

Sergei Semenovich Belyaev Is Sixty



In October 2001, Sergei Semenovich Belyaev, a Doctor of Biology, Professor, celebrated his 60th birthday.

After receiving his postgraduate degree from the Faculty of Biology and Soil Science of the Moscow State University, Belyaev began his scientific career at the Institute of Biochemistry and Physiology of Microorganisms in Pushchino. From 1986, he has worked at the Institute of Microbiology of the Russian Academy of Sciences, taking the position of head of the Laboratory of Oil Microbiology and Deputy Director of the Institute.

The scope of Belyaev's scientific interest is very wide. The main line of his research is the study of the geochemical activity, physiology, and metabolism of aerobic and anaerobic microorganisms involved in the global carbon cycle. Belyaev developed original radioisotopic methods, which made it possible to gain insight into the biogeochemical activity of methanogenic, acetogenic, and hydrocarbon-oxidizing microorganisms in various natural ecosystems. He and his coworkers created a collection of strictly anaerobic methanogens and sulfate reducers and aerobic hydrocarbon-oxidizing and oligotrophic bacteria producing metabolites of great practical value. Belyaev and his collaborators isolated and described twelve new bacterial species.

In recent years, Belyaev has concentrated on the investigation of the current biogeochemical activity of microorganisms in oil deposits occurring under different geological and physical conditions, as well as on the study of the physiology and metabolism of microorgan-

isms isolated from deep subsurface ecosystems. One of the achievements of Belyaev's research group is the establishment of the fact that the separation rate of stable carbon isotopes by methanogenic bacteria is determined by the specific rate of methanogenesis. Some results obtained by Belyaev's group show the possibility of the regulation of microbial activity in natural environments.

These fundamental investigations have found practical application. In particular, a new biotechnological approach to oil recovery enhancement, which is based on the activation of microorganisms in oil reservoirs, was developed. This efficient biotechnology allowed more than 500,000 tons of oil to be additionally extracted from oil deposits in Tatarstan.

Based on the results of their fundamental investigations of hydrocarbon-oxidizing bacteria, Belyaev and his coworkers invented devoroil, an agent of microbial origin for decontamination of oil-polluted ecosystems.

In our country and abroad, Belyaev is known for his investigations of strictly anaerobic microorganisms. He is a coauthor of more than 150 publications, a member of the editorial board of *Mikrobiologiya*, supervisor of the "Biotechnology for Enhancing Oil Recovery" project of the State Scientific and Technical Program "Modern Methods in Bioengineering", and head of a joint Russian–Chinese scientific project.

Belyaev advised many students and postgraduates in the preparation of their theses and dissertations. He is a member of a Specialized Scientific Advisory Board.

Belyaev was awarded the Order of Friendship. In 1996, the biotechnology for the enhancement of oil recovery was recognized by a prize from the Government of the Russian Federation in the field of science and technology. In 1999, he received the first prize from MAIK NAUKA/INTERPERIODICA PUBLISHING for his series of publications in the journal *Mikrobiologiya*.

Belyaev is always concerned about his colleagues, is ready to help anyone who needs his advice, and is respected by his collaborators and all who know him.

At his 60, Sergei Semenovich is full of creative power. We wish him good health and fruitful work.

Editorial board of Mikrobiologiya