

CryoMars 2021 Virtual Meeting, 1st March 2021

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About CryoMars

CryoMars was a 1 day virtual meeting of the UK Mars Cryosphere community hosted by the Department of Geography at The University of Sheffield on 1st March 2021. CryoMars brought together ~60 researchers from the UK and beyond to discuss Martian glaciers, associated landforms, their Earth analogues, and their environmental and astrobiological implications. Approximately 50% of attendees were researchers working on Earth-focussed topics. This reflects a growing appetite for collaboration between the UK Earth and Mars cryosphere communities, which CryoMars aims to stimulate.



1 March 2021



Figure 1: The CryoMars meeting photo, featuring CryoMars stickers distributed to participants.

Presentations

Live CryoMars presentations comprised 11 talks (including an invited keynote talk by Prof. Bryn Hubbard, Aberystwyth University) and 5 posters. Talk slides and posters were also uploaded to an online platform hosted on Padlet, for asynchronous discussion and Q&A via text-based comments. The Padlet allowed those with additional responsibilities under the Covid-19 lockdown to view and discuss presentations. The themes of the talk sessions were: 'Martian Morphologies', 'Earth Analogues', and 'The Martian Poles'. Poster presenters gave 3 minute lightning adverts on the live call, then discussed their posters with participants both via text-based comments on the Padlet, and via live video calls.

Discussion Sessions

CryoMars also featured a dedicated discussion session in the live call, and text-based discussion boards hosted on the Cryomars Padlet throughout the day. Two key topics of discussion arose:

- (1) The future of CryoMars and ways to encourage continued interactions and collaborations between UK research communities working on Earth and Mars cryosphere topics.
- (2) The identification of science and instrumentation priorities for Mars cryosphere research ahead of human exploration of Mars. It is widely acknowledged that glaciers on Mars are leading candidates for crewed exploration due to the *in situ* water ice resources they contain. The discussion session identified some of the key instruments and science questions that the UK cryosphere communities would find useful in working towards human landing and exploration in these environments, and preparations required to ensure optimal science return from them.

Outcomes

CryoMars participants engaged fully and enthusiastically with both the live meeting and the asynchronous discussion platform on Padlet. There was strong support for the continuation of CryoMars as a regular meeting, and it was also suggested that CryoMars could serve as a medium through which the community can interact in-between meetings. As a result, an informal CryoMars committee has now been established, and is actively exploring options to implement a regular newsletter, a CryoMars Slack group, and potentially the development of virtual fieldtrips. The outcome of themed discussions on cryosphere science ahead of human exploration of Mars were relayed to the coordinator of ongoing community surveys on Mars science priorities by the UK Space Agency.