

The long shot of life elsewhere

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Paul Davies

Recent research suggests that there may be as many as 40 billion habitable planets in our galaxy. A number that large has some scientists speculating that the universe might be teeming with life.

Before we eagerly set out to find our interstellar brethren, ASU cosmologist and author Paul Davies says we need to take a hard look at the odds of [life](#) elsewhere.

Thanks to Charles Darwin, we know a lot about how life evolved on Earth, but we know very little about how it first arose on this once sterile planet. Current thinking assumes there had to be the right chemicals and

the right environmental conditions to set up a series of reactions that somehow led to the most basic of life forms.

According to Davies, the actual odds of the right chemical and [environmental conditions](#) coming together on a [habitable planet](#) at the right times to trigger an unlikely series of events are completely unknown because we don't know what those reactions and conditions were. The odds might indeed turn out to be favorable, as many scientists intuitively feel. But, on the other hand, they might equally well be very slim; indeed, less than, say, one in a trillion trillion.

In our present state of ignorance, we simply cannot say, Davies adds.

"Set against a number that big – and once you decide a series of unlikely accidents is behind the creation of life, you get enormous odds very easily – it is irrelevant whether the Milky Way contains 40 billion habitable planets or just a handful," he [writes](#) in "Are we alone in the Universe?" in the Nov. 19 New York Times. "Forty billion makes hardly a dent in a trillion trillion."

Provided by Arizona State University

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