The Personal and Professional Life of George Gamow

1904 Born, March 4, Odessa, Russia


In his school days Gamow became very much interested in astronomy, examining the starry sky through a little telescope, his father's present on the thirteenth birthday of his son. Gamow then decided to become a scientist and began his study of mathematics, physics, and astronomy.

1922-1923 Student at Novorossia University, Odessa

1923-1929 Student at University of Leningrad

After graduation from the University of Leningrad in 1926, he attended summer school in Gottingen and decided to see if the newly-formulated quantum theory, so successful in explaining the structure of the atom, could also be applied to the atomic nucleus. Through research he was able to explain the then-mysterious phenomenon of natural radioactivity as

well as the experiments of Lord Rutherford on the induced transformation of light elements. On the basis of this research, Gamow received his Ph.D. degree from the University of Leningrad.

1928-1929 Fellow of Theoretical Physics Institute of the University of Copenhagen

Later, in Copenhagen, when he told Niels Bohr of his work, Bohr offered him a year at the Institute of Theoretical Physics on a stipend from the Royal Danish Academy. There Gamow proposed a hypothesis that atomic nuclei can be treated as little droplets of so-called "nuclear fluid." These views led ultimately to the present theory of nuclear fission and fusion.

At this period Gamow also collaborated with F. Noutermans and R. Atkinson in attempts to apply his formula for calculating the rate of induced nuclear transformations to the so-called thermonuclear reaction in the interior of the Sun and other stars. This formula, originally applied only to astronomical topics, is now successfully used for designing H-bombs, as well as for studying the possibility of controlled thermonuclear reactions.

1929-1930 Rockefeller Fellow, Cambridge University

1930-1931 Fellow of Theoretical Physics Institute of the University of Copenhagen

1931 Married Lyubov Vokhminzeva; divorced 1956

1931-1933 Professor, University of Leningrad

Gamow spent a year working with Lord Rutherford at Cambridge, a second year in Copenhagen, and later became a professor at the University of Leningrad.

1933-1934 Fellow of Pierre Curie Institute, Paris; Visiting Professor, University of London

1934 Lecturer, University of Michigan

While attending the International Solvay Congress in Brussels, he was invited, in the summer of 1934, to lecture at the University of Michigan.

1934-1956 Professor, George Washington University, Washington, D.C.

During the early years in Washington he collaboratedwith Edward Teller on the theory of beta-decay, and formulated the

so-called "Gamow-Teller Selection Rule for Beta Emission."

While Gamow was in Washington he developed the theory of the internal structure of red giant stars. With Mario Schoenberg he developed the theory of the so-called Urca process; and, with Ralph Alpher, the theory of the origin of chemical elements by the process of successive neutron capture.

1935 Son, Rustem Igor, born

1954 Visiting Professor, University of California, Berkeley

In 1954 Gamow developed an interest in biological phenomena and published papers on the information storage and transfer in a living cell. In these papers he proposed the so-called "genetic code," an idea later completely confirmed by experimental studies in laboratories.

1956 Awarded Kalinga Prize by UNESCO for popularization of science

1956-1968 Professor, University Of Colorado

1958 Married Barbara Perkins ("Perky")

The George Gamow Memorial Lectures were initiated by the Department of Physics and Mrs. Barbara Gamow after the death of her husband. The lecture series is now maintained by a bequest to the Regents of the University of Colorado from the Will of Mrs. Barbara Gamow, who died in December 1975.

1965 Overseas Fellow, Churchill College, Cambridge University

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Positions Held:

Visiting Professorships:	University of Michigan Ohio State University

	University of California at Berkeley, and later at Santa Barbara. In 1965 Gamow was elected an Overseas Fellow of Churchill College, Cambridge, England.
Consultantships:	U.S. Navy Bureau of Ordnance Air Force Scientific Advisory Board Army Office of Operation Research Los Alamos Scientific Laboratory Convair (San Diego, Calif.)
Professorships:	University of Leningrad (1931-33) The George Washington University, Washington, D.C. (1933-55), including period of military consultantships University of Colorado, Boulder, Colorado (1956 to date), including faculty fellowship for lecturing in Japan, India, and Australia
Other Honors:	The Soviet Academy of Sciences (membership cancelled on Gamow's leaving Russia) The Royal Danish Academy of Sciences The National Academy of Sciences (USA) The International Astronautical Academy The American Ass'n. for the Advancement of Science The American Physical Society The American Geophysical Union Sigma Xi Honorary Society The Washington Philosophical Society The Washington Academy of Sciences The KALINGA PRIZE, awarded by UNESCO in 1956, for the popularization of science Gamow's papers and correspondence are being collected by the Library of Congress of the United States of America. Over 100 scientific and popular articles.