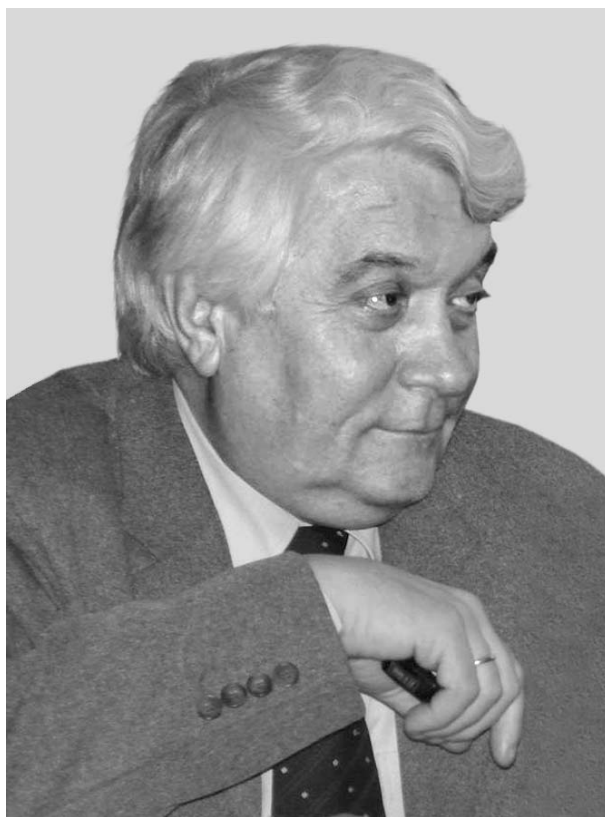


## 60th Birthday of I. A. Tikhonovich

DOI: 10.1134/S0026261709010172



On January 1, 2009, Igor Anatol'evich Tikhonovich, the director of the All-Russia Research Institute of Agricultural Microbiology, full member of the Russian Academy of Agricultural Sciences (RAAS), chairman of the Council of the RAAS Northwestern Research Center, and one of the leading microbiologists and geneticists of this country, turns 60.

I.A. Tikhonovich was born in the town of Gorlovka, Donetsk oblast, Ukraine. He graduated, with an honors degree, from the Biological Faculty of Donetsk University and continued his education as a postgraduate at the Leningrad State University, where he defended his Candidate of Science Thesis (speciality, genetics). His investigations in this period were devoted to the fine structure of plant chromosomes.

In 1979, I.A. Tikhonovich began to work at the All-Russia Research Institute of Agricultural Microbiology, where his research took a new direction. He was now concerned with plant symbiotic genes (genes controlling interactions with microorganisms), virtually

unstudied at the time. I.A. Tikhonovich organized a team of actively working young researchers, which was later reorganized into the Laboratory and then the Department of Biotechnology. This team undertook a large-scale study of plant genes that control signal interactions with microorganisms, as well as the morphology and biochemistry of symbiotic microbial partners. Under the guidance of I.A. Tikhonovich and with his direct participation, a unique collection of mutant plants with altered symbiotic properties was created. Further work with this collection allowed the sequences of several “symbiotic” genes to be deciphered. The best known works from this series are those devoted to symbiosis specificity mechanisms in plants, particularly in the Afghan pea, and to bacterial signal molecules with altered structures and functions.

The results of the research carried out by I.A. Tikhonovich were generalized in the “gene-to-gene” theory, which not only explains important features of phytopathogenic interactions but may be also successfully used during analysis of any symbiotic sys-

tems. I.A. Tikhonovich formulated the concept of the microorganism–plant system (MPS), which arises as a result of functional integration of the activity of micro- and macrosymbiont genes. The practical importance of these studies consists in the possibility of using the interaction of partners for creation of an MPS that would exhibit maximum self-sufficiency and allow a high quality of production at minimum expenditures.

I.A. Tikhonovich has published about 300 papers, including those in leading international journals, and ten monographs and manuals.

I.A. Tikhonovich is a professor at the Chair of Genetics of St. Petersburg State University; he organized and guides a unique educational program, “Ecological Genetics,” within the framework of which he delivers several lecture courses. The lecture course “Symbiogenetics,” which he started to deliver in 2004 at the Biological Faculty of St. Petersburg University, has no analogs in Russian and world practice of biological education. His pedagogical work has culminated in the foundation of a scientific school of symbiogenetics, highly acknowledged both in Russia and abroad.

I.A. Tikhonovich is among the organizers and participants of the Scan-Balt international biotechnological net, which unites research institutions in Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway, Poland, Sweden, northern Germany, northwestern Russia, Norwegian Academy of Sciences, and of the Nova-University net of Baltic Universities. With the involvement of I.A. Tikhonovich as co-supervisor of the project, a series of theoretic seminars and practical courses, united by the common name “Agrobiotechnology of microorganisms interacting with plant roots,” was organized from 2005 through 2009 within the Scan-Balt net framework in the countries of the Baltic region. Currently, I.A. Tikhonovich guides Russia–Netherlands and Russia–France projects within the frameworks of which permanent centers of excellence

were organized in Leiden and Wageningen Universities, All-Russia Research Institute of Agricultural Microbiology, St. Petersburg State University, and the Institute of Physiology of Plants, Russian Academy of Sciences. One of the centers where specialists in molecular genetics, ecology, and the practical application of symbiotic systems are trained at a high European level functions successfully in St. Petersburg.

I.A. Tikhonovich is a member of the Presidium and Bureau of the Division of Land Management of the Russian Academy of Agricultural Sciences, the Russian Foundation for Basic Research Council, Scientific Council on Microbiology at the Russian Academy of Sciences, and the Education and Science Ministry Interdepartmental commission on the problems of genetic engineering. He is an expert in the Task Force Organization for economic cooperation and a member of the editorial boards of the journals *Mikrobiologiya* (Microbiology), *Ekologicheskaya Genetika* (Ecological Genetics), *Sel'skokhozyaistvennaya Biologiya* (Agricultural Biology), and *Vestnik Rossiiskoi Akademii Sel'skokhozyaistvennyh Nauk* (Bulletin of the Russian Academy of Agricultural Sciences).

I.A. Tikhonovich has been awarded the Order of Friendship for successful, devoted labor of many years, the INRA (France) medal “For scientific achievements in the field of agriculture,” the medal in honor of St. Petersburg’s 300-year jubilee, and a silver medal in honor of the 35-year jubilee of the Polish Academy of Sciences.

The researchers from the All-Russia Research Institute of Agricultural Microbiology and the editorial board of the journal *Mikrobiologiya* heartily congratulate Igor Anatol'evich on his 60th birthday and wish him cheerfulness, optimism, success in all his undertakings, and further fruitful activity to the benefit of the science in Russia.