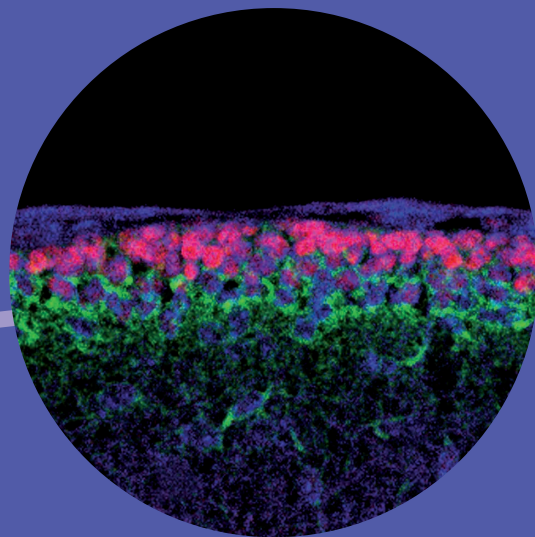




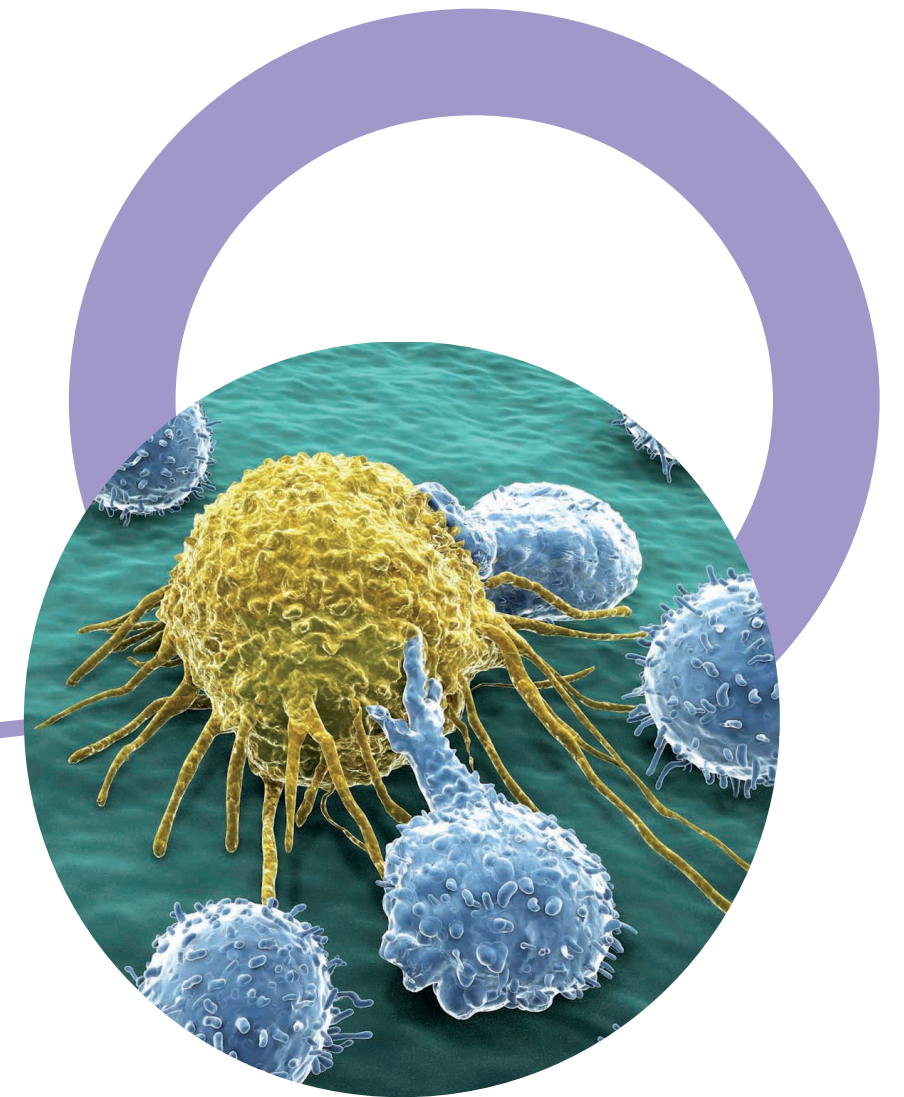
DSB

[www.dsb.cnr.it](http://www.dsb.cnr.it)

