In 2011 the Institute of Molecular Biology and Genetics of NASU has won in strong competition the EU grant of the 7 Framework Programme for Research and Technological Development "Strengthening Cooperation in Molecular Biomedicine between EU and Ukraine" (COMBIOM).
The main aim of this project is to enhance scientific collaboration between European and Ukrainian scientists in biomedicine area in the frame of the 7^{th} EU Framework Program.
Ukraine is one of the largest and closest EU neighbours with high potential for scientific and technological development. The main policy drivers for S&T cooperation with Ukraine are:

- EC-Ukraine S&T Cooperation Agreement signed on 04 July 2002 (recently negotiation on the S&T chapter of the New Enhanced Agreement was concluded)
- EU-Ukraine Action Plan with the General Objective: share the EU's stability, security and prosperity with Ukraine, and Specific Objective*:* Ukrainian fuller integration into the broader European Research Area (ERA)
- European neighbourhood strategy (implementation of the EU-Ukraine ENP Action Plan endorsed by the EU-Ukraine Cooperation Council on 21 February 2005 – input in the economic and scientific policy of Ukraine more elements of the EU best practices).
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Health is the topic of mutual interest in the EU's 7th FP work programmes, moreover, it is a major theme of the Cooperation program of FP7, and the EU has earmarked a total of € 6.1 billion for funding this theme over the duration of FP7. The Specific FP7 program on Cooperation supports all types of research activities carried out by different research bodies in transnational cooperation and aims to gain or consolidate leadership in key scientific and technology areas. Priority is given among others to the "Biotechnology, generic tools and technologies for human health – producing knowledge that will be applied in the area of health and medicine". True European leadership at the emerging frontiers of biomedical sciences could be achieved more effectively with participation of the most prominent scientists from the ENP countries. Research on

medical aspects of molecular biology and genomics – molecular biomedicine – is a very sophisticated field of science, which obviously requires the multinational efforts. Cancer and neurodegenerative diseases have no borders and no Shengen space and only grouping together scientists from different countries working in different subfields may help to fight these diseases more successfully. Moreover, exchange of best practices and expertise between the MS and ENP is likely to contribute to a greater understanding of these issues. Closer collaboration between Ukraine, Poland and France will be a way to counteract the brain-drain phenomenon from less to more advantaged European countries.

This project is devoted to the development of the operational network of EU and Ukrainian scientists based on the different approaches to solve the problem of deciphering the molecular mechanisms of cancer and neurodegenerative diseases, with the special emphasis on the possible links between these two pathologies. For instance, according to a large population-based epidemiological study published online in Neurology 2009, Dec 23 people with Alzheimer disease may be less likely to develop cancer and people with cancer may have a lower risk of AD. This is in line with earlier report stating the similar relationship between another neurodegenerative disease – Parkinson's and cancer (Neurology 2007, Oct 9).

The Institute of Molecular Biology and Genetics (IMBG) is one of the leading research institutions in molecular biomedicine, genomics, proteomics and gene technologies in Ukraine. It can carry out high quality investigations aimed at searching for effective diagnostics and therapy of oncological and neurodegenerative diseases, which could be implemented for all European citizens.

A number of IMBG laboratories working in the field of molecular cancer exemplify research activities of the highest quality supported by such well-reputation funding agencies as Wellcome Trust, INTAS, NATO, CRDF, CNRS *etc*. (about 30 international research grants per year). For example, between 1990 and 2003 IMBG scientists took part in the international Human Genome Project and now they participate in FP7 research project on human genomics, in FP7 East-NMR programme, and in IRSES project dealing with analytical biotechnologies. The scientists of IMBG publish in

the top scientific journals such as: Science, Nature Structural & Molecular Biology, Trends in Biotechnology, Biochemistry, Human Genetics, Human Mutation, Proteins, Nucleic Acid Research, Molecular and Cellular Biology, Journal of Biological Chemistry, EMBO Journal, European Journal of Biochemistry, Journal of Molecular Biology. Thanks to the participation in COMBIOM project IMBG scientists will be able to widen their involvement in FP7 and future FPs, especially in the field of molecular biomedicine, where they have the most prospective results for citizens health care. Thus, the first objective is **to enhance the involvement of IMBG researchers into ERA in frames of EU-Ukraine mutual interests, especially in biomedical research, and to create a core consortium for future FP7 collaborative projects**.

IMBG has good long-term bilateral relations with more than 30 well-known research centres in 9 European countries, for example, CNRS (France) and Polish Academy of Science institutions. However, it is not easy for IMBG scientists to participate in sustainable European consortia or to find a coordinator for a new consortium, which we could propose on the basis of our existing bilateral European partnerships. These are the main problems in the way of increasing participation of Ukrainian scientists in FP7 and future FPs. Implementation of the ERA-WIDE project, where IMBG will play a role of a coordinator would allow us:

- To learn by experience the role and functions of the coordinator of FP7 projects.
- To build capacities for further enhanced participation in FP7 as a partner in collaborative projects' consortia
- To participate effectively in preparing a new collaborative research FP7 project and creating research projects consortium with European partners.
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Thus, the second objective of this project is **to increase cooperation capacities of IMBG as a promising partner in EU research programmes.**

On the other hand, being a high level research institution IMBG may serve as an interface aiming **to prove the achievements and high potential of Ukrainian biomedical research to ERA and to accommodate it to**

European research priorities. This is the third objective of the COMBIOM project. Presenting the IMBG research potential for European scientific community and building the extended multilateral collaboration with the European high quality research centres in France and Poland will serve for further reinforcement and facilitation of involvement of Ukrainian biomedical science into ERA.

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