

MEMORIAL RESOLUTION
DISTINGUISHED PROFESSOR FRANK W. PUTNAM
(August 3, 1917 – 2006)

Frank W. Putnam was born August 3, 1917, in New Britain, Connecticut. Both his parents died when he was three years old, and Frank was raised in an orphanage. Frank went on to a long and distinguished career as a scientist. He received the B.A. (with High Distinction, 1939) and the M.A. (1940) degrees in chemistry from Wesleyan University. Frank became interested in biological aspects of molecular structure and obtained his Ph.D. in biochemistry from the University of Minnesota in 1942. I once remarked to him on the rapidity with which he completed his doctorate. Frank was surprised when I mentioned this — “There was a war on,” he said. “We didn’t have time to fool around!” And indeed, Frank didn’t fool around, then or ever, as his CV attested, with his bibliography of over 274 research papers and book chapters, and an overwhelming list of honors and outside scientific activities.

After finishing his Ph.D., Frank went to Duke University, where he carried out research for the Office of Scientific Research and Development for the duration of the war. But he also managed to find a little time at Duke for his own research. Following the war, Frank spent a year with the U.S. Chemical Corps at Camp Detrick, Maryland, as part of a team charged with defending the U.S. against biological warfare. In 1947, he moved to the University of Chicago, where he was Assistant Professor in the Department of Biochemistry from 1947 – 1953, and Associate Professor in the Department of Biochemistry and the Argonne Cancer Research Hospital from 1953 – 1955. In 1955, he moved to the University of Florida as Professor and Head of Biochemistry. He came to Bloomington in 1965 as Professor of Biology and Director of the newly organized Division of Biological Sciences at Indiana University. During Frank’s term as Director of the Division, from 1965 – 1969, he set in place the overall organization that in the middle 1970s allowed the transformation of the division structure with multiple departments into the present unified Department of Biology. Frank served as Professor of Molecular Biology and Zoology from 1969 – 1974 and from 1971 also held an appointment as Professor of Biochemistry in the IU School of Medicine. In 1974, Indiana University formally recognized Frank Putnam’s scientific accomplishments, as well as his service and teaching at IU, by his appointment as Distinguished Professor of Molecular Biology and Biochemistry.

Over the years many graduate students, postdoctoral research fellows, and visiting scientists from all over the world did their research in Frank’s laboratory at IU. In turn, Frank was asked to give innumerable lectures in virtually every other country in the world. (I asked him once if there were anywhere he hadn’t been in the past few years — he came up with a very short list.) One long-term association to which Frank ascribed considerable importance was that with research groups in Cambridge, England. He spent several periods as a visiting scientist in Cambridge, including in 1952, when he worked with Fred Sanger, who went on to earn two Nobel Prizes; in 1953, when he was a Lasdon Research Fellow; and in 1970 as a Guggenheim Fellow. Churchill College, University of Cambridge, named him as an Overseas Fellow in 1972, and awarded him an honorary M.A. in 1973.

During his career Frank Putnam received numerous honors, fellowships, and awards. In 1974, he was elected to the American Academy of Arts & Sciences and, in 1976, he was elected to the National Academy of Sciences. Most academic scientists count their career a success if they have made even one contribution of lasting scientific importance. Frank Putnam, however, was at the center of pioneering research in three different areas: the first was his early work developing methods for the physical characterization of proteins. The second was in his days at Chicago as a member of the early phage group, a group of scientists whose studies of the biology and chemistry of bacterial viruses was of crucial importance in the development of modern molecular biology. Finally, Frank was the first to recognize that the “Bence Jones proteins,” secreted in the blood of multiple myeloma patients, held the key to the then-mystery of antibody structure.

His work in the early fifties on these antibody-related proteins served as the basis for most of Frank’s research career. He recalled that many scientists were skeptical of his theory -- considered radical at the time -- that proteins produced by an immune system cancer were in fact closely related to normal antibodies. Frank was finally able to devote his research full time to the characterization of antibody proteins after he went to the University of Florida as Head of the Biochemistry Department in 1955. (“As long as you’re doing a good job running the department, everybody’s happy with your research, no matter how controversial,” he once wryly noted.) From then on, his laboratory was responsible for making many of the crucial determinations of the primary structure of antibodies and of other human serum proteins. Frank’s group was just completing the structure of IgM, the largest and most complex antibody type, in the early seventies when I joined his laboratory for my own postdoctoral research. Those were exciting days to be a member of the Putnam research group. Frank was a wonderful and enthusiastic mentor to the students and researchers in his lab. He was serious about his science, but he was also affectionately known for the gatherings he held at his house. In the department, he was known for his formal habit, derived from his associations with medical schools, of always attending seminars wearing an immaculate white lab coat.

Along with his research, Frank counted his service to the scientific community outside the university as one of the most personally satisfying aspects of his career. Frank was involved in numerous activities of the National Academy of Sciences relating both to the many reports produced by the Academy on specific aspects of scientific data with pertinence to current problems concerning human health and the environment, and as well to the determination of the directions of current science in the advisory capacity of the Academy to the federal government. A single illustration of many such activities was the period from 1977 – 1981 when Frank served as chairman of the Assembly of Life Sciences, an advisory arm of the National Research Council. In this capacity he was responsible for directing the efforts of 80 different committees under the auspices of the National Academy of Sciences, the Institute of Medicine, and the National Academy of Engineering. A good illustration of the importance of the chairman’s job is the fact that Frank was responsible for overseeing a budget of \$17 million, a hefty figure in those years. An example of only one of these endeavors was the long-term study of the radiation effects at Hiroshima. Frank continued to serve on the Board of Directors of the

Radiation Effects Research Foundation, Hiroshima, Japan, until July 1987, not long before his retirement.

Frank retired from the Indiana University faculty in 1988, but continued to be actively involved with his research and in the international scientific community. He served on several boards and committees after retirement, including the Board of Governors for the Argonne National Laboratory.

Frank was married to his beloved wife, Dorothy Linder Putnam, until her death in 1997. They had two children, Frank W. Putnam Jr., M.D., and Beverly (Putnam) Gordon. The family treasured their summers spent in Maine on Lake Meddybemps. Frank loved water skiing there, an activity he enjoyed until his mid-seventies. In addition to his two children, Frank is survived by five grandchildren: Jason, Abby, and Ted Gordon and Philip and Will Putnam.

In recognition of Distinguished Professor Frank Putnam's many contributions to the scientific and scholarly life of the Department of Biology and to the university at large, be it resolved that this memorial resolution become part of the permanent records of the proceedings of the Bloomington Faculty Council and that copies be sent to the following people: David Zaret, Interim Dean of the College of Arts and Sciences; Roger Innes, Chair of the Department of Biology; Frank W. Putnam, Jr., M.D., and Beverly Gordon.

Elizabeth C. Raff, Professor of Biology