- IBB - Institute of Biostructure and Bioimages
- IBBE - Institute of Biomembranes and Bioenergetics
- IBCN - Institute of Biology and Molecular Pathology
- IBFM - Institute of Molecular Bioimaging and Physiology
- IBIM - Institute of Biomedicine and Molecular Immunology "Alberto Monroy"
- IBP - Institute of Protein Biochemistry
- IBPM - Institute of Biology and Molecular Pathology
- IEOS - Institute of Experimental Oncology and Endocrinology
- IFC - Institute of Clinical Physiology
- IFT - Institute of Translational Pharmacology
- IGB - Institute of Genetics and Biophysics "Adriano Buzzati Traverso"
- IGM - Institute of Molecular Genetics
- IN - Institute of Neuroscience
- IRGB - Institute of Genetic and Biomedical Research
- ISN - Institute of Neurological Sciences
- ITB - Institute of Biomedical Technologies



## DEPARTMENT OF BIOMEDICAL SCIENCES



## Department of Biomedical Sciences

**Institutes** | 16

**Permanent employees** | 1302, including 870 researchers and technologists

### Main research themes

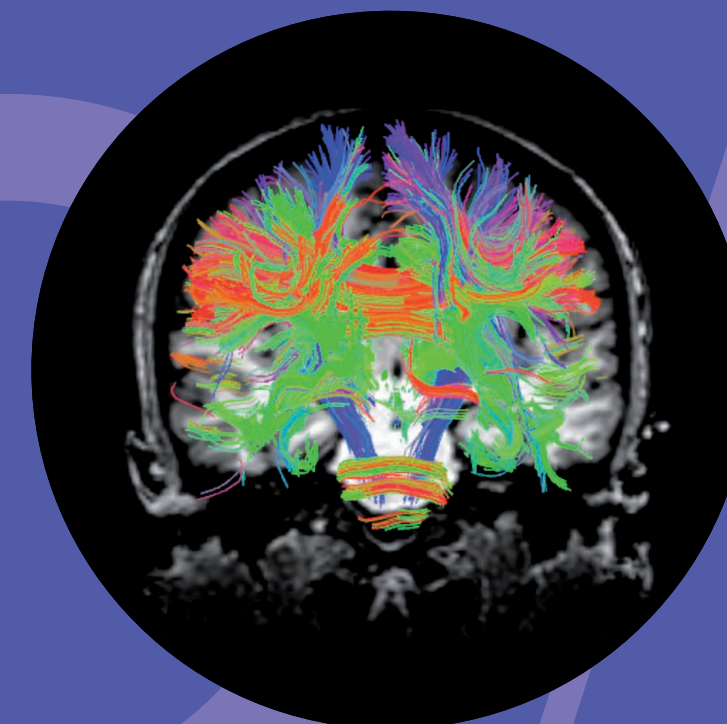
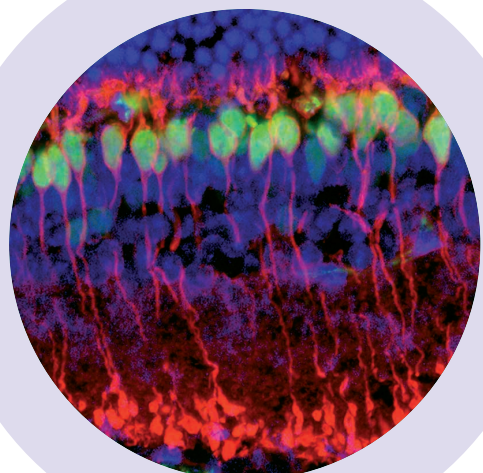
The mission of the Department of Biomedical Sciences is to promote knowledge on the fundamental mechanisms governing physiological and pathological aspects in living organisms, starting from basic research in Life Sciences to the study of human diseases and the development of innovative therapeutic interventions. The aim is to explore new opportunities for ameliorating the health of mankind.

