

INSB

Institute of Biological Sciences

Exploring the Living, Understanding its Complexity and Diversity

What are the origins of life, how did it evolve, how are living molecules, cells, organisms and populations organized, how do they function and interact, and how did thought emerge: these are the questions that define biology, the science of the living. They span across vast and continuous timescales and dimensions, which are based on approaches ranging from the highly reductionist to the highly global. The responses to these questions depend on technological evolutions and the integration of the bulk of data currently being generated, an integration that is necessary to reconstruct complex, multi-scale biological phenomena.



MISSION

The INSB seeks to promote research driven by curiosity, one of major breakthroughs that pushes the limits of our understanding of the living world. Its mission is to promote advances in knowledge at the highest level, whether it be in exploring, categorizing and describing the living, understanding its history, or deciphering the mechanisms underlying its organization and functioning, while relying on and adding to the CNRS's multidisciplinary framework. Because discoveries are neither programmable nor predictable, our strategy aims to create the best possible environment for laboratories, in order to foster a fertile ground for the most innovative results, which will serve as a basis for further discoveries as well as practical applications.

RESEARCH AREAS

From microorganisms to humans, from the structure of molecules to the physiology of living creatures, from the assembly of organisms to their functioning and genetic determinism, INSB laboratories cover the whole spectrum of research in biology:

- molecular and structural biology, biochemistry;
- the organization, expression, and evolution of genomes. Bioinformatics and systems biology;
- cell biology, development, and evolution;
- integrative plant biology;
- physiology, ageing, tumorigenesis;
- cellular and molecular neurobiology, neurophysiology;
- brain, cognition and behavior;
- host-pathogen interactions, immunology, inflammation;
- pharmacology, bioengineering, imaging techniques, biotechnology.

SCIENTIFIC STAKES

Plasticity and robustness of living organisms, choice of cell fates, epigenetics and non-coding RNA, knowledge of genomes, evolution and exploration of little-known branches of the living world, origins of life, establishment of new model systems, neural bases of cognition and behaviors, study of microbiomes, construction and deconstruction of biological systems, modeling and systems biology, and many more.

STRATEGIC PRIORITIES

Conduct scientific monitoring, identify emerging domains and breeding grounds for research. Help promising young researchers emerge, notably through the Atip/Avenir program, which enables them to set up their own teams. Support the development of technological platforms and link them together. Help develop technical and engineering employment opportunities.

Promote interdisciplinary research, which is key for understanding the living world. Such understanding now requires modeling, quantification, imaging, mass data analysis, consideration of the environment and of the laws of physics and chemistry, the use of bioengineering and pharmacology, resorting to humanities and social sciences for the study of humans, etc. Ensure the cohesion of laboratories, inspire scientific dynamics at the regional level by encouraging collaboration and mutualization, in line with local scientific strategies through strong partnerships with local players.

Act in coordination and in synergy with national scientific partners, through the Aviesan and Allenvi Alliances. Support international collaborations by promoting CNRS resources, notably international associated laboratories and international joint units. Encourage laboratories to participate in European programs and assist them in this process. Contribute to the application and transfer of research results (partnerships or joint laboratories with businesses, patents and licenses, setting up companies, etc.).

KEY FIGURES

6 745 researchers and academics
including **2 579** from the CNRS,
5 468 engineers and technicians, **2 305** of
whom are from the CNRS and **3 709**
PhD students and postdoctoral fellows*

211 research and service units,
and **13** research federations*
20 research and service networks*

1 international joint unit,
38 international associated laboratories,
44 international programs
for scientific cooperation and
7 international research networks

1 583 active patents

Institute of Biological Sciences

CNRS – 3, rue Michel-Ange 75794 Paris Cedex 16
www.cnrs.fr/insb
insb.com@cnrs.fr
Twitter : @insb_cnrs
March 2018

* Source : Zenito data 20.02.2018

