
INTRODUCTION

The history of the *Institute of Microbiology* begins in 1948, when Professor IVAN MÁLEK (1909–1994) moved from Prague to the *Faculty of Medicine of the Charles University* at Hradec Králové. He constituted there a working group that later became the basis of the *Department of Microbiology of the Central Institute of Biology*. After the *Czechoslovak Academy of Sciences* had been founded in 1952, the group moved from Hradec Králové to Prague-Dejvice, Fleming Square, and the *Department of Microbiology of the Institute of Biology of the Czechoslovak Academy of Sciences* was thus established. The independent *Institute of Microbiology of the Czechoslovak Academy of Sciences* was founded in 1962. In 1963 it moved to the new building in Prague-Krč. At its beginning the high repute of the *Institute of Microbiology* was closely associated with Ivan Málek, its founder and first director. At the *Institute of Microbiology*, Málek's research focused mainly on continuous cultivation of microorganisms. Since that time, the Institute has become an important institution of biomedical research in our country.

The year 2007 was very important for future perspectives of the Institute. Under Act No. 341/2005 Coll. the legal status of the *Institute of Microbiology of the Academy of Sciences of the Czech Republic* was transformed from a state contributory organization into a public research institution (abbreviated as v.v.i.) as of January 1, 2007. This transformation provides a higher level of autonomy and opens new possibilities for economical activities. Prof. BLANKA ŘÍHOVÁ, PhD., DSc., who headed the Institute successfully since 2000, decided not to stand as a candidate for the next period and as a new director has been elected MARTIN BILEJ, PhD., DSc. (for the period June 15, 2007–June 14, 2012).

The *Institute of Microbiology* has presently more than 500 employees and belongs to the main institutions in the Czech Republic involved in basic microbiological research. Basic research in biochemistry, physiology and molecular genetics of bacteria, yeasts, filamentous fungi and microscopic algae and immunological research are the main topics. In addition to basic research, the Institute is involved in a number of biotechnological applications. Economical activities of the Institute include the production, trade and services in the fields of biology, chemistry and medical sciences, in particular, the cultivation of cells and microorganisms for the purpose of producing a biomass, and preparation and purification of biologically active natural and modified substances. The Institute is divided into five Divisions, stable

organizational units, comprised of Laboratories representing basic and flexible research groups created on the basis of particular scientific interests and reflecting modern trends in the field of microbiology and immunology.

Division of Biogenesis and Biotechnology of Natural Compounds is focused on physiology and genetics of mycelial actinomycetes producing secondary metabolites and genetics, physiology and biotechnology of filamentous fungi. Other projects include antibiotic resistance of bacteria, biotransformation of natural compounds and enzyme technologies. Part of the Division is the *Biotechnological Pilot Plant*, which is involved in process engineering and optimization of microbial fermentations and production of biologically active compounds on a larger scale. The Division includes the *Laboratory of Molecular Structure Characterization* equipped with top modern mass spectrometers and the *Center of DNA Sequencing*.

Division of Cell and Molecular Microbiology concentrates on research of molecular biology and genetics of both prokaryotic and eukaryotic microorganisms. Regulation of gene expression, cell differentiation, and effect of internal and external conditions on cell functions, mechanisms of cell aging, significance of cytoskeleton apparatus in cell division and molecular principles and bacterial pathogenicity are investigated. The results of the research open new ways towards novel industrial and biomedical applications.

The **Division of Autotrophic Microorganisms** is located at the Opatovice pond in Třeboň in South Bohemia. Research program of the Division includes the study of photosynthetic microorganisms, *i.e.* algae, cyanobacteria and other photosynthetic bacteria. One of the laboratories is involved in the technological production of algae, its optimization, and processing of algal products, as well as in development of different methods for the utilization of algal biomass.

Research program of the **Division of Ecology** includes the study of the relationships among the diversity, structure and function of microorganisms (fungi, bacteria) in natural and anthropogenically damaged soil ecosystems and the interactions with biotic and abiotic components of their environment that regulate and affect microbial activities. Complex physiological, biochemical and genetic characterization of microbial enzyme systems capable of biodegradation of pollutants and interactions between mycorrhizal fungi and soil organic matter are also investigated.

The origin and development of immune response, functional characterization of components of the immune system and regulation of immune response are studied at the **Division of Immunology and Gnotobiology**. Important results were obtained in the research of auto-immune and cancer diseases. Targeted drugs utilizing polymeric carriers developed in close cooperation with the *Institute of Macromolecular Chemistry of the Academy of Sciences of the Czech Republic v.v.i.* are one of promising possibilities of antitumor treatment. Two laboratories of the Division located in Nový Hrádek in East Bohemia use the unique model of germ-free animals for the study of relationships between microorganisms and host.

Collaboration among researchers within the Institute as well as with research institutions, universities and companies involved in the production of biomedical products in the Czech Republic and abroad is a priority, providing important flexibility and the transfer of knowledge among scientifically different fields.

