# **Education and Training**

The IGB is affiliated with graduate programs of the University Federico II and the Second University of Naples. In addition, it carries out undergraduate training for university students. It holds an International seminar series with speakers from prime research Institutions around the world, organizes hands-on courses for training young scientists in specialized technologies (e.g. stem cell handling, electron microscopy, etc). The Internal seminar program fosters scientific exchange among young scientists. The IGB organizes an annual Workshop with Internationally recognized scientists that has been sponsored by prestigious scientific organizations such as EMBO, FEBS and the European Commission. In addition, many IGB scientists offer direct educational support to local Universities.





#### HOW TO REACH US

**By Plane:** from the Airport either take a taxi or the "Alibus" to Stazione Centrale from where you can take 2 Metros to Montedonzelli (see instructions below).

**By Train:** from Stazione Centrale (Piazza Garibaldi) take the Metro (Linea 2), direction Pozzuoli, and get off at Piazza Cavour, then follow the indications to Metro (Linea 1) direction Piscinola and get off at Montedonzelli Station. Turn left to Via Pietro Castellino and 100 meters on your right you will find the Institute.

**By Car:** from the highway A1: follow indications "Tangenziale". Get out to Zona Ospedaliera and follow directions to Ospedale Cardarelli; after the hospital go all the way to the traffic lights. Turn left to Via Pietro Castellino and proceed for 800 mt. The Institute is on your right.

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Consiglio Nazionale delle Ricerche

Welcome to the Institute of Genetics and Biophysics "A. Buzzati Traverso" (IGB-ABT) of the National Research Council of Italy (CNR).

The Institute was founded by Adriano Buzzati-Traverso and started its activities in 1962. Currently it is strong of 48 Scientists and 42 administrative and technical staff. The research groups host approximately 150 research trainees (undergraduate and graduate students, and post-docs). Research activities are carried out in 7.000 square meters of laboratory space and are focused on human diseases, genetics, developmental and stem cell biology as well as biotechnology for environment and agriculture.

The IGB receives competitive research funds from the European Commission, the Italian Ministry of Research and Education, the Italian Association for Cancer Research, Telethon, and other national and international research funding agencies.

The IGB is the largest research institute of the campus of Via Pietro Castellino, which hosts other prime biomedical research entities such as the Institute of Protein Biochemistry of the CNR and the Telethon Institute of Genetics and Medicine. Altogether, these three Institutions contribute to make this campus a very attractive environment for biomedical research, as well as for training young scientists.

Antonio Baldini, Director



# Research

## **Human disease**

Scientists at IGB are committed to research for human health. Research projects aim at the understanding of molecular mechanisms involved in human diseases ranging from neurological and cardiovascular diseases, cancer, autoimmunity, to birth defects. Search for genes associated with human diseases are carried out in the general population as well as in isolated populations of our region. These studies have also provided molecular diagnostic tests. IGB Scientists have been very active in cloning and sequencing human disease genes, such that the Italian Human Genome Project started mainly through their results and expertise.



## Genetics

Research in this field ranges from basic genetic mechanisms to evolutionary studies. Scientists use a variety of experimental models, from unicellular to mammalian organisms, as well as tissue culture systems to understand gene function and regulation. Scientists at IGB have generated the first knock-out mouse in Italy.



### **Developmental and stem cell biology**

Developmental biology of simple and complex organisms is actively investigated at IGB. Research programs cover a wide range of topics such as mechanisms of neural and cardiac development that have relevance both for the advancement of basic knowledge and for our understanding of human developmental disorders resulting in birth defects. IGB scientists are also committed to the biology of stem cells and progenitor cells with a view to regenerative medicine.

### **Biotechnology**

The IGB hosts projects of fundamental research aimed at the development of biotechnological processes for the enhancement of health, environment and agriculture. These include the development of novel vaccines and therapies. In addition, studies are carried out to understand how environmental pollutants, such as dioxins and pesticides interfere with the endocrine system and interact with biological material. Plants and bacteria are exploited for improving agricultural productions and bioremediation.