

The Journey to Mars Begins in Antarctica:

A Psychophysiological Study of Stress, Sleep, and Loneliness

Visiting Scholar Lecture

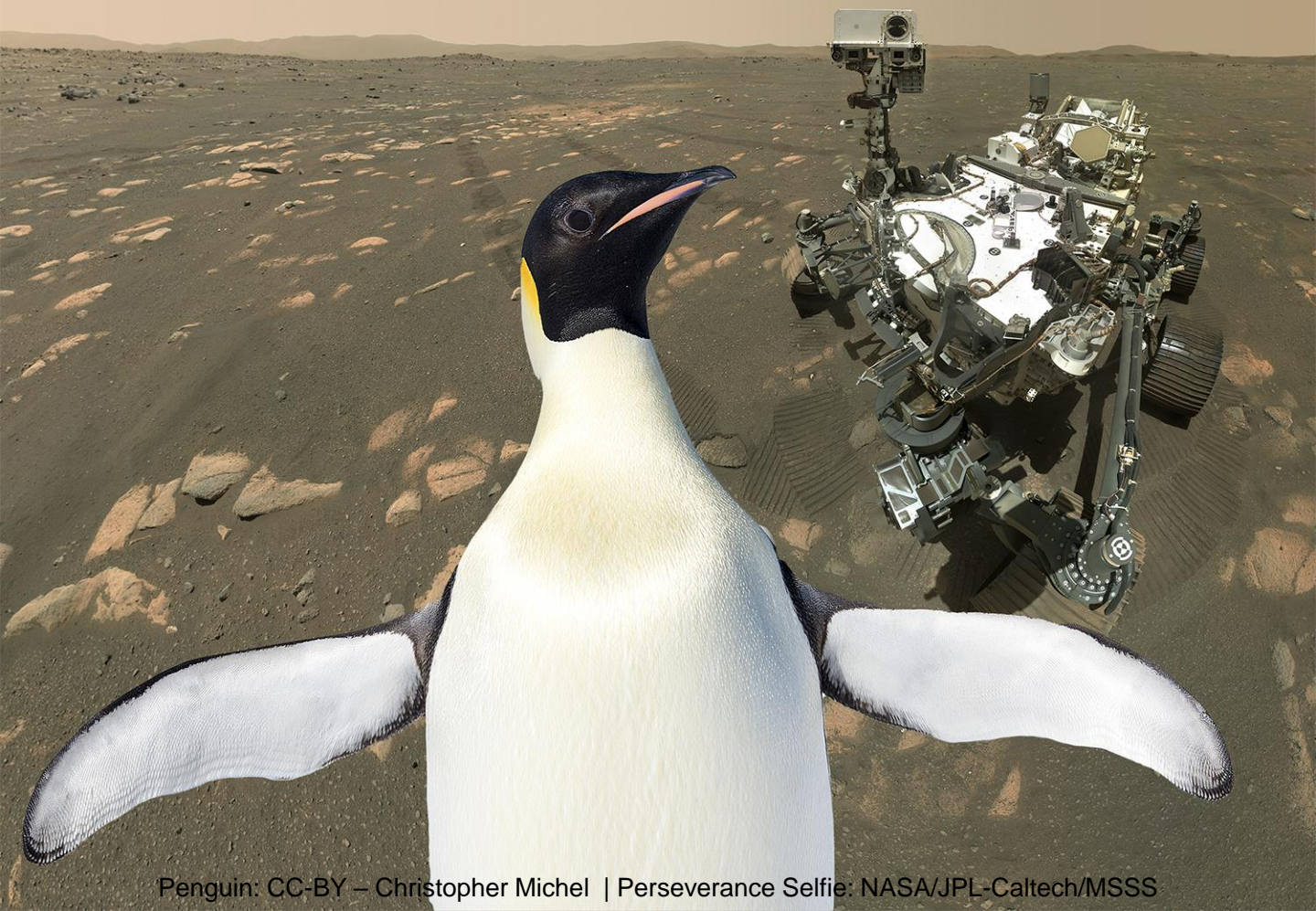
Open To All

Prof. dr. Martine Van Puyvelde



Thursday 9th June 2022 - 4pm (Earth Time)
James Parsons Lower Lecture Theatre – LJMU

Please register (for free) on: <https://lng.org.uk/mars-mvp>



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A round-trip voyage to Mars is now estimated to last up to 18 months. It is a future dream that, more than ever, will challenge human resilience to sustain health and wellbeing for extended times and distances in an isolated, confined, and extreme (ICE) environment deprived of natural forms of sensory stimulation.

One of the common space analogs on earth, where human stress resilience can be studied, is the Antarctic environment. The isolated Antarctic stations have been serving as a source of information to understand the psychophysiological impact of long-term isolation in changed circadian circumstances

However, worldwide, we have recently all experienced a home-based isolation “experiment”. The lockdown restrictions during the Covid-19 pandemic turned global society, from one day to another, into a surrogate “IC-Environment”.

In our lab, we conducted a series of studies in several Antarctic stations to better understand the so-called winter-over syndrome - characterized by impaired sleep and mood changes - which we are now comparing with observations during Covid-19.

Based on these comparisons, we have built a regulation hypothesis in which - alongside circadian deteriorations - somatosensory deprivation is a key component of common reported problems during Antarctic missions, space missions and the pandemic.

In this talk, this hypothesis will be illustrated by our research findings, and personal anecdotes.

-- Prof. Martine Van Puyvelde