Almost one half of the total budget of the Institute is supported by both domestic and international grants and economic contracts on scientific cooperation with different private companies. The proportion of international grants (particularly of the 6th and 7th Framework Programs) continuously increases.

The Institute has a long-lasting and fruitful collaboration with Czech universities such as *Charles University*, *University of Chemical Technology* and *Czech Agricultural University* in Prague, *University of South Bohemia* in České Budějovice, *Palacký University* in Olomouc, *Masaryk University* in Brno and *Technical University* in Liberec. In cooperation with universities, the Institute organizes pre- and postgraduate studies and our colleagues act as supervisors for more than 50 master students and roughly 110 PhD. students every year. Numerous courses were taught and lectures were given by the Institute staff in several universities.

The Institute has been organizing scientific congresses, conferences, symposia, seminars and other national and international meetings in the Czech Republic and abroad. Institute's employees participate every year in organizing the Open Door Day and the Week of Science, publish popular scientific articles in youth journals, and are involved in organizing popularization exhibitions and other activities. They also publish popularizing articles in the newspapers, take part in radio or TV discussions on science or public affairs, attend briefings, *etc.* The Institute also hosts two scientific societies, the *Czechoslovak Society for Microbiology* (<http://www.cssm.info>) and the *Czech Immunological Society* (<http://www.biomed.cas.cz/cis>).

As the editor and publisher of the international impacted scientific journal *Folia Microbiologica*, the *Institute of Microbiology* is involved in gathering, editing and disseminating scientific knowledge.

Martin Bilej, PhD., DSc.

director

STRUCTURE AND ORGANIZATION – 2007

Director:	Prof. BLANKA ŘÍHOVÁ, PhD., DSc. MARTIN BILEJ, PhD., DSc. (since July)
<i>Deputy Director:</i>	Prof. BLANKA ŘÍHOVÁ, PhD., DSc. (since July)
<i>Deputy Director for Postgraduate Studies:</i>	JIŘÍ GABRIEL, PhD., DSc.
<i>Chairperson of Council of Inst. Microbiol. ASCR, v.v.i.:</i>	MARTIN BILEJ, PhD., DSc.
<i>Chairperson of Supervisory Board:</i>	Prof. HELENA ILLNEROVÁ, PhD., DSc.
<i>Head of Secretariat:</i>	ONDŘEJ SCHRÖFFEL, MA.
<i>Editor-in-Chief of Folia Microbiologica:</i>	JIŘÍ MATĚJŮ, PhD.

SCIENTIFIC DIVISIONS

Biogenesis and Biotechnology of Natural Compounds

Head: MIROSLAV FLIEGER, PhD.

Cell and Molecular Microbiology

Head: JAN NEŠVERA, PhD.

Autotrophic Microorganisms

Head: Assoc.Prof. ONDŘEJ PRÁŠIL, PhD.

Ecology

Head: FRANTIŠEK NERUD, PhD.

Immunology and Gnotobiology

Head: MARTIN BILEJ, PhD., DSc.
Prof. BLANKA ŘÍHOVÁ, PhD., DSc. (since July)

STRUCTURE AND ORGANIZATION – 2008

Director: MARTIN BILEJ, PhD., DSc.

Deputy Director: Prof. BLANKA ŘÍHOVÁ, PhD., DSc.

Deputy Director for Postgraduate Studies: JIŘÍ GABRIEL, PhD., DSc.

Chairperson of Council of Inst. Microbiol. ASCR, v.v.i.:
MARTIN BILEJ, PhD., DSc.

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Editor-in-Chief of Folia Microbiologica: JIŘÍ MATĚJŮ, PhD.

SCIENTIFIC DIVISIONS

Biogenesis and Biotechnology of Natural Compounds

Head: Prof. VLADIMÍR KŘEN, PhD., DSc.

Cell and Molecular Microbiology

Head: JAN NEŠVERA, PhD.

Autotrophic Microorganisms

Head: Assoc.Prof. ONDŘEJ PRÁŠIL, PhD.

Ecology

Head: JIŘÍ GABRIEL, PhD., DSc.

Immunology and Gnotobiology

Head: Prof. BLANKA ŘÍHOVÁ, PhD., DSc.

STRUCTURE AND ORGANIZATION – 2009

Director:	MARTIN BILEJ, PhD., DSc.
<i>Deputy Director:</i>	Prof. BLANKA ŘÍHOVÁ, PhD., DSc. JIŘÍ GABRIEL, PhD., DSc. (since March)
<i>Chairperson of Council of Inst. Microbiol. ASCR, v.v.i.:</i>	MARTIN BILEJ, PhD., DSc.
<i>Chairperson of Supervisory Board:</i>	Prof. HELENA ILLNEROVÁ, PhD., DSc.
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