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ANNOUNCEMENT

Professor Gennady V. Semenov: Freeze drying is a lifelong endeavor!

Gennady V. Semenov, who is a Professor at the Russian Biotechnology University, Laureate of the 2022 Russian Government Prize, Head of the Freeze-Drying Laboratory and Scientific Director, has been working in the field of lyophilization since 1975. After graduating from the Kuban State Technological University in Krasnodar, Prof. Semenov began his career as a freeze-drying engineer at the largest bioplant in Russia in Shchyolkovo, Moscow Region. This bioplant is currently successfully producing pharmaceuticals for agriculture.

After completing his post-graduate studies and defending his PhD thesis, Professor Semenov worked for several years as the Head of the Freeze-Drying Department at a Moscow-based company producing bacterial and viral drugs. Under his leadership, the company's freeze-drying technologies were modernized, resulting in improved economic performance and quality of finished products.

Professor Semenov has led or personally participated in the invention of various types of vacuum freeze-drying equipment as well as in the development of new directions for intensification of heat and mass transfer processes during dehydration of thermolabile materials. These include the freeze-drying of liquid and pasty types of raw materials in the form of frozen dispersed particles of various shapes and sizes, the use of baking trays (raw material trays) equipped with vertical ribs, the use of microwave power supply to drying objects, among others.

He has also participated in the formation of several freeze-drying enterprises in Russia, including the first stage of setting up of the largest freeze-drying plant in Russia in Borovsk, Kaluga region. It is noteworthy that this plant uses freeze-drying units, which were specially manufactured in this food enterprise, and not in a specialized machine-building plant. He has indeed supervised the development of technical specifications for freeze dryers of various sizes in Russia. For several years, he was the coordinator of the fabrication and modernization of the freeze-drying workshop of the company Dryff in Turkey, where the equipment of the Chinese company Truecold is used. At present, he is closely cooperating with leading Russian manufacturers of equipment for freeze-drying and freeze-dried products, including SH-Technika, Metallux, Sayes, Mazurin and Green House. His current research interests include freeze-drying of food products, medicines and dietary supplements, vacuum and freeze-drying equipment and technologies, methods of electrophysical influence, storage of food products, research and development of IT technologies in the food industry.

Professor Semenov is a member of the editorial board of the Russian journal "News of Higher Educational Institutions. Food Technologies." He has prepared and published several monographs in the field of freeze-drying, including "Freeze-Drying of Food products," "Freeze-Drying," "Vacuum freeze-drying," and "Drying of Raw Materials: Meat, Fish, Vegetables, Fruits, Milk." He has published more than 400 scientific articles and supervised more than 45 scientific researches. His monographs include biographies of leading Russian specialists in sublimation drying. He knew many of these scientists and conducted research with them. In his books, he showed their role in scientific research and introduction of this modern technology into industrial production.

Professor Semenov sees great prospects in multifaceted cooperation with various Chinese manufacturers of equipment and food products, in the development of scientific cooperation with Jiangnan University and personally with Professor Min Zhang and his team.

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