

Mars – a new geological frontier

CONFERENCE PROGRAMME

2 – 4 November 2021	
Day one – 2 November	
10.25	Event opens
10.30	Welcome Address & Introductions
Session 1: What lies beneath: martian interiors	
10.35	NASA's InSight Lander: Looking Inside Mars <i>Anna Horleston (invited speaker), University of Bristol</i>
10.55	Listening for a landing - results from InSight's attempt to detect Perseverance arriving at Mars <i>Benjamin Fernando, The University of Oxford</i>
11.10	Fault system evolution of the Tempe Terra region, Mars <i>Claire Orlov, The University of Leeds</i>
11.25	Tectonic shortening structures in western Arabia Terra, Mars <i>Savana Woodley, The Open University</i>
11.40	Q&A with panel discussion
12.05	Break

12.15	<p>Micro Poster Talks 1</p> <p>NOAH-H: Classifying Oxia Planum using Deep Learning <i>Alexander Barrett, The Open University</i></p> <p>X-ray Computed Tomography for Basic Characterisation of Mars2020 Samples <i>Lukas Adam, The University of Leicester</i></p> <p>Ice-Marginal Glacial Meltwater Channels on Earth: Implications for Valley Formation on Mars <i>Frances Butcher, The University of Sheffield</i></p> <p>Fluvial Sinuous Ridges in the Mawrth Vallis-Oxia Planum Region, Mars: A Compounding of Burial and Exhumation Processes <i>Joel Davis, The Natural History Museum</i></p>
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12.30	Lunch
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13.30	<p>Micro Poster Talks 2</p> <p>Imaging Proterozoic lacustrine deposits with an emulator for the ESA ExoMars PanCam in preparation for robotic exploration of Oxia Planum, Arabia Terra, Mars. <i>Robert Barnes, Imperial College London</i></p> <p>Comparison of the Morphology of Alluvial Fan Type Features on Mars to the Qaidam Basin, China <i>Maeve Mclaughlin, The University of Manchester</i></p> <p>The quest for signs of chemosynthetic extant life on Mars: advances in theory and evidence <i>Peter Anto Johnson, The University of Alberta</i></p> <p>Raman Spectroscopy of Basaltic Mars Analogue Sediments <i>Donald Bowden, University of Leicester</i></p> <p>Secondary Craters as Absolute Stratigraphic Markers in Oxia Planum, Mars <i>Peter Grindrod, The Natural History Museum</i></p>
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Session 2: Things are still happening! Modern Mars and analogues	
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13.45	<p>Volcanic craters and cones in central Kachchh mainland, western India: potential analogue for the Martian studies? <i>Anil Chavan, Kachchh University</i></p>
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14.00	Modelling the interaction between the atmosphere and surface ice at Lyot crater, Mars <i>Lori-Ann Foley, The Open University</i>
14.15	CaSSIS Colour and Multi-angular Observations of Martian Slope Streaks <i>Adomis Valantinas, University of Bern</i>
14.30	Experimental CO ₂ -driven granular flows under Martian atmospheric conditions <i>Lonneke Roelofs, Utrecht University</i>
14.45	Q&A with panel discussion
15.15	Close
19.30	Public lecture: Exploring Mars' Habitable Past with the Curiosity Rover <i>Abigail Fraeman</i>

Day Two – 3 November

Session 3: Little rocks, big secrets: martian meteorites and impacts

10.25	Event opens
10.30	Welcome address
10.35	The search for meteorites on Mars <i>Sara Motaghian, Natural History Museum London & Imperial College London</i>
10.50	The Carbon Cycle on Ancient Mars: Carbonate Formation and Dissolution <i>John Bridges, University of Leicester</i>
11.05	Providing absolute constraints on the age of martian crust: combined microstructural analysis and in-situ U-Pb chronology of baddeleyite in shergottites <i>Leanne Staddon, University of Portsmouth</i>
11.20	Break
11.30	Counting 90 million craters on Mars to find the source of meteorites <i>Anthony Lagain, Curtin University, Perth Australia</i>
11.45	Experimental Hypervelocity Impacts into JSC Mars-1: Water-Ice Mixture Targets. <i>Jack Finch, University of Kent</i>
12.00	Q&A with panel discussion

12.25	Lunch
13.15	Poster session
Session 4: Where once water flowed: Ancient, wet Mars?	
14.15	Break
14.25	First Observations of the Jezero Crater Delta Front by MastCamZ and SuperCam instruments onboard the Perseverance rover <i>Nicolas Mangold (invited speaker), Université Nantes</i>
14.45	NOAH-H: Deep Learning Terrain Classification of