

2023
ACTIVITY
REPORT

A year at the CNRS

cnrs





Cover photo:

A scientist in front of one of the 12 antennae of the NOEMA astronomical observatory perched at an altitude of 2550 metres on the Plateau de Bure in the Hautes-Alpes region. The NOEMA (Northern Extended Millimeter Array) observatory is the most powerful millimetre radio telescope in the northern hemisphere. NOEMA is spread over a distance of 1.7 km with its 12 antennae providing the spatial resolution of an antenna with a 1700-metre diameter. The world's astronomical community can use this scientific research platform 24 hours a day and 365 days a year to study the birth of stars, the formation of planets, galaxies and black holes. © Thibaut VERGOZ / IRAM / CNRS Images

A year at the CNRS



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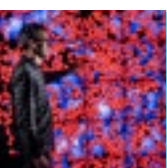



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2023 ACTIVITY REPORT

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“The CNRS is a major world-class research institution.”

→ The CNRS either leads or co-leads 35 of the 47 Priority Research Programmes and Equipments (PEPRs) and also contributes to the other 12. What are the first results of these major national programmes?

The CNRS is indeed a major stakeholder in the PEPRs chosen by the French government and the interdisciplinary nature of the organisation explains our very strong involvement. This means the CNRS can effectively take a holistic approach to the scientific issues and challenges identified in France's national acceleration strategies (quantum technologies, cybersecurity, hydrogen, deep sea, batteries, sustainable cities, creative industries, etc.) and also to the exploratory PEPRs which concentrate on knowledge requirements and cutting-edge research subjects at their early stages. In 2023 over 200 research projects started up in the PEPRs that had already been launched and five new PEPRs involving the CNRS as a stakeholder were set up in mathematics, health, energy and on the transformation of society. These programmes are scheduled to take several years but we can already discuss some of the initial results.



For example, an unprecedented database is currently being created by the FairCarbon PEPR to evaluate and improve models that simulate the evolution of carbon stocks in soils and biomass. The Solu-Biod PEPR has already structured a network of 11 'living labs' dedicated to nature-based solutions (9 in mainland France and 2 in the overseas territories). This means researchers can work at the interface between science and society to provide the right responses to the societal challenges facing local stakeholders in France. The PEPR Tase project working on advanced energy system technologies is another example. It has carried out the first modelling of the impact a solar panel system can have on water resources and agricultural production.

This intense scientific and collective dynamic also promotes cross-disciplinarity. The CNRS has set up 'work hubs' for several of these programmes, with academic stakeholders working alongside private sector companies, technical centres, competitiveness clusters, local authorities and so on. This kind of cooperation promotes the transfer of these major research results to society.

➔ **The CNRS was evaluated in 2023. What are your takeaways from this evaluation following on from those carried out in 2012 and 2016?**

The CNRS chose to ask the Hcéres to carry out this evaluation (as in 2012 with the Aeres, the forerunner of Hcéres) and not to make the evaluation ourselves as was the case in 2016. A highly international committee evaluated us which is a necessary condition for quality reports that benefit institutions. Overall, our assessment was very positive and particularly stressed that the CNRS is "widely recognised as a major player in European and global research". The committee also acknowledged "the worldwide first-class recognition of the scientific production of the CNRS".

The committee also concluded that "the CNRS can do better" which is actually a good thing as this is the hallmark of a truly constructive and helpful evaluation. The committee made a number of recommendations to us in a spirit of humility that are worthy of mention, with the committee stating it "understands that its views may be challenged".

We are strong and responsive enough to deal with our working conditions, find solutions when it is up to us to do so and alert and involve the State about issues we cannot deal with alone. 99

Several recommendations encouraged us to continue and even intensify what we are already doing, for example, in terms of innovation, transfer, integrity and sustainability. The same applied to Europe, knowledge sharing and communication for the benefit of society. This activity report gives some highly stimulating illustrations of such work.

We now have to prepare the next CNRS Objectives, Resources and Performance Contract to be jointly signed with the Ministry in 2024. This contract must particularly aim to simplify and facilitate the lives of scientific and administrative teams, as the committee recommended in its report. This contract also needs to address the essential issue of what is commonly known as the 'race for talent'. The committee challenged us on this issue, both in terms of salaries - where we have limited or no room for manoeuvre - and of welcoming staff members, supporting them throughout their careers, in terms of promotion and improving workplace quality of life. These are all key areas in which we still have room to progress.

➔ **The autumn 2023 survey 'The CNRS and You' revealed how attached CNRS staff members are to their institution but also pinpointed expectations for change.**

The high participation level in this survey at over 44% of responses meant we could make a very accurate diagnosis of our current state

of mind and that of CNRS staff members and their expectations.

Over 80% of us at the CNRS are proud of our institution's expertise, scientific output and the quality of our research. 68% of us say we're attached to the culture and values of the CNRS to the extent that "given the chance I would apply to the CNRS again" while 73% can see themselves "still working for the CNRS in two years' time". 72% of us believe "we work in a positive and stimulating working environment" and consider the CNRS to have a good reputation for expertise, quality and excellence.

However, alongside this commitment and pride, we also need to take account of the questions and criticisms about basic research's place - and by extension the CNRS's - in our country, low salary and attractiveness levels for research professions, the visibility of science in the public sphere and its impact on decision-making.

Opinions are also divided about our institution's impact on society. Only half of us consider "the CNRS's ability to help address major societal challenges" or "to support and transfer innovation" is excellent or good.

Finally, a number of negative points were brought up like inadequate salaries and, in some cases, difficult working conditions. This is useful feedback because it is uncompromising. A wide spectrum of wishes for change or improvement were expressed covering issues including enhanced career attractiveness, streamlining procedures, simplifying tools and clarifying the CNRS's organisation and role.

The CNRS is not directly responsible for some of these issues. But I'm convinced we are strong and responsive enough to face up to these issues head-on, find solutions when it is up to us to do so and finally alert and involve the State and our supervisory authority about issues we cannot deal with alone.

In this way, the CNRS will be able to devote its time to its mission — carrying out basic research to serve society, and making sure the CNRS is, as the Hcéres report highlighted, "a major world-class research institution" that is essential for French science and, more broadly, to our country.

FEBRUARY

➔ The CNRS visits India to meet its partners and consolidate its relations there. This trip includes the inauguration of the Scal(e)S International Research Laboratory with the National Centre for Biological Sciences in Bangalore.



The French CNRS delegation's trip to Brazil included a visit to the Sirius synchrotron, located on the Campinas campus of the Brazilian Center for Research in Energy and Materials (CNPEM) in São Paulo state © CNRS

MARCH

➔ The CNRS and the University of São Paulo set up a joint International Research Centre focusing on seven major disciplines - from the humanities and social sciences to the environment and quantum technologies. This is the fifth International Research Centre the CNRS has set up around the world.



SEPTEMBER

➔ An internal consultation of the CNRS's 33,800+ staff members enables us to gauge their pride in being part of the CNRS and find out about their difficulties with working conditions and questions about the place of research and the CNRS in France. We are continuing to implement our responses.



NOVEMBER

➔ A CNRS delegation led by Antoine Petit attends the 28th Conference of the Parties (COP) in Dubai which focused on the world's oceans this year.



2023 in figures

HUMAN RESOURCES

Over **33,800** staff members including **28,800** scientists

Over **200** different professions providing direct support for research

Among the researchers recruited in 2023, **40%** were women and over **32%** were from other countries

BUDGET

Over **4** billion euros for our budget (wage bill included) including over **1** billion euros of CNRS generated income

EUROPE

1st beneficiary institution of the Horizon Europe Framework Programme

Nearly **50%** of the winning European Research Council (ERC) projects from France in 2023 are led by CNRS researchers

INTERNATIONAL

Nearly **80** international laboratories including **8** created in 2023 located in nearly **50** countries

5 International Research Centres

10 representative offices in other countries

RESEARCH

10 thematic Institutes

Over **1100** laboratories under CNRS supervisory authority (research or support units)

PARTNERSHIPS

Over **120,000** staff members working in laboratories under CNRS supervisory authority

2/3 of CNRS staff members work on **10** major higher education and research sites hosting

50% of our research or support units

RESEARCH

Over **55,000** publications from laboratories under CNRS supervisory authority including nearly **65%** co-signed with a foreign laboratory

Nearly **95%** of publications by CNRS researchers are in open access

INNOVATION

Nearly **100** start-ups deriving from laboratories under CNRS supervisory authority created per year

Over **275** active CNRS/company joint laboratories

Over **9 000** patent families in the CNRS portfolio

1st public co-filer of patents with companies

Institutional highlights



The DREEMES-CI project (Recharge dynamics and threats to groundwater resources in Ivory Coast) was set up as a response to the complex and growing challenges associated with the supply of drinking water in Ivory Coast. © B. Adiaffi



JANUARY

The CNRS bolsters its cooperation with Africa by supporting 35 innovative projects in diverse fields like geology or urban planning. These projects are jointly led by scientists from CNRS units and their counterparts from institutions in 17 African countries.



FEBRUARY

The CNRS launches the 'CNRS fellows-ambassadors' scheme to boost French research. The scheme has its roots in the academic tradition of eminent visiting professors.



MARCH

The CNRS takes part in the **first Franco-Mexican Forum on Research and Higher Education** and reaffirms its goal of creating deeper relations with Mexico.



MAY

The CNRS reinforces its presence and cooperation work in Canada, particularly in quantum physics and AI, and announces the upcoming creation of two International Research Centres with the universities of Sherbrooke and Toronto.



2023: A YEAR AT THE CNRS

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JUNE

The CNRS hosts a meeting of the **French National Assembly's Cultural and Education Affairs Committee**, an opportunity for researchers and politicians to interact freely on a broad range of subjects and pave the way for potential future collaboration.



The CNRS publishes its Roadmap for French overseas territories

aimed at developing its activities there and providing responses to the major geostrategic issues these territories face through a strategy shared with the French state.



Antoine Petit, the CNRS Chairman and CEO of the CNRS, attended alongside Claire Giry, the Ministry of Higher Education and Research's Director General for Research and Innovation. © Axel Griesch



Following on from the symposium in April, the **G6 network made up of Europe's leading multidisciplinary research organisations presented the European Commission with its joint general recommendations for FP10**, the EU's upcoming research and innovation framework programme.



