

OBITUARY



LEONIDAS D. MARINELLI

(1906-1974)

Leonidas D. Marinelli, retired Senior Bio-physicist of Argonne National Laboratory and former Director of its Radiological Physics Division, died in Hinsdale, Illinois on September 13, 1974. With him Radiological Physics has lost one of the pioneers who developed it in the 1930's and 1940's.

Among these pioneers, Marinelli was distinguished by his interest and success in becoming personally immersed in many diverse fields of research. His warm curiosity and quick intelligence gave him the potential for such diversity. The range of research activities calling for his expertise afforded him the opportunities.

Born of Italian parents in Argentina, in 1906, Marinelli moved back to Italy where rather modest circumstances permitted him only a technical high school education. An immigrant in New York in the late 20's he supported himself as a meter-tester working his way through Cooper Union. His opportunity came with a technician's position in Failla's laboratory at Memorial Hospital in New York, where the groundwork was being done on the quantitative study of X rays for medical use. By 1933 he was joining Failla, Quimby, and Rose as a coauthor. In 1935 he became an Assistant Physicist.

The 1940's saw his blossoming into an independent scientist. The responsi-

bilities of laboratory director were thrust upon him, by the departure of Failla and Quimby from Memorial, while the explosive growth of radiation medicine gave them further scope. In 1941 his papers dealt with postirradiation blood studies and with early tracer work on cancer; in 1942 with the production of chromosomal breaks in plant cells and with the theory of time distribution of radiation treatments. Then came the breakthrough of radioiodine therapy, followed by autoradiography techniques and by a *Review of Modern Physics* report on beta rays. A modicum of economic ease permitted him now to enjoy fully his role of husband and father of a wonderful family.

In 1948 he moved to the Argonne National Laboratory, with a position on the University of Chicago faculty. Here, with John Rose, he provided early leadership and scientific direction of the Radiological Physics Division. Maturity was marked by authorship of textbook articles on dosimetry in the *Annual Review of Nuclear Science*, in "*Radiation Biology*," and in the *Handbook of Medical Radiology*. His studies of physics dealt now with electron diffusion from point sources in air and with the cosmic ray background. In radiology he pioneered in the detection of minimal burdens of radioactivity in humans, studying their distribution and variation in tissues and the epidemiology of chronic low levels of radiation. The center for Human Radiobiology, which now has the responsibility for all AEC¹-supported research on the effects of internally deposited radioisotopes, grew out of his effort.

Nature granted Marinelli a generous amount of vitality and healthy spirits, but then allowed them to be sapped by early onset of health problems that one would hope to face only later. Thus, a shadow of worry and sadness came to surround his later years to the deep sorrow of all those that had been blessed by his warm contact.

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¹ Presently Energy Research and Development Agency (ERDA).