

## Partnerships

### Visiting scientists

The IBS takes full advantage of the proximity of the ESRF's X-rays and the ILL's neutrons, thus offering many possibilities of collaboration with scientists from around the world.

The IBS operates the French beamline CRG FIP at the ESRF and the inelastic neutron scattering beamline IN13 at the ILL. The institute hosts scientists coming to work on these beamlines, as well as on the European NMR platform.

### Industrial partners

The expertise available within the IBS offers many opportunities for industrial R & D through collaborative research or service contracts.



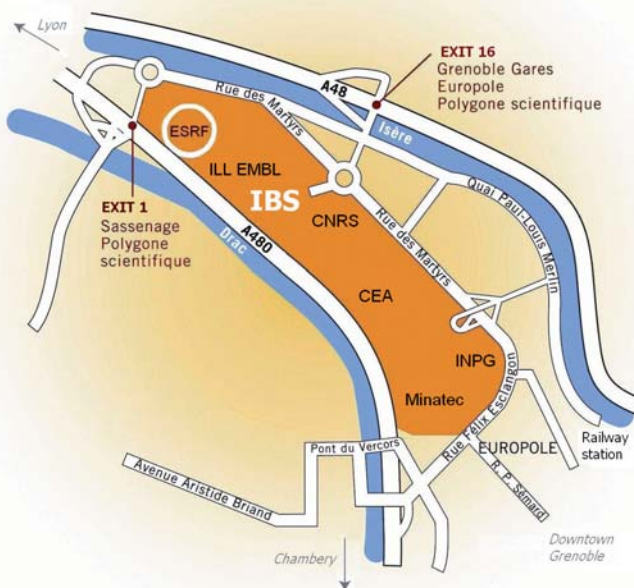
## History

Created in 1992 by the CEA and the CNRS, the IBS became the «Unité Mixte de Recherche 5075» supported by the CEA, CNRS and the Joseph Fourier University, in 1999.

## Location

The IBS is located in the city of Grenoble in the French Alps. Grenoble is the leading research centre in France outside the Paris area drawing its strength from close ties between industry, university and research.

The institute is situated 45 minutes from the international airport of Lyon St Exupery, 2 hours from Geneva and Turin. Paris is three hours away by TGV rail link. Grenoble is also exceptionally well-located for a wide range of sporting activities (skiing, hiking, etc.)



### CONTACT

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# IBS

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*Understanding  
protein structure and  
function for medical  
and biotechnological  
applications*



## Introduction

The primary mission of the "Institut de Biologie Structurale" (IBS) is to study the links between protein structure and function. The IBS also maintains a comprehensive technical platform and hosts visiting scientists and students. The Institute develops interdisciplinary research involving biology, physics and chemistry, combining fundamental research, technical innovation and training of young researchers.



## Context

The Institute works in collaboration with the Partnership for Structural Biology (PSB) which also includes the ESRF, the EMBL and the ILL. The major interest of the partnership is structural studies of proteins of potential medical importance. The PSB covers a wide range of state-of-the-art molecular biology techniques unique in the world.

### Some figures

- 11 laboratories work in close collaboration on 3 main research themes,
- A staff of over 200, including approximately 100 scientists and engineers, 60 PhD students and post-doctoral fellows,
- More than 100 publications per year,
- one start-up company created,
- 10 patents filed.

## Research themes

Research at the IBS is focused on the structure-function relationship of proteins, with particular emphasis on human health and biotechnology related problems.

Three major biological themes are pursued in the context of the research priorities of the Rhone-Alpes region and a growing social awareness of environmental and medically related topics. They are:

- Cell division,
- Immunity and host-pathogen interactions,
- Limits of life.

This research activity is closely connected to the development of new methodological and instrumental approaches.

### Immunity and host-pathogen interactions

Genetics  
Biophysics  
Cell biology  
Enzymology  
Crystallography  
Molecular biology  
Molecular dynamics  
Mass spectrometry  
Protein biochemistry  
Nuclear Magnetic Resonance  
Optic and electronic microscopy  
Automation and high throughput

### Cell division

### Limits of life

## Technical platform

The IBS offers an ensemble of complementary physical and biological techniques to the international scientific community. These include :

- a structural biological platform "from gene to structure",
- a complete range of experimental methods to control the quality of the proteins used in structural and functional studies,
- Resources for the structural determination of large molecular complexes, for studying molecular interactions and for examining the distribution of proteins in living cells.



## Education

The IBS works in close collaboration with various educational establishments including the Joseph Fourier University. Our scientists take an active part in teaching and training young researchers in their laboratories.

Every year the IBS welcomes :

- about 30 PhD students
- trainee technicians (BTS, DUT)
- BSc and MSc students.

