



BIONANOSENS further exploits the findings of a SWOT analysis, which was conducted for IMBG as part of the **COMBIOM** project #294932 (FP7)



Also, a new SWOT analysis for IMBG will be performed as part of the **BIONANOSENS** work plan.

All activities are carried out against the state-of-the-art standards in managing EU funded R&I projects – including Responsible Research and Innovation, gender balance, open access (data management, intellectual property management), exploitation and commercialisation orientation, and ethics.



The **BIONANOSENS** project www.bionanosens.eu (2020-2023) aims to position IMBG as an international Centre for Excellence in analytical biotechnology beyond Ukrainian borders.

IMBG as the main beneficiary and coordinator of BIONANOSENS is supported by four high-profile research and innovation (R&I) institutes from Europe - together they form the **BIONANOSENS** consortium:



UCBL – Université Claude Bernard Lyon 1, France (Prof. Abdelhamid Errachid-el-Salhi, Prof. Nicole Jaffrezic-Renault, Prof. Jean-Marc Chovelon)

HZDR – Helmholtz-Zentrum Dresden-Rossendorf, Germany (Dr. Denys Makarov)

ZSI – Zentrum für Soziale Innovation, Austria (Gorazd Weiss, Philipp Brugner)

LIP – Lyon Ingénierie Projets, France (Javier Olaiz, Patricia Odet)

The Institute of Molecular Biology and Genetics (IMBG) <http://imbg.org.ua/en/> of the **National Academy of Sciences of Ukraine (NASU)** was founded in 1973 by prominent Ukrainian scientists – Academicians of NASU B.E.Paton, S.M.Gershenson, V.P.Zosymovych, P.K.Shkvarnikov and G.Kh.Matsuka (who was the first Director, 1973-2003). Ganna Elskaya, Professor, Academician of NASU, Honoured Worker of Science and Technology of Ukraine was the second Director (2003-2019). Since 2019, the Institute is headed by Honoured Worker of Science and Technology of Ukraine, Academician of NASU, Professor Mykhailo Tukalo.

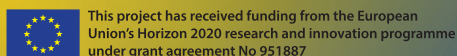
IMBG is represented by scientific departments and scientific laboratories. The Institute has one of the highest levels of research potential in Ukraine, including many prominent scientists working here. Presently its staff is comprised of 300 employees (including 217 researchers), 23 Doctors of Sciences (Dr.Sc) and 100 Doctors of Philosophy (PhD), 3 Full Members of NASU and 7 corresponding members of NASU. About 25 PhD students work at the Institute each year.

IMBG funding comes from the National Academy of Sciences of Ukraine and is attracted from other national and international sources: about 50% IMBG earns due to winning projects in the different national and international competitions. Currently, the key research areas of IMBG are following the main trends in molecular biology, genetical and molecular biotechnology sciences.

Our core competencies:

- Development of new molecular and cell biotechnologies;
- Elucidation of fundamental and practical aspects of structural and functional genomics;
- Research on proteomics and protein engineering;
- Application of bioinformatics, computational modelling and new drugs design.

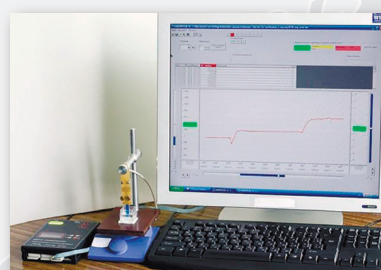
IMBG is one of the leading research centres in Ukraine in the field of analytical biotechnology, and one of our main goals is to develop market-driven innovations.



www.bionanosens.eu

The Institute is also actively involved in international large-scale research consortia. Our main countries for cooperation are France, Germany, USA, Great Britain, Poland, Italy, Greece, and Japan.

In total, **IMBG has had permanent cooperation with universities, research and medical institutions in 34 different countries** until now. Among IMBG international donors there are currently CNRS (Centre national de la recherche scientifique, France), NATO (North Atlantic Treaty Organisation), STCU (Science and Technology Centre in Ukraine), earlier – NIH (National Institute of Health, USA), Wellcome Trust Fund (United Kingdom), etc.



