Pamela Fraker received her bachelor's degree in biology from Purdue University and a doctorate from the University of Illinois. She began her career at MSU in 1973 and retired in 2012 after 39 years as part of the Department of Biochemistry and Molecular Genetics. Fraker was the first woman at MSU to be elected to the National Academy of Sciences, receiving membership in 2007. She is most well-known for her pioneering research in nutritional immunology. Her research focused on the adverse impact of deficiencies in zinc or protein calories on immune defense systems which dramatically decrease the survival of malnourished children and the chronically ill. More recently her lab has studied the impact of obesity, diabetes and colitis on the immune system.