



Center of Competence ''Personalized Innovative Medicine' (PERIMED)

The project is for establishming a Center of Competence - an innovative research infrastructure for development of human health-related research activities.

The research and innovation activities are in the field of personalized medicine, with an emphasis on *oncology*, *oncohematology*, *intensive medicine*, *innovative drug delivery systems for targeted therapy*, *bioengineering technologies and biosensors*.

The developed innovative methodologies will be protected as utility models or patents for the purpose of technology transfer and its subsequent implementation with high public benefit.

The main objective of the Project is to develop capacity for joint research and innovation of scientists from Medical University of Plovdiv, Plovdiv University "Paisii Hilendarski" and Institute of Mineralogy and Crystallography (Bulgarian Academy of Sciences), to increase the market orientation of their research and development activities and consequently to open opportunities for business partnerships.

There are three main areas of work for the establishment of a nationally important infrastructure scientific complex integrated into the European infrastructure networks in the field of personalized medicine: Molecular and biological methodologies for application in personalized medicine and implementation of a personalized approach in the treatment of critically ill patients; Innovative drug delivery systems for targeted therapy and personalized medicine; Bioengineering technologies and biosensors.

The strategy for achieving the Project's objective is based on three main pillars: providing highend equipment; developing cutting-edge health-related technologies and establishing academic resources with potential and scientific capacity.

The progress of PERIMED Project is possible and completely real as all participants in the Project are aware of the great responsibility they have for human health.

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Benefits for the society:

Health related:

- ✓ Improvement of the quality of diagnostic and therapeutic activities based on modern scientific basis;
- ✓ Implementation of an individualized approach in the treatment of patients with cancer (oncopatients) and/or critically ill patients;
- ✓ Use of medical products according to the individual characteristics of the patients;
- ✓ Improvement of the effectiveness and safety of therapeutic methodologies;
- ✓ More patients cured and saved.

• Educational:

- ✓ Acquiring new knowledge necessary for the development of scientific and business initiatives;
- ✓ Developing different areas of pharmaceutical science and biotechnology nanotechnology, alternative routes for drugs administration, targeted therapy, intensive medicine, immobilized biocatalysts, natural biologically active substances, biopolymers, new materials and biosensors:
- ✓ Building a capacity for innovative scientific research;
- ✓ Conducting scientific research at European level;
- ✓ Motivating young scientists to build their career in Bulgaria.

Management:

- ✓ Creating environment for interaction between specialists in medicine, genetics, pharmacy, bioinformatics, medical statistics, pharmacoeconomics;
- ✓ Improving management of oncology and intensive care units;
- ✓ Creating a new model of interaction between research and business structures, based on mutual interest and benefit:
- ✓ Building partnerships with industry representatives; Improving cost-effectiveness management of pharmaceuticals and medical devices;
- ✓ Establishing new spin-off companies;
- ✓ Building structures with own business and profit.

• Economic:

- ✓ Business development by implementing innovative scientific works and turning technological advances into viable products with real commercial potential;
- ✓ Reducing the costs of the treatment of socially-significant diseases;
- ✓ Creating new jobs;
- ✓ Increasing the income of the population;
- ✓ Improving living conditions.

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Real results after end of the Project:

- ✓ 8 specialized laboratories will be established and 2 scientific research systems with modern scientific equipment for research activities in different fields of medicine, molecular biology, genetics, oncology, genomic medicine, pharmacy, biochemistry, chemistry, biotechnology, etc.
- ✓ 12 large-scale innovative research programs will be implemented with the participation of leading national and foreign researchers with high qualification and experience in scientific research in the country and in the EU.
- ✓ Young scientists under the age of 34 will be participating in the Project.
- ✓ Innovative scientific products with high quality and market potential will be created.
- ✓ Specific models for drugs-delivery systems will be developed for the treatment of cancer and/or critically ill patients.
- ✓ An internal network for researchers will be built-in with free access to share information, exchange knowledge, scientific publications, results, etc.
- ✓ Conditions for long-term development of the scientific capacity of the Center will be provided.
- ✓ Strategic partnerships with leading EU scientific organizations will be established.
- ✓ International cooperation for research and innovation will be implemented.
- ✓ There will be a joint contribution to the development of the European Research Area.
- ✓ Health care will be improved: a modern, adaptive and sustainable system for monitoring socially significant diseases.
- ✓ A system for providing on-demand services and scientific products to solve real business problems will be established in the short and long term.

The Center of Competence is a key structure for turning biomedical research into useful therapies, helping to improve the quality of life of patients and citizens.

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