

**SERGEY VLADIMIROVICH ALEKSEEV**  
**(for the 60<sup>th</sup> anniversary)**

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The milestones in the scientific career of S.V. Alekseev, the head of the laboratory of hydrogeology of the Institute of the Earth's Crust, SB RAS, a Doctor of Geology and Mineralogy, a corresponding member of the Russian Academy of Natural Sciences, an honored worker of the Siberian Branch of the Russian Academy of Sciences, are revised in this homage.

*Geocryology, frozen zone hydrogeology, environmental hydrogeology*



On February 16, 2019, Sergey Vladimirovich Alekseev, the head of the laboratory of hydrogeology of the Institute of the Earth's Crust, SB RAS, Doctor of Geology and Mineralogy, who is a recognized specialist in the area of hydrogeology of the frozen zone of the lithosphere, celebrated his 60<sup>th</sup> anniversary.

Sergey Vladimirovich Alekseev was born in the city of Blagoveshchensk, and two months after his birth, his parents (V.R. Alekseev and V.E. Alekseeva) moved to the settlement of Chulman, Yakutia, to work at the Aldan permafrost research station of the Permafrost Institute of the Academy of Sciences of the USSR. Since that time, Sergey Alekseev's life has been closely connected with the study of permafrost. After finishing secondary school in 1976, Sergey Alekseev entered the geology faculty of the Moscow State University and graduated from it in 1981 with a major in hydrogeology and engineering geology, to start working in the Earth's Crust Institute of the Siberian Branch of the Academy of Sciences of the USSR (now the Earth's Crust Institute of the Sibe-

rian Branch of the Russian Academy of Sciences), where he occupied the position of a researcher trainee in the laboratory of ground water formation headed by Doctor of geology and mineralogy Professor Pinner. In 1987, after successful completion of the post-graduate course, Sergey Alekseev defended a candidate's thesis "Cryogenesis of Ground Waters and Rocks by the Example of the Daldyn-Alakit Region of Western Yakutia".

Sergey Alekseev brought in the study of a new area of science, the role of cryogenesis in the formation of ground waters and rocks, to the institute. Alekseev paid the major attention to simulation of the processes of the evolution of the cryolithozone of the north of the Siberian Platform in Cainozoic under the influence of natural and anthropogenic factors. The results obtained allowed the scientists to develop an integrated concept of the evolution of the uniquely thick (up to 1500 m) cryolithozone of the north of the Siberian Platform, first to establish and summarize the causes and effects of its origin and its connection

with the general behavior of the climate, and to develop a system for indicating the geological results of the cryogenesis of the Earth's crust.

Sergey Alekseev developed the major principles of interaction between highly mineralized ground waters and frozen deposits at negative temperatures and revealed the major factors determining the kinetics of processes taking place in the brine-ice and brine-frozen deposit systems. These unique data allowed the largest Russian diamond mining company of the Udachanaya kimberlite pipe, Western Yakutia, successfully to solve the problem of burying drainage brine. For the first time, prediction was made for the behavior of the cryolithozone of the north of the Siberian Platform under the increasing anthropogenic impact due to intensification of production of natural deposits. In 1998 Sergey Alekseev was awarded the scientific title of a senior researcher.

Now Sergey Alekseev is researching the geochemical processes in the water–deposit system, in accordance with the main concepts of synergy. He pays special attention to solution of a new problem relating to interaction between the surface and ground hydrospheres considering the anthropogenic loads experienced. In this regard, Dr. Alekseev is often invited to be an expert in taking many project decisions. In 2007, Sergey Alekseev defended a doctorate titled “The Cryohydrogeological Systems of the Yakut Diamondiferous Province”.

Sergey Alekseev has taken an active part in preparation of constructive proposals for substantiating the necessity of rerouting the Eastern Siberia – Pacific Ocean pipeline north of the catchment of Lake Baikal, which a World Natural Heritage Site.

Sergey Alekseev supervises solution of important hydrogeological and geological engineering tasks related to protection of ground water in the Irkutsk region from pollution and depletion, as well those related to flooding of urban territories; systems for protection and rational management of hydromineral resources and plans for environmentally safe use of fresh ground water for centralized and autonomous water supply of the Irkutsk region are being developed with his participation.

Sergey Alekseev takes an active part in implementation of large government programs, aimed at assessment of geological and extractable deposits of lithium-containing brines of the Siberian Platform. The works resulted in a summarizing collective monograph titled “Industrial Brines of the Siberian Platform”, published in 2014. The scientific results presented in it proved the existence of extremely good prospects for using underground brines as an alternative for solid lithium deposits.

Over several recent years, the team headed by Dr. Alekseev has conducted large-scale environmen-

tal and hydrogeological works in the settlement of Listvyanka, the most visited site of Lake Baikal. The works included testing more than 100 water sources, like public and privately-owned wells, boreholes, ground water springs, Krestovka River, Sennoy Creek, Banny Creek, Bolshaya and Malaya Cheremshanka Rivers. The discovered points of pollution of ground water were used as starting points for organizing monitoring of pollution of not only the drinking water sources for the settlement but in general for the entire unique ecosystem of Lake Baikal.

The total list of Sergey Alekseev's works consists of 180 publications published in Russian and foreign journals, including 3 monographs, as well as 30 research reports. As an active speaker and talented organizer, he actively takes part in the scientific forums of the Russian and international levels. Sergey Alekseev has been a supervisor for the dissertations of two candidates of geology and mineralogy. Currently he is an advisor for an aspiring doctor of geology and mineralogy and supervises the studies of three graduate students.

Sergey Alekseev is a corresponding member of the Russian Academy of Natural Sciences, an honored worker of science and education, an honored worker of the Siberian Branch of the Russian Academy of Sciences, the chairman of the Siberian section of the International Association of Hydrogeologists (IAH), a member of ROSHYDROGEO (the Russian Union of Hydrogeologists), the chairman of the dissertation council for doctorates in the Earth's Crust Institute, SB RAS, a member of the dissertation councils for doctorates in the Permafrost Institute and in the Tyumen Industrial University, he is an expert in the area of science and engineering in the Ministry of Science and Education, in the Federal Research Centre for Projects Evaluation and Consulting Services (Moscow), of the Kray Science Foundation (Krasnoyarsk), and of the Russian Foundation for Basic Research (Moscow).

As recognition of Dr. Alekseev's many years' work and his great contribution to fundamental and applied research, Sergey Alekseev has been awarded a letter of acknowledgement by the Governor of the Irkutsk region, a letter of merits of the Russian Academy of Sciences and of the trade union of the RAS workers, letters of honor from the Presidium of SB RAS and of the Irkutsk science center of SB RAS, letters of honor from the Governor of the Irkutsk region and of the Department for Subsoil Management in the Central Siberian district.

We wish Sergey Vladimirovich further successes in the study of ground waters of the frozen zone of the lithosphere and in development of environmental hydrogeology, health, and well-being for him and his family!