

# Stephen Hawking just gave humanity a due date for finding another planet

By Peter Holley, Washington Post on 11.23.16

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The Russian spacecraft Soyuz docked to the International Space Station as it orbits Earth. Photo: NASA

If humanity survives the rise of artificial intelligence, the ravages of climate change and the threat of nuclear terrorism in the next century, it doesn't mean we're home free, according to Stephen Hawking.

The renowned theoretical physicist has gone as far as providing humanity with a deadline for finding another planet to colonize: We have 1,000 years.

Remaining on Earth any longer, Hawking believes, places humanity at great risk of encountering another mass extinction.

"We must ... continue to go into space for the future of humanity," the 74-year-old Cambridge professor said during a speech Tuesday at Oxford University Union in Great Britain, according to the Daily Express.

"I don't think we will survive another 1,000 years without escaping beyond our fragile planet," he added.

During his hour-long speech, Hawking told the audience that Earth's cataclysmic end may be hastened by humankind, which will continue to devour the planet's resources at unsustainable rates, the Express reported.

His wide-ranging talk touched upon the origins of the universe and Einstein's theory of relativity, as well as humanity's creation myths and God. Hawking also discussed "M-theory," which Leron Borsten of PhysicsWorld.com explains as a "proposal for a unified quantum theory of the fundamental constituents and forces of nature."

Though the challenges ahead are immense, Hawking said, it is a "glorious time to be alive and doing research into theoretical physics."

"Our picture of the universe has changed a great deal in the last 50 years, and I am happy if I have made a small contribution," he added.

Speaking to audience members in a public question and answer session ahead of the annual (British Broadcasting Company (BBC) Reith Lectures, Hawking also said that leaving the planet behind was our best hope for survival.

The key, he noted, was surviving the precarious century ahead.

"Although the chance of a disaster to planet Earth in a given year may be quite low, it adds up over time and becomes a near certainty in the next thousand or ten thousand years. By that time we should have spread out into space and to other stars, so a disaster on Earth would not mean the end of the human race."

Since 2009, the National Aeronautics and Space Administration (NASA) has been hunting for Earth-like planets with the potential for human colonization.

Researchers have discovered more than 4,600 "candidate" planets and another 2,300 or so confirmed planets, according to the agency.

"The first exoplanet orbiting another star like our sun was discovered in 1995," according to NASA. "Exoplanets, especially small Earth-size worlds, belonged within the realm of science fiction just 21 years ago. Today, and thousands of discoveries later, astronomers are on the cusp of finding something people have dreamt about for thousands of years."

Before we have a chance to relocate, Hawking said, we'll first need to solve the potential threat created by technology.

While Hawking thinks technology has the capacity to ensure mankind's survival, previous statements suggest the cosmologist is simultaneously grappling with the potential threat it poses. When it comes to discussing that threat, Hawking is unmistakably blunt.

"I think the development of full artificial intelligence could spell the end of the human race," Hawking told the BBC in a 2014 interview that touched upon everything from online privacy to his affinity for his robotic-sounding voice.

Despite its current usefulness, he cautioned, further developing A.I. could prove a fatal mistake.

"Once humans develop artificial intelligence, it will take off on its own and redesign itself at an ever-increasing rate," Hawking warned in recent months. "Humans, who are limited by slow biological evolution, couldn't compete and would be superseded."

## Quiz

- 1 What are the two central ideas of the article?
- (A) Stephen Hawking believes that humanity is at great risk for a mass extinction because of the overuse of resources and advancement of technology; humans must find another planet to live on in order to survive.
  - (B) It is likely that Earth will run out of resources in the next millennium; NASA is closer to finding another Earthlike planet than ever before in its history.
  - (C) Researchers have discovered thousands of planets that could potentially support human life; Stephen Hawking has predicted that Earth will not support human life for more than another 1,000 years.
  - (D) The development of artificial intelligence has slowed human biological evolution; humans must find another planet to live on in order to survive.

- 2 Which of the following sentences from the article BEST develops a central idea?
- (A) Hawking also discussed "M-theory," which Leron Borsten of PhysicsWorld.com explains as a "proposal for a unified quantum theory of the fundamental constituents and forces of nature."
  - (B) Though the challenges ahead are immense, Hawking said, it is a "glorious time to be alive and doing research into theoretical physics."
  - (C) Since 2009, the National Aeronautics and Space Administration (NASA) has been hunting for Earth-like planets with the potential for human colonization.
  - (D) While Hawking thinks technology has the capacity to ensure mankind's survival, previous statements suggest the cosmologist is simultaneously grappling with the potential threat it poses.

- 3 What is the meaning of the phrase "mass extinction" as used in the following sentence?

*Remaining on Earth any longer, Hawking believes, places humanity at great risk of encountering another mass extinction.*

- (A) dangerous time
- (B) total loss of life
- (C) lifelike species
- (D) fast-spreading disease

- 4 Read the following paragraph.

*"The first exoplanet orbiting another star like our sun was discovered in 1995," according to NASA. "Exoplanets, especially small Earth-size worlds, belonged within the realm of science fiction just 21 years ago. Today, and thousands of discoveries later, astronomers are on the cusp of finding something people have dreamt about for thousands of years."*

Adding which of these sentences to the text would help explain the meaning of the word "exoplanet" in the context of the article?

- (A) Exoplanets are particularly popular in movies such as Star Wars and Star Trek.
- (B) Scientists have, until recently, lacked the technology to adequately assess exoplanets.
- (C) Exoplanets are planets that orbit stars outside our solar system.
- (D) Most exoplanets have a different chemical makeup than Earth does, meaning they may not support human life.

## Answer Key

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