The **Gillet report is published on the changes required to renew France's research and innovation ecosystem**. It particularly proposes that **France's national research organisations (ONRs) should fulfil the role of programme agencies and recommends a simplification exercise**.



The first coral nursery system in use in Moorea, French Polynesia at the CRIOBE, a world-renowned laboratory for coral reef research. © Yannick CHANCERELLE / CRIOBE / CNRS Images



Sandra Lavorel on the Col du Lautaret in the French Alps.
© Hubert RAGUET / CNRS Images

SEPTEMBER

In September 2023, **CNRS Formation Entreprises** celebrated its 40th anniversary. This is the CNRS's specialist continuing training unit for companies and public organisations.



The CNRS organises an international conference to celebrate the thirtieth anniversary of the first framework agreement on cooperation between the organisation and Taiwan's National Science & Technology Council.



The ecologist **Sandra Lavorel** is awarded the **2023 CNRS Gold Medal** for her pioneering work on ecosystems and global change. Her research has significantly contributed to our understanding of biodiversity and environmental preservation.



OCTOBER

Antoine Petit visits Japan to take part in the steering committee meeting for the International Research Centre with the University of Tokyo inaugurated a year ago. A new International Research Laboratory in mathematics is also launched during the visit.



Three Chinese scientific delegations visit the **CNRS head office** reflecting China's aim to resume and deepen cooperation with France and Europe. This also provided the opportunity to renew the framework agreement between the CNRS and the Chinese Academy of Sciences.



The **CNRS's ten Institutes** adopt **simplified names** to help present the organisation differently and make the full scope of our scientific work easier to understand.



NOVEMBER

An official **CNRS delegation** attends the **COP28 summit** to share knowledge of the issues and the solutions found in our laboratories that contribute to developing the right policies to fight climate change.



© Laurencesoulez - Stock.adobe.com

DECEMBER

The **CNRS confirms its position as the 1st-ranked beneficiary of European research and innovation framework programmes**. The organisation will be bolstering up its participation in Horizon Europe, particularly through the recruitment of European project engineers to work as closely as possible on specific themes with scientists in CNRS research units.



The French President **Emmanuel Macron** announces the creation of **five new exploratory research programmes**. The themes are cell fate (Cell-ID), mathematics in interaction (Maths-Vives), organoids on chips (Med-OOC), high-temperature superconductors (SupraFusion) and finally society and environmental challenges (TRANSFORM).



The French President **Emmanuel Macron** officially confirms the creation of **programme agencies managed by national research organisations**. The CNRS is appointed to lead the future Climate, Biodiversity and Sustainable Societies agency.



Several scientists from the CNRS or linked to the organisation join the **new Presidential Science Council** announced by President Emmanuel Macron. This Council is intended to act as a link between the government and research.



Emmanuel Macron presents his "vision for the future of French research". © Elysee

Research & innovation highlights

ENVIRONMENT, CLIMATE AND BIODIVERSITY

Supercritical fluids for the circular economy

When fluids are heated to certain temperatures and pressures their properties change and they become supercritical. In this condition, simple solvents are capable of breaking down complex materials for recycling. The IDELAM start-up is working on this project.



'The blood of glaciers' - how an alga adapts to life in the snow

CNRS researchers are studying the proliferation of a microscopic red alga called *Sanguina nivaloides* or, as it is better known, the 'blood of the glaciers'. This alga forms the backbone of a still little-known snow ecosystem.



A gas-free refrigeration system based on natural rubber

A research team has developed a greenhouse gas-free refrigeration system that uses the elastocaloric properties of natural rubber tubes. Performance levels for its prototypes are promising for use in large-scale systems.



The impact of climate change on ground water levels in 2100

A group of scientists has worked with the latest scenarios used by the IPCC (Intergovernmental Panel on Climate Change) to analyse climate change's impact on the evolution of groundwater levels worldwide.

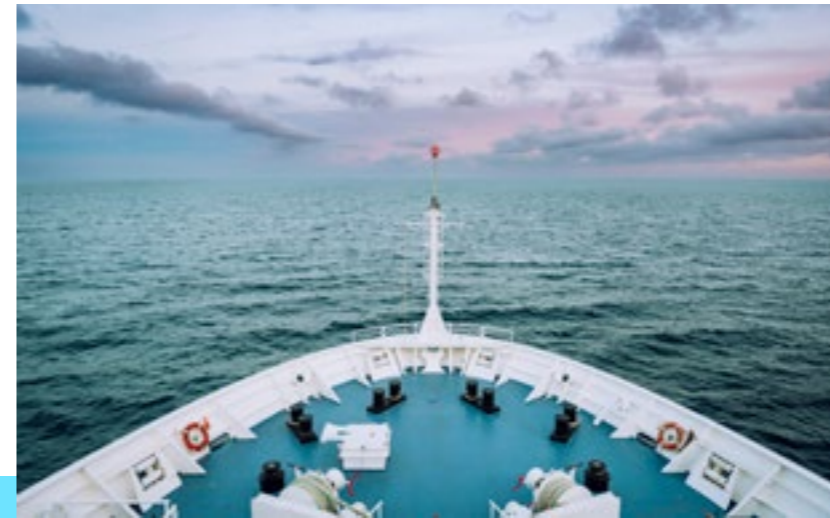


Publication of CNRS Ecology & Environment's 'Prospectives'

CNRS Ecology & Environment's collective appraisal of the Institute's future prospects was published in November 2023. Its aim was to reinforce high-level fundamental research to help provide the right scientific solutions for the complex and urgent issues facing us.



Sampling of red algae for experimentation near the Col du Lautaret in the French Alps. © CNRS



The bow of the oceanographic vessel 'Pourquoi pas?' This is one of two vessels that make up the French oceanographic fleet operated by the French Research Institute for Exploitation of the Sea (Ifremer) which hosted the Apero campaign along with many CNRS researchers. © Cyril FRESILLON / MIO / Ifremer / CNRS Images



A campaign to find out more about how carbon is stored by oceans

The Apero oceanographic campaign began in June 2023 with its ambitious strategy for ocean observation at depths of between 200 and 1000 metres complemented by innovative molecular biology and modelling approaches.

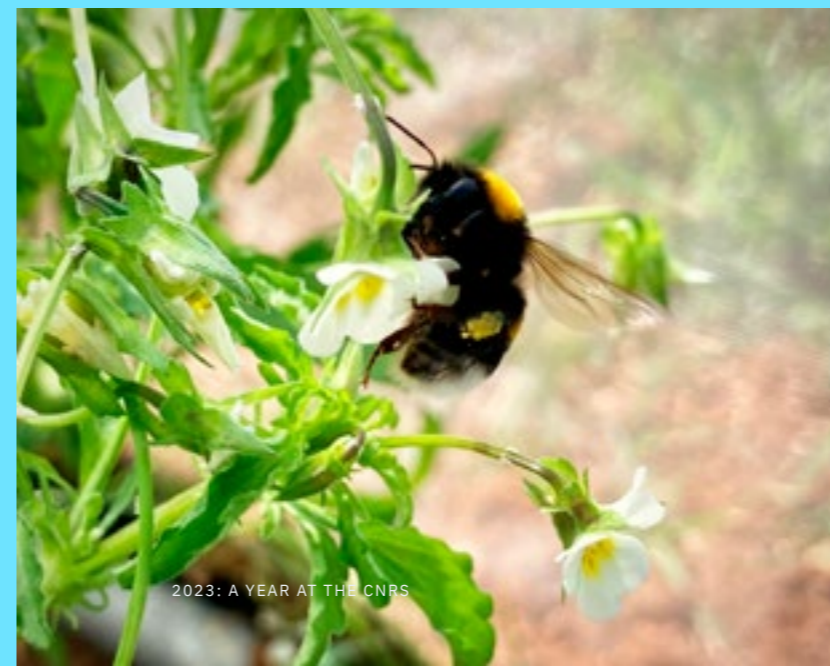


Field flowers emancipate themselves from pollinating insects

A research team involving the CNRS has shown that flowering plants in an environment depleted of pollinating insects tend to become independent of pollinators. They then evolve towards self-fertilisation given the increased difficulty of reproduction.



A bumblebee on a field pansy flower during an experiment carried out in this study. Samson Acoca-Pidolle



ENERGY TRANSITION

Making battery recycling more virtuous

Battery recycling is a crucial environmental issue for the coming decades. The sector will now be able to benefit from the breakthrough technology devised by the CNRS MeCaWaRe start-up which has secured €40 million for its pre-industrialisation.



Tiamat's key stage

The CNRS spin-off Tiamat is marketing the first mainstream consumer product powered by sodium-ion battery technology. This is a world first and a key stage in the development of the company and its large-scale technologies.



HydrogenLab – the joint laboratory designing the future with Michelin

The CNRS and Michelin officially launched their joint HydrogenLab laboratory in June 2023. Its objective is to use innovative production and shaping processes to develop new materials for fuel cell cores and electrolyzers.



An industrial chair for the engines of the future

The Safran-Pprime industrial research chair 'Emeraude' was launched in September 2023. It is dedicated to the study of nickel-based superalloys for turbine blades, thus helping develop the engines of the future and contributing to the decarbonisation of aviation.



The CNRS and STMicroelectronics working together on phase-change memories

The CNRS and STMicroelectronics have celebrated their three-year collaboration project on phase-change memories. In 2023 this led to the roll-out of a new generation of microcontrollers called Stellar and designed in response to the complex technical requirements of software-defined electric vehicles.



HEALTH

Diamond detectors pass the test of X-ray microbeam radiotherapy

The diamond-based X-ray detector has been successfully tested to control a flash radiotherapy trial by using a microfractionated beam.



Cancer - a new antibody to improve the response to treatment

Resistance to anti-cancer treatments is one of the main obstacles in the treatment of cancer patients. For the very first time, a CNRS team has studied the inhibition by an antibody of a protein responsible for such resistance.

