

CHRONICLE

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**OCTAVY NESTOROVICH TOLSTIKHIN (16.07.1927–01.03.2019),
THE OUTSTANDING PERMAFROST SCIENTIST,
HYDROGEOLOGIST AND GEOECOLOGIST**

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This paper describes the life and career of the outstanding permafrost scientist, hydrogeologist and geoecologist Professor Octavy Nestorovich Tolstikhin, Doctor of Geological and Mineralogical Sciences, whose contribution to the study of groundwater in the permafrost zone and to popularization of the scientific knowledge about the influence of Man on the environment is highly valued.

Permafrost, groundwater, icing, cryohydrogeological mapping, geoecology

On March 1, 2019, Professor Oktavy Nestorovich Tolstikhin, Doctor of Geology and Mineralogy, the outstanding permafrost scientist, hydrogeologist and hydroecologist, the member of the International Academy of Ecology and Life Protection Sciences, the honored scientist of the Sakha Republic (Yakutia), passed away at the age of 91 years (Fig. 1).

Oktavy Tolstikhin was born on July 16, 1927 in Tashkent. His mother, Matilda Moiseevna Tolstikhina, was the first woman in the USSR to become a Doctor of Geology and Mineralogy, the author of many scientific publications and textbooks on geological and hydrogeological conditions of the territory of the USSR and of its individual regions. His father, Nestor Ivanovich Tolstikhin, was an innovator in science, the founder of several new directions in hydrogeology. In his scientific work, he paid special attention to the study of permafrost and of ground waters of Siberia and the Russian Far East.

In the Tolstikhins' family, creative atmosphere always ruled, developing the interest for the profession of the parents in the children. Later on, all the three children, Oktavy, Irina and Igor, became remarkable specialists in various areas of the geological science.

In 1949, Oktavy Tolstikhin successfully graduated from the Leningrad Mining Institute specializing in hydrogeology and engineering geology and was recommended for entering the graduate school. However, his father suggested that he should first work in production and gain practical experience. O.N. Tolstikhin began to acquire the skills of hard but exciting expedition living on the Kola Peninsula and in northern Karelia, where he worked for nearly two years.

In 1951, he was appointed the head of the hydrogeological survey group of the geological expedition on the Kuril Islands and Kamchatka. As a result of

three-year work, he investigated gas-producing thermal springs and discovered sources of oil and gas manifestations. Then O.N. Tolstikhin was directed to enter the graduate school of the All-Union Oil Institute. After graduation and defense of a candidate's thesis in 1957, Oktavy Nestorovich Tolstikhin worked in Moscow for some time, in the All-Union Institute of Hyd-



Fig. 1. At the opening session of the International Conference on the Ecology of Northern Cities (Vorkuta, 2003).

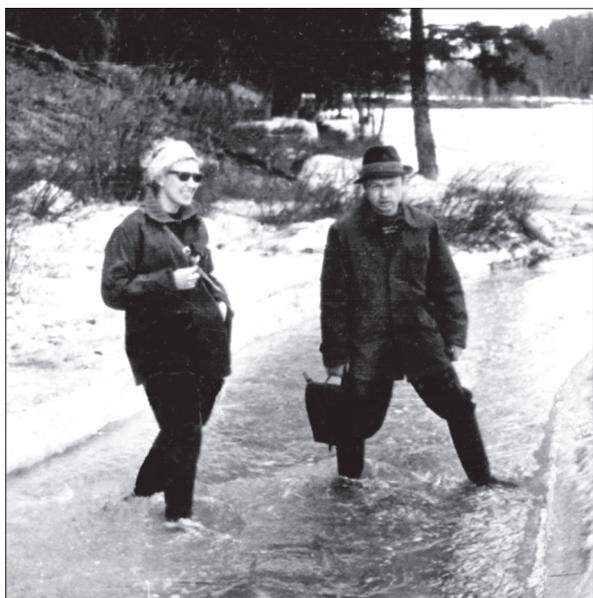


Fig. 2. O.N. Tolstikhin and V.M. Piguzova at the Ulahan-Taryn spring (1966).

rogeology and Engineering Geology investigating the deep-ground waters and brine as chemical material. In 1961, he was invited to Yakutia, where he first worked in the Yakut geological survey expedition, and from January 1963, in the Permafrost Institute, SB AS USSR. There he organized the laboratory of ground waters of the permafrost zone, which he headed in 1964.

