

Dr. Young Suh Kim
Professor Emeritus
University of Maryland
Beltsville, MD
<https://ysfine.com/>

A native of Korea, Dr. Young Suh Kim came to the United States with a student visa after graduating from Seoul High School in 1954. After his undergraduate study at the Carnegie Institute of Technology in 1958, he went to Princeton University for his graduate study in physics to become a PhD in 1961. He remained there for one additional year as a postdoctoral fellow. In 1962, Dr. Kim became an assistant professor of physics at the University of Maryland. After spending 45 years of teaching, he attained emeritus status in 2007.

Dr. Kim began publishing his articles in 1961, many of which pertained to topics popular among his colleagues. In 1978, he started writing about his own ideas. Some of his most notable papers discussed the works of Niels Bohr and Albert Einstein. One hundred years ago, Bohr was concerned with the hydrogen atom, which led to quantum mechanics. Einstein was interested in how objects appear to observers in motion, leading to his theory of relativity. Bohr and Einstein occasionally met, but they never discussed how the hydrogen atom would appear to observers in motion.

Dr. Kim's efforts led to the resolution of the Bohr-Einstein issue of moving bound states in Einstein's relativistic world. He published many papers and books on the subject. In 1989, he published a paper titled "Observable Gauge Transformations in the Parton Picture" in Physical Review Letters. In 2018, with Marilyn Noz, Dr. Kim published a book, "New Perspectives on Einstein's $E = mc^2$." Furthermore, in 2021, with Sibel Baskal and Marilyn Noz, he published a book, "Physics of the Lorentz Group, Second Edition." The Lorentz group is a mathematical tool Einstein used to formulate his theory of relativity.

Attributing much of his success to his strong academic background, Dr. Kim is notably proud of all his research accomplishments over the course of his career. Looking toward the future, he aims to continue writing books pertinent to his field of research.

Q: What are two key behaviors/personality traits that allow you to be effective in your role?

A: I want to be different from others. I am a competitive person, and I know how to manage the competition.

Q: What is the most important issue/challenge you are dealing with in your industry?

A: The name of my industry is Einstein. I say that I did something that Einstein forgot to do. My colleagues do not like what I say because they have to place me between Einstein and themselves, and thus above themselves. Therefore, I have to make my research known to the world through public media.

Q: How do you feel your industry has changed/evolved?

A: When Einstein formulated his theory of relativity in 1905, there were no observable particles moving fast enough to show his relativistic effects, except some from cosmic rays. After 1950, particle accelerators produced many protons with speeds close to that of light. While Einstein was interested in the motion of a point particle, I became interested in what happens inside the particle with space-time extensions. The hydrogen atom has a very interesting internal structure, and so does the proton in the quark model.

Q: What innovations or technologies do you feel will shape the future of your industry?

A: Like all industries, physics research is controlled by rigid establishments controlling research funding. However, internet communication is another tool one can use to disseminate his/her research results. I use this new method by constructing informative web pages.