

“Frank Wilczek is not only one of the world’s greatest physicists; he’s also one of its greatest explainers. *Fundamentals* is lucid, beautiful, and revelatory.”

— STEVEN STROGATZ,
author of *Infinite Powers*



FRANK WILCZEK

won the Nobel Prize in Physics in 2004 for work he did as a graduate student. He was among the earliest MacArthur fellows and has won many awards

for both his scientific work and his writing. He is the author of *A Beautiful Question*, *The Lightness of Being*, *Fantastic Realities*, *Longing for the Harmonies*, and hundreds of articles in leading scientific journals. His “Wilczek’s Universe” column appears regularly in *The Wall Street Journal*. Wilczek is the Herman Feshbach Professor of Physics at the Massachusetts Institute of Technology, founding director of the Tsung-Dao Lee Institute and chief scientist at the Wilczek Quantum Center in Shanghai, China, and a distinguished professor at Arizona State University and Stockholm University.

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ADVANCE PRAISE FOR *Fundamentals*

“A gorgeous and inviting overview of the fundamental facts of physical reality.”

— STEVEN PINKER,
author of *Enlightenment Now*

“*Fundamentals* reflects Frank Wilczek’s extraordinary intellectual range as one of the most venerated, original, and daring physicists of our time. Through ten chapters, the reader has the privilege of following this great mind to mysteries of the universe.”

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“In this engaging and highly accessible book, Frank Wilczek shows how the vast edifice that is modern science was constructed with only a few ingredients and assumptions, but depended crucially on a way of thinking—about the nature of evidence and how it applied to the world around us. Anyone interested in the underlying basis of the complexity of today’s science will enjoy this book.”

— VENKI RAMAKRISHNAN,
winner of the Nobel Prize in Chemistry
and author of *Gene Machine*



“Beneath the bewildering clamor of the world around us, there lies a hidden realm of subtle mathematical beauty, a bedrock of fundamental principles in which all of nature is grounded. Few living scientists have accomplished more than Frank Wilczek in helping unveil that deeper layer of existence. With poetry and fervor, Wilczek takes us on a breathtaking journey to the frontiers of physics and reminds us of just how privileged we human beings are to glimpse the foundations of reality.”

— PAUL DAVIES,
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“This is an exuberant, gorgeously crafted, and intellectually thrilling book, written by one of our greatest living scientists yet hospitable to all. To be reminded that time and space, mystery and order are so much stranger and more generous than we can comprehend—this is a gift to public life and moral imagination in a young century. Wilczek makes the remarkable move of picking up and evolving the classic scientists’ faith that their investigations would reveal the mind of our maker. The result is a profoundly enriched understanding of what it means to be human—and what we might be pointing at when we use the word God.”

— KRISTA TIPPETT, host of
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Fundamentals
Frank Wilczek

Fundamentals

Ten Keys to Reality

Frank Wilczek

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“This is a book about deep ideas, not passing fancies. It will teach you profound principles, not dry lists of facts. It’s a rare treat indeed to get a glimpse into the mind of one of the world’s leading physicists, presented in an engaging style that will be enjoyed by anyone at all.”

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One of our great contemporary scientists
reveals the ten profound insights that
illuminate what everyone should know
about the physical world

In *Fundamentals*, Nobel laureate Frank Wilczek offers the reader a simple yet profound exploration of reality based on the deep revelations of modern science. With clarity and an infectious sense of joy, he guides us through the essential concepts that form our understanding of what the world is and how it works. Through these pages, we come to see our reality in a new way—bigger, fuller, and stranger than it looked before.

Synthesizing basic questions, facts, and dazzling speculations, Wilczek investigates the ideas that form our understanding of the universe: time, space, matter, energy, complexity, and complementarity. He excavates the history of fundamental science, exploring what we know and how we know it, while journeying to the horizons of the scientific world to give us a glimpse of what we may soon discover. Brilliant, lucid, and accessible, this celebration of human ingenuity and imagination will expand your world and your mind.

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