Gaviola's career in Argentina was a struggle against a society largely unaware of the meaning of the scientific endeavor. Several generations of Latin American physicists owe a great debt to this intense, many-sided and, above all, deeply principled scientist.

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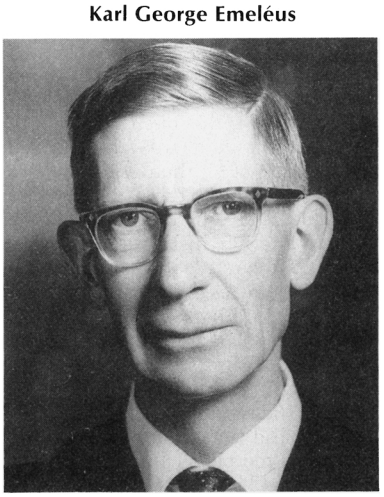
Karl George Emeléus

Karl George Emeléus died on 18 June 1989 after a brief illness. He was 87.

K. G., as friends called him, completed his undergraduate studies at St. John's College, Cambridge. In 1922 Ernest Rutherford accepted him as a research student in the Cavendish Laboratory, where K. G. built a large Wilson cloud chamber under the supervision of James Chadwick. After that, K. G. studied the mechanisms of gas-discharge particle counters in an effort to explain some unexpected observations. The project left him with a lifelong interest in gaseous electronics. This was an exciting time to be at Cambridge, because important discoveries in experimental physics were quite frequent and the ideas that led to the quantum theory were taking shape. K. G. was a member of the Kapitsa Club in the year 1924–25, and among his fellow members were P. M. S. Blackett, John Cockroft, Robert W. Ditchburn, Paul Dirac, Douglas R. Hartree, John E. Lennard-Jones and, of course, Peter Kapitsa. In 1925 K. G. and his college supervisor, Edward V. Appleton, moved to King's College, London, where K. G. completed his Cambridge doctoral thesis, "Methods for Detecting Single Ionizing Particles."

Karl George Emeléus



In 1927 K. G. was appointed to a lectureship at Queen's University, Belfast. William B. Morton, who was head of the department, gave him a free hand and good support to develop his research. K. G.'s general plan was to exploit Langmuir probes in measurements of plasma properties (he later suggested the modulation method of obtaining the second derivative of the current–voltage curve and hence the electron energy distribution), to develop spectroscopy as a plasma diagnostic method and to study plasma oscillations. During these early years at Queen's, K. G. wrote the first edition of his still-useful monograph *The Conduction of Electricity Through Gases*. In 1933 he was appointed to the physics chair at Queens.

During World War II K. G. did some research on noise sources for the Admiralty, and after the war he combined several of his interests by developing spectroscopic means of detecting plasma electron oscillations and of measuring the mutual influence of oscillations and the electron energy distribution function. K. G. also produced significant work on negative ions in plasmas—especially iodine discharges. He pursued early studies in plasma chemistry and studies of electron excitation functions and hydrogen discharges. He examined high-frequency electron and ion plasma waves and, with his students, made many important observations of moving striations. K. G. performed many services for the governments of Britain and Northern Ireland, and in recognition of this and other work he was awarded the title Commander of the British Empire in 1965.

K. G. was an outstanding lecturer who was able to convey the more difficult concepts in an interesting way. He retired in 1966; however, Sir David Bates of the department of applied mathematics at Queen's University gave him facilities to continue writing up his papers and to act as a mentor to students. He remained extremely active preparing summary papers and maintaining frequent correspondence with former colleagues and students.

K. G.'s special hobby (and investment) was collecting British stamps used abroad, especially ones on very early envelopes whose frankmarks recorded their passage via sail and courier to London. He will be sadly missed by his many friends all over the world.

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