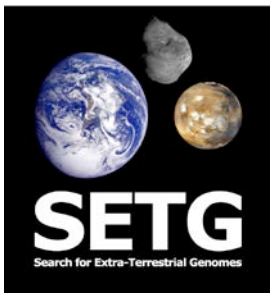
University of Colorado at Boulder

AEROSPACE ENGINEERING SCIENCES

Seminar



Christopher E. Carr
Research Scientist - Earth, Atmospheric and Planetary Sciences, MIT
Research Fellow – Massachusetts General Hospital Dept of Molecular Biology

Seeking and Supporting Life beyond Earth

The search for life on Mars drives our ongoing robotic and future human missions there. Informed by the molecular biology revolution, exploration of extreme environments, from Earth, to icy moons, and exoplanets, are dramatically transforming our view of life in the universe. We now know that Mars was once habitable and may support life today. We are developing the Search for Extra-Terrestrial Genomes (SETG) to search for life on Mars ancestrally related to us, possibly shared by ancient impact events that transported a billion tons of rock between our worlds. Beyond Mars, we can now seriously consider missions to search for life at Enceladus, or Europa. More broadly, we now have the foundation to understand the limits of our own adaptation to space, and to augment those limits through innovative engineering, including synthetic biology. Building the tools required for a human future in space, on Mars, and beyond, we can simultaneously advance human health and sustainability on Earth.

Monday, March 2, 2015
12:00 noon
Onizuka Conference Room

Biography:

Christopher E. Carr is a Research Scientist in the Department of Earth, Atmospheric and Planetary Sciences at MIT and a Research Fellow in the Massachusetts General Hospital Department of Molecular Biology. After completing dual S.B. degrees in Aero/Astro and Electrical Engineering from MIT, Dr. Carr worked on the Mars Sample Return mission at the Jet Propulsion Laboratory. As an NSF Graduate Research Fellow, Dr. Carr applied bioengineering principles to human adaptation to space, the bioenergetics of movement, and improved space-suit design. He currently serves as the Science PI for the SETG life detection instrument, relevant to astronaut health, space biotechnology, and field research. He is broadly interested in searching for and expanding the presence of life beyond Earth.