

Cosmologist Paul Davies explores notion of 'alien' life on Earth

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Astrobiologists have often pondered "life as we do not know it" in the context of extraterrestrial life, says Paul Davies, an internationally acclaimed theoretical physicist and cosmologist at Arizona State University. "But," he asks, "has there been a blind spot to the possibility of 'alien' life on Earth?"

Davies will challenge the orthodox view that there is only one form of life in a lecture titled "Shadow Life: Life As We Don't Yet Know It" on Feb. 15 at the annual meeting of the American Association for the Advancement of Science. His presentation is part of the symposium "Weird Life."

"Life as we know it appears to have had a single common ancestor, yet, could life on Earth have started many times? Might it exist on Earth today in extreme environments and remain undetected because our techniques are customized to the biochemistry of known life?" asks Davies, who also is the director of the BEYOND Center for Fundamental Concepts in Science at Arizona State University in the College of Liberal Arts and Sciences.

In the lecture, Davies will present, challenge and extend some of the conclusions from a July 2007 report by the National Research Council. That report looked at whether the search for life should include "weird life" - described by the Council as "life with an alternative biochemistry to that of life on Earth."

"If a biochemically weird microorganism should be discovered, its status as evidence for a second genesis, as opposed to a new branch on our own tree of life, will depend on how fundamentally it differs from known life," wrote Davies in the Nov. 19, 2007, issue of *Scientific American*.

Davies and other pioneers who speculate that life on Earth may have started many times are wondering "why we have overlooked this idea for so long?"

The concept of a shadow biosphere, according to Davies, "is still just a theory. If someone discovers shadow life or weird life it will be the biggest sensation in biology since Darwin. We are simply saying, 'Why not let's take a look for it?' It doesn't cost much (compared to looking for weird life on Mars, say), and, it might be right under our noses."

Davies, whose research is steeped in the branches of physics that deal with quantum gravity - an attempt to reconcile theories of the very large and the very small - is a prolific author (27 books, both popular and specialty works) and is a provocative speaker (he delivered the 1995 Templeton Prize address after receiving the prestigious award for initiating "a new dialogue between science and religion that is having worldwide repercussions").

Among his books are: "How to Build a Time Machine," "The Origin of Life," "The Big Questions," "The Last Three Minutes," "The Mind of God," "The Cosmic Blueprint" and his most recent book "The Goldilocks Enigma: Why is the universe just right for life?" published in the United States under the title "Cosmic Jackpot."

He is putting the finishing touches on "The Eerie Silence," to be published in 2010 to coincide with the 50th anniversary of the SETI Institute. According to Davies, the book is "a comprehensive fresh look at the entire SETI enterprise."

Source: Arizona State University

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