



**Memorial issue in the memory  
of Petro Mykhailovych TOMCHUK  
(02.01.1934–07.10.2024)**

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## MEMORIAL ISSUE OF UJP IN HONOR OF PETRO TOMCHUK. EDITOR-IN-CHIEF'S PREFACE

This issue of Ukrainian Journal of Physics is dedicated to the memory of Petro Mykhailovych Tomchuk (02.01.1934–10.07.2024), an outstanding Ukrainian theoretical physicist, Doctor of Science in Physics and Mathematics, Professor, Corresponding Member of the National Academy of Sciences of Ukraine (NASU), Honored Worker of Science and Engineering of Ukraine, laureate of the State Prizes of Ukraine in science and engineering, and long-time member of the Editorial Board of UJP.

Petro Tomchuk was a well-known theorist in the field of semiconductor physics, theory of metals, liquid crystals, biological molecular structures, and nanosystems. His works are recognized by the scientific community both in Ukraine and abroad. These are the theory of kinetic and fluctuation processes in non-equilibrium electron-phonon systems, the theory of hot electrons in metal island films, the theory of proton conductivity in molecular chains with hydrogen bonds, where the proton polaron is the charge carrier, and the theory of coherent tunnel polarization in such chains, the theory of supramolecular structures in liquid crystals with macroclusters, and so forth. Petro Tomchuk is the author and co-author of more than 300 scientific papers, including two well-known monographs on

the theory of transfer phenomena and fluctuations in solids.

For many years, P.M. Tomchuk held the position of head of the Department of Theoretical Physics at the Institute of Physics of the NASU, where he managed to select and educate a lot of talented and qualified physicists. Under his supervision, 7 doctoral and 19 candidate theses were defended. Petro Tomchuk was elected an honorary doctor of Yu. Fed'kovich National University of Chernivtsi and M.M. Bogolyubov Institute for Theoretical Physics of the NASU.

Petro Tomchuk was known as a man of strong moral principles, a benevolent and responsive person, sincere and always ready to help, devoted to science, a patriot. This is how his colleagues and disciples will remember him.

We are honored to dedicate this issue of the Ukrainian Journal of Physics to the memory of Petro Mykhailovych Tomchuk. It contains works that reveal the full diversity of his scientific heritage and give hope that the theoretical approaches and achievements of Petro Mykhailovych will undergo further development. My hanks to everyone who has contributed to the creation of this issue of UJP.

*Anatoly ZAGORODNY*