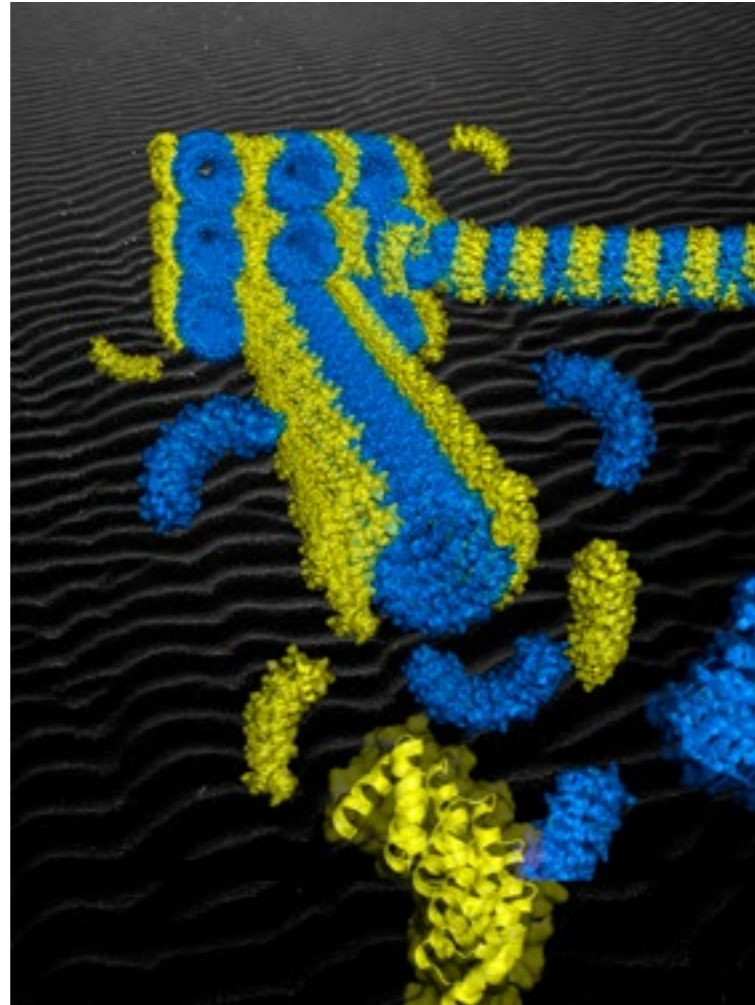


How the microbiota stimulates growth

Researchers have discovered how a bacterium in the microbiota of young animals can stimulate their growth in depleted nutritional conditions.



Observation of a mouse microbiota
© Cyril FRESILLON/IPBS/CNRS Images



A semi-experimental model of the origami of artificial proteins. Its superhelix of bricks (in blue) self-assembles by affinity with the staples (in yellow).
© I2BC, CEMES, CBI, IPR et ICB



Making molecular 'origami'

A CNRS research team has showed it is possible to construct ordered supramolecular architectures formed from highly regular proteins with recognition surfaces that enable them to establish specific interactions.



A licensing option for innovative cancer therapy with Taiho Pharma

The Phost'in Therapeutics start-up has signed a licensing option with Taiho Pharma. Their breakthrough innovation in the field of immunotherapies attacks cancer via multiple mechanisms.



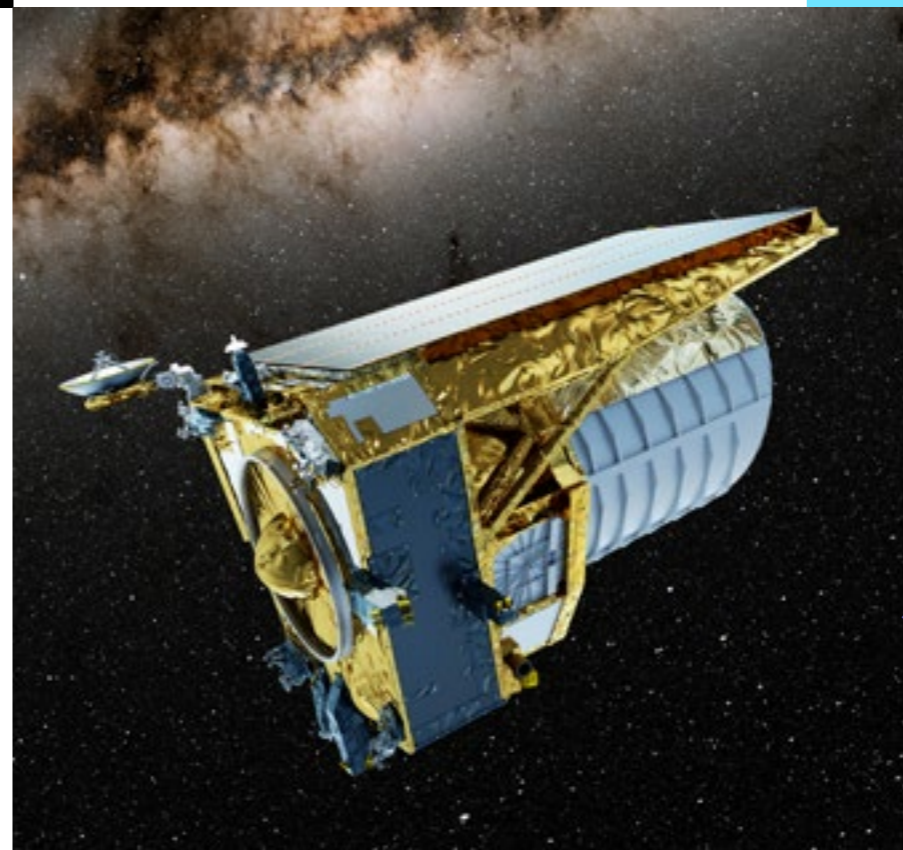
Vect-Horus and Novo Nordisk join forces to work on targeted therapeutic products

The CNRS start-up Vect-Horus has signed a historic licensing agreement with Novo Nordisk to develop therapeutic products that specifically target different organs including the brain, thus paving the way for new therapeutic prospects.

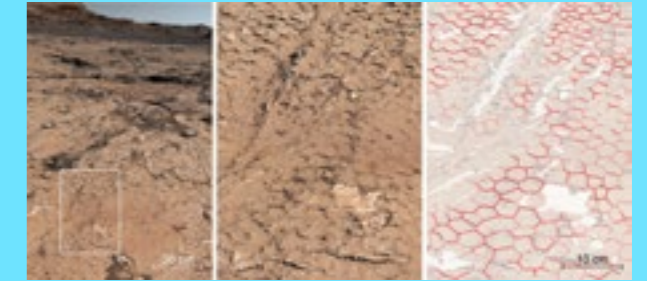


Inflammation and cancer: identifying the role of copper paves the way for new therapeutic applications

Copper's role in a chain of biochemical reactions that lead to metabolic and epigenetic modifications has been identified which opens up new therapeutic opportunities for the control of inflammation and cancer.



The Euclid space telescope. © ESA



A hexagonal fossil pattern in sedimentary rocks analysed by Curiosity on the 3154th day of its journey into the Gale crater on Mars.
© NASA/JPL-Caltech/MSSS/IRAP/Rapin et al./Nature

THE UNIVERSE



Mars - new traces found of a favourable environment for the appearance of life

CNRS scientists have discovered fossil evidence on Mars of a cyclical climate with dry and wet seasons like here on Earth.



GANIL tracking Sodium 22 to find out more about novae

A team of scientists from the Large National Heavy Ion Accelerator (CEA/CNRS) used an innovative experimental set-up to anticipate the mechanisms and therefore the production rates of sodium 22 in novae, thus enhancing our understanding of these colossal explosions.



COMHET - working on the space thrusters of tomorrow

Electric space thrusters are essential for satellite orbit control but involve a number of challenges for researchers, particularly because of the complexity of the cold plasmas they use. The COMHET joint laboratory carries out experiments and numerical simulations to find out more about them.



ESA's Euclid satellite is successfully launched from Cape Canaveral in Florida

Two instruments designed by teams from the CNRS and the CEA (among others) are on board Euclid and are mainly dedicated to cosmology, particularly the study of the structure and evolution of the Universe





The first successful tests in the Venice lagoon © EU H2020 MAELSTROM Project

AI, DIGITAL, MATHEMATICS

Publication of the conference proceedings from the *Assises des Mathématiques*

These proceedings give an unprecedented overview of the interactions between mathematics and society. They also pinpoint the ways France can prepare more effectively for tomorrow's major challenges.



Low-energy AI

A team involving scientists from the CNRS working in collaboration with industry has designed a prototype machine that can carry out a given artificial intelligence task using thousands of times less energy than traditional solutions.



Trackers in mobile games

Games on phones collect all sorts of personal information without us knowing. A team of CNRS scientists has studied this surveillance ecosystem and its impact for users.



© Drobot Dean - stock.adobe.com



A robot diver cleaning up coastal areas

The platform of the European Maelstrom project involving the CNRS has been tested in Venice and included a dedicated robot that collects underwater waste at depths of up to twenty metres.



Malcom: an international AI research project applied to materials chemistry

Malcom, a new Franco-Belgian chemistry project, aims to use AI and data science to more rapidly discover better-performing materials and more sustainable recycling processes.



QUANTUM PHYSICS

When two electrons jostle for position in a quantum circuit

CNRS physicists have successfully made two electrons interact so they could very precisely observe the results. This is a step towards progress in the field of ultra-sensitive measurements and quantum computing.



Welinq makes quantum computers communicate

The CNRS start-up Welinq works on developing a quantum processor interconnection solution to scale up quantum computing and roll out quantum communication infrastructures over long distances.



HiQuTe Diamond - diamonds for quantum applications

HiQuTe Diamonds has signed an exclusive licence with the CNRS to promote and transfer their synthetic diamond growth technology. The target applications include quantum sensors, power electronics and particle detection.



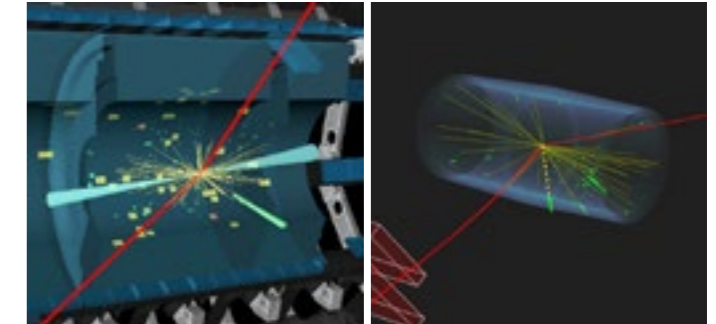
Passing the time of day from Paris to Turin

An international team of physicists including CNRS researchers has developed a 1023 km fibre optic link between Paris and Turin for transmitting accurate signals from atomic clocks.



