

Obituary: Gurii Timofeevich Petrovskii

(August 5, 1931–September 29, 2005)



Gurii Timofeevich Petrovskii—an outstanding Russian scientist and organizer, a leading specialist in the field of physical chemistry and optical materials technology, Doctor of Chemistry, Professor, Academician of the Russian Academy of Sciences, Academician of the Russian Academies of Engineering and Technological Sciences, and Academician of the International Academy of Astronautics—passed away suddenly on September 29, 2005.

G.T. Petrovskii graduated from the Leningrad Technological Institute in 1955. After completing his post-graduate research at the Prague Institute of Chemical Technology in 1959, he worked at the Vavilov State Optical Institute.

From 1969 to 2000, Petrovskii was the director of the Leningrad Optical Glass Factory, the director of the First Branch of the Vavilov State Optical Institute, and the director of the Research and Technological Institute of Optical Materials Science founded by him. Under the leadership of Academician Petrovskii, the Research and Technological Institute of Optical Materials Science, All-Russian Research Center “Vavilov State Optical Institute,” became one of the most reputed centers for the research and development of the whole range of optical materials widely used in optics, optoelectronics, communications, and medicine.

Since 1994, Academician Petrovskii was the director general of the All-Russian Research Center “Vavilov State Optical Institute.”

In 2001, Petrovskii became a supervisor of research works performed in the framework of the program “Physicochemical Principles of Manufacturing of Glasses and Glass-Ceramic Materials” at the Grebenshchikov Institute of Silicate Chemistry of the Russian Academy of Sciences. This gave a powerful impetus to the development of basic research in the vitreous state and structural transformations used in the technology of glass-ceramic materials.

Despite his great administrative and organizing activity, Petrovskii remained primarily a scientist and researcher.

The interest of Gurii Timofeevich Petrovskii in scientific topics covered the scope of colored and colorless optical glasses, silica glass, optical ceramics, optical glass ceramics, optical single crystals, and optical fibers. He designed glasses with specific frequency dispersions for optical systems with an image quality close to the theoretical limit, which substantially extended the Abbe diagram. Petrovskii was at the helm of the research activity in fluoride technology, as well as in the technology of halide phosphate glasses, glasses with variable properties over the bulk, and yttrium and lanthanum glasses used for creating large-sized lenses for space research. He guided and actively participated in the development of basic technology for producing optical elements in space. He made a significant contribution to the creation of a special kind of glass for beryllium glass compositions of large light-weight spaceborne mirrors. Petrovskii was one of the pioneers in the development of the domestic optical fiber technology. His works concerned with the design of fiber-optic elements for night division devices are of fundamental importance. He also made a substantial contribution to the development of the theory of the vitreous state; in particular, he discovered anionic electrical conductivity in glasses (invention number 222, 1979).

Gurii Timofeevich Petrovskii was a recognized leader of the Russian school of physical chemists involved in the technology of optical materials. A large number of fundamental works in the field of applied research and developments of optical glasses are associated with his name. The considerable part of the currently used catalog of optical glasses was designed with his direct participation.

Recent studies performed by Petrovskii were concerned with the circuitry of integrated optical systems based on vitreous structures, as well as with the radically new direction in nanotechnology—the development of basic principles for fabrication of vitreous matrices with semiconductor nanocrystals in their bulk.

Petrovskii was the founder and the long-time head of the Department of Optical Glass-Manufacturing Technology at the St. Petersburg Technological Institute (Technical University), which educates highly qualified materials science specialists for the optical and mechanical industry in Russia.

Petrovskii was the author of more than 500 scientific publications and the coauthor with G.L. Voronkov of the pioneering monograph *Free-Space Optical Technology*, which was devoted to space materials science. In the 1970s, he edited the catalog of optical glasses produced in the Soviet Union and East Germany, which still remains the reference manual for materials science specialists and for designers of optical instruments. He had several dozens of patents and the discovery to his credit.

Petrovskii headed the Russian scientific school “Physicochemical Principles for Materials Science of Nontraditional Optical Media.”

More than 30 doctors and candidates of sciences are among his disciples.

Academician Petrovskii chaired many councils and commissions of the Russian Academy of Sciences on optical materials science. He was the Chairman of the Scientific Council on the “Optics” program at the Ministry of Defense of the Russian Federation, the Member

of the Editorial Board of the *Opticheskii Zhurnal* (Journal of Optical Technology), and the President of the D.S. Rozhdestvensky Optical Society since 1994.

Petrovskii was one of the initiators of establishing the journal *Fizika i Khimiya Stekla* (Glass Physics and Chemistry), a member of the editorial board, and the deputy editor-in-chief since 2000.

He was awarded the Order of the Badge of Honor (1976) and the Order of Peoples’ Friendship (1993).

Petrovskii was a two-time winner of the USSR State Prize (1970, 1981) and a winner of the State Prize of the Russian Federation (1998) for his works in optical materials science.

Gurii Timofeevich Petrovskii was distinguished by the deep understanding of problems, the knack of finding ways for their solution, and the ability to clearly formulate complex problems and seemingly simple problems so that they turned out to be interesting and fascinating. The sense of duty, true democracy, and intelligence were his inherent qualities.

The blessed memory of this outstanding scientist, supervisor, and highly respected person will remain in the hearts of all those who worked with Gurii Timofeevich Petrovskii and knew him personally.

*Editorial Board of the journal
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the staff of the Grebenshchikov Institute
of Silicate Chemistry of the Russian
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and friends*