The activity of O.N. Tolstikhin in his first Yakut period (1961–1972) was very productive (Fig. 2). Under his guidance and with his direct participation, the first hydrogeological map of Yakutia was composed of the scale 1:1 500 000, the book “The Ground Waters of Yakutia as a Source of Water Supply” (1967), volumes XX and XXVI of the monograph “Hydrogeology of the USSR”, the brochure “The Use of Ground Waters of the Yakut ASSR for Water Supply” (1971) were written and published. In 1970, O.N. Tolstikhin successfully defended a doctorate thesis in the Institute of the Earth’s Crust SB AS USSR (Irkutsk), which was published as a fundamental work “Icing and Ground Waters of the North-East of the USSR” (1974).

In 1972, Oktavy Nestorovich moved to Moscow to work there, where he started to investigate the issues of ecology and environmental protection, but he continued to maintain the working relations with Yakutia. He was the scientific leader of the fundamental works conducted in the permafrost ground waters laboratory of the SB AS USSR Permafrost Institute to compose the map of hydrogeological permafrost zoning of Eastern Siberia of the scale 1:2 500 000 (1984) and to write a memo for it “The Hydrogeological Permafrost Conditions in Eastern Siberia” (1984), therefore, he often visited Yakutsk.

In 1985, invited by the administration of the Yakut State University, O.N. Tolstikhin returned to Yakutsk. From this time on, the second Yakutsk period

of his life started. He started to work as a professor in the permafrost chair of the geological survey faculty of the university. The field hydrogeological training of students enabled him to visit different regions of Yakutia. Everywhere, he encountered the problems of protection of the fragile northern nature; therefore, he enthusiastically tackled the problems, organizing environmental monitoring in the territory of the republic and creating national nature parks, the issues of environmental education and upbringing of college and school students. In this regard, his decision to join the ecology chair of the Yakutsk State University was quite logical. Working as a professor in this chair, he became one of the initiators of establishing the Moma national park, the children’s nature park in the valley of the Kenkeme River, the first such establishment in the country and in the world. He participated in preparation and publication of the books “Changing Landscapes” (1986), “Environmental Management: Quality Assurance of the Environment by the Example of Yakutia” (1998), “Ecology: a Textbook” (2013).

Having returned to Yakutsk as the permanent residence, O.N. Tolstikhin resumed close creative connections with the Melnikov Permafrost Institute SB RAS. He was the scientific supervisor of the works relating to composing the map of the supra-permafrost waters of Yakutia of the scale 1:2 500 000 (1991) and to writing a memo for it (1991), he took active part in the work of the doctorate council in the institute and in organization of different scientific meetings, conferences and theme seminars. In 2014, having finished his teaching work, O.N. Tolstikhin accepted the position of the principal researcher of the laboratory of ground waters and of the permafrost geochemistry of the institute. His huge work experience and encyclopedic knowledge were highly valued and definitely needed by the people.

Altogether, O.N. Tolstikhin published about 300 scientific studies, textbooks and popular science works in regional hydrogeology, mapping, icing, ecology, local hiking, ecological education and upbringing. His activities of popularizing scientific knowledge should be specially mentioned. The books written by O.N. Tolstikhin “In the Land of Icing” (1975), “The Earth in the Hands of People” (1981), “Changing Landscapes” (1986, co-authored), “Nature and the Scientific and Technological Revolution” (1985, co-authored), “A Road with Stops” (2012) and other books are popular and will remain popular in the wide readers’ circles. In addition, he had serious interest in poetry and philosophy. His followers successfully defended candidate’s and doctorate theses not only in geology and mineralogy and geography but also in biological science, philosophy, engineering, etc.

Anyone who knew Oktavy Nestorovich Tolstikhin will definitely remember this true intellectual, a dedicated scientist and an advocate of environmental protection, who loved subtle humor and witty jokes and who was quick to fight against any injustice.

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