



Volume 4 Issue 1
(Jul-Dec)
2026

DOI: 10.5281/
zenodo.23423055

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Available from: [https://
esrfjums.co.in/index.php/main/
article/view/132](https://esrfjums.co.in/index.php/main/article/view/132)

Published by: Eureka Sciencetech Research
Foundation, Kolkata.

Online access: <https://esrfjums.co.in>

George Emil Palade

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Intern, Calcutta National Medical College, Kolkata

Stamp Profile

Country of Origin: Romania

Issued on: April 04, 2025

Designed by: George Ursachi

Printing Process: offset, in 4 colours, paper for stamps, gummed, produced by Tullis Russel (UK origin)

Colour: Multicoloured

Stamp size: 48 x 33 mm

Denomination: 14.00 Lei

Description¹: Romania issued the commemorative stamp on 4 April 2025 to mark 80 years of the George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureş, which was founded in 1945 and named after the Nobel laureate. The multicoloured stamp shows a portrait of Dr. Palade in a graphic composition with the façade of the university building. The words "80 de ani – Universitatea de Medicină, Farmacie, Științe și Tehnologie George Emil Palade din Târgu Mureş" are printed across the top, and his name, with the years "1912 - 2008", runs vertically beside the portrait. The issue also included a perforated souvenir sheet (30 Lei), showing a panoramic view of the campus, and a First Day Cover.

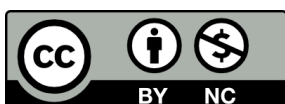


PERSONALITY PROFILE

George Emil Palade was born in Iași, Romania, on 19 November 1912. His father, Emil Palade, taught philosophy at the University of Iași, while his mother, Constanța, worked as a schoolteacher. Palade later explained that growing up in this intellectual household gave him an early and lasting "great respect for books, scholars and education." Although his father wanted him to pursue philosophy, Palade decided to study medicine. After completing his schooling at the Al. Hasdeu Lyceum in Buzău, he enrolled at the University of Bucharest's School of Medicine in 1930.²

In Bucharest, Palade became more interested in the body's structure than in clinical practice. His outlook was shaped by teachers such as Francisc Rainer and André Boivin. He graduated in 1940, and his doctoral dissertation was an unconventional one for a medical student: a microscopic investigation of the dolphin's kidney, examining how a mammal adapts to marine life. Although he spent several years training in internal medicine, he soon returned to anatomy because he was concerned by how little physicians then understood about the cell. During the Second World War, he served in the medical corps of the Romanian Army. In 1941, he married Irina Malaxa, the daughter of industrialist Nicolae Malaxa.^{2,3}

In 1946, with encouragement from Grigore Popa, Palade left post-war Romania and moved to the United States. He began working at New York University, where he met Albert Claude, a Belgian pioneer in cell fractionation. Claude soon invited him to join the Rockefeller Institute for Medical Research in New York. The timing was especially favorable: electron microscopy had only recently been introduced into biological research, but tissue preparation frequently damaged specimens and made the resulting images difficult to understand. Working with Keith Porter, Palade refined techniques for fixing tissues and producing extremely thin sections. Alongside Hogeboom and Schneider,



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he also helped develop the “sucrose method,” which used centrifugation to separate the different components of a cell. With these techniques, his team produced some of the earliest detailed images of mitochondrial structure.^{2,3}

In 1955, Palade reported the presence of small, dense particles attached to the membranes of the endoplasmic reticulum and dispersed throughout the cytoplasm. These structures were initially called “Palade granules” and are now known as ribosomes—the cellular sites where proteins are produced. Together with Philip Siekevitz, he demonstrated that Claude’s “microsomes,” which appeared after broken cells were centrifuged, were actually fragments of the endoplasmic reticulum carrying these particles. This work connected biochemical findings from test tubes with the structures observed by microscopists. In 1964, working with Swiss anatomist Ewald Weibel, he identified the rod-shaped granules found in endothelial cells. These structures are now known as Weibel–Palade bodies.^{2,3}

Palade’s most widely recognized research focused on the exocrine cells of the pancreas. Together with James Jamieson, he traced newly synthesized proteins by using radioactive amino acids. Their experiments demonstrated that secretory proteins are produced on ribosomes attached to the rough endoplasmic reticulum, transported to the Golgi apparatus, packaged into secretory granules, and eventually released from the cell. This sequence, known as the “secretory pathway,” remains a central model in modern cell biology textbooks. Working with Marilyn Farquhar and other colleagues, Palade also investigated capillary permeability and the formation of cell membranes.^{2,3}

Honors soon followed. Palade was elected to the US National Academy of Sciences in 1961. He received the Lasker Award in 1966, the Gairdner Special Award in 1967, and the Louisa Gross Horwitz Prize in 1970, sharing the latter with Albert Claude and Keith Porter. His first wife, Irina, died in 1969, and in 1970 he married cell biologist Marilyn Farquhar. In 1973, Palade moved to Yale University, where he established its Department of Cell Biology. He believed that cell biology should be closely connected with pathology and clinical medicine.^{2,3}

In 1974, George Emil Palade received the Nobel Prize in Physiology or Medicine jointly with Albert Claude and Christian de Duve. The award recognized their “discoveries concerning the structural and functional organization of the cell.” Palade was awarded the US National Medal of Science in 1986. In 1990, he moved to the University of California, San Diego, where he continued working for the remainder of his career. He maintained strong connections with Romania and remained in contact with researchers at the Institute of Cellular Biology and Pathology in Bucharest.^{2,3,4}

George Emil Palade died at the age of 95 in Del Mar, California, on 8 October 2008. The university in Târgu Mureș named in his honor—and commemorated by this stamp—uses the motto “*E Pluribus Unum*,” meaning “*out of many, one*.”^{1,3}

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