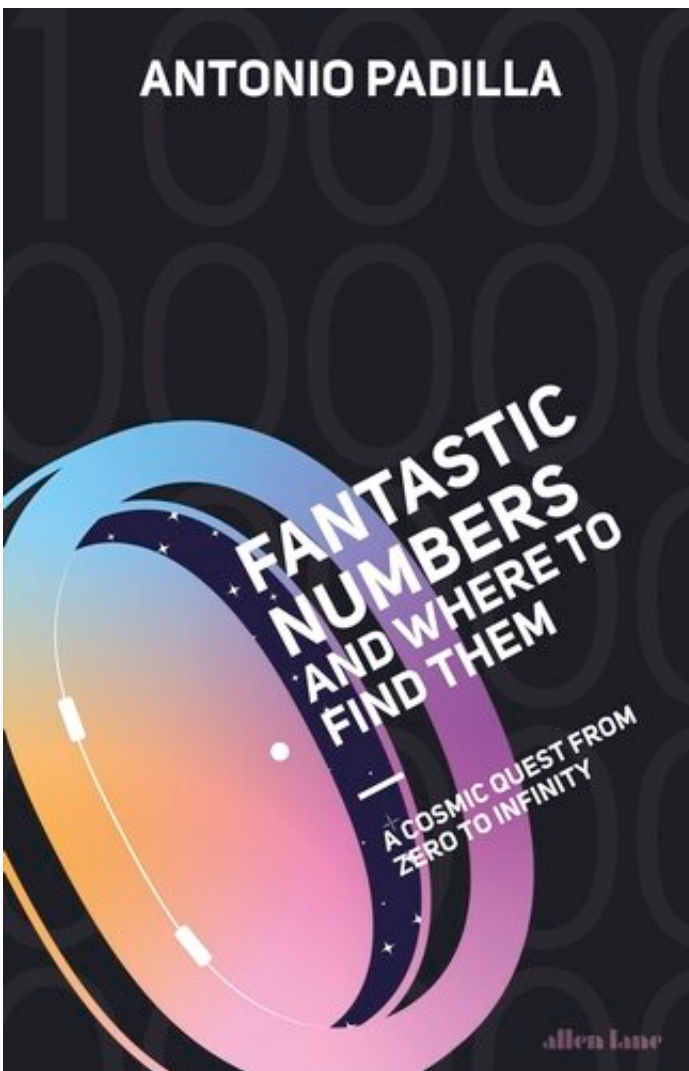


Using extraordinary numbers in physics to explain the mysteries of the universe

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Credit: Allen Lane, publisher

A Nottingham professor has turned his passion for physics and science communication into his first book, dedicated to a friend who inspired him.

"Fantastic Numbers and Where to Find Them" is written by leading [theoretical physicist](#) and YouTube star, Professor Antonio (Tony) Padilla and takes readers on an irreverent cosmic tour of nine of the most extraordinary numbers in physics.

Tony explains where he got the inspiration to write his first book: "When my [best friend](#) became ill with cancer, we started giving public lectures about fantastic numbers and cutting-edge physics to raise money for him to get treatment abroad. We managed to raise £200,000 and it was whilst giving these talks I realized the content would actually make a really great book, so I started to take the idea more seriously. So, when I was approached by a publisher I had no hesitation in starting writing. Sadly, my friend never made it in the end—He was an incredible bloke who we all miss really badly. The book is for him."

Combining cutting-edge science with an entertaining cosmic quest, Fantastic Numbers and Where to Find Them is an electrifying, head-twisting guide to the most fundamental truths of the [universe](#). It reveals how unusual numbers are the key to unlocking such mind-bending phenomena as [black holes](#), entropy and the problem of the cosmological constant, which shows that our two best ways of understanding the universe contradict one another.

In the book Tony covers the theory of Graham's number, which is so large that if you thought about it in the wrong way, your head would collapse into a black hole; TREE(3), whose finite value could never be reached before the universe reset itself; and $10^{\{-120\}}$, which measures the desperately unlikely balance of energy the universe needs to exist.

"I loved writing this book," continues Tony, "When I make videos for numberphile or sixty symbols, I spent a fair amount of time trying to think of ways to explain some of the ideas in a really accessible way. This was an extension of that really. The book is really about how the most extreme [physics](#) can bring numbers and mathematics to life—how it can give it personality. I really hope this book tickles the reader's imagination."

Provided by University of Nottingham

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