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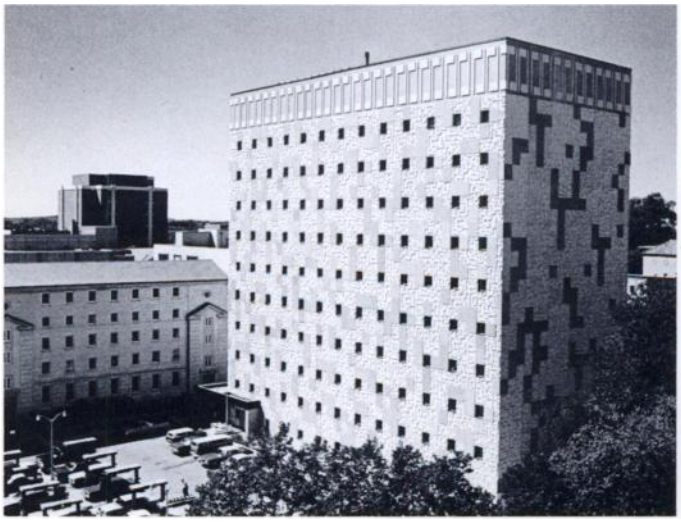
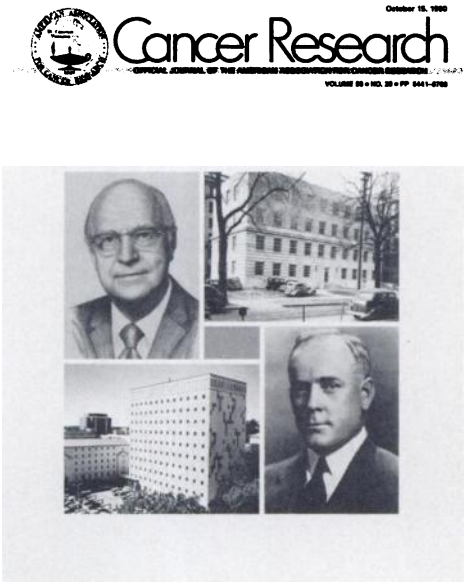


COVER LEGEND



1990 marks the 50th anniversary of the founding of the McArdle Laboratory for Cancer Research. In the 1930s, Harold Rusch, a young physician and scientist, had a vision of creating a cancer research facility on the University of Wisconsin campus in Madison. This became a reality in 1940 when the McArdle Laboratory opened its doors as the first basic cancer research center in an academic institution in the United States. The first McArdle building was made possible by a bequest from Michael McArdle, an inventor and attorney from Door County, Wisconsin, and by funds from the United States Public Works Administration. Mr. McArdle, who served as president of the Chicago Flexible Shaft Company from 1928 to 1935, died of cancer in 1935. He bequeathed to the University of Wisconsin various assets for cancer research, including some stock from the Chicago company. By 1938, the stock from the Chicago Flexible Shaft Company (which became the Sunbeam Corporation) had greatly increased in value, and those funds were marked for the construction of the McArdle building.

As the first director of the McArdle Laboratory, Dr. Rusch recruited the faculty that built its remarkable scientific reputation. His priority was to provide an optimum research environment and to foster the research programs of his associates. In this sense, the McArdle Laboratory is "the house that Rusch built" (see March 15, 1988 *Cancer Research* cover). He retired as director in 1976 and died of cancer in 1988.

Since 1940, over 700 men and women have received training at the pre- or postdoctoral level at the McArdle Laboratory, and most remain active in cancer research and related disciplines. Many are among the world leaders today. By the late 1950s, when additional laboratory space was needed, funds were made available by a special act of Congress, and the McArdle Laboratory was successful in obtaining sufficient funds for the construction of the present building, completed in 1964. Because the name "McArdle" had become associated with the scientists more than the structure, the name moved with the staff to the new laboratory.

Dr. Rusch's research focused on cancer prevention. He and his colleagues were the first to establish the range of wavelengths of ultraviolet light that produces cancer of the skin in mice. His lifelong interest in the growth and differentiation of cells led to solid contributions on these cellular processes in studies on slime molds, especially *Physarum polycephalum*. These pioneering studies sparked the formation of an international group of researchers who have exploited the unique properties of this mold in a wide range of biochemical investigations. The staff contains 34 M.D.s and totals over 275.

The faculty of the McArdle Laboratory has made outstanding contributions to cancer research. Professor Van R. Potter, the associate director with Dr. Rusch, made numerous contributions to the understanding of the biochemistry of cancer cells, as well as demonstrating the importance of alternative metabolic pathways and their potential importance in cancer therapy. His work provided an important scientific basis for combination chemotherapy. The late Dr. Charles Heidelberger and his colleagues synthesized and demonstrated the clinical effectiveness of 5-fluorouracil in cancer therapy. Professor Howard Temin received the Nobel Prize in 1975 for his discovery of the reverse transcriptase of oncogenic retroviruses and its role in oncogenic transformation. Professor Roswell Boutwell extended knowledge of the multistage nature of cancer development, and his experiments laid the foundation for many of the efforts in chemoprevention that are presently under way in the world. James and Elizabeth Miller (see February 15, 1988 *Cancer Research* cover) demonstrated the critical importance of the metabolism of chemical carcinogens to highly reactive, "ultimate" forms as a requisite to their carcinogenic potency. In addition to their scientific contributions, many McArdle members have contributed to the field in administrative and policy matters. Four members have served on the National Cancer Advisory Board; Dr. Rusch was a member of the Yarborough Committee that drafted the National Cancer Act of 1971; four members have served as president of the American Association for Cancer Research; and a number of McArdle faculty

members have served on the National Research Council and the Board of Directors of the American Cancer Society.

Dr. Rusch served as Editor of *Cancer Research* from 1950 to 1964, when the editorial offices were at the McArdle Laboratory. The late Dr. Elizabeth C. Miller was the Scientific Editor of the journal, and Dr. Ilse Riegel was the Managing Editor during much of this period. Six other members of the faculty have served on the Editorial Board at various times during the last three decades. Pictured are Harold P. Rusch, *upper left*, Michael McArdle, *lower right*, the old McArdle Laboratory, *upper right*, and the new McArdle Laboratory, *lower left*. Photos and information were provided by Dr. Ilse Riegel.

Sidney Weinhouse