Steven Chu was born in St. Louis in 1948, and hails from a family of accomplished scholars. Until high school, Steven saw school as a chore, and was not particularly inspired by his studies. His academic performance was solid but not outstanding, which led his father to suggest that he pursue more artistic (and less academically challenging) endeavors. Then a high school Physics teacher taught Steven that ideas could be cast into theory and tested by experiment. When this teacher encouraged ambitious laboratory projects, Steven rose to the challenge. He became fascinated by physics, and pursued his studies at the University of Rochester. The work of Richard Feynman sparked his interest in Physics even more, and he eventually decided to become an experimental physicist.

Steven Chu graduated from the University of Rochester in 1970 with an A.B. in Mathematics and a B.S. in Physics. He went on to do graduate work and received his Ph.D. in Physics from the University of California at Berkeley in 1976. While at Berkeley, Steven’s interest in experimental physics grew under the guidance of Eugene Commins. He found that he relished the intellectual creativity inherent in experimental work. After two years of working as a Postdoctoral Research Fellow at Berkeley, he moved on to Bell Laboratories, taking a position as a member of their technical staff. Chu went on to become the head of the Quantum Electronics Research Department at AT&T Bell Laboratories from 1983 1987. In 1985, Chu had a breakthrough: he discovered a way to cool and trap atoms, enabling more accurate studies of their characteristics. This was an exhilarating time, but despite the cachet of the work and the creative environment at Bell Labs, he was drawn toward academia. Chu wanted to emulate Commins, his inspirational mentor, and decided to change his career path so that he could work with students.
He was recruited to Stanford University in 1987. Chu’s work at Stanford has led to exciting new research and discovery, and the collaborative work he has done with his students and postdocs has been extremely rewarding.

Chu and his research group are currently focusing on applying single molecule techniques such as fluorescence resonance energy transfer, atomic force microscopy and optical tweezers. They are studying enzyme activity, and protein and RNA folding at the single bio-molecule level. Systems being studied include how the ribosome reads mRNA and manufactures proteins, how vesicles fuse into the cell wall at the synapse of neurons, how cells adhere to each other via adhesive molecules, and how RNA molecules fold into active enzymes.

Chu’s remarkable achievements have earned him numerous awards, including the coveted Nobel Prize in physics (1997). Chu is the fifth Nobel laureate of Chinese descent. Chu has been awarded the Herbert Broida Prize for Spectroscopy (American Physical Society, 1987), Richtmyer Memorial Prize Lecturer (APS/AAPT, 1990), co-winner of the King Faisal International Prize for Science (1993), the Arthur Schawlow Prize for Laser Science (APS, 1994), the William Meggers Award for Laser Spectroscopy (Optical Society of America, 1994), the Science for Art Prize (Louis Vitton - Möet Hennesey, 1995). Chu received a Humboldt Senior Scientist award (1995) and the Guggenheim Fellowship (1996). He is a member of the National Academy of Sciences, the American Philosophical Society, the American Academy of Arts and Sciences, and the Academica Sinica. He is also a foreign member of the Chinese Academy of Sciences and the Korean Academy of Science and Engineering.

While we can expect that Steven Chu’s work will greatly affect our lives in the future, for now, he continues to wonder, experiment, and discover.