

## OBITUARY

PACS numbers: 01.60 + q

DOI: 10.1070/QE2012v042n04ABEH014856

**In memory of Aleksandr Apollonovich Kazakov**

Professor Aleksandr Apollonovich Kazakov, a talented Russian scientist, outstanding organiser of research in laser technology and director of the Federal State Unitary Enterprise 'M.F. Stel'makh Polyus Research and Development Institute', died after a long and painful illness on 22 February 2012.

A.A. Kazakov was born in Kharkov on 13 July 1950. In 1972 he graduated with distinction from the Radiophysical Faculty of Kharkov State University and then connected his life with the Polyus Research and Development Institute. At this institute Aleksandr Apollonovich did his diploma work, defended his candidate's dissertation on some problems of nonlinear optics, passed through all stages of engineer's career growth, and headed one of the leading laboratories of the institute. Kazakov became a recognised leader of the institute's staff and was elected a director at the hard, crucial time: in 1990.

Kazakov's scientific interests were concentrated on solid-state lasers. Both personally and in cooperation with colleagues, he carried out several tens of research works. The lasers developed by him became a basis for a number of laser information systems of military and special purpose, as well as for medical laser instruments. A.A. Kazakov is the author of more than 100 scientific publications. Many of the technical solutions proposed by him during research works were radically new, although a very small number of experts were acquainted with them in view of the specificity of these works.

Being an excellent organiser and having deep theoretical knowledge and technical intuition, A.A. Kazakov could make (even under complex economical conditions) the Polyus

Research and Development Institute one of leading enterprises of the Russian defense-industrial sector in the development of laser information systems for military and special applications.

Aleksandr Apollonovich Kazakov was life and soul of the institute and had successfully headed it up to the end of his life. It is not enough to say that those years were hard: it was time of struggle for conservation of the institute, when the character of each of the staff members was tested. The institute guided by A.A. Kazakov not only successfully solved the new problems but also rightfully gained a leading position among the Russian developers of laser equipment.

When headed by A.A. Kazakov, the institute carried out more than 40 design and development works aimed at developing brand new samples of weapons. More than 90% of these developments were added to the army. Actually, during this period the Polyus Research and Development Institute was transformed from a branch institute into a federal enterprise, which was entrusted to carry out highly important developments in the interests of national safety.

Under the guidance of A.A. Kazakov the institute became world-known: its production is exported to several dozens of countries of the world, scientific papers of Institute researchers are published in leading Russian and foreign journals and reported at international conferences and symposia, and the developments of the institute are constantly awarded diplomas and medals at international exhibitions on quantum electronics.

Aleksandr Apollonovich paid much attention to the preparation of experts for laser industry. He headed the Chair of Laser Technology and Optoelectronics at the Moscow State Institute of Radio Engineering, Electronics and Automation for about 20 years and actively supported the chairs at the Moscow Institute of Physics and Technology and the Moscow State Institute of Electronics and Mathematics that are based on the Polyus Research and Development Institute, as well as the postgraduate course of Polyus.

A.A. Kazakov was a member of the Board of National Experts from CIS Countries on Lasers and Laser Technologies (Russian Federation), a corresponding member of the A.M. Prokhorov Russian Academy of Engineering Sciences, and a member of the Editorial Council of the journal *Kvantovaya Elektronika* (Quantum Electronics). He was awarded a prize of the Ministry of Defense of the Russian Federation, the prize for Science and Technology of the Government of the Russian Federation, the Order of Honour, and the medal 'In Memory of 850 Anniversary of Moscow'. He was also granted the title of 'Honourary Machine Builder of the Russian Federation'.

Kazakov's inherent features were goodwill, attentiveness and care for people, tactfulness, and inexhaustible optimism. He generously shared his rich experience, knowledge, and spiritual wealth with his friends and colleagues. Aleksandr Apollonovich Kazakov, a prominent scientist and remarkable man, will always be remembered in our hearts.

**O.N. Krokhin, Yu.V. Gulyaev, A.S. Sigov, I.A. Shcherbakov, I.B. Kovsh, A.S. Bugaev, N.N. Kudryavtsev, S.M. Kopylov, G.M. Zverev, V.A. Makarov, A.A. Fomichev**