

OBITUARY

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In memory of Artur Afanas'evich Mak (15 May 1930–21 February 2016)

The Russian laser science community has suffered a heavy loss. Artur Afanas'evich Mak, a renowned researcher, eminent organiser of Soviet and Russian science, Distinguished Science Worker of the Russian Federation, doctor of physics and mathematics, professor and a member of the Editorial Council of the Kvantovaya Elektronika (Quantum Electronics) journal, died in his 86th year.

Mak was born in Kamenets-Podolsky (Ukraine). After graduating from the Leningrad Polytechnic Institute, he began his research career at the S.I. Vavilov State Optical Institute (VSOI), where he worked for more than sixty years, until the end of his life. His early work was concerned with gas discharges. Later, he participated in research aimed at creating the first Soviet lasers. In particular, he made a great contribution to producing pump systems for solid-state lasers and improving their efficiency. In 1974, Mak and his colleagues at VSOI were awarded the USSR State Prize for developing neodymium glass lasers and ensuring large-scale production of such lasers. In 1982, he was awarded the Lenin Prize for his achievements in laser engineering.

In subsequent years, he was in charge of research programmes concerned with the dynamics and composition of laser radiation and physical processes in a high-temperature laser plasma and the development of techniques for controlling parameters of lasers and improving their energy and power characteristics. More than thirty types of lasers and laser systems for a variety of scientific, industrial, medical and military applications were developed by Mak and his collaborators and reached commercial-scale production.

Mak always combined a great talent for science with qualities necessary for an organiser and leader. Soon after the first lasers were put in operation at VSOI, Mak was put in charge of laser research programmes at the institute, sequentially heading a laboratory, department and division. In 1990, based on the Laser Division, VSOI, he founded the Institute of Laser Physics. The bright scientific school established by Mak and his immense personal authority in the domestic and foreign scientific communities allowed the Institute of Laser Physics to become, under his guidance, one of the leading scientific centres in Russia.

For many years, he was professor at the Faculty of Physics, Leningrad State University (changed to St. Petersburg State University), and at the Leningrad Institute of Fine Mechanics and Optics (LIFMO) (changed to the St. Petersburg State University of Information Technologies, Mechanics and Optics), headed a branch of a department of LIFMO, and supervised several educational programmes. Tens of candidate and doctoral dissertations were prepared under his guidance in the framework of the laser optics scientific school created by him.

In 1977 through Mak's initiative, the Laser Optics All-Union Conference was held for the first time and at once became an important forum for Soviet experts in the field of applied laser physics and laser engineering. Since then, 16 Laser Optics Conferences have been held, all under his guidance. In 1993, the conference became international. At present, it is one of the world's largest platforms for sharing ideas regarding all aspects of laser science and technology.

Mak was among the founders of Kvantovaya Elektronika and was a member of the Editorial Board and Editorial Council of the journal.

The motherland highly appreciated Mak's achievements. He was awarded the Lenin and USSR State Prizes, the Order of Lenin and the Order of the Red Banner of Labour. In addition, he was awarded the Orders for Merit to the Fatherland 4th and 3rd classes in 2001 and 2007, many medals, and ministerial and public prizes.

Artur Afanas'evich Mak will always be remembered in the hearts of his pupils and colleagues.

O.N. Krokhin

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