

# Platon Kostyuk – founder of Ukrainian school of neuroscientists



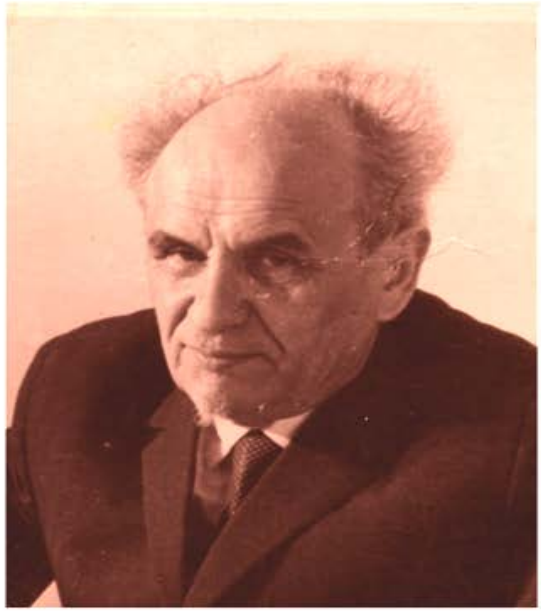
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## Abstract

Platon Kostyuk - a prominent neuroscientists, the founder of the national school of neuroscientists in Ukraine, who has made substantial contributions to the development of European and world neuroscience. P. Kostyuk was a vice-president of the IUPS and one of the founders of journal "Neuroscience" which is under the editorial direction of IBRO. P. Kostyuk is widely recognized for the development of intracellular perfusion technique, discovery of voltage gated calcium permeability of membrane, and characterization of ionic conductances in excitable cells. He was the first to prove directly the presence of calcium channels in neuronal cell membranes. Under his supervision, two types of calcium currents were discovered: high- and low-voltage activated. P. Kostyuk fostered generations of students, many of whom became successful scientists and leaders, and spread his legacy throughout the world. The huge contribution of P. Kostyuk and his collaborators was in the discovery of the role of calcium ion homeostasis in nerve cells and in the studies of disorders in certain forms of brain pathologies-ischemia / hypoxia, neuropathies caused by diabetes, epilepsy, Alzheimer's disease, etc. Kostyuk investigated how processes occur in an operating neuron at the molecular level and showed that the most important role in normal and pathological processes is played by calcium ions. For outstanding achievements in the development of neurophysiological science, a significant contribution to the training of highly qualified scientific personnel, active public activities, P. Kostyuk was awarded with numerous national and international awards and got the overall recognition of the international scientific community.

## Biography

Kostyuk was born in 1924 in Kyiv in the family of a wellknown Ukrainian psychologist Grygoriy S. Kostyuk, a member of the Academy of Pedagogical Sciences in the USSR and the founder of the Institute of Psychology in Ukraine. It was his father who inspired Platon Kostyuk to start a scientific career.



**Grigory Silovich  
Kostyuk**  
founder and director  
Ukrainian Institute of Psychology



**Daniil Semenovich  
Vorontsov**  
Professor of Kazan  
and Kyiv Universities



**John Eccles**  
Nobel Laureate, Professor of  
Australian  
National University

Kostyuk believed that his teachers were his father Grigory Kostyuk, his scientific adviser Daniil Vorontsov and Professor Eccles from Australia, in whose laboratory he was trained in microelectrode technology.

## Scientific achievements

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## Intracellular dialysis

## Calcium channels



**Platon Kostyuk**

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**P.G. Kostyuk**  
After the defense of the master's thesis  
Kiev 1949



