

b UNIVERSITÄT BERN

Institut für Geologie

Kolloquium:

The present and past climates of Mars

Date: Monday, 15 April 2019, 16:15

Location: Institut für Geologie, Baltzerstrasse 3, 3012 Bern,

Studer Auditorium, 2.OG

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There are numerous evidences that the Martian climate has changed considerably through geological times. Liquid water was once abundant at the surface, at least episodically, and geomorphological and mineralogical remnants of its past presence and activity are still well visible today. Major climate changes have then affected the red planet, transforming it into the dry and cold desert that we know today, where both H₂O and CO₂ are involved in complex and intricate seasonal and diurnal cycles. In this presentation, I will describe both our observations of the current Martian climate and the geological indications for past climatic changes. I will also explain how new observations by the Colour and Stereo Surface Imaging System (CaSSIS) built in Bern and now on-board ESA's Exomars Trace Gas Orbiter will contribute to our understanding of various surface and atmospheric processes of interest for the evolution of the climate and habitability of the red planet.

