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Obituary

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Obituary

Professor V. N. Tsvetkov (1910–1999)



Prof. V. N. Tsvetkov, one of the founders of liquid crystal science in Russia, died of a heart attack on February 12, 1999; he was 89.

He was born in St. Petersburg on January 29, 1910. He graduated from the Pedagogical State University in 1931 and was a post-graduate student of Prof. V. K. Fréedericksz in the Physical Department of St. Petersburg State University. In 1935, he obtained his Ph.D. and in 1940 he was awarded the degree of Doctor of Sciences and his Professoriate. He was elected a member of the Russian Academy of Sciences in 1968 and won Russian State prizes in Science twice, in 1952 and 1984.

In the period 1930–1940, Prof. Tsvetkov formulated the fundamental ideas of modern liquid crystal physics which provided the basis for using mesogenic materials in technology. Prof. Tsvetkov explained the nature of

orientational effects on liquid crystals in electric and magnetic fields and elaborated theoretical and experimental methods of investigation of the orientational elastic deformations arising from such applied fields. He also discovered and explained dynamic light scattering in liquid crystals and developed the original method involving a rotating magnetic field which made it possible to determine the rotational viscosity and diamagnetic anisotropy of liquid crystals. Using the wide ranging experimental results he had obtained, Prof. Tsvetkov formulated one of the first theories of the liquid crystal state, introduced the idea of the orientational order parameter of nematics and developed experimental methods for its determination.

Considerable attention was paid by Prof. Tsvetkov to investigations of the properties of polymers. His comparisons of the characteristics of individual macromolecules in dilute solution and liquid crystalline melts made it possible to formulate his ideas about the role of inter- and intra-molecular orientational order in liquid crystal polymers.

Prof. Tsvetkov established the first Liquid Crystal and Polymer Physics Chair in Russia in the Physical Department of St. Petersburg University. There he lectured and trained students and post-graduates. Prof. Tsvetkov also created the laboratory of Hydrodynamics and Optics of Polymers in the Institute of Macromolecular Compounds of the Russian Academy of Sciences. More than one hundred of his students obtained their doctorates, and he himself was the author of more than 500 scientific papers and two fundamental books.

DR A. P. FILIPPOV