*The main research topics are:*

- Cardiovascular and Pulmonary Diseases
- Neuroscience
- Oncology
- Immunology and Infectious Diseases
- Human Molecular Medicine
- Biomedical Technologies
- Epidemiology and Health Care Research
- Eukaryotic genome function, regulation and evolution
- Structure, function of proteins, nucleic acids and supramolecular complexes
- Molecular mechanics and proliferation control signals, differentiation and cell death
- Animal models for the study of physiopathological and behavioural processes
- Stress adaptation mechanisms and biodeversity
- Bioinformatics and computational biology

**Patents** | The Department manages 82 patents in the following areas: diagnostics, development of innovative drugs, agro-food and chemical biotechnologies, human genome studies and biosensors

**Spin offs** | The Department participates in 7 spin offs in the following areas: imaging, obstetrics diagnostic, diagnostics, pharmaceuticals, dermo-cosmetics, biomedicine and drug discovery



### Main technologies developed

- Next generation sequencing
- Proteomics
- Genomics
- Innovative imaging technology (super-resolutions microscopy and electron tomography, PET, functional magnetic resonance imaging, etc.)
- Bioinformatics

### Coordination and participation in major research projects and other initiatives

#### NATIONAL INSTITUTE OF HEALTH (NHIS)-USA

The NIH's Institute of Aging sponsors a project on human genetics aimed at identifying new disease genes and genetic variations of common diseases.

#### EATRIS

The European Advanced Translational Research InfraStructure in medicine is a strategic EU project that aims to offer a research infrastructure for transferring both of basic research findings into clinical application and of clinical observations to basic research.

#### EMMA

The European Mouse Mutant Archive and data Base is a strategic EU project devoted to the set-up and management of a networked repository infrastructure for the archiving and world-wide dissemination of mouse strains that model human diseases, having its core-structure and co-ordinating centre at the CNR. ([www.emmanet.org](http://www.emmanet.org))

#### INFRAFRONTIER

It is a strategic project of the European Roadmap for Research Infrastructures (ESFRI), aiming at specifically organizing two complementary and linked infrastructure networks (ARCHIVE-FRONTIER and PHENOMEFONTIER) for large-scale and comprehensive production, primary phenotyping and archiving of mouse models, serving the European and world-wide genetics and biomedical research community for the benefit of human health. ([www.infrafrontier.eu](http://www.infrafrontier.eu))

#### EURO-BIOIMAGING

It is a large-scale pan-European research infrastructure project on the European Strategy Forum on Research Infrastructures (ESFRI) Roadmap. The mission of Euro-BioImaging is to build a distributed imaging infrastructure across Europe that will provide open access to innovative biological and medical imaging technologies for European researchers.

#### CNCCS

National Collection of Compounds and Chemical Screening Center Centre for translational research in the area of rare, neglected and poverty-related diseases.

#### AGEING PROJECT

Research on the molecular mechanisms involved in the process of ageing, especially those connected to the nervous system; Diagnostic technology for early detection of ageing and neurodegenerative diseases (Alzheimer); Epidemiology, Innovative approaches to better the quality of life in the elderly, and molecular therapies.

#### PROGETTI BANDIERA

**InterOmics:** the project will develop expertise for the whole supply chain of "omic" sciences, with particular focus on genomics, proteomics, bioinformatics and systems biology.

#### EPIGEN

The goal of the EPIGEN project is to understand how epigenetic mechanisms regulate biological processes, determine phenotypic variation and contribute to the onset and progression of diseases.