

BC ASCR, v. v. i. - The research centres NRP (program 1M) and Basic research centres (program LC)

Provider: MŠMT (Ministry of Education, Youth and Sports)

1M - The research centres (National research program) 2005 - 2009

Registr. No.	Name of the center	Duration	Recipient	Partners	Investigator
1M06030	Functional genomics and proteomics for crop improvement	2006 - 2009	MZLU Brno	IE, AGRA GROUP, a.s., Institute of Applied Biotechnologies a.s., Vesa Velhartice, a.s., AGRITEC s.r.o., JĚU ČB - PFF, Výzk. ústav bramborářský HB, s.r.o., ÚOCHB AV ČR, Ústav experimentální botaniky AV ČR, Ústav analytické chemie AV ČR	Sehnal F., Kodrík D.
<p><i>Synopsis: Plant breeding is facing a new era, the horizons of which are determined by transition from studies of the role of individual genes in biological processes to global search for the role of genome and proteome in determination of biological processes. The general aim of the center is to utilize the potential of the functional genomics and proteomics to obtain novel information and breeding material to increase the quality of agricultural products, specifically, to improve the agronomic parameters and modifying specific properties of crop plants important not just in the Czech Republic, but also in Central Europe in general. Research will focus on increasing of (i) quality of wheat and barley corn, pea seeds and potato tubers, (ii) potato and pea resistance to pests and pathogens, and (iii) heavy metal uptake and resistance in flux for phytoremediation.</i></p>					

LC - Basic research centres 2005 - 2011

Registr. No.	Name of the center	Duration	Recipient	Partners	Investigator
LC522	ICHTHYOPASITOLOGY RESEARCH CENTRE	2005 - 2009	Masarykova univerzita Brno - PFF	IP, Ústav biologie obratlovců AV ČR	Scholz T., Dyková I.
<p><i>Synopsis: Main purpose of this project is to found the Ichthyoparasitology Research Centre as a base for close collaboration of three subjects to study complex relationships among various groups of fish parasites in relation to their environment. This action will be development of successful cooperation with foreign partners as well previously established. Research aims of the Ichthyoparasitology Research Centre are based on long-term scientific focus of Department of Zoology and Ecology of the Faculty of Science of Mas. University, Institute of Parasitology, Czech Acad. Sci. and Institute of Vertebrate Biology, Czech Acad. Sci. including investigation structural diversity of various groups of fish parasites, their morphology, systematics and taxonomy, also biology and ecology including analysis under various environmental conditions. One of the very important goal of the Centre is to support and develop international contacts and activities of young scientists including PhD students and Postdocs.</i></p>					
LC06004	Integration of research activities to study the plant genome	2006 - 2010	Biofyzikální ústav AV ČR	IPMB, Ústav experimentální botaniky AV ČR, UK Praha - PFF	Macas J.
<p><i>Synopsis: The project presents integration efforts of several top laboratories from the Czech Republic focused on the study of structure and function of plant nuclear genome. A special attention will be paid on the plasticity and evolution of genomic DNA sequences and on the study of molecular mechanisms controlling growth and differentiation of plant cells and tissues. The research will be realised on several key models, which have a strong impact in genetics, plant breeding, and reproduction (especially Arabidopsis thaliana, white campion, and wheat). The project is based on two strategic pillars: bioinformatics (formation of databases of transcriptome, satellite, and retroelement sequences) and DNA library approach (construction of sophisticated libraries based on laser technologies and robotic screening).</i></p>					
LC06009	Centre for molecular ecology of vectors and pathogens	2006 - 2010	IP	Ústav molekulární genetiky AV ČR, UK Praha - PFF, JĚU ČB - PFF	Kopecký J.
<p><i>Synopsis: The aim of the project is to support collaboration of excellent Czech laboratories performing research on molecular interactions between pathogens, vectors and hosts. These interactions will be studied on several models, particularly on the model Borrelia - tick, Phlebotomus - Leishmania, Trichobilharzia - snail. Effects of vector saliva on the host immune system and immune interactions between pathogen and the host will also be analysed. The results obtained will be utilized for the development of vaccines preventing transmission of the pathogen by the vector. A joint Laboratory of Genomics and Proteomics, providing service for all involved subjects, will be established within the Centre.</i></p>					
LC06066	Center for Environmental Microbiology	2006 - 2010	Mikrobiologický ústav AV ČR Praha	ISB, UK Praha - PFF	Křišťáček V., Šimek M.
<p><i>Synopsis: The goal of the research programme of the proposed Center for Environmental Microbiology is to increase the understanding of microbial communities (fungi, bacteria etc.) as a complex functional unit, to elucidate the critical interactions that regulate community activities, the degradation (fate) and bioavailability of environmentally important pollutants under natural conditions as well as their effect on the structure and function of microbial community. On the molecular level the adaptation mechanisms as a response to stress factors (climatic changes, pollutants etc.) will be addressed. The research programme is characterized by a multiscale approach - gene, organisms, community, natural habitat, stress conditions - and a multidisciplinary one- microbial ecology, biochemistry, analytical chemistry and molecular genetics. An important goal of the program is to make a key contribution to the sustainable development of our society.</i></p>					

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LC06073	Biodiversity Research Center	2006 - 2010	ÚSBE	IE, Ústav živočišné fyziologie a genetiky AV ČR, Botanický ústav AV ČR, Ústav biologie obratlovců AV ČR, UK Praha - PfF, JČU ČB, Masarykova univerzita Brno - PfF	Novotný V., Janda M., Čížek L., Konvička M.
<p>Synopsis: Create a network of research institutions involved in biodiversity studies; publish at least 100 papers in journals with IF >1; educate at least 40 young researchers in the field; become involved in at least 8 international projects or centers of excellence.</p>					
LC06077	Center of Chemical Genetics	2006 - 2010	ÚMG	IE, ÚOCHB AV ČR, ÚMG AV ČR, Masarykova univerzita Brno - LéKF, VŠCHT Praha,	Žurovec M., Bohmová M.
<p>Synopsis: The Center of Chemical Genetics, as a joint venture of leading laboratories conducting research in the fields of organic chemistry, biochemistry, molecular biology, cell biology, and genetics will enable more effective research in the area of search for active compounds as tools for basic biological research and biomedical applications. The Center of Chemical Genetics should be the cornerstone for the development of chemical genetics in the Czech Republic and thus contribute to the development of systembiology and biomedicine. Close co-operation, sharing information, immediate feedback and complementation of chemical and biological approaches will allow for a qualitatively higher level of interdisciplinary research and higher competitiveness of the research teams in the challenging international competition. The uniqueness of this integrated approach lies in the possibility to solve complex problems of the molecular basis of biological processes.</p>					
LC07032	Center for Functional Genetics	2007 - 2011	UK Praha	IE, JČU ČB - PfF	Šauman I., Neuzil R.
<p>Synopsis: The project is focused on functional studies of genes and their products with therapeutic and biotechnological potential using novel model organisms. The organisms include those with negative impact on quality of human life such as direct human and animal pathogens and vectors of infectious agents. In the first phase, advanced methods of molecular genetics will be established and/or optimized in these organisms. In the second phase, the genes of interest will be selected on the basis of genomic, proteomic, and transcriptomic analyses with particular interest in genes associated with development of human diseases. The gene selection will be focused on factors of pathogenicity, oncoproteins, components of FeS assembly machinery including frataxin, nuclear receptors, circadian clock genes, developmental genes, etc. The function of selected genes will then be tested using the newly established systems as well as with the aid of the classical yeast model.</p>					