

CRDC - GEAR

MISSION

Several University Departments and Research Centers located in the Campania Region have a robust experience in the field of structural and functional genomics which can be considered unique on the national scene.

The Regional Centre for Expertise in Genomics is a Campania Region initiative, with the financial contribution of the European Commission.

The aim of the GEAR CRdC is to strengthen the the structures and/or the facilities of participating research institutes in order to encourage the development of applied research in the field of human health, to promote the transfer of results and, in turn, to support industrial development.

Its mission is to supply consultancy and services that are highly qualified in the development of innovative products and processes to public and private firms carrying out research and development activities in the field of structural and functional genomics.

GOALS

The aim of the GEAR CRdC is to strengthen the structures and/or the facilities of participating research institutes in order to encourage the development of research applied to the field of human health, to promote the transfer of results and to support industrial development.

In particular, its short-mid term objectives are:

- To co-ordinate the research and development activities of researchers in the participating bodies;
- To develop networking with businesses working in this sector;
- To manage the supply of services and consultancy;
- To implement a policy of patent evaluation;
- To co-ordinate training of technologists and technicians for the industrial research sector;
- To create a District for industrial research and development in the field of biotechnology for human health;
- To attract to the District one or more Research Centres of pharmaceutical firms.
- To encourage the creation of a system of small and medium-sized biotechnology firms to support and develop the District.

ACTIVITIES

The GEAR CRdC has a network of highly specialised laboratories, organised in Sections, capable of carrying out applied research work related to:

- ◆ discovery and analysis of pharmaceuticals;
- ◆ development of diagnostic instruments;
- ◆ management of discoveries and inventions;
- ◆ development of new technologies.

Under the New Technologies Development Section come the activities of six Service Platforms:

- ◆ facilities for nucleic acids;
- ◆ facilities for proteins;
- ◆ facilities for cellular biology and morphology;
- ◆ gene therapy;
- ◆ gene targeting and facilities for animal models;
- ◆ biocomputing for functional genomics.

STRUCTURE

The GEAR CRdC has access to a network of highly specialised laboratories situated in the Campania Region and is organised in four sections:

- ◆ discovery and analysis of pharmaceuticals;
- ◆ development of diagnostic instruments;
- ◆ management of discoveries and inventions;
- ◆ development of new technologies.

Under the New Technologies Development Section come the activities of six Service Platforms:

- ◆ facilities for nucleic acids;
- ◆ facilities for proteins;
- ◆ facilities for cellular biology and morphology;
- ◆ gene therapy;
- ◆ gene targeting and facilities for animal models;
- ◆ biocomputing for functional genomics.

The structure of the CRdC includes over 200 researchers and technicians from the universities and research centres of Campania.

PROJECTS/PRODUCTS

The basic idea of the Demonstration Project is to convert experimental models used for pre-application or basic research in the field of functional genomics into tools for industrial research and/or prototypes of saleable products.

The title of the demonstration project is *Industrial spin-offs of experimental models in functional genomics* and it consists of the following work packages:

Work Package

1. Application of functional genomics to the development of diagnostic methodologies.
2. Generation through genetic modification of a multifunctional murine model for preclinical evaluation of innovative diagnostic and therapeutic protocols.
3. Development of vectors and innovative methodologies for gene therapy.
4. Development of integrated systems in vivo and in vitro for analysis, screening and identification of molecules with significant biological activity.
5. Discovery management and project monitoring.

The CRdC intends to promote projects related to:

- research and development of biologically active molecules as possible medicines for human diseases;
- research and development of molecular markers as possible diagnostic and research tools;
- research and development of innovative methodologies for the diagnosis and treatment of human diseases and for research;
- training of graduate staff in the biotechnological industrial sector;
- training of highly qualified technical staff for the biotechnological industry;