

MEMORIAL RESOLUTION

G. MARSHALL POUND (1920 – 1988)

G. Marshall Pound, Professor Emeritus of Materials Science and Engineering, died of cancer on May 18, 1988 at his home in Crescent City at the age of 68. Professor Pound had been a faculty member at Stanford 14 years prior to his medical retirement in 1980, which was necessitated by the effects of Parkinson's disease. He is survived by his wife Barbara and his five children.

Professor Pound was born and raised in Oregon where he received his early education. In 1941 he received his B.S. degree in Chemistry from Reed College and he subsequently studied Chemical Engineering at MIT, receiving an M.S. degree in 1944. He completed his formal academic training by taking a PhD degree in Physical Chemistry from Columbia University in 1949.

His career in materials science started in 1949 when he was hired by Robert Franklin Mehl of Carnegie Institute of Technology to become an assistant professor in the Metallurgical Engineering department. His assignment was to introduce the disciplines of chemical thermodynamics and kinetics to Carnegie Tech's Metallurgical Engineering department. What followed, in the 25 years he was on the Carnegie Tech faculty, was a revolution in the way the subjects of thermodynamics and kinetics were taught in departments of metallurgy. He and his colleagues at Carnegie Tech were responsible for developing the high level science now routinely applied to these subjects in materials science curricula around the world. Many of the outstanding professors in this area of materials sciences studied with Professor Pound.

In 1966 Professor Pound left Carnegie Tech, where he had been Professor and Director of the Metals Research Laboratory, to join the Stanford Faculty. At Stanford he continued the vigorous teaching and research activities he had started at Carnegie Tech. His reputation as an outstanding classroom teacher was quickly confirmed by students and faculty here. Many still remember Professor Pound's ability to give his complex and intricate lectures on Chemical Kinetics without notes! Others remember his ability to impersonate a moving ledge on a surface during evaporation or condensation. He would typically tip-toe across the front of the lecture hall, looking furtively over his shoulder at the other ledges trying to catch up with him. Another favorite of students was his impersonation of a drunken sailor in connection with his description of the random walk problem.

Professor Pound's 30 year research career included many outstanding contributions to metallurgical knowledge. He is best known for his works on kinetics of crystal growth from the vapor, statistical mechanics of nucleation theory and computer simulation of phase transformations. His work on the kinetics of crystal growth culminated in a monograph entitled "Condensation and Evaporation: Nucleation and Growth Kinetics" published in 1963 with his student, J. P. Hirth, as a co-author. That work stood as a standard reference in the field for two decades. His most notable contribution to the theory of nucleation was made in 1966 in a paper

co-authored by J. Lothe. Their paper entitled "On the Statistical Mechanics of Nucleation Theory" laid the foundation for what is now known as the Lothe-Pound Theory of Nucleation.

In later years, Professor Pound became interested in using the techniques of computer simulation to describe nucleation and growth of crystals. Much of his work in this area was done in collaboration with workers at the IBM Research Laboratory in San Jose. Through his research on these subjects, Professor Pound trained 35 PhD students who are still continuing the work he started.

Soon after he arrived at Stanford, Professor Pound joined with others to form Failure Analysis Inc., a consulting company specializing initially in the investigation of accidents. The company prospered and grew during the 1970s and 80s and is now the largest company of its kind in the world.

Professor Pound received much recognition and many honors during his career in materials science. He held Senior Fulbright and Guggenheim Fellowships when he studied at the University of Sheffield in 1959-60 and he held a Guggenheim Fellowship and Visiting Professorship at the University of Berlin in 1964. He was a fellow of both ASM International (1979) and The Metallurgical Society of AIME (1983). In 1978, he received the Albert Easton White Distinguished Teaching Award of ASM, and in 1984 he was selected by The Metallurgical Society to deliver the Institute of Metals Lecture and to receive the Robert Franklin Mehl Award. His lecture entitled "Perspective on Nucleation" was an appropriate culmination of his professional career and scholarly work in the field of Material Science.

The passing of Professor Pound represents a significant loss for Stanford students and faculty. He will be remembered for the gusto he brought to classroom teaching, for his vigorous pursuit of excellence in research and for the wisdom he provided in the guidance of students and junior faculty. This University is much richer for the long association it had with this great man.

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