

# Stephen Hawking

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# Early life

- Born to educated parents on January 8, 1942 in Oxford, England
- Initially did not succeed academically
- Learned to read at age of 8
- Showed an interest and talent for mathematics, mechanical work, and physics
- At the age of 21, diagnosed with motor neurone (Lou Gehrig's) disease, which rapidly weakens muscles and debilitates speaking and breathing systems



# Education

- Attended Oxford University in 1959 at the age of 17, where he studied physics and chemistry
- Three years later he graduated and began studying cosmology at the University of Cambridge
- Specifically interested in general relativity and theoretical physics
- Wrote his graduate thesis on the theory of space-time singularities existing throughout the entire universe
- His essay – “Singularities and the Geometry of Space-Time” – received high praise
- Received his Ph.D. in 1966



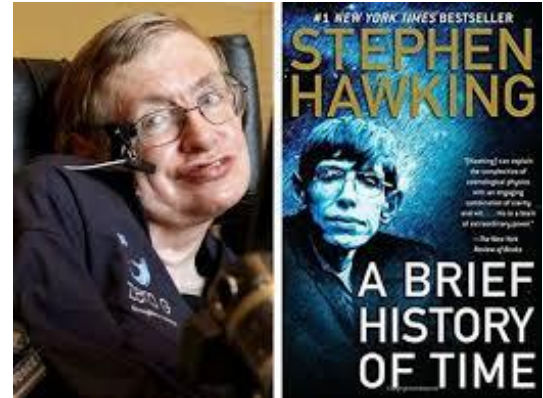
# Career

- Collaborated extensively with Robert Penrose (another advocate of the singularity theorem)
- In 1970, they together published a proof asserting that given the universe obeyed the rules of general relativity, it must have originated as a singularity
- In 1973, Hawking began studying quantum gravity and quantum mechanics
- Appointed a professor in gravitational physics in 1977
- Became involved in the study of cosmological inflation in the '80's
- Consistently studies the origins of the universe



# Notable theories and Achievements

- Discovered the “second law of black hole dynamics” (later proven wrong)
- Proposed the four laws of black hole mechanics
- Studied “Hawking radiation”
- In 1979 proposed “N=8 Supergravity”
- In 1981 became a strong proponent of the “black hole information paradox”
- With Jim Hartle published a model known as the “Hartle-Hawking state” in 1983
- 1985 proposition of “backwards time”
- In 2006 developed the theory of “top-down cosmology”



# Famous Hawking Wagers

- 1974. Bet Kip Thorne that the dark star Cygnus X-1 was not a black hole (essentially stating Hawking's doubt over black hole existence). Lost.
- 1991. Bet Kip Thorne and John Preskill that the proposal of "cosmic censorship conjecture" was correct. Lost.
- 1997. Bet John Preskill that the "black hole information paradox" was correct. Lost.
- 2005. Bet that the Higgs Boson particle would never be found. Lost.

# Stephen Hawking on Spirituality

“God may exist, but science can explain the universe without the need for a creator.”

“It would not be much of a universe if it wasn't home to the people you love.”

“There probably is no heaven and no afterlife either, We have this one life to appreciate the grand design of the universe, and for that I am extremely grateful.”

Thank You