



Image Credit: ESA

**Paihau—Robinson
Research Institute**



VICTORIA UNIVERSITY OF
WELLINGTON
TE HERENGA WAKA

The Keck Institute for Space Studies
and the Paihau-Robinson Research Institute
present the following lecture:

ESA's Vision for Mars Exploration



Albert Haldemann
Mars Chief Engineer - ESA

Thursday, May 11, 2023

4:30 PM Refreshments

5:00 PM Lecture

**Chen 100 Lecture Hall
California Institute of Technology**

Europe's Mars exploration programme has always had, and will have, the ambition to marry exploration with science. ESA's first Mars mission was Mars Express launched in 2003, and still orbiting Mars today. ESA continued that start with the ExoMars program that has weathered ups and downs and changing international partners, but has persevered---the Trace Gas Orbiter launched in 2016 is probing the mysteries of Mars' atmospheric composition, sometimes confounding the observations obtained at the surface by NASA's Rovers, and the Rosalind Franklin Rover is now planned for a 2028 launch with NASA's help, and will carry out still-relevant science at Mars in 2030 by drilling for the first time more than 1 meter below the surface. ESA is a full partner in the Mars Sample Return program which represents a key scientific ambition of the Mars research community.

ESA's vision however is to send Europeans to Mars. Europe is renewing its ambitions for human exploration, and an objective of that is to participate to the first human mission to Mars. ESA is using its robots to scout the way. While doing so, ESA is committed to sustainable space exploration; an additional challenge to wrap into already ambitious exploration goals. European missions to Mars are part of ESA's Terrae Novae exploration programme, which includes missions to 3 destinations: low-Earth orbit, the Moon, and Mars.

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