**Professor D. Eccles and Dr. P.G. Kostyuk**  
Short rest from work at the Australian University, Canberra, 1961

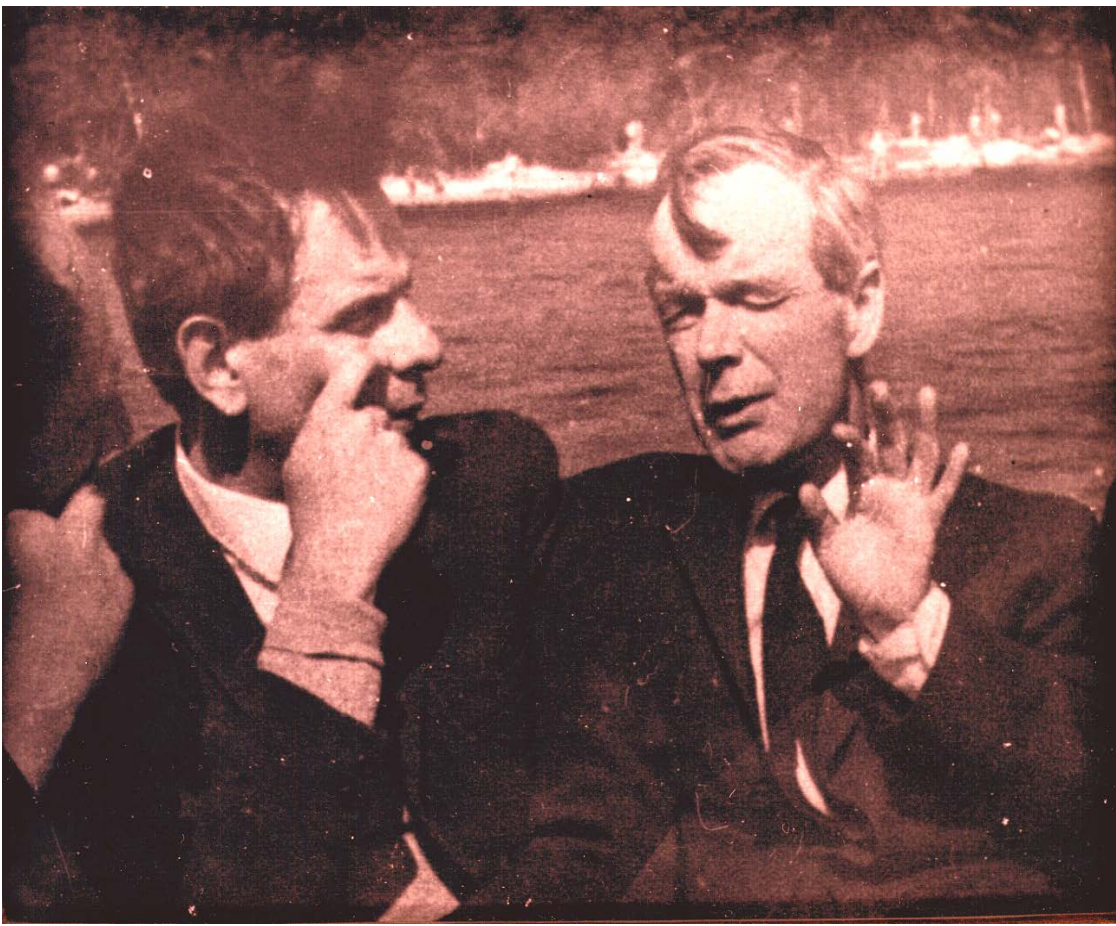


Soviet-German Symposium on Excitable Membranes, Kiev, 1983



## Kostyuk's Foundation

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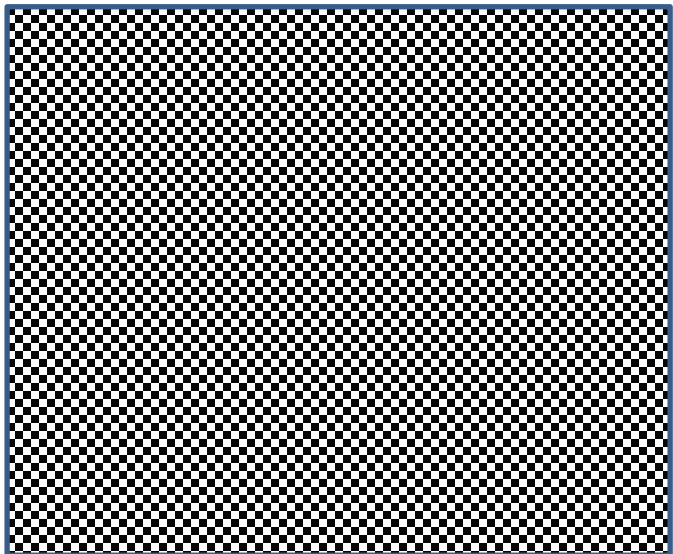
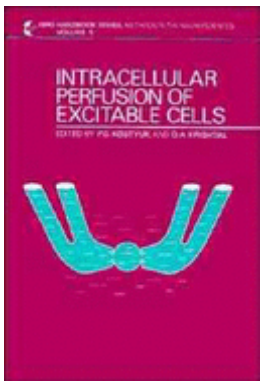
A sincere conversation - Nobel Prize winner  
prof. Alan Hodgkin and Dr. P.G. Kostyuk, Kiev, 1975



Dear David,  
On this remarkable day I would like to express my warmest greetings and wishes! I enjoy my friendship with you and your family for more than 20 years and all this time it fills me with warmth and enthusiasm. And my special wishes to your wonderful children - Nickolas and Neuroscience.  
Platon Kostyuk



On the tennis court  
acad. A.S. Davydov, Acad. B.E. Paton, Acad. P.G. Kostyuk



Supported by  
**FENS** Federation of  
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