

ALEKSANDR SERGEEVICH AKHMATOV

(ON THE OCCASION OF HIS SEVENTY-FIFTH BIRTHDAY)



On June 2, 1972 the scientific community of this country celebrated the seventy-fifth birthday as well as fifty years of meritorious scientific and pedagogical activity in the RSFSR of the prominent Soviet physicist Aleksandr Sergeevich Akhmatov.

Aleksandr Sergeevich Akhmatov represents the school of Academician P. P. Lazarev and ranks highly among other physicists of that school: S. I. Vavilov, A. S. Predvoditelev, V. V. Shuleikin, et al.

A. S. Akhmatov was born into a doctor's family in Moscow on June 2, 1897. After graduating from high school, Aleksandr Sergeevich enrolled at the Moscow University, where he successfully completed his studies in 1925.

A. S. Akhmatov began his scientific career already in 1922, while attending the third course at the Moscow University's Scientific-Research Institute of Physics and Biophysics under the direction of Academician P. P. Lazarev.

All his years of scientific and pedagogical activity A. S. Akhmatov spent in Moscow, mainly in affiliation with the Machine-Tool Instrument Institute since its establishment (August 1930). From 1932 till this very day Aleksandr Sergeevich heads the Physics Department at this Institute.

In 1933-1934, when instrument manufacture was almost nonexistent in this country, A. S. Akhmatov organized experimental workshops within the Physics Department at the Institute for the design and construction of physical precision instruments to be used in universities and colleges. The production of various instruments, particularly optical ones, was thus set up.

In 1960 A. S. Akhmatov, while representing the Scientific-Procedural Council on Physics at the Ministerium of Higher Education, proposed to organize at the Machine-Tool Instrument Institute a model scientific physics laboratory as a workshop for physicists for polytechnic institutes and engineering colleges, as well as a regular center for exchange of experience. This laboratory was, indeed, organized in 1965, and is now well known as the Main Laboratory of Higher Technical Institutions in the USSR.

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While active in his scientific-pedagogical work at the Machine-Tool Instrument Institute, Aleksandr Sergeevich Akhmatov has also directed the Physics Department at the All-Union Industrial Academy of the Light Industry (1935), directed the Physics Department at the Automechanical Institute (1937), taught as Professor of Physics at the Baumann All-Union Moscow Technical University (1939-1949), and during the 1949-1955 period was Acting Dean of Research at the Moscow Institute of Engineering and Physics.

A. S. Akhmatov has been for many years successfully engaged in diverse public activities. For the last twelve years he has been member of the Procedural Council on Physics and Astronomy at the All-Union Society, RSFSR Branch, for the Promotion of Technical and Scientific Knowledge, often awarded citations by the Executive Committee of the Society for his active and continuous participation in the Society's efforts.

For over 15 years A. S. Akhmatov has been a permanent member on Scientific-Procedural Councils on Physics at the Ministeriums of Higher and Secondary Specialized Education of the USSR and the RSFSR, and at present he serves as an alternate member of that Council. Under his direction a new physics curriculum was developed for the technical universities and colleges, to replace the old and obsolete study program.

For over 20 years A. S. Akhmatov has been a member of the Examiners Committee at the Commission of Higher Certifications. Delegated by this Commission or requested by individual institutes and universities, he has written over 350 in-depth comments on various doctoral and candidatorial dissertations in the field of physics.

During the last seven years, upon the recommendation by the USSR Ministerium for Higher and Secondary Specialized Education and by the Academy of Sciences of the USSR, Aleksandr Sergeevich has been one of the seven members on UNESCO's International Commission on Physics. As a representative of the USSR to this international body, he often participated in many international conferences on physics and several times presided over such conferences. Moreover, he delivered several lectures subsequently published in UNESCO monographs.

A. S. Akhmatov has published over 100 scientific articles, pertaining mainly to the properties of matter in the boundary state, i. e., in extremely thin films at the phase surfaces of solids and liquids. This is an area of science common to several disciplines, namely: solid-state physics, molecular physics, and physical chemistry.

Under Aleksandr Sergeevich's guidance, more than 30 of his students have prepared and defended their candidatorial or doctoral dissertations.

A. S. Akhmatov and his students have done research concerning the properties of the skin layer in metals, the boundary friction in lubricants, the wear characteristics, the physical properties and the behavior of liquids and solutions in fine capillaries, and the adsorption of large chain-molecules and metallic surfaces as well as their structure-sensitive properties.

Particularly in this field, physics of the boundary state of matter, has Aleksandr Sergeevich obtained results of fundamental significance and has thus become known not only in our country but abroad as well.

His achievements in many years of scientific activity are reflected in the monograph "Molecular physics of boundary friction" (Fizmatgiz, 1963, 40 printed folios), where for the first time in the world's technical literature the state of the art in this field is treated exhaustively. The book has been translated into English (in the United States) and has become a reference book for many scientists and engineers interested in problems of the boundary state.

At seventy five, Aleksandr Sergeevich is fully alert. We wish him good health and further creative accomplishments.