



George B. Benedek, beloved husband, father, grandfather, and great-grandfather, passed away on July 5, 2026 at home at the age of 97. George was born in 1928 in the Bronx, NY, to Jewish Hungarian immigrants Viola and Alex, who designed and manufactured lace collars and cuffs in New York's garment district. He went on to earn a Bachelor of Science in Physics from Rensselaer Polytechnic Institute in 1949, and an AM in 1952 and a PhD in physics from Harvard University in 1953. At Harvard he researched nuclear magnetic resonance under pressure with two Nobel Prize winners: Percy Bridgman and his thesis advisor, Edward M. Purcell.

For 51 years, George Benedek was a Professor of Physics at MIT, teaching and conducting experimental research in a uniquely original breadth of fields including: nuclear magnetic resonance, semiconductor physics, the physics of high pressures and shock waves, critical phenomena in ferromagnets and fluids, quasi-elastic light scattering spectroscopy, the theory of the transparency of the eye, the physics of enzymes, the dynamics of viscoelastic gels, the structure of micelles and the kinetics of agglutination reactions of antibody and antigen molecules.

In 1980 he was the recipient of an endowed chair, the Alfred H. Caspary Professor of Physics and Biological Physics. He also served as a founding member of the Faculty of the Harvard-MIT Division of Health Sciences and Technology, a joint program that produced MD-PhDs with the scientific tools to meet the challenges of modern medicine.

Professor Benedek's work has stood out among his colleagues both for its originality and its diversity. He contributed insights and findings in fields into which physicists by tradition and training seldom ventured. He achieved an astonishing accomplishment in placing 6 of his PhD students into faculty positions at MIT, in the departments of physics, electrical, chemical, and biomedical engineering.

For his invention of quasi-elastic light scattering spectroscopy, he was awarded the American Physical Society's Irving Langmuir Prize in Chemical Physics. Light-scattering offered a non-invasive means of examining the sizes and behaviors of particles, including biological systems in solution. The technique allowed him to further expand research in biological physics, including protein folding, aggregation, phase separation and self-assembly. His work on cataract disease, Alzheimer's disease, and cholesterol gallstone formation, led him to hypothesize a brand-new paradigm of disease characterized by protein aggregation.

He was the recipient of other major prizes, including, in 1960, a John Simon Guggenheim Memorial Fellowship; in 1997, the Proctor Medal of the Association for Research in Vision and Ophthalmology (ARVO) for his work on the theory of transparency of the cornea and the lens. In 1995, he was awarded The Vinci of Excellence "Science for Art" Prize, sponsored by LVMH Moët Hennessy-Louis Vuitton Inc. of Paris.

Professor Benedek was a member of the National Academy of Sciences, the Institute of Medicine of the National Academy of Sciences and was a Fellow of the American Academy of Arts and Sciences.

His 1971 paper "Theory of the Transparency of the Eye," was a benchmark publication in ophthalmology. It explained for the first time the physical basis for the transparency of the cornea and the lens and brought the medical problem of cataract disease to a new plane of interpretation. Professor Benedek was co-author with Felix M.H. Villars, MIT professor of physics, of a three-volume text: *Physics with Illustrative Examples from Medicine and Biology*, Addison-Wesley, and co-author with Dr. David Miller, M.D., of the book *Intraocular Light Scattering: Theory and Clinical Applications*, published by Charles C. Thomas. He was also author of

Magnetic Resonance at High Pressure, John Wiley and Sons. He published over 195 papers and Letters.

In addition to Professor Benedek's deep love of mathematics and physics, he was widely read and collected first edition copies of classic American and British fiction. He loved music. He designed fine furniture and hired top craftspeople to construct his designs. He collected lace throughout his life, perhaps inspired by the cultural inheritance embodied in the livelihood of his parents. He also loved American quilts, Asian embroidery, and art glass. He has a particularly large and impressive collection of martini glasses.

He continued his research at MIT until he was 87 years old, when he was affected by a series of strokes. His wife Josephine cared for him in their home with devotion and expertise, providing him an additional ten years of life.

He leaves behind his wife, Josephine (nee Silbert) of Belmont, MA, two daughters, Karen Benedek (husband Peter Cheimets) of Winchester, MA, and Emily Benedek of New York City, four grandchildren (Anna and Chloe Cheimets, Hannah and Novi Zhukovsky), and three great-grandchildren, whose company he sought with joy and delight.