

OBITUARY

ALEKSANDR SAVVICH PREDVODITELEV



On December 27, 1973, after a severe illness, an eminent Soviet physicist, corresponding member of the Academy of Sciences of the USSR, Doctor of Physicomathematical Sciences, State prize laureate, and Professor at Moscow State University, Aleksandr Savvich Predvoditelev, passed away.

Predvoditelev was born on September 12, 1891, in a poor peasant family in the village of Bukrino in the former Ryazan province. He obtained his initial education at the Pronsk City School and the Ryazan Gymnasium. He commenced his studies in the physicomathematical faculty of Moscow University in 1912. In 1919 he completed his examinations for the Master's Degree and after successfully holding two trial lectures was chosen as a lecturer at the University.

Predvoditelev's scientific activity began while he was still a university student. His first scientific studies were completed in the laboratory of the famous Russian physicist P. N. Lebedev, under the direction of Academician P. P. Lazarev. From 1919 to 1930 he served as senior scientist in the Physics and Biophysics Scientific Research Institute headed by Lazarev.

Together with his activity at the university, from 1920 to 1923 Predvoditelev was a lecturer in physics at the N. Bauman Technical High School. From 1928 to 1932 he was first a consultant, then head of the All-Union Institute for the Protection of Labor. From 1929 to 1937 he was a consultant to, then director of, the All-Union Thermophysics Institute physicotchnical laboratory.

In those years filled with creative scientific activity Predvoditelev still devoted much attention to his teaching duties at Moscow University. He conducted physics practicum courses and offered a series of special courses, mainly in the fields of optics and molecular physics. In 1928 he was drawn into administrative work, first as chairman of the commission on curriculum, then as Dean of the physics faculty. In 1930 Predvoditelev was named Professor and Chairman of the Thermal Physics Department, to which he devoted his remaining life. The thermophysics laboratory which he organized at that time produced important studies in transfer phenomena in the solid state, in explosive combustion, and in the study of chemical reactions in solids produced by the action of slow electrons.

In 1937 Predvoditelev became Dean of the physics faculty and Director of the Physics Scientific-Research Institute at Moscow State University, a post in which he remained until 1946. In 1939 he was chosen as a corresponding member of the Academy of Sciences of the USSR.

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Of great significance is the work performed by Predvoditelev at the Energy Institute of the Academy of Sciences of the USSR, where he was the head of the combustion physics laboratory from 1938 to 1967. The wide range of studies performed here on heterogeneous combustion permitted the development of a generalized theory of this phenomenon. The monograph "Coal Combustion" in which these studies are collected received a State Prize in 1950. Predvoditelev's method for the solution of problems in homogeneous combustion, a development of the opinions of V. A. Michelson on the process of flame front propagation in burning media, proved to be very fruitful. Predvoditelev's works related to the launching of the first space vehicles are of great significance. Among the results of his studies are the detailed tables of gas dynamic and thermodynamic properties of air at temperatures to 20,000°K and pressures from 0.001 to 1600 atm, published in 1957-1962. This work was highly valued by the government which, in 1961, awarded Predvoditelev the Order of the Workers' Red Banner. In 1962 the Krzhizhanovskii Energy Institute was awarded a special medal in honor of the first space vehicle launch.

No less significant was Predvoditelev's activity as the creator and organizer of a scientific school. His scientific, pedagogic, and public service activities were widely acclaimed. He was awarded two Orders of Lenin, four Orders of the Workers' Red Banner, the Order of the Red Star, and many medals.

His high principles, simplicity, sincerity, and sensitivity toward others earned Aleksandr Savvich the love and respect of all who knew him. The bright memory of Aleksandr Savvich Predvoditelev will forever be preserved in our hearts.

The Editorial Board