Institute of Experimental Morphology and Anthropology with Museum
Bulgarian Anatomical Society

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Editorial

Fifty-Fifth Anniversary of the Institute of Experimental Morphology and Anthropology with Museum

Dear colleagues, friends and guests,

The foundation of the Institute of morphology at the Bulgarian Academy of Sciences, whose 55th anniversary we notice today is a result and beginning, as well. A result concerning the achievements of the Bulgarian scientists (histologists, embryologists, anatomists, anthropologists) in the field of cell, tissue and system morphology, and start of a new period connected with the development of the structure basis of the biological and medico-biological sciences.

The Institute of Experimental Medicine was founded in 1947 as a part of the Biological branch of the Bulgarian Academy of Sciences. On the base of the Department of histology, embryology and experimental medicine a new independent unit was established in 1953 – the Institute of Morphology at the Department of biological and medical sciences in BAS. This provided the elaboration of institutionalized morphological and anthropological studies.

Founders of the Institute of Morphology at BAS are the outstanding scientists Acad. Asen Ivanov Hadjiolov and Corr. Member Dimitar Dimitrov Kadanov – renowned university lecturers with long practice, founders of the Bulgarian morphological school and supervisors to a large number of young scientists, postgraduate and graduate students.

The Institute of Experimental Morphology and Anthropology at BAS (IEMA) was established in 1995 being successor of the Institute of morphology, and since 2006 named Institute of experimental morphology and anthropology with National anthropological museum – IEMAM, BAS.

IEMA is a leading national institute in the field of anthropology, experimental morphology and cell biology.

Nowadays IEMAM has 89 employees and it consists of 4 Departments (Department of Neuro-morphology, Department of Cell Differentiation, Department of Experimental Cytology and Department of Anthropology); 2 general Laboratory (Laboratory of Electron microscopy and Radio-isotope Laboratory), as well as an administrative unit (accountant's office, library and animal house).

The scientists from IEMAM participate in the educational and research activities of various Universities by teaching students, working on projects funded by the Ministry of Education and Science or international collaborative projects. Throughout 2000-2007 alone international collaboration of 20 projects have been put into effect with the following countries and institutes: Russia – RAS, Institute of Physiology in Sankt-Peterburg; Hungary – HAS, National Institute of Psychiatry and Neurology in Budapest; Germany – Institute of Brain Investigations "Paul Flexig", Leipzig, Institute of Cell Biology and Bio-Systematic Techniques in the University of Rostock, Institute of Anatomy in Hamburg, University of Duseldorf; Great Britain – Center of Human Reproductive Science in Edinburgh; France – University No7 in Paris, Office of Medical Investigations, Commissariat of Nuclear Energy in the Defense Ministry; Austria – Institute of Medical Chemistry and Biochemistry in Innsbruck, and USA – VICAM Company in Boston, University of Alabama, Birmingham.

The achievements of the IEMAM that are confirmed in Bulgaria and abroad could be presented shortly as follows:

Peculiar completion of the purposeful national study concerning physical development of the Bulgarian population at the end of the past century is the detailed anthropological characterization presented in the monograph "Anthropology of the Bulgarian Population at the End of the 20th Century", Sofia, Prof. Marin Drinov Academic Publishing House, 2006. The data could serve also as a starting point for coming anthropological studies. The anthropological investigation of children from birth till 17 years of age characterize the specific processes in children's growth and development, the acceleration and deceleration, and the morphological and functional status of the young population in our country.

The paleoanthropological studies of material from archaeological excavations characterize the populations who have lived in our lands during different epochs, as well as the paleo-demography and paleo-pathology. By means of the method concerning the plastic anthropological reconstruction of head on the skull, images of people who have inhabited the Bulgarian lands from the Neolithic period till the Renaissance are visualized.

In the realm of Neuromorphology research is aimed at the establishment of: the participation of neurons in myelinogenesis and in the pathogenesis of multiple sclerosis (MS); the participation of the amyloid beta-peptides in the etiology of Alzheimer's disease; the changes of the lipid constituents of brain subcellular fractions after experimentally evoked cerebral ischemia and hypoxia and under various feeding regimes; the topography and reactivity of the cells in the central nervous system through immunohistochemical studies of degenerating brains and of the brain mononuclear phagocytic system.

Control mechanisms of cell proliferation and differentiation in reproductive and blood tissues are studied by application of experimental animal models and clinical investigations. In the field of reproductive biology and medicine, the regulatory events of spermatogenesis, oogenesis, steroidogenesis and programmed cell death in the testis and ovary are elucidated. Specific changes in different cell types of gonads and reproductive tract are established at various functional and pathological conditions that can be used as biomarkers for infertility. In the field of hemopoiesis, an in vitro model for culturing of hematopoietic progenitor cells was developed as a useful tool for morphological and biochemical studies. New data were generated about influence of hematopoietic factors on differentiation of erythroid and myeloid cells and their biochemical properties with potential use for transplantology and regenerative medicine.

The positive activity of the growth factors in the colostrums on the development of the newborn gut and in the whey to ameliorate the pathological effects of some medi-

cines was proved, several immunomodulators of lymphocyte proliferation of plant origin were found and exploited, the optimal cryoprotective media and regimen for cryoprotection of corneal stem cells were investigated, fluorescent substrates for localization of peptidases in tumor and normal cells were applied and diagnostic kit prepared; studied and characterized were the morphological substrates of skin vasculutis.

In 1997 has been founded a permanent anthropological exposition "Man in the Past", which was conferred statute of a museum collection of IEMA at BAS by the Managing Board of BAS and the Ministry of Culture and has served as basis of the National Anthropological Museum foundation. The visiting version of the exposition, showed in various Bulgarian towns, was visited by thousands of people in the country. On March 21st 2008 was the inauguration of the National Anthropological Museum – the fourth one in the Bulgarian Academy of Sciences, registered also by the Ministry of Culture.

The results obtained from the researches carried out in the Institute are presented in scores of monographs (books) and hundreds of articles reported on many national and world congresses and being multiple cited in Bulgaria and abroad. The IEMAM publish two journals – the "Acta morpgologica et anthropologica" and the "Journal of Anthropology".

Nowadays, the Institute of Experimental Morphology and Anthropology with Museum supported and promoted by the Governing Body in the Bulgarian Academy of Sciences evolve the morphological and anthropological sciences in conformity with the contemporary realms of the European and world science and with the requirements of our days, as well. This fact could guarantee the successes of the Institute in the future and could help the confirmation of the traditions in the Bulgarian morphological school.

Happy Fest!

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