

Stephen WOLFRAM, creator of Mathematica, WolframAlpha and the Wolfram Language, is the founder of Wolfram Research. Pioneer in the development and application of computational thinking, he has been responsible for many discoveries, inventions or innovations in science, technology & business.

Born in London in 1959, Wolfram was educated at [Eton](#), [Oxford](#) and [Caltech](#). He published his [first scientific paper](#) at the age of 15, and received his PhD in theoretical physics from Caltech by the [age of 20](#). Wolfram's [early scientific work](#) was mainly in [high-energy physics](#), [quantum field theory](#) and [cosmology](#), and included several now-classic results. Having started to use computers in 1973, Wolfram became a leader in the emerging field of scientific computing. In 1979 he began the construction of the first modern computer algebra system, which he released commercially in 1981. In recognition of his early work in [physics and computing](#), Wolfram became in 1981 [the youngest recipient of a MacArthur Fellowship](#). Wolfram then set out on an ambitious new direction in science aimed at understanding the origins of complexity in nature. Wolfram's first key idea was to use computer experiments to study the behavior of simple computer programs known as [cellular automata](#). And starting in 1982, this allowed him to make a series of startling discoveries about [the origins of complexity](#). The [papers Wolfram published](#) quickly had a major impact, and laid the groundwork for the emerging field that Wolfram called [complex systems research](#). Through the mid-1980s, Wolfram continued his work on complexity, discovering a number of fundamental connections between computation and nature, and inventing such concepts as [computational irreducibility](#). Wolfram's work led to a wide range of applications—and provided the main scientific foundations for such initiatives as complexity theory and artificial life. Wolfram himself used his ideas to develop a new [randomness generation system](#) and a new approach to [computational fluid dynamics](#)—both of which are now in widespread use. Following his scientific work on complex systems research, in 1986 Wolfram founded [the first journal in the field, Complex Systems](#), and its [first research center](#). Then, after a highly successful career in academia—first at [Caltech](#), then at [the Institute for Advanced Study in Princeton](#) and finally as Professor of Physics, Mathematics and Computer Science at the [University of Illinois](#)—Wolfram launched [Wolfram Research, Inc.](#)

Wolfram began the development of [Mathematica](#) in 1986. [The first version](#) was released on 1988. Major advance in computing. In the years that followed, its popularity grew rapidly. Wolfram Research became established as a world leader in the software industry, widely recognized for excellence in both technology and business. From its beginnings as a technical computing system, Mathematica has been responsible for many important inventions and discoveries in a vast range of fields and industries, as well as being a central tool in the education of generations of students. In 1991, Wolfram began to divide his time between Mathematica development and scientific research. Building on his work from the mid-1980s, and now with Mathematica as a tool, Wolfram made a rapid succession of major discoveries that led him to develop a fundamentally new conceptual framework, applying not only to new kinds of questions, but also to many existing [foundational problems in physics, biology, computer science, mathematics](#) and several other fields. Wolfram finally described his achievements in his 1200-page book [A New Kind of Science](#). Released on 2002, the book was widely acclaimed and immediately became a bestseller. Its publication has been seen as initiating a paradigm shift of historic importance in science, with new implications emerging every year. Then he embarked on a still more ambitious project: constructing a system that would make as much of the world's knowledge as possible immediately computable and accessible to everyone. The release of [Wolfram|Alpha](#) in May 2009 was widely regarded as a historic step that has defined a new dimension for computation and artificial intelligence—and is now relied on by millions of people every day to compute answers both directly and through intelligent assistants such as Siri. In 2014 Wolfram made another breakthrough, building on Mathematica and Wolfram|Alpha to create the [Wolfram Language](#). Based on the deep technology stack that Wolfram has developed over the course of three decades, the Wolfram Language introduces the new concept of a knowledge-based language, in which immense knowledge about computation and the world is integrated, and a new level of highly automated programming becomes possible, that both enables more sophisticated applications than ever before, and opens up programming to a much broader range of people.

Wolfram has been involved with education for many years, founding [the Wolfram Summer School](#) in 2003, and in 2015 publishing [An Elementary Introduction to the Wolfram Language](#) to introduce young students and others to modern computational thinking. Long interested in history and in people and their trajectories, Wolfram published a collection of essays entitled [Idea Makers](#) in 2016 giving his personal perspectives on the lives and ideas of a variety of notable people. Wolfram has been president and CEO of [Wolfram Research](#) since its founding in 1987. In addition to his corporate leadership, Wolfram is deeply involved in the development of the company's technology, personally overseeing the functional design of the company's core products on a daily basis, and constantly introducing new ideas and directions. Wolfram is a sought-after advisor, mentor and speaker in corporate, entrepreneurial and educational settings. He and his wife have four children and live in Concord, Massachusetts.