Paris, where students need between €1,400 and €1,800 a month (or €1,000–€1,400 outside Paris).

> PRACTICAL MATTERS

Bank accounts

To open a bank account you will need your passport and proof of residence, such as a utility bill, telephone bill, or rent receipt from within the last 6 months. When you open your account you will receive a checkbook and/or a debit card. Paper checks are still a common form of payment in France.

Overdraft privileges (*découvert bancaire*)

At the time you open your account, the bank will determine the amount of your overdraft privileges, that is, the maximum negative balance that the bank will carry. Negative balances are subject to charges.

Taxes Wages and salaries earned in France are subject to income tax. Your report of income and the related payment of tax are due in the year after the income was earned. That is, your earnings for 2016 must be reported, and the corresponding tax paid, in 2017.

RIB (*Relevé d'Identité Bancaire*, bank account information)

Provided with your checkbook or upon request, your account information is needed for electronic deposits to your account (such as your salary) or deductions from it (such as automatic payments of utility bills).

The value-added tax

The value-added tax (TVA) is a sales tax. The rate on most purchases is 20%.

> HOW MUCH?

- 1 baguette: €0.80 • 1 coffee: €1–2 • 1 camembert: €2
- 1 croissant: €1 • 1 kg of pasta: €2 • 1 kg of potatoes: €1–4
- 1 kg of rice: €3 • 1 liter of milk: €1.20 • 6 eggs: €1.50
- 1 fast-food meal: €7 • 1 meal at a neighborhood restaurant: €15–20
- 1 sandwich: €5–8 • 1 bottle of wine: €4–20.

Food markets, found everywhere, offer attractive prices on seasonal and perishable products (vegetables, fruits, fish, meat). They are a convivial, lively part of everyday life in France.





TRANSPORTATION

IN FRANCE

In most smaller cities, mass transportation takes the form of buses or trams. Subway systems are found in larger cities. Weekly, monthly, and even annual passes are widely available.

> PRACTICAL MATTERS

Airlines

Most French cities have airline service. Airlines offer discounted fares for certain types of passengers.

Automobiles

The quality of France's roads makes cars a favorite means of transportation for the French. All vehicles must be insured. Use of seatbelts is required by law. Renting a car for a day costs about €30.

Taxis

Taxi fares are strictly regulated. All taxis must be equipped with a meter. The trip from Roissy Charles de Gaulle airport into the center of Paris costs €50. The trip from Orly is €35.

Trains

France's rail network is fast and reliable, in part thanks to the TGV (high-speed train). Discounted fares apply to certain categories of passengers. SNCF (French national railway): Phone: **36 35** - www.voyages-sncf.fr

Self-service bicycle rentals

Self-service sidewalk bicycle rentals have become ubiquitous in France. In Paris and some other cities, electric cars can be rented from street locations.

CULTURE

IN

FRANCE

Culture matters in France—and not just in Paris. Literature, film, art, theater, music, opera, cuisine, and fashion play a major part in French daily life. France's regions are enthusiastic participants in this creative effervescence.

Newspapers and books still have a major presence. Nowhere in the country are you far from libraries, bookstores, and publishers.

www.culture.fr

Sports are a French passion. Every sport has its players and fans; athletic clubs are ubiquitous.

www.associations-sportives.fr

CENTER FOR NATIONAL MONUMENTS:

www.monuments-nationaux.fr/fr/monuments/carte-des-monuments/

DAILY NEWSPAPERS:

www.press-directory.com/presse-quotidienne-regionale/carte-pqr.html

FRENCH FEDERATION OF INTERNATIONAL MUSIC

FESTIVALS: www.francefestivals.com

FRANCE GUIDE, the official website of France's tourism office:

<http://fr.franceguide.com>

MAPS OF FRANCE (IGN) : www.geoportail.gouv.fr/accueil

MINISTRY OF CULTURE: www.culture.gouv.fr

NATIONAL LIBRARY OF FRANCE (browsable catalogs) : www.bnf.fr

NATIONAL MUSEUMS NETWORK: www.rmn.fr/les-activites-de-la-rmn-gp/nos-musees

OFFICIAL WEBSITE OF THE FRENCH REPUBLIC: www.france.fr

SPORTS : www.associations-sportives.fr

TOURIST INFORMATION OFFICES: www.tourisme.fr

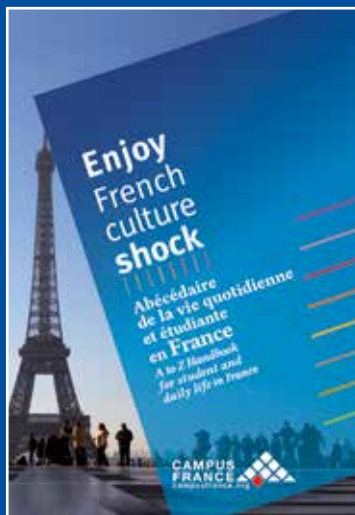
WORKS OF ART: www.images-art.fr





> HOW MUCH?

- 1 cinema ticket: €7–15 (some cinemas offer subscription plans)
- 1 museum admission: €5–10
- 1 entrance to public pool: about €5
- 1 newspaper: €1.20
- 1 paperback book: about €6
- 1 night in a two-star hotel: €80
- 1 theater ticket: from €15 up to €60–80



ENJOY FRENCH CULTURE SHOCK

This bilingual pocket guide (French/English and French/Spanish), organized like a dictionary, explains customs, expressions, acronyms, and other linguistic curiosities of daily life in France.



