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The Keck Institute for Space Studies  
presents the following lecture:

# Dreaming of Rocks from Mars:

*Scientific Desires and the  
Engineering of Mars Missions*

Erik M. Conway  
Jet Propulsion Laboratory

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Thursday, August 25, 2022

4:30 PM Refreshments  
5:00 PM Lecture

Lees-Kubota Lecture Hall  
Guggenheim Building  
California Institute of Technology

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In 1996, NASA and the White House held a spectacular press conference, announcing the probable discovery of the remains of martian life in a rock recovered from Antarctica, known as ALH840001. While most planetary scientists have now rejected those claims, the fact that they were made at all—one year before the first landing on Mars since 1976—provides a window through which to view the process of advocating for and engineering missions to Mars. Ever since the Viking landers parked themselves safely on the Red Planet, scientists have advocated returning samples of Mars to earth for laboratory studies as a top priority. To date, a many such projects have been proposed, detailed studies done, and a few sample return projects have even been approved and funded. None has made it as far as full-scale development, though, let alone Mars.

Yet scientists' desires have mattered. The dream of sample return has affected both program planning and vehicle engineering. In this talk, Conway traces the evolution of several Mars sample return efforts, showing how technologies intended for sample return campaigns wound up being used for other missions.

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Seating is limited and is available on a first come, first served basis