The first trace of rare Higgs decay

The ATLAS and CMS collaboration projects successfully worked together to find the first convincing evidence of a rare decay of the Higgs boson into a Z boson and a photon.



Candidate events for the decay of a Higgs boson into a Z boson and a photon with the Z boson then decaying into a pair of muons as recorded by the ATLAS (left) and CMS (right) experiments. © CERN

SOCIETAL HERITAGE

A Heritage Observatory from the Pacific Experimental Centre

In 2023, the CNRS created the Heritage Observatory of the Pacific Experimental Centre (CEP) following the decision to declassify nuclear archives. This HSS observatory continues multidisciplinary work on this subject carried out in the last decade.



Huma-Num is 10 years young!

The Huma-Num IR* research infrastructure celebrated 10 years of collective construction in 2023. It has pooled expertise from the different humanities and social sciences communities combined with a high-level IT infrastructure since being set up in 2013.



Mona Lisa smiles at chemists

CNRS researchers studying a micro-sample of the Mona Lisa using the European Synchrotron in Grenoble uncovered some surprising chemical components that highlight just how innovative Leonardo da Vinci was in preparing his paintings.



A Franco-Quebec chair in freedom of expression

The CNRS and the *Fonds de Recherche en Santé Québec* (FRQ) have created the France-Quebec Collective Research Chair on Contemporary Freedom of Expression Issues.



An unofficial history of the American plains horse

An international team of researchers has begun work on refining the history of the American horse. This work integrates interdisciplinary and intercultural research in a project combining Western science and traditional indigenous science.



Researchers discuss the image of the resurfaced fracture of the Blacks Fork horse © Northern Vision Productions



Knowledge sharing highlights

APRIL

Experts on Twitch for the ecology

In 2023, the CNRS collaborated with the Twitch streamer Ponce (over 800,000 subscribers). Our scientific experts took part in the Pod'Fleur ecology programme broadcast live and on replay for a total of over 340,000 views.



MAY

Understanding (almost) everything about biodiversity

In the book '*Tout comprendre (ou presque) sur la biodiversité*' (CNRS Éditions), CNRS researchers give clear illustrated answers to essential questions to help people understand biodiversity better so they can more effectively protect it.



The streamer Ponce and his scientific guests - Sophie Dubuisson-Quellier, sociologist at the CNRS; Franck Courchamp, ecologist at the CNRS; and Valérie Masson-Delmotte, palaeoclimatologist at the CEA. © CNRS / Nathalie Lambert



JUNE

A fresco and a travelling exhibition on the interaction between sport and science

The '*Sport & science, l'union fait la force*' (Strength through unity) fresco in the corridors of the Paris metro was designed by the CNRS in partnership with the RATP to highlight the scientific fields linked to physical activity. This mural was later also exhibited in a number of other French cities.



From May 6th to July 11th, Parisians and travellers were presented with a 134-metre-long fresco in the corridor of the Montparnasse-Bienvenue metro station. © Cyril FRESILLON / CNRS Images

Unexpected vistas that are expanding

The '*Échappées inattendues*' programme of scientific outreach events for the general public launched in 2022 has been successfully rolled out throughout France with dozens of regional events in 2023.



31
events

8
participating
regions

8 videos with over
40K views



A shared world The book '*Un monde commun*' (CNRS Éditions) is made up of around a hundred humanities and social sciences contributions on contemporary issues that echo the sustainable development goals identified by the United Nations.



How can scientists know...?

The book '*Comment les scientifiques savent...?*' (CNRS Éditions) restates the idea that science needs to apply a rigorous and methodical approach to effectively describe, explain and enlighten the world.



The Nouvelle-Aquitaine region celebrated the '*Échappées Inattendues*' event in Talence from June 8th-10th. Around thirty scientists attended to exchange with members of the public. © G.D Photos | Gautier Dufau

SEPTEMBER

Le Havre spotlights science

The city of Le Havre organised the second edition of the 'Sur les épaules des géants' (On the Shoulders of Giants) event with support from the CNRS among others. This unmissable knowledge sharing event honours renowned scientific figures, their approaches and their discoveries in an accessible and attractive way.



The 3rd scientific mediation medal

In 2023 the CNRS awarded Medals for Scientific Mediation to the physicist Wiebke Drenckhan, the 'MATH.en.JEANS' association, the collective book 'Tout comprendre (ou presque) sur le climat', the Criminocorpus platform and the youtuber David Louapre.



Maths comes to life at the Maison Poincaré

The *Maison Poincaré*, a veritable mathematics museum, opened its doors in September 2023, providing a fun and interactive way to discover mathematics and its applications for the general public.



The display in this large gallery of the museum explores the link between mathematics and the other sciences through three major themes - spectra and waves; chance and data; crowds and fluids. © Institut Henri-Poincaré, Paris / Atelier Novembre, du&ma / Thibaut Voisin

OCTOBER

A thesis in 180 seconds

In 2023, 'Ma thèse en 180 secondes' competition events were again held throughout France and around the world featuring French-speaking students from all backgrounds presenting their theses in 3 minutes flat! The international final was held in Rabat, Morocco on October 6th with the jury's 1st prize awarded to Camille Lakhli from France.



Amazing physics

The interdisciplinary book 'Étonnante Physique' (CNRS Éditions) takes readers to the very heart of CNRS physics. This age-old science is now a part of our everyday lives through physics-linked developments in materials, health, energy, climate, and so on.



A young participant takes part in the inoculation of a bacterial strain in the absence of oxygen, at the Bioenergetics and Protein Engineering Laboratory (CNRS/Aix-Marseille University) in Marseille. © Anne HAGUENAUER / BIP / CNRS Images

Unusual visits celebrating science throughout France!
The 4th edition of the 'Visites Insolites' event took place during the *Fête de la Science* festival from October 6th to 16th with the CNRS opening the doors of its laboratories, observatories, scientific platforms and research sites to the general public.

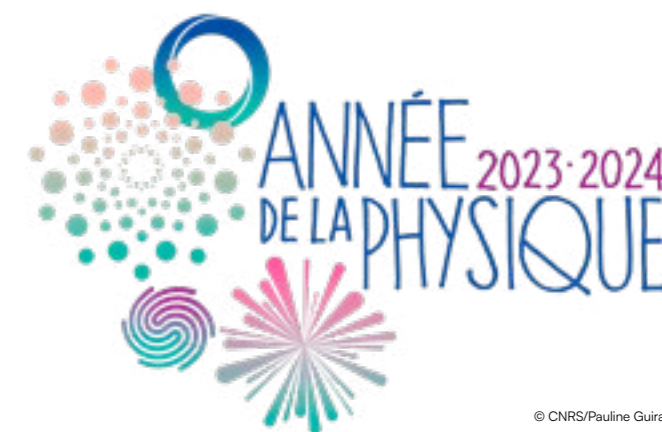


Nearly **1200** participants

72 visits organised all over France
67 laboratories involved

The 2023-2024 school year of physics

On October 3rd the CNRS launched the 2023-2024 Year of Physics with national education and research stakeholders working in the field. This thematic year features awareness-raising activities for schoolchildren and the general public all over France.



© CNRS/Pauline Guiraud

“The societal challenges from the COP made it possible to find initial answers to the rarely disciplinary-specific questions society is asking.”

Alain Schuhl,
Deputy CEO for Science

What are the initial results of the CNRS's multi-year cooperation plan with Africa?

Our Africa Plan was designed and launched in 2022 and implemented in 2023, notably through the launch of three calls for projects for innovative cooperation schemes co-constructed with our partners - Joint Research Programmes, Residential Research Schools and Visiting Fellowships. 155 projects were submitted with 35 obtaining funding. All these programmes have a project leader from a CNRS laboratory alongside a counterpart from an African academic institution. About twenty African countries are represented as are all the CNRS's scientific disciplines.

In 2023 Kenya was chosen as the location for the eleventh CNRS Office. The Nairobi Office will complement the existing Pretoria Office and provide significant support in sub-Saharan Africa. It confirms our wish to develop our collaboration work with African countries across the continent.

The six Societal Challenges set out in the 2019-2023 Objectives and Performance Contract (COP) came to an end in 2023 and were a first for the CNRS. What has the work on these challenges achieved?

It was a real innovation to set out these challenges explicitly in our COP and made good sense because our strength lies in creating synergies between disciplines to help find initial answers to the rarely disciplinary-specific questions society is asking. A working group of representatives from our ten Institutes was set up for each of the challenges and tackled the issues from new angles to identify specific, multidisciplinary actions.

In tangible terms, sixteen calls for projects or for expressions of interest have been launched. A research network focusing on educational issues has been set up along with a multidisciplinary AI centre aiming to accelerate scientific discoveries by pushing back the frontiers of all sciences. Multidisciplinary research carried out in the Camargue zone-*atelier* (Long-term socio-ecological

research sites) would clearly not have seen the light of day without our Societal Challenges.

The CNRS is a driving force for open science in France and Europe. What new milestones were reached in 2023?

The CNRS's rate for opening up publications is almost 95% which means we are playing a central role in the development of open science in France. The organisation's investment in this subject was again reflected in the construction of the *Recherche Data Gouv* platform with the creation of a CNRS institutional space and also in the organisation's work to enable researchers from all disciplines to store their research data and make them reusable. Another sign of the CNRS's commitment is the cancellation of our subscription to Elsevier's commercial bibliographic database Scopus on December 31st 2023 to support open solutions.

Also, the CNRS is still resolutely committed to reviewing the individual assessment of researchers and in 2023 the organisation reworked the application forms for entry to the CNRS. This initiative is the culmination of the drive to rework all assessment-related documents since 2020 to emphasise more qualitative criteria.

Finally, at the European level, the CNRS has continued its work started in 2022 within the Coalition on Advancing Research Assessment (CoARA), becoming a partner in the European CoARA Boost project launched in October 2023, and aiming to fund and monitor CoARA's work. The CNRS is leading a work package dedicated to the action plan implemented by research institutions all over the world.

