

# Video: How did life on Earth begin?

September 16 2014, by Miles O'brien

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It's one of the most profound questions of all—how did life on Earth begin?

With support from the National Science Foundation (NSF) and National Aeronautics and Space Administration (NASA), Georgia Tech biochemist Nicholas Hud and a team at the Center for Chemical Evolution (CCE) are working to chip away at the question. They are homing in on how chain-like chemicals called polymers first came together and evolved 3.5 to 4 billion years ago.

Hud says the researchers are working on the premise that the molecules that gave rise to the first polymers of life, such as RNA and DNA, started when [small molecules](#) began interacting with each other and forming ordered structures. In other words, they assembled themselves.

So far, none of the labs working on [chemical evolution](#) has been able to coax actual RNA to self-assemble from the set of molecules that make up RNA in present day life. But, Hud and his team have identified a couple of molecules that make a structure that almost looks like RNA.

The CCE is co-funded by the NASA Astrobiology program and the NSF Centers for Chemical Innovation (CCI) program. The NSF-funded centers are focused on major, long-term fundamental chemical research challenges. CCIs are producing transformative research that is leading to innovation and attracting broad scientific and public interest.

Provided by National Science Foundation

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