CAMPUS FRANCE
campusfrance.org

USEFUL

LINKS

> RESEARCH ORGANIZATIONS

ALLENVI, national alliance for environmental research:
www.allenvi.fr

ALLISTENE, digital science and technology alliance:
www.allistene.fr

ANCRE, national coordinating alliance for energy research:
www.allianceenergie.fr

ANR, national research agency:
www.agence-nationale-recherche.fr

ANRT, national technological research agency: www.anrt.asso.fr

ATHÉNA, national alliance for the human and social sciences:
www.allianceathena.fr

AVIESAN, national alliance for the life sciences and health sciences:
<https://aviesan.fr>

CAMPUS FRANCE, research portal: www.campusfrance.org>researchers

CIFRE, industrial agreements for training through research:
www.anrt.asso.fr>CIFRE

CNRS, national center for scientific research: www.cnrs.fr
Directory of CNRS laboratories and staff:
www.cnrs.fr/fr/une/annuaires.htm

COMPETITIVENESS CLUSTERS IN FRANCE: competitivite.gouv.fr

HORIZON 2020, French portal for the European research and innovation program:
www.horizon2020.gouv.fr

INSTITUT CARNOT : www.instituts-carnot.eu

> NETWORKS, ASSOCIATIONS, WEB PORTALS

ABG-L'INTELL'AGENCE (career development for recent doctoral recipients):
www.abg.asso.fr

ACC&SS F*AK (Fondation Alfred Kastler), portal to support you researchers in France; yearbook of mobility: www.fnak.fr

ADUM, interactive portal for doctoral candidates: <https://www.adum.fr>

ANDÈS, national association of *Docteurs ès Sciences*: www.andes.asso.fr

ASSOCIATIONS OF DOCTORAL CANDIDATES
www.adum.fr>Actu recherche>Association

BIOSPACE, dedicated to the life sciences: www.biospace.com

CNOUS (French national student service center): Information on grants, student housing, university dining facilities: www.cnous.fr

DOCPRO, career development for doctoral recipients: www.mydocpro.org

EURAXESS, mobility of researchers in Europe:
ec.europa.eu/euraxess/index_en.cfm

EURAXESS FRANCE, support centers for researchers in France:
www.euraxess.fr



EUROPEAN COUNCIL OF DOCTORAL CANDIDATES AND JUNIOR RESEARCHERS: eurodoc.net

EURO SCIENCE : www.euroscience.org

FIND A PHD : <https://www.findaphd.com>

FRANCOFIL, for researchers, faculty, and students wishing to do research or continue their studies in a Francophone country: <https://www.francofil.net>

NEW SCIENTISTS JOBS : <https://jobs.newscientist.com/en-gb/>

PHD PORTAL : www.phdportal.com

PORTAL FOR THE MOBILITY OF EUROPEAN RESEARCHERS IN FRANCE:
www.eurosfair.pr.fr/mobility/

SCIENCE CAREERS : www.sciencemag.org/careers

> DOCUMENTARY, RADIO, AND INTERNET RESOURCES

ABES, bibliographic agency for higher education: www.abes.fr>Thèses

CANAL U, digital library for higher education and research: www.canal-u.fr

CNRS WEB RADIO : <https://laradio.cnrs.fr>

CNRS NEWS : <https://news.cnrs.fr>

CONFEDERATION OF JUNIOR RESEARCHERS (40 associations of doctoral candidates): www.cjc.jeunes-chercheurs.org

CTHS, commission on historical and scientific work (directory and yearbook of learned societies): www.cths.fr

GALLICA, digital library of the National Library of France: www.bnf.fr/fr/collections_et_services/bibliotheques_numeriques_gallica.html

INIST, scientific and technical information: www.inist.fr

LALIST, scientific and technical information monitor: www.lalist.inist.fr

NATIONAL LIBRARY OF FRANCE, browsable catalogs: www.bnf.fr

ORIENT-EXPRESS, directory of libraries and documentation centers in Paris: www.catalogue.bpi.fr/sites_et_bases_de donnees

RADIO THÉSARDS :
<https://www.franceculture.fr/conferences/factory/radio-thesards>

SUDOC: catalog of the libraries of France's institutions of higher education and research: www.sudoc.abes.fr

THÈSES, search French dissertations: www.theses.fr

> SOURCES

MINISTRY OF HIGHER EDUCATION, RESEARCH, AND INNOVATION

www.enseignementsup-recherche.gouv.fr/pid24777/nos-publications.html

www.enseignementsup-recherche.gouv.fr/pid24717/toutes-les-brochures.html

- L'état de l'Enseignement supérieur et de la Recherche en France : n°9 - Juin 2016 et n°10 - Avril 2017

- Stratégie nationale de recherche - France Europe 2020 (mars 2015)

- État de l'emploi scientifique (Mars 2014)

CONFERENCE OF UNIVERSITY PRESIDENTS (CPU): <http://www.cpu.fr/information/quest-ce-que-luniversite-francaise/>

WEBSITES OF RESEARCH ORGANIZATIONS

WEBSITES OF UNIVERSITIES

WEBSITES OF OTHER ORGANIZATIONS AND ASSOCIATIONS

MEDIA LIBRARIES OF CNRS AND INRA

**WELCOME
TO
FRANCE**



28, rue de la Grange aux belles - 75010 Paris



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www.facebook.com/CampusFranceParis