

OBITUARY

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In memory of Vyacheslav Vasil'evich Osiko

Academician Vyacheslav Vasil'evich Osiko, an outstanding scientist in the field of solid state physics and chemistry, laser physics, materials science and nanotechnology, the founder of the Research Center for Laser Materials and Technologies of the Prokhorov General Physics Institute, Russian Academy of Sciences (RAS), and its director for many years, passed away on 15 November 2019, in his 88th year, after a long and serious illness.

V.V. Osiko was born on 28 March 1932 in Leningrad. In 1954, after graduating from the D.I. Mendeleev Moscow Chemical Technology Institute, he began his scientific work at the Luminescence Laboratory of the Lebedev Physical Institute, USSR Academy of Sciences. Here Vyacheslav Vasil'evich synthesised and studied inorganic photo- and cathodoluminophors. In 1960, V.V. Osiko gained the degree of candidate of chemical sciences.

At that time, a synthetic-ruby crystal was used to create the first laser in the world. The Lebedev Physical Institute's leadership instructed V.V. Osiko to organise a research and production department of single crystals to produce materials for quantum electronics. The department was founded, and in the 1960s, about a quarter of all laser materials synthesised in the world were produced with the direct participation of Vyacheslav Vasil'evich. These laser materials were used to design solid-state lasers with unique characteristics.

In 1968, V.V. Osiko became a doctor of physical and mathematical sciences. In 1981, he was elected a corresponding member of the USSR Academy of Sciences (Physical Chemistry and Technology of Inorganic Materials Department), and in 1987, a full member (Department of General Physics and Astronomy). Since 2011, V.V. Osiko has been a full member of the Department of Nanotechnology and Information Technology of the Russian Academy of Sciences.

Since 1983 Vyacheslav Vasil'evich has worked at the General Physics Institute of the USSR Academy of Sciences. In 1997–2018 he was the head of the Research Center for Laser Materials and Technologies, which he founded, and since 2018, he has been the chief researcher at the Prokhorov General Physics Institute of the RAS.

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The main directions of V.V. Osiko's scientific activity were physics and solid state chemistry, laser physics, materials science and nanotechnology. Vyacheslav Vasil'evich laid the physical and technological foundations of optical materials science, which served as the basis for new branches of science and technology, i.e. laser physics and quantum electronics. Widely known is the family of fianites, jewellery crystals, synthesised under his leadership, which were a by-product of the search for new crystals for solid-state lasers. Under his leadership and with personal participation of V.V. Osiko, a technology was developed for the manufacture of nanostructured fluoride optical (including laser) ceramics, which opened up the possibility of producing a new generation of optical devices, scintillators and lasers. In recent years, Vyacheslav Vasil'evich actively participated in the development of the concept of nonclassical crystal growth through directed agglomeration of nanoparticles.

V.V. Osiko is the author of more than 500 scientific publications, three monographs, 40 inventions and 15 patents. Vyacheslav Vasil'evich paid special attention to young researchers starting their carrier in science. Under his direction 24 scientists gained the degree of candidate. His pupils include 8 doctors of sciences, an academician and a corresponding member of the Russian Academy of Sciences.

V.V. Osiko was a full member and member of the Presidium of the Academy of Engineering Sciences of the Russian Federation, a member of the D.S. Rozhdestvensky Optical Society and Nanotechnology Society of Russia, a fellow of the Optical Society of America, the Materials Research Society (USA), a member of the editorial board of a number of scientific journals, scientific and scientific qualification councils.

Vyacheslav Vasil'evich Osiko was awarded the Order of the Red Banner of Labour (1976), the Lenin Prize (1980), the Prize of the Council of Ministers of the USSR (1991), the Laudise Prize of the International Organisation for Crystal Growth (1992), Order of Honour (2002), E.S. Fedorov Prize of the RAS (2003), Order of Friendship (2012) and A.M. Prokhorov gold medal of the RAS (2018).

Vyacheslav Vasil'evich was a man of high spiritual and ethical qualities. He always had an active life position; he exhibited high professionalism, breadth of horizons, a sense of tact and genuine intelligence. The team, which he led, always had a friendly and open atmosphere, where all scientists always wanted to work and create, communicate and discuss new ideas, and enjoy each other's successes.

His death is a huge and irreparable loss to his colleagues and pupils, to the science to which he devoted his whole life. Vyacheslav Vasil'evich Osiko will always be remembered in our hearts.

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