Indo-French cooperation : Focus on CNRS

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CNRS was created on 19 October 1939

“...the mobilization of French laboratories through CNRS amounted to the creation of a new regiment..”
Our 10 scientific DEPARTMENTS (Instituts)

- Mathematical Sciences & their Interactions
- Information Sciences & Technologies
- Engineering & Systems Sciences
- Chemistry
- Physics
- Nuclear & Particle Physics
- Earth Sciences and Astronomy
- Ecology & Environment
- Biological Sciences
- Humanities & Social Sciences
CNRS - French National Centre for Scientific Research

- Interdisciplinary public research organisation
- Internationally recognised for the excellence of its scientific research

Research fields:
- Biology
- Chemistry
- Ecology and environment
- Humanities and social sciences
- Engineering and systems
- Mathematics
- Nuclear and particles
- Physics
- Information sciences
- Earth sciences and astronomy

3.3 billion A budget of
33,000 people dedicated to research
1,144 research laboratories in France and abroad

CNRS participation in Horizon 2020 (2014-2020)
- Participation in 1728 H2020 projects (~18% success rate) including 507 MSCA projects (all actions incl.)
- 324 MSCA Individual Fellowships funded (17.3% success rate)

https://www.cnrs.fr/en
CNRS in Numbers

- **Research**
  - Over 55,000 publications per year, 60% of which with international collaboration
  - 6th in patent filing

- **Ressources**
  - Budget 2021: 3.7 Billion €
  - Over 32,000 staff at CNRS

- 12 Fields Medal winners
- 23 Nobel Laureates

Implantations

- Over 1,100 research units
- 80 International Res Labs
- 10 offices all over the world
India's top 10 scientific partner countries in 2019-21
(N= 112,800 international co-publications)

Source: Web of Science, Incites; traitement CNRS-Derci
- Department of Science and Technology (DST) Ministry of Science & Technology: 2004, 2012 and 2015
- Department of Biotechnology (DBT) (2015) Centre of Excellence in Marine Biotechnology (Goa)
- Indian Institute of Science Education and Research (2016)
- National Centre for Biological Sciences (NCBS) Signed in 2012 with Institut Curie
## Tools of cooperation with CNRS

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<td>2-year PI-to-PI research projects</td>
<td>5-year multi-team scientific coordination networks</td>
<td>5-year labs-to-labs collaborative research programmes</td>
<td>multi-project (incl. actions, networks, programmes, laboratories, dedicated calls) strategic partnerships</td>
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<td>yearly call for proposals</td>
<td>institutional endorsement by exchanges of letters of support</td>
<td>5-year joint research laboratories</td>
<td>framework agreements or MOU bilateral steering</td>
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**Instruments for International Collaboration**

[www.cnrs.fr](http://www.cnrs.fr)
International Emerging Actions (PICS)

Trapping investigation in GaN-based HEMTS using experimental characterisation and TCAD simulation (2018-2020)
Nandita DASGUPTA, IITM, Chennai
Jean-Christophe NALLATAMBY, Université de Limoges, Limoges

Nanoelectronics hardware for unconventional computing (2018-2020)
Manan SURI, IITD, Delhi
Damien QUERLIOZ, Centre de Nanosciences et de Nanotechnologies, Université Paris- Saclay,

Role of prebiotic processes on the origin of molecular complexity on the early Earth
DERR Julien, Paris, Sudha RAJAMANI, IISER Pune

Microwave remote sEnsing for water Resources management IN berambDi wAtershed ZRIBI Meherz, TOULOUSE Sekhar MUDDU, IISc, Bangalore

Advanced NAnocomposites for micro and nanoSensors Applications
ROUJXL Didier, Institut Jean Lamour, Nancy
Sabu THOMAS, Mahatma Gandhi University, Kottayam,

Urb-India
TELLE Olivier, Géographie-cités, Paris
MUKHOPADHYAY Partha

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International Research Programme

Indo-French Cell for Water Sciences (IFCWS)
IRD/CNRS (J.Riotte/L.Ruiz)
IIC: IPR (Sekhar Muddu)

Indo-French Lab of Solid State Chemistry (LAFICS)
ICMCB, UPR6048 (MH-Delville, Bordeaux)
IISc – SSGU, IIT (Satish Patil/Abhisheke Mondal)

Advanced polymer nanocomposites for microactuator and energy harvesting devices (APONAMA)
Inst Jean Lamour Nancy (Didier ROUXEL)
International and Inter University Centre for Nanoscience and Nanotechnology (Sabu THOMAS/ Nandu)

NextGen (2022–2027)
Next Generation (Macro-Molecular Self-Assembled Systems)
Jean (Francois Lutz, CNRS UPR22a Instut Charles Sadran, Strasbourg)
S. Ramakrishnan, Dept Inorganic and Physical Chemistry, IISc, Bangalore

CALIM (2022–2027)
Impact and regulation of Calcium signaling in Drosophila immune cells
Angela GIANGRANDE, Institut de génétique et de biologie moleculaire et cellulaire, Strasbourg
Gauth HASSAN, National Centre for Biological Sciences (NCBS), Bangalore

SySTIM (2022–2027)
Impact and regulation of Calcium signaling in Drosophila immune cells
Thomas LECLUT, Institut de Biologie du Développement de Marseille (UC3M)
Jitu MAYOR, National Centre for Biological Sciences (NCBS)

SPINPER (2018–2022)
Social Profile of Indian's National and Provincial Elected (1919-2019)
Gillier VERMEIR, Ashoka University, Sonipat
Christopher JAFFRELOT, Centre de Recherches Internationales (CERI), Paris

GANGA-Rhone Project
SPINPER, IIT BHU
Hervé Piegay, UMR5600 EVS, ENS de Lyon

Nat Prog & Synth towards Affordable Health (NPSAH)
IIT Rennes, UMR8261, Rennes (J. Boustie)
IIT, H’bad, Grivari Chandra Sekhar/Raj REddy

IFPM (2016–2019)
Indo-French Program in Mathematics
Ramachandran Balasubramanian, Institute of Mathematical Sciences, Chennai
Patrice Philippon, Institut de mathématiques de Jussieu - Paris Rive Gauche

MEMS and GaN Development Throug Complementary Collaboration (MEGATHRON)
J-C. NALLATAMBY, Institute of Mathematical Sciences, Chennai
Nandita DASGUPTA, IIT Madras

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UMI FRE

Le Centre de Sciences Humaines de New Delhi, CSH (UMIFRE20)

L'Institut Français de Pondichéry, IFP (UMIFRE21)

CNRS I DERCI
Décret n°82-993, 24 November 1982: CNRS missions are

- To evaluate and carry out research capable of advancing knowledge and bringing social, cultural, and economic benefits to the society.
- To contribute to the application and promotion of research results.
- To develop scientific information.
- To support research training.
- To participate in the development of the national policy.

CNRS and Industrial partnerships

Consultancy
Training
Technology transfer
Promotion of research
Industrial partnerships
Mobility
Creation of Start up companies
CNRS and Solvay
4 mixed laboratories to prepare the future

1997
Complex Assemblies of Soft Matter (COMPASS) Lab
Bristol, USA
Bristol, Pennsylvania, USA
Indo-French Cooperation: Opportunities and Mechanisms