

John Foley

Professor Emeritus 1994

John M. Foley received a B. A. in Physics from the University of Notre Dame in 1958 and a Ph.D. in Psychology from Columbia University in 1963. He was a research fellow at Massachusetts Institute of Technology, the University of Cambridge, and the University of Freiburg. His research in both visual space perception and pattern vision has been recognized for its methodological, empirical, and theoretical contributions, making him a world leader in both areas.

John's space perception work focused on the intrinsic geometry of visual space and its relation to physical space. He showed that visual space is Desarguanian, but not homogeneous, contrary to then-accepted theory. Working with arrays of point-like lights, John showed how binocular disparity is scaled by perceived distance (the effective disparity invariance principle) and how this relation can be used to measure egocentric distance. He went on to create a model that describes these principles in natural outdoor scenes.

John's early work on pattern vision dealt with detection and discrimination of simple patterns, and led to a quantitative model that accounts for, among other things, how threshold contrast of targets varies with the contrast of superimposed masking patterns. He later elaborated this model to account for a wide range of pattern interaction effects. After 1994, John went on to spend over 23 years as a Research Professor in the department, during which time he did some of his most important research. His expertise in the field of pattern vision led to collaborative research on perceived image quality in connection with video image compression and display.

John gave a high priority to teaching and mentoring students. He taught a wide range of courses and several of his students are accomplished researchers. Throughout his career, John was engaged in volunteer community service focused primarily on mental illness and homelessness.