35

Priority research programmes and equipment (PEPR) steered or co-steered by the CNRS at the end of 2023

13

Acceleration PEPRs

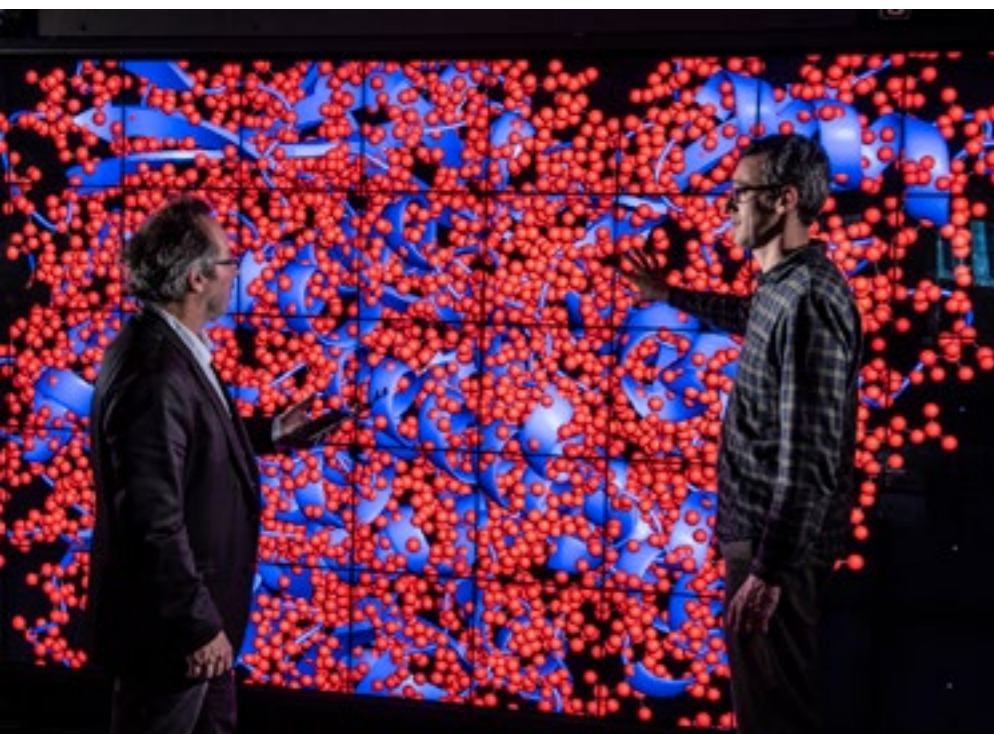
22

and Exploratory PEPRs

Over 55,000 publications from laboratories under CNRS supervisory authority

Nearly 95% publications by CNRS researchers are in open access

9 CNRS researchers were among the 18 new members of the French Academy of Sciences named in 2023



The Wilder platform at Paris-Saclay University's Digiscope enables users from different platforms to collaborate by synchronising their points of view and by providing interactive visualisations of large quantities of data and complex calculations.

© Hubert RAGUET / DIGISCOPE Wilder / Inria / CNRS Images

→ Working to make the IPOS more robust

On April 18th and 19th, the CNRS organised a conference in Brussels aimed at reinforcing the International Panel for the Sustainability of the Ocean (IPOS) which is dedicated to defending a sustainable ocean. The event's aim was to foster strong commitment to support the IPOS among academic partners and to mobilise decision-making bodies and representatives of civil society around the project. The IPOS needs to publish its first recommendations before the 2025 United Nations Conference on the Ocean in Nice.

+

→ The CNRS provides ecological transition training for civil servants

The organisation was asked by the French government to coordinate part of the ecological transition training for French public servants given its proven expertise in this research area and ability to mobilise the entire scientific community. The project is the first of its kind in the world. It aims to make France the first country to train all its civil servants in this subject so the ecological transition becomes central to French public policy.

+



← CNRS support for the Recherche Data Gouv space

The 'CNRS Research Data' institutional space has been set up on the national *Recherche Data Gouv* platform so CNRS researchers can deposit their data therein. *Recherche Data Gouv* is a structuring initiative for French research and, as the French leader in open science, the CNRS is contributing fully to it through its tools, experience and infrastructure.

+

→ The CNRS's rare earths expertise

Rare earths are critical for subjects of the future like renewable energies. Following a self-referral the CNRS's Mission for Scientific Expertise (MPES) has begun work on a collective report entitled '*Vers une utilisation plus responsable des terres rares: quelles perspectives en matière de sobriété, recyclage et mode de production?*' (*Towards more responsible use of rare earths: what are the prospects in terms of sobriety, recycling and production methods?*). Fifteen experts were invited to work together on a cross-disciplinary analysis of scientific literature on this issue. CNRS Editions will publish the full report, a summary and a book on the same subject in 2025.

+

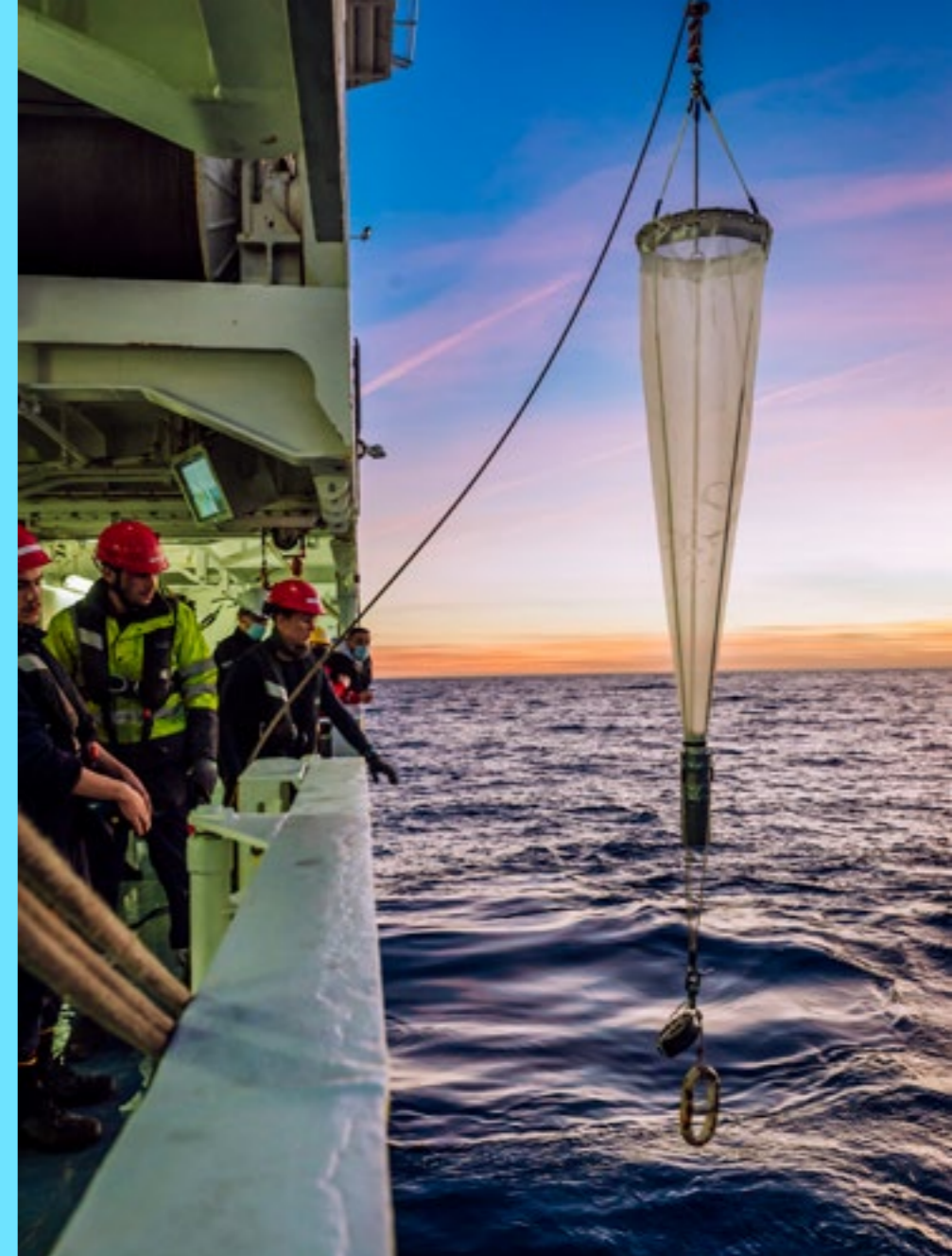
→ The CNRS questions planetary limits

The Mission for Transversal and Interdisciplinary Initiatives (MITI) and *France Universités* organised a meeting on our planet's limits and sustainability issues in Paris on July 3rd and 4th 2023. This followed on from a meeting-debate in Marseille in 2022 and dovetailed with the activities of the working groups dedicated to the Objectives and Performance Contract's six Societal Challenges. The artificialisation of land and the extraction of subsoil, energy sobriety, the increasing scarcity of water and chemical pollution were among the issues discussed.

+

IN CLOSE-UP The CNRS - a major world player in oceano- graphical research

The ocean was long thought to be unalterable because of its imposing size but it is now faced with a series of critical challenges (melting ice, extreme weather events, plastic pollution, etc) that mark a significant change in its dynamics. Scientific research alone can provide the right responses to these challenges and thus ensure the ocean's long-term sustainability. The CNRS is a multi-disciplinary organisation with all the interdisciplinary scientific resources needed to study the ocean in all its dimensions - from the molecule to global mechanics, from the deep ocean to the atmosphere, from coastlines to the open sea — and even including the ocean's interactions with professionals, users, the economy and politics. The major challenges include the ocean's contribution to climate phenomena, acquiring new knowledge about how oceans function, protecting ecosystems and biodiversity, the sustainable use of marine environments as well as appropriate governance. The CNRS's Ocean Task Force was set up in 2018 to coordinate the research efforts of its ten Institutes, foster collaboration and bolster dialogue between scientists and policymakers. Also, the Omer Research Network coordinates the work of experts in various fields, with over 1000 researchers in around fifty laboratories encouraged to take a holistic approach to ocean issues. This Task Force explores the



Researchers sampling plankton from the Pourquoi pas? vessel off Toulon with a plankton net.
© Cyril FRESILLON / MIO / CNRS Images

different aspects of the ocean in depth - from marine biology and ocean chemistry to sociology and maritime policy.

Alongside this work, the CNRS contributes to the preservation of the ocean on a global scale through its active involvement in international initiatives like the United Nations Decade of Ocean Sciences for Sustainable Development and the International Panel on Ocean Sustainability (IPOS). These international collaborations are essential to share knowledge, identify best practices and develop effective strategies to deal with the global challenges our oceans are facing. Finally, the CNRS works on raising public awareness of ocean issues

and promotes sustainable ocean management through taking part in international events like the COP28. The organisation is actively preparing for the Third United Nations Conference on the Oceans in June 2025 in Nice. The CNRS plays a crucial role in protecting and preserving the ocean for future generations by forging ever closer links between scientific research, politics and civil society.

+

“The Hcéres report shows us how to continue the roll-out of an innovation culture.”

Jean-Luc Moullet,
Deputy CEO for Innovation

Numerous CNRS innovation support programmes were to emerge in 2023. What changes will these new programmes make to support for start-ups from laboratories under CNRS supervisory authority?

As part of our 2019-2023 Objectives and Performance Contract we developed the main structure of support programmes for commercialising the results of research from laboratories under our supervisory authority. This is mainly based on the Prematuration and Rise programmes, the development of a sector-focused strategy and the creation of technology transfer engineers.

In 2023, we made efforts to consolidate, complement and expand this scheme through new programmes. The PhDDiscovery programme works upstream to instil a spirit of entrepreneurship in young PhD students. We also launched the OPEN programme which promotes work on open source software, a subject which had hitherto received little promotion from the CNRS. The Rise + programme and its six start-up studios work downstream to promote and drive the actual creation of start-up projects.

Finally, we use the Rise Up programme to foster the community of start-ups from laboratories under CNRS supervisory authority. Many such start-ups have gone on to become established companies.

New structuring schemes were signed with companies in 2023. How do these reinforce collaboration between the CNRS and its industrial partners?

The joint laboratory scheme remains highly attractive for companies. Around thirty of these were signed in 2023 which corresponds to an inauguration rate of one a fortnight!

More specifically, Safran signed five new joint laboratory schemes this year thus bolstering es-

tablished links with the CNRS. Also, many collaborative research contracts were signed in 2023 including a very significant contract with STMicroelectronics on materials for semiconductor memories. Finally, the technology transfer engineers programme started in 2022 continues to develop with the planned recruitment of 65 such engineers by the end of 2023. These engineers make up a remarkable network which the CNRS can rely on for outreach to companies and which enhances our understanding of company needs and concerns so we can more effectively come up with ideas for collaborative work.

The 2023 Hcéres report by an international committee praised the CNRS's efforts in terms of innovation. What new initiatives are being introduced?

Firstly, this report shows us how to continue the roll-out of an innovation culture. To achieve this, in the framework of the upcoming Objectives, Performance and Resources Contract for 2024-2028 we intend to propose a network of innovation ambassadors. These will be selected among research staff from units under CNRS supervisory authority who have already registered successes in innovation and would like to share their experiences within their laboratory and their research community. The Hcéres report also advised us on actions to be initiated to complement our work. I'm particularly thinking here of developing projects with a social and environmental impact. Traditional technology transfer mechanisms are of course effective for projects with an economic impact but we now need to invent a support programme for the societal and environmental projects our research communities and society in general are waiting for.

Nearly **1600** active companies from laboratories under CNRS supervisory authority since 1999 including nearly 100 set up in 2023

133 start-up projects supported by RISE including 25 new start-ups in 2023

375 projects supported by the prematuration programme including 61 in 2023

24 framework agreements with companies

7th place in the INPI ranking of patent filers in 2023

71 winners in innovation competitions including 19 i-PhDs, 32 i-Labs and 20 i-Novs



The buildings of the Franco-Swiss company MedXCell - one of the six start-up studios that are Rise + partners. © MedXCell

← Rise +: the CNRS joins forces with 6 start-up studios

The CNRS reinforced its support for start-ups in July 2023 by joining forces with six specialist start-up studios in the framework of the Rise + project. The aim is to help provide the right responses to launch and growth challenges that are specific to the entrepreneurial ecosystem. Projects will also receive more effective support from experts dedicated to their development right from the outset.



→ A fifth of start-ups from the CNRS recommended as investments in 2023

18 start-ups from laboratories under CNRS supervisory authority featured in *Challenges* magazine's article on the 100 start-ups recommended as investments for 2023. On May 30th 2023, the CNRS organised a dinner in honour of the 18 companies.



→ The CNRS stands out among winners of the France 2030 prematuration-maturation call

The results of this call for proposals were announced in January 2023. The CNRS particularly distinguished itself with 10 of the 17 winning consortia involving the CNRS - 4 as the coordinator and 6 as a partner. This call for proposals is intended to support the innovation cycle in national acceleration strategies aiming to consolidate the technological aspects of strategic sectors.



→ The CNRS honours its new joint laboratories

An event was organised by the CNRS on January 18th 2023 for academic and industrial representatives from nineteen joint laboratories along with companies interested in the scheme to set up these structures. This was an opportunity to gauge the attractiveness of these public-private collaboration projects for companies of all sizes. Indeed, half of the partners in these laboratories are SMEs while a third are large companies.



→ The fast growth of the technology transfer engineers programme

The CNRS programme to recruit technology transfer engineers (ITs) was launched in 2022 to boost collaboration between researchers in its laboratories and industry. By the end of 2023, the organisation had a team of 65 such engineers with hybrid profiles combining scientific expertise, business development skills and knowledge of the industrial world. The network of these engineers already covers a large part of France and a broad range of research topics.



IN CLOSE-UP

The CNRS - a key innovation stakeholder at VivaTech

For the fourth consecutive year, the CNRS attended Europe's largest innovation fair, VivaTech which was held in Paris from June 14th to 17th 2023. Four themes had been selected to illustrate the challenges and issues society is facing - quantum mechanics, sustainable development, health and energy. Ten start-ups derived from research carried out in CNRS laboratories represent these themes. Among these was Spark Cleantech which aims to accelerate the decarbonisation of industry by producing hydrogen directly on site, with zero CO2

emissions and very little electricity. Also featured was the One Biosciences start-up which aims to integrate single-cell technologies and artificial intelligence to discover and develop new therapeutic approaches and thus become a world leader in precision medicine for complex diseases. As well the event's recognition for innovations produced by laboratories under CNRS supervisory authority, on its stand the organisation also hosted round tables - the 'Innovation & Prospective Talks'. The themes covered included quantum technolo-

gies, recyclability and the circular economy, the decarbonisation of industry and current topics like market support strategies. VivaTech 2023 also featured the official launch on June 14th of the new Rise Up programme for companies from CNRS laboratories. Rise Up is intended as an additional tool for creating closer links between deeptech innovation and the socio-economic sphere and provides a range of services to promote the creation of a network. Firstly, there is a dedicated national recruitment platform featuring job offers particularly angled at CNRS PhD students and post-doctoral fellows. Secondly, the CNRS and CNRS Innovation communication channels enhance the visibility of companies by featuring company news. Finally Rise Up entrepreneurs benefit from working in collaboration with the CNRS's Business Relations Department (DRE) which also offers research collaboration tools like joint laboratory schemes run with companies.



Bruno Le Maire, France's Minister for the Economy, Finance and Industrial and Digital Sovereignty, on the CNRS stand at Vivatech with Magali Richard, CEO and co-founder of the One Biosciences start-up, Antoine Petit, CNRS Chairman and CEO, and Jean-Luc Moullet, CNRS Deputy CEO for Innovation.

© David Pell/CNRS



“The CNRS's efforts to reinforce its attractiveness were recognised by the renewed HRS4R label.”

Christophe Coudroy,
Deputy CEO for Resources

In 2023, the CNRS's approach to its laboratories was reviewed once again. What does this mean?

Following Philippe Gillet's report, the Ministry identified 17 sites for experimentation aimed at improving partnerships between stakeholders and simplifying site management. We have worked nationally and regionally to achieve these goals. A 'toolbox' with tangible proposals has been developed to help guide our regional offices (RDs) in their discussions. Each regional office has also formalised a service offer for their laboratories based on working groups with unit directors and sometimes satisfaction surveys. Alongside our work on these experimental sites, our partners in joint laboratories use CNRS tools to simplify the management of these labs. In particular I'm thinking of Dialog which processes requests for laboratory resources and PCRU which provides shared access to research contracts for partners on the same site.

How has the CNRS worked to simplify administrative processes?

At the national level, in summer 2023 we provided an updated set of proposals for the Ministry regarding measures that are legally not in the hands of the CNRS. At the European Union level, in the autumn we obtained the necessary clarifications for a large proportion of European projects to transition to a lump sum system instead of detailed justifications of expenditure. This had been a major administrative burden for our laboratories and regional offices. Regarding the CNRS itself, a simplification plan covering the national and regional levels alike was structured for the start of the 2023 academic year. This dovetails with profession-specific work. One example is that eleven 'irritants' in terms of human resources were identified in the autumn with a dedicated working group set up to develop and propose improvements for each of them.

For our information systems, dematerialisation has continued and since last summer our laboratories have been able to use secure electronic laboratory notebooks. We also launched a trial to dematerialise purchase orders. Another achievement worthy of note in human resources is the end-to-end dematerialisation of documents in our employees' administrative files.

As a counterpoint, unfortunately we have to mention the serious malfunctions that occurred in the interconnection of work travel tools, particularly Notilus. Since July the CNRS management has been fully aware of the situation which we deeply regret. Our teams at CNRS headquarters, in our regional offices and our laboratories have worked hard on this issue.

How does the CNRS work to boost its attractiveness?

The issue of attractiveness is not unique to the CNRS and remained a determining factor in 2023. In the area of salaries, the government's announcement of a pay rise for the entire civil service in the summer of 2023 was most welcome. The CNRS also managed to obtain the introduction of a specific scheme for CNRS support function of staff members scheduled for July 2024. Alongside these developments, the CNRS has continued to implement the 2022 attractiveness plan, the working conditions enhancement plan and, more generally, various measures that aim to attract and retain staff members. We place a particular emphasis on welcoming new recruits with mentoring schemes, e-learning modules, and so on. The CNRS's efforts were recognised in spring 2023 by the renewal of the HR Excellence in Research label awarded by the European Commission.

