

On the Sixtieth Birthday of Sergei Grigor'evich Garanin



Academician Sergei Grigor'evich Garanin, a renowned scientist in the fields of plasma physics, the physics of laser fusion, laser physics and engineering problems in designing specialised laser devices and systems, turned sixty years old on 11 February.

Garanin is deputy director for laser physics at the Russian Federal Nuclear Center – All-Russia Research Institute of Experimental Physics (RFNC–ARRIEP), chief designer of laser systems, member of the Russian Academy of Sciences (RAS), doctor of physics and mathematics, professor and director of the Institute of Laser Physics (ILP).

Garanin was born on 11 February 1958 in Yerevan in a military man's family. In 1980, after graduating from the Moscow Engineering Physics Institute (MEPhI), he started his career at ARRIEP. He defended his candidate of science dissertation in 1991 and his doctoral dissertation in 2003.

Garanin made a key contribution to the development of high-power pulsed laser systems intended for experiments in the physics of processes at high energy densities, as well as to the development of various types of lasers.

He is the author of a methodology for experimental studies of processes in a hot dense plasma, a novel method of the spatiotemporal smoothing of the laser light intensity in laser fusion targets and unconventional physico-mathematical models for energy absorption in a plasma corona. He guided and directly participated in laser experiments aimed at determining the equation of state for materials at extremely high pressures.

Garanin actively participated in international scientific and technological cooperation with national laboratories in the United States, England, France and Germany. He was an expert for the International Atomic Energy Agency (IAEA) Advisory Group for Inertial Fusion Energy Review.

For his research into the physics of interaction of super-strong optical fields with matter, Garanin was awarded the RF Government Prize in science and technology.

Through his initiative and under his guidance, a new class of diode-pumped gas laser, unique in its key parameters, was created in Russia. For his research in this direction, Garanin was awarded the RF State Prize, the Order of Honour and the Order for Merit to the Fatherland 4th class.

Garanin actively participates in training the next generation of scientists. He is head of the Laser Fusion Department at the National Nuclear Research University MEPhI and assistant head of the Inertial Fusion Department at the Moscow Institute of Physics and Technology. It was his initiative to create the Department of Quantum Radiophysics and Laser Systems at Lobachevsky State University (Nizhny Novgorod). Every year he chairs the All-Russia Laser Physics Workshop for students, postgraduates and young scientists. He is a member of the editorial board of the *Kvantovaya elektronika* (Quantum Electronics) journal.

Garanin is a member of the collegium of the Military Industrial Commission (MIC), head of the Laser Division in the Science and Technology Council (STC) of MIC and a member of its presidium, a member of the RAS Defence Council, head of the Military Laser Technologies Division of this Council, a member of the STC at RFNC–ARRIEP, assistant head of a division of the Nuclear Weapons Group at the Rosatom State Atomic Energy Corporation and a member of a number of dissertation councils.

Through his initiative, P.N. Lebedev Physical Institute of RAS, A.M. Prokhorov General Physics Institute of RAS and ILP cooperate for many years on studies of interaction of laser light with plasmas and laser fusion.

We congratulate the anniversary celebrant and wish him robust health, many happy returns and new achievements to the glory of Russian science.

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