



# CNRS Chemistry

## From atom to material

Chemistry is the art of assembling atoms into the molecules and materials we use every day, today and tomorrow: biodegradable plastics that reduce our ecological footprint, innovative medicines for the treatment of diseases, batteries that power our smartphones and electric vehicles, and much more. In France and abroad, researchers in laboratories managed by CNRS Chemistry, in collaboration with academic and industrial partners, are advancing knowledge in the discipline and at its interfaces. This diversity of objectives, from the most fundamental to the most applied, has enabled our researchers to win Nobel prizes in fundamental research, while contributing to innovation through many patents and start-ups.

**A major driver of French research in chemistry.** CNRS Chemistry holds a unique position in the French scientific landscape, with no “competing” organization and driving 18% of the CNRS’s scientific output. Responsible for the discipline’s only forecasts, it plays an essential role in guiding major scientific strategies and developing priorities for French research in chemistry.



## High-level research

CNRS Chemistry staff are [ambassadors for French chemistry](#), with 4 Nobel prizes since 1987, 6 CNRS medals for innovation since 2016 and 2 CNRS gold medals in 2019 and 2022. French research is at the forefront of many cutting-edge sectors, such as supramolecular chemistry, advanced spectroscopy, CO<sub>2</sub> transformations, molecular electrochemistry, soft matter chemistry, nano- and micro-fluidics, solid state and coordination chemistry, metallurgy, soft chemistry and its processes, fluorine chemistry, vectorization of active ingredients, nanochemistry, etc.

## Strong industrial partnerships

In France, chemistry is the leading industrial sector in terms of R&D investment. [CNRS Chemistry is therefore a natural partner for many companies and private laboratories](#), in particular through joint laboratories. At the same time, CNRS Chemistry supports the creation of start-ups and pursues an active policy of patenting to capitalize on scientific and technological advances.

## Network-based research

The various scientific communities can share their knowledge, skills and equipment through networks (such as [RS2E](#) on electrochemical energy storage technologies), federations (such as [Increase](#) on green chemistry) and research infrastructures (such as [ChemBioFrance](#), for the discovery of bioactive molecules, and [Infranalytics](#), to explore matter on a molecular scale). CNRS Chemistry pilots or contributes to these tools at both national and international level.

## Shared skills and equipment

CNRS Chemistry's 35 [accredited platforms](#) are open to both academic and industrial players. Located throughout France, they bring together equipment, advanced technological tools and expertise. This openness, ranging from direct use of instruments to more elaborate services, is accompanied by technical support or analysis of results at certified rates.

## Pilot of five priority research programs and facilities

Priority research programs and equipment (PEPRs) aim to build or consolidate French leadership in scientific fields linked to technological, economic, societal, health or environmental change, and considered a priority at national or European level. CNRS Chemistry is piloting or co-piloting three acceleration PEPRs ([Batteries](#), [Recycling](#), [Energy Systems and Renewable Energies](#)) and two exploratory PEPRs ([Emerging Materials](#), [Light-Matter Interactions](#)).

## A dynamic international player

CNRS Chemistry has [a long tradition of international and European cooperation](#). Many ambitious projects, in partnership with key international players, are launched every year. Researchers at CNRS Chemistry are actively involved in European programs, and achieve excellent results in individual exploratory or collaborative research projects.

## Strategic priorities

- **Health.** Chemistry plays a vital role in healthcare, contributing to the development of new drugs for the treatment of diseases, contrast agents for medical imaging and diagnostic agents, as well as materials for implants and organ reconstruction.
- **Renewable energies.** Chemistry laboratories are looking into technologies for the production and storage of renewable energies, including photovoltaic cells, batteries, hydrogen and biomass recovery.
- **Eco-responsible processes.** CNRS Chemistry participates in the development of virtuous and ecological chemical cycles through "green chemistry", bio-inspired chemistry, and waste and life cycle management.
- **Materials and electronics.** Chemistry is involved in the development of nanomaterials and their transformation into components for microelectronics. In particular, CNRS Chemistry is advancing research into conductive polymers and flexible electronic devices.

## Key figures