Over
33,800
staff members
including over
10,000 contractual
employees

Nearly
44%
women

Over
610 permanent
staff members
recruited in 2023

41%
of employees
worked from home
in 2023

Nearly
12,000
employees received
training in 2023,
including 22% of
contractual employees



A researcher and a colleague analyse results on the speed of DNA replication at different stages in the development of the malaria parasite. © Christophe HARGOUES / LPHI / CNRS Images

Review of the professional equality plan for 2021-2023

Several significant advances have been made thanks to this plan. These include an increase in recruitments of female researchers, an acceleration in promotion of women and a sustainable policy being introduced to prevent and combat gender-based and sexual violence. A network has also been set up of equality officers in CNRS laboratories and already boasts some 500 members. These action points will be bolstered in the upcoming 2024-2026 action plan.



The CNRS HR sector working on 11 'irritants'

At a seminar in October 2023, the heads of human resources in our regional offices and HR departments worked together to identify 11 'irritating' points requiring direct action from our HR staff to simplify processes for staff members and improve efficiency. These include recruitment times, bonuses or training. Working groups were set up to work on each of the issues and made their proposals at the start of April 2024.



Roll-out of the new CNRS secure electronic laboratory notebook service

In July 2023, the CNRS introduced a secure electronic laboratory notebook based on an open source solution. This format's strong points include the ability to save descriptions of experiments and associated files in a single place making data more easily traceable and accessible. Data can be shared with collaborators and are protected in a way that promotes and favours open science while guaranteeing intellectual property.



'Webcontrat': a dematerialisation tool for the CNRS contract preparation process

The Webcontrat tool focuses on user requirements and continued to provide new project engineering tools in 2023 in the framework of the 'User First' project, financed by the fund for the transformation of public action. Our researchers have set up nearly 6800 ANR (National Research Agency) projects and 445 European projects using the tool. Webcontrat is highly popular with users and will incorporate new developments from 2024 onwards to respond to requirements expressed by our units as effectively as possible, particularly as far as PE-PRs are concerned.



The CNRS is attempting to find sustainable solutions to renovate and maintain its research buildings and equipment. Here, we see the cooling system for the Jean Zay supercomputer. The machine's heat will be recovered and fed into the Paris-Saclay urban campus's heat and cold exchange network. © Rafael MEDEIROS / IDRIS / CNRS Photothèque

CNRS public procurement contracts include environmental clauses

In the framework of the CNRS's low-carbon transition plan, since 2022 the organisation has been promoting a proactive environmentally-friendly purchasing policy with its new watchword - "buy better to buy less". In 2023 this led to the introduction of guidelines on integrating environmental aspects into public procurement contracts. This brought forward the obligation for our institution's purchasers to integrate environmental criteria into their contracts by three years.



IN CLOSE-UP

The European Commission renews the CNRS's HR Excellence in Research label

For several years now, the CNRS has been working on a continuous improvement process to enhance recruitment practices and working conditions in the organisation. In this context, in 2017 the organisation was awarded the 'HR Excellence in Research' label by the European Commission for the first time. This is in recognition of the working environment at the CNRS and the quality of the organisation's human resources management and in May last year, the CNRS's label was renewed for three years.

The HR Excellence in Research label derives from the overall Human Resources Strategy for Researchers (HRS4R). This was created by the European Commission in 2008 as a tool for research organisations to implement the principles set out in 2005's European Charter for Researchers and Code of Conduct for the Recruitment of Researchers. These documents feature 40 core principles governing freedom of

choice in research, commitment to practicing the profession, recruitment issues, the recognition of professions, career progression and training. HRS4R is a voluntary process with 696 organisations worldwide having been awarded the label.

2023 is significant as it marks the renewal of the CNRS's HR Excellence in Research label. Following this, an assessment of the previous period's actions was carried out and a proposal made to the European Commission of a new action plan for the next three years aimed at all CNRS staff.

Obtaining and keeping the label were highly important for the CNRS which had already implemented many of the actions set out in the first HRS4R plan. For example, the CNRS careers website opened on March 8th 2023. Many of the action points set out in the HRS4R plan are also linked to the Quality of Life at Work (QVT) plan which funds pro-

jects to improve this aspect.

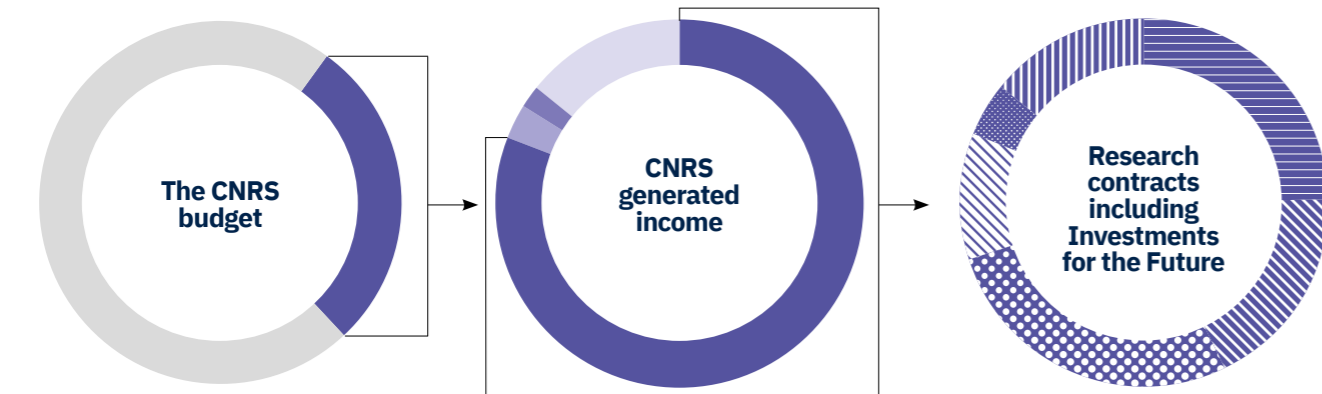
The CNRS's HRS4R plan is made up of around forty action points. One is more systematic French-English bilingual communication with our researchers - over 30% of the CNRS's researchers are English-speaking natives of other countries - including having employment contracts in both languages. Finally, most HRS4R action points dovetail with the ambitions set out in the CNRS Objectives and Performance Contract. This includes the roll-out of training courses for first-line managers and recruiting of European project engineers to support researchers in working on European projects and in submitting responses to European calls for projects.



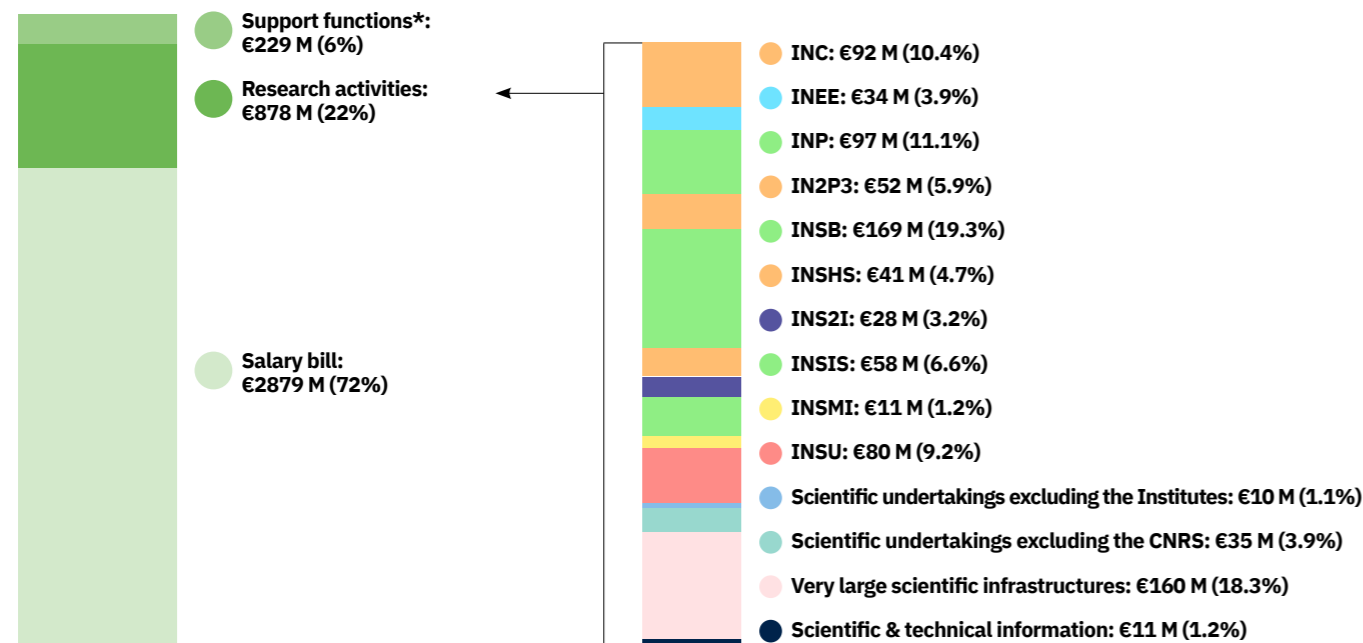
Statistics and indicators

THE CNRS BUDGET

→ Resources



→ Expenditure

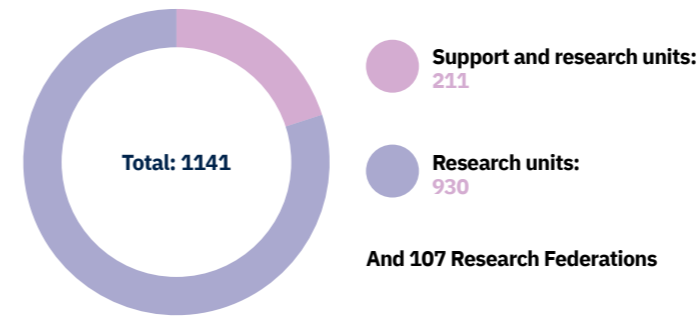


Source: BFC data – processing: CNRS/DCIF-DSFIM

* Operations, equipment and investments not related to research activities

LABORATORIES LINKED TO THE CNRS AND TO ITS PARTNERS

→ Laboratories linked to the CNRS

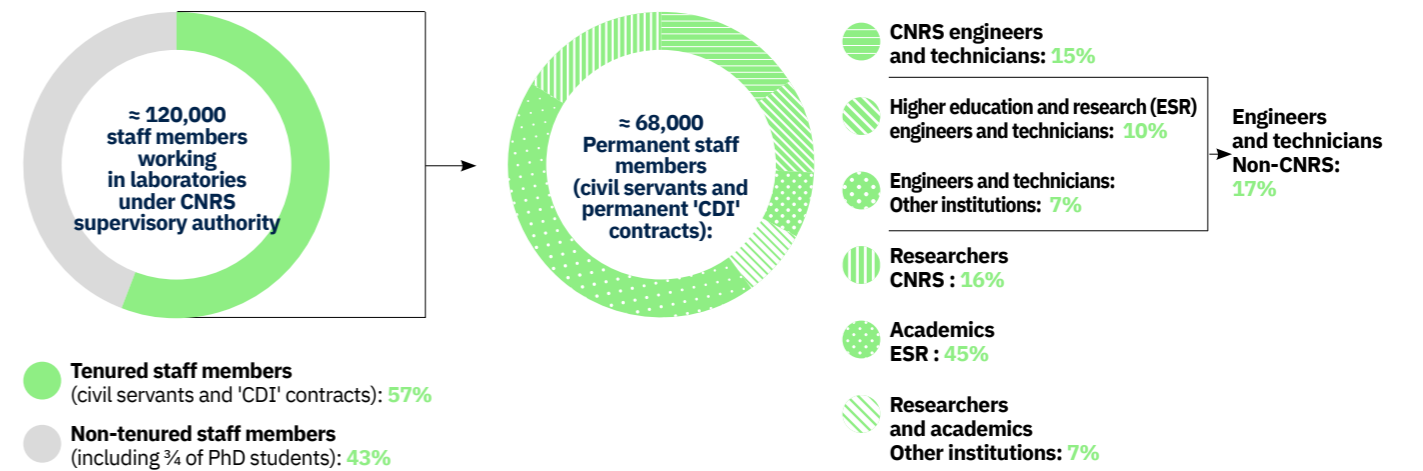


Source: Réséda data on 31/12/2023 – processing: CNRS/DAPP

→ Staff members in laboratories linked to the CNRS by personnel category and employing establishment category

(in natural persons on December 31st 2023)

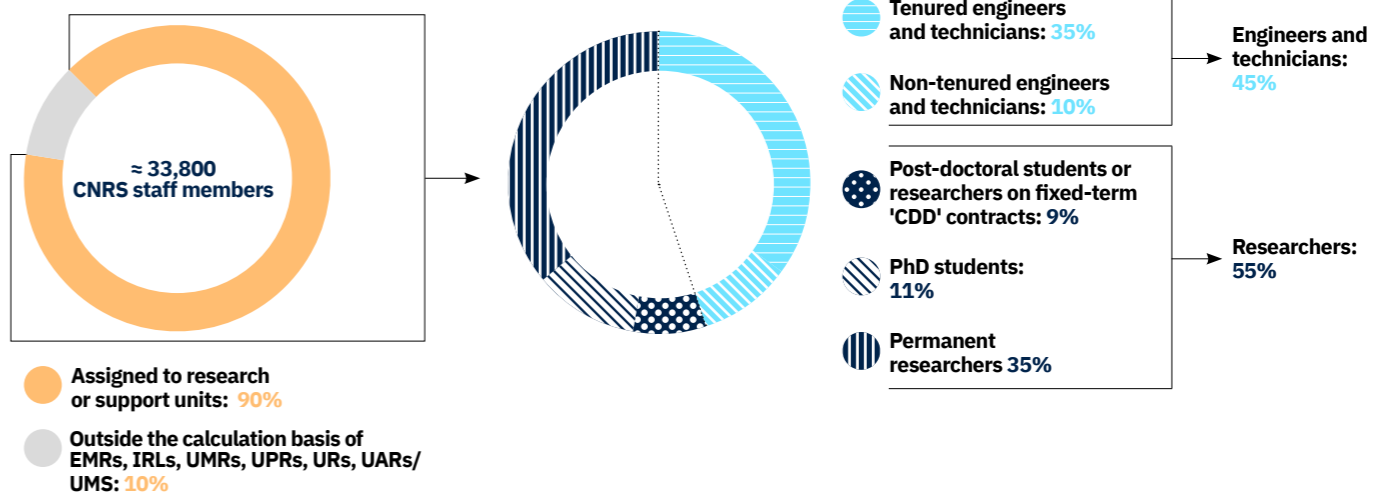
Basis for calculation: EMRs, IRLs, UMRs, UPRs, URs, UARs/UMS



Source: Réséda data on 31/12/2023 – processing: CNRS/DAPP

→ CNRS staff members from laboratories linked to the CNRS

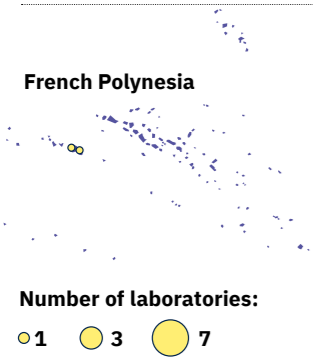
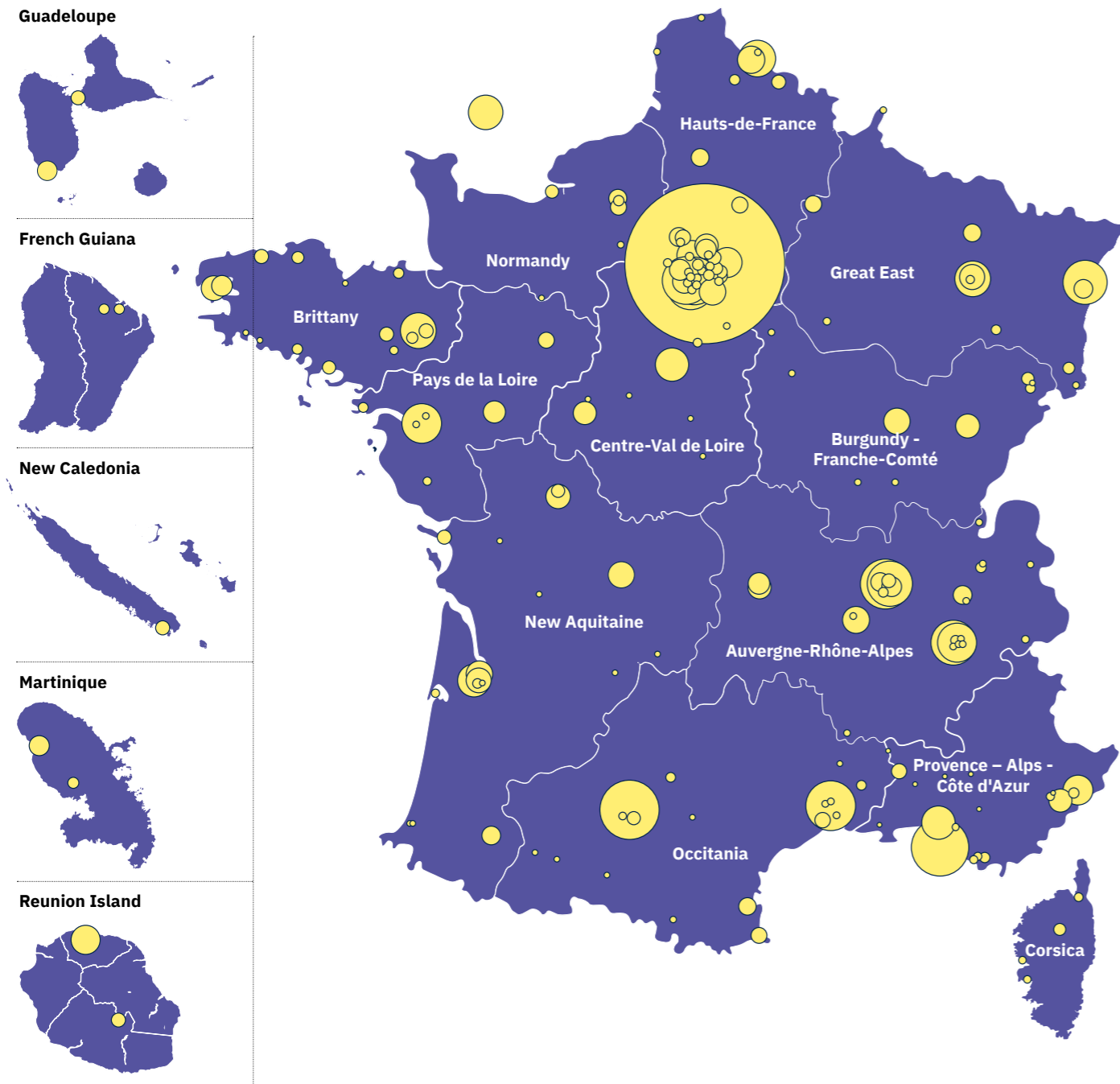
(in natural persons on December 31st 2023)



Source: Sirhus data on December 31st 2023; processing: CNRS/DRH

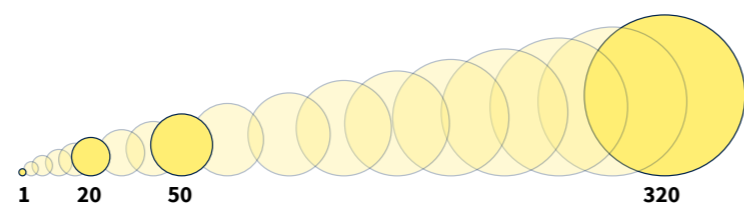
Locations in France and Internationally

Locations of laboratories linked to the CNRS in 2023



Number of laboratories:
 ● 1 ● 3 ● 7

Number of laboratories:



Source: Réséda data on 31/12/2023 – processing: CNRS/DAPP

CNRS laboratories and representative offices throughout the world

The CNRS contributes to the influence of French research worldwide through over 80 international laboratories and its 10 representative offices abroad.

Representative offices

X Number of laboratories located abroad by country



Source : DEI 2023

Addresses of the offices:

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