
OLEKSANDR ZAKHAROVYCH GOLYK
(to the Centenary of his Birthday)



Oleksandr Zakharovych Golyk — Doctor of Science in Physics and Mathematics, Professor, Honored Worker of Science of Ukraine — was born on April 16, 1906. His youth passed in Feodosiya, and from there he was commissioned to Dnipropetrovsk for studying. In Dnipropetrovsk, Oleksandr Zakharovych got higher education, defended his Ph.D. thesis, headed the Faculty of Physics at the Institute of Railway Transport Engineers, holding this position with the position of a scientific researcher at the Physicotechnical Institute.

The war time came, and Oleksandr Zakharovych went to the front. During the war, he was awarded several military decorations and met the end of the war as lieutenant colonel. After the demobilization, Oleksandr Zakharovych worked as a Deputy Director at the Institute of Physical Chemistry of the NAS of Ukraine, the scientific secretary of the Presidium of the NAS of Ukraine. He defended his thesis for a Doctor's degree. Since 1951 until the end of his life, Oleksandr Zakharovych worked at the Taras Shevchenko Kyiv

State University, taking up the posts of the Rector, the Dean of the Faculty of Physics, the Head of the Chair of Molecular Physics, the Professor. He died in 1991.

O.Z. Golyk was one of the founders of the Ukrainian physics. In 1950–1951, he was the scientific secretary of the Presidium of the AS of the UkrSSR. Since 1963, he had been heading the Commission for coordinating the scientific researches in liquid state physics and had been a member of the Scientific and Technical Council at the Ministry of Higher Education of the USSR, the Deputy Editor-in-Chief of the “Ukrainskyi Fizychnyi Zhurnal” (the “Ukrainian Journal of Physics”), the Editor-in-Chief of the interdepartmental transactions “Liquid State Physics”. Professor O.Z. Golyk developed and permanently improved special courses, lectured the course of general physics at the Faculties of Physics, Chemistry, and Philosophy of the Kyiv State University, paid much attention to methodical, methodological, and philosophical issues of physics. His lectures were non-standard, being simultaneously the reflection of the lecturer's individuality and the state of contemporary physics.

For outstanding achievements in the development of physical and mathematical sciences and in the skilled manpower training for the national economy, professor O.Z. Golyk was conferred the rank of the Honored Worker in Science of the UkrSSR, awarded five decorations and thirteen medals.

In Ukraine, O.Z. Golyk may be considered indeed as the founder of such scientific domains as the physics of liquids and the physics of polymers which remained beyond the scope of the research activity of Ukrainian academic institutions in the middle of the last century. It was owing to O.Z. Golyk's efforts that the scientific school in the physics of liquids, which is now known all over the world, arose in Ukraine. It was owing to his energy and persistence that Ukraine became and continues to be the attractive center for experts in the physics of liquids from the whole world. For a number of

years, O.Z. Golyk had been the permanent chairman of the organizing and program committees of the all-Union conferences on the liquid state physics, which were held regularly on the basis of the Taras Shevchenko Kyiv State University. Here, the Chair of Molecular Physics, created by him at the Faculty of Physics in 1952, became the basic center of the physical researches of liquids in Ukraine.

O.Z. Golyk's merits in developing the physics of polymers in Ukraine were not less. This activity began in 1955 by creating the research laboratory on polymer physics at the Chair of Molecular Physics. The works of O.Z. Golyk, carried out together with his collaborators, were devoted to studying the relaxation properties of polymers and played an important role in understanding the features of the thermal motion of polymer chains. Nowadays, when the medical physics comes to the foreground and one of every three Western physicists is engaged in this domain, one cannot but only amaze the intuition of Oleksandr Zakharovych. In fact, liquids and polymers make up the basis for living organisms. Therefore, we may assert that O.Z. Golyk laid the preconditions for the development of medical physics in Ukraine.

The scientific heritage of O.Z. Golyk — about 150 works — contains a lot of new ideas. As early as in his thesis for a Doctor's degree, he, while comparing the data of rheologic and radiographic experiments for liquids with various chemical structures, came to

the important conclusion that the properties of liquids are mainly governed by the short-range order in them and introduced a new concept of "isoviscous liquids". Afterwards, there appeared a cycle of works concerning the molecular acoustics of liquids, where this idea found its new verifications. The same concept was selected as the basis for experiments on light and x-ray scattering in liquids.

One more direction, which the efforts of O.Z. Golyk and his collaborators were focused at, was the study of the influence of high pressures on liquid properties. These experiments were supplemented with the theoretical research of the liquid state equation.

O.Z. Golyk initiated the creation of the Laboratory of Aero-Disperse Systems at the Chair of Molecular Physics. Its task consisted in studying the "liquid-vapor" phase transitions and remains the same. Here, the scientific interests are concentrated on researching the liquid substance in the vicinity of its critical point.

O.Z. Golyk's affair is continued by his disciples, among whom there is one Academician and two Corresponding members of the NAS of Ukraine, three Doctors of Science, and twenty two Candidates of Science.

The memory of Oleksandr Zakharovych Golyk will forever be kept in the Ukrainian physical community.

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