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**Vladimir Leonidovich Osakovsky – a devoted  
servant of progress and science  
(to the 80th birthday and 30th anniversary  
of the scientific laboratory of the Research  
Center of the Medical Institute of NEFU)**

Vladimir Leonidovich Osakovsky is the founder and a permanent head of the scientific laboratory dealing with genetic and immunological aspects of human health in the North for 30 years. He devoted his scientific activity to the study of the molecular basis of a wide range of diverse biological processes in the North, from plant bioenergetics to the nature of a mysterious disease of the nervous system – Vilyuy encephalomyelitis. As a scientist, he is distinguished by a relentless desire to explore the unknown and develop new areas of biological science, mastering and implementing the most modern and progressive molecular technologies in Yakutia.

In 1968, he graduated from the M.V. Lomonosov Moscow State University with the specialty of biochemistry of viruses and began his research work. After the 2 year long internship at the Department of Virology of the Biological Faculty of Moscow State University, Vladimir Leonidovich entered the graduate school of the Institute of General Genetics of the USSR Academy of Sciences and successfully completed it with the defense of a dissertation on the topic "The structure of the E. Coli DNA molecule during repair after UV irradiation" in the specialty "genetics".

After returning to his native Yakutia, Vladimir Leonidovich continued his scientific work at the Institute of Biology of the Yakutsk Department of the Siberian Branch of the Russian Academy of Sciences on the topic "Plant Bioenergetics". While working at the Institute of Biology, Vladimir Leonidovich contributed greatly to creating the scientific infrastructure of a modern protein and nucleic acid research laboratory, which significantly increased the level of student and dissertation works performed in the field of molecular biological research in Yakutia. The successes achieved contributed to a significant shift in the development of the biochemical direction in the Republic, and made it possible to develop new areas for Yakutia, particularly, bioenergetics etc.

In 1992, on the initiative of the Ministry of Health of the Republic, the scientific and practical center "Vilyui encephalomyelitis" was established, where Osakovsky V. L. was invited to organize a new research laboratory to conduct and coordinate joint research with international research centers on the problem of Vilyui encephalomyelitis. Once again, under his leadership, modern equipment was purchased and the necessary molecular genetic and immunobiochemical methods were introduced to create the scientific infrastructure of the laboratory. Scientific research continued subsequently as part of the Institute of Health and the Medical Institute of the NEFU named after M.K. Ammosov.

The laboratory has gained scientific recognition and has become a center for attracting the scientific interests of Russian and foreign scientists on medical and biological issues of studying of the genome and the health of the population of the North-East of Russia. For many years of work high-tech projects in many areas were carry out, such as the study of the pathogenesis of Vilyui encephalomyelitis, hereditary and multifactorial degenerative diseases of the brain: spinocerebellar ataxia type 1 (SCA1), hereditary spastic paraplegia, multiple sclerosis, ALS, as well as the medical aspects of the ethnogenesis of the Yakut ethnic group and genetic archeology of the peoples of the North.

In 1994, for the first time in Yakutia, Vladimir Leonidovich introduced the method, developed in 1993 in the USA, for identifying the SCA1 mutation in patients with ataxia among representatives of the Yakut ethnic group. It allowed to implement a large project to assess the spread of this mutation among the Yakut population, identify three main foci and the number of carriers of the SCA1 mutation, which at that time reached 193 people. Under the guidance of Osakovsky, a Ph.D. thesis on this topic was defended.

The main focus of research was the studying the molecular aspects of the pathogenesis of Vilyui encephalomyelitis, a disease with an unsolved nature that occurs only in Yakuts. On the basis of extensive studies of the immune status and genetics, Vladimir Leonidovich developed an immuno-genetic concept of the nature of the disease of Vilyui encephalomyelitis. According to it, Vilyui encephalomyelitis is considered as a primary chronic neurodegenerative disease, manifested as acute aseptic encephalomyelitis. It has been proven, that in terms of pathogenetic characteristics and the presence of a subclinical immunoinflammatory component, VE belongs to a large group of neurodegenerative diseases, which also includes Alzheimer's, Parkinson's, multiple sclerosis, and others. The concept was adopted at the International Conference on the problem of Vilyui encephalomyelitis, which made it possible to remove sanitary restrictions on infectious diseases for patients with VE and provide them with wide access to medical services.

An interesting work carried out by the direct participation and organization of Osakovsky is the identification in joint research with the US Institutes of Health of a new mutation in the dynamin-2 gene (p.R719W of the DNM2 gene on chromosome 19 of the genome) in a family of the Yakut ethnic group affected by hereditary spastic paraplegia of an autosomal dominant type. This is a new nosological form in the group of hereditary spastic paraplegia, which allowed the identification of new previously unknown features of the pathogenesis of this disease.

Osakovsky's interests include other fundamental problems of human health in the North: type 2 diabetes mellitus, metabolic syndrome, viral hepatitis, and others.

In 2016, Vladimir Leonidovich was invited to participate in the Russian Genomes megaproject of St. Petersburg State University, in which for the first time the whole genome sequences of 18 healthy representatives of the Yakut ethnic group were purposefully analyzed. This is a breakthrough event for the Yakut genetics and medicine. Interesting knowledge about the structure of the DNA molecule of the Yakut genome, medically relevant polymorphisms associated with diseases, pharmacogenomics and predisposition to infectious diseases was obtained, the phylogeny of the genomic DNA of the Sakha ethnic group was clarified. The importance of a medically significant component of the genome indicates the need for further in-depth study to correct therapeutic and pharmacological approaches in the Yakut population.

Osakovsky V.L. pays great attention to practical health care assistance. The laboratory has introduced and continues to use for 20 years the method of oligoclonal IgG, which helps in the diagnosis of Viliuisk encephalomyelitis, and other autoimmune, inflammatory and demyelinating diseases of the nervous system.

Under Vladimir Leonidovich's leadership, much work has been done to systematise and preserve the archive of clinical and scientific information on Viliui encephalomyelitis, accumulated since the 1960s. A bank of biomaterials of Yakut peoples has been collected for scientific research since 1995.

On the basis of the scientific laboratory of the Institute of Health, headed by Vladimir Leonidovich, joint cryobiological research was also carried out. Subsequently, on the basis of these scientific developments the innovative company "Cryoprotect" was founded, of which he is a member of the team to this day.

To this day, under the leadership of Vladimir Leonidovich, experimental work continues on the study of the molecular nature of diseases of the populations of Yakutia in the scientific laboratory of the Research Center of the Medical Institute of NEFU. Scientific personnel are being trained. He is also actively involved in popularizing the scientific knowledge in the field of medical problems in Yakutia, publishing his articles in local journals for a wide range of people.

Osakovsky V.L. is rightly recognized as a leader in the organization and development of topical modern biological and medical research in the Republic of Sakha (Yakutia), which is at the intersection of biological and medical sciences. This year Vladimir Leonidovich is celebrating his 80th Anniversary and 30th Anniversary of his Scientific Laboratory. Undoubtedly, the laboratory and its leader are waiting for new achievements and creative success!