● Project title: **“Integrated nanodevices”** (SMARTCANCERSENS)
Duration: 2013 – 2016
Coordinator: Institute of Technology Tallaght (Ireland)
IMBG role: Project participant
Funded under: FP7-PEOPLE (IRSES)
Details: <https://cordis.europa.eu/project/id/318053>

Regarding the European Framework Programme for Research and Innovation, the Institute started its first project under FP5 and continues to collaborate in projects until the most recent Horizon 2020:



5th Framework Programme

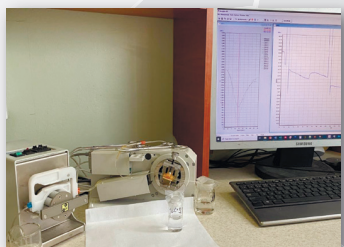
● Project title: **“European collaborative study on pregnant HIV-infected women and their children”** (ECS)
Duration: 2000-2004
Coordinator: University College of London (United Kingdom)
IMBG role: subcontractor of the Odessa Regional Hospital (Ukraine)
Funded under: FP5-LIFE QUALITY
Details: <https://cordis.europa.eu/project/id/QLK2-CT-2000-00002>

6th Framework Programme

● Project title: **“Improving project & research management skills in third countries to stimulate their cooperation with Europe for life sciences”** (IMPRESMAN-COEUR4LIFE)
Duration: 2004-2006
Coordinator: European Research and Project Office (Germany)
IMBG role: subcontractor of the Ukrainian Association of Internal Medicine (Ukraine)
Funded under: FP6-LIFESCIHEALTH
Details: <https://cordis.europa.eu/project/id/512108>

7th Framework Programme

● Project title: **“Strengthening cooperation in Molecular Biomedicine between EU and Ukraine”** (COMBIOM)
Duration: 2011-2015
Coordinator: IMBG (Ukraine)
Funded under: FP7-INCO ERA-WIDE
Details: <https://cordis.europa.eu/project/id/294932>



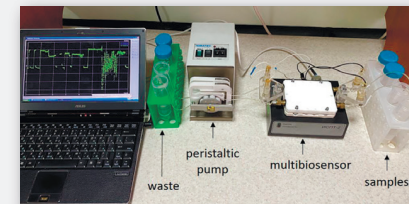
● Project title: **“Improving diagnoses of mental retardation in children in Central Eastern Europe and Central Asia through genetic characterisation and bioinformatics/statistics”** (CHERISH)
Duration: 2009-2012
Coordinator: University of Bologna (Italy)
IMBG role: Project participant
Funded under: FP7-HEALTH
Details: <https://cordis.europa.eu/project/id/223692>

● Project title: **“Nanosensors based on nanomaterials”** (NANOBIOSENS)
Duration: 2009 – 2011
Coordinator: Middle East Technical University (Turkey)
IMBG role: Project participant
Funded under: FP7-PEOPLE (IRSES)
Details: <https://cordis.europa.eu/project/id/3185242>

● Project title: **“Integrated nanodevices”** (NANODEV)
Duration: 2013 – 2015
Coordinator: Middle East Technical University (Turkey)
IMBG role: Project participant
Funded under: FP7-PEOPLE (IRSES)
Details: <https://cordis.europa.eu/project/id/318524>

Horizon 2020 Programme

● Project title: **“Smart innovative system for recycling wastewater and creating closed loops in textile manufacturing industrial processes”** (Waste2Fresh)
Duration: 2020-2023
Coordinator: Konya Teknik University (Turkey)
IMBG role: Project participant
Funded under: H2020-EU.2.1.5.3.
Details: <https://cordis.europa.eu/project/id/958491>



● The most recent EU funded Horizon 2020 project coordinated by IMBG is **“Deeping collaboration on novel biomolecular electronics based on “smart” nanomaterials”** (BIONANOSENS).

It is funded under the call H2020-WIDESPREAD-2020-5 (for which the overall success rate was only 13%). **BIONANOSENS** is the only project coordinated by Ukraine under the Horizon 2020 Twinning Scheme in 2020.

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What are the activities of **BIONANOSENS**?

BIONANOSENS implements tailor-made twinning actions helping to build and strengthen capacities for IMBG. Both the overall goal of the project and the single objectives related to it are taking into account IMBG's current operational situation.

The following key activities are implemented:

- Establishment of institutional grant management procedures in accordance with EU standards;
- Establishment of an innovation unit at IMBG to support the institute's staff in project management tasks;
- Providing better access to international networks for the institute in view of future proposal building;
- Trainings on project proposal writing and project management;
- Promotion and training of young researchers;
- Facilitating the dissemination and exploitation of research results produced by IMBG.

Strengthening the competitiveness of IMBG in related research areas and funding programmes will also allow the institute to better respond to the socio-economic needs of the country. Moreover, **BIONANOSENS** aims to increase the visibility of IMBG both in Ukraine and in the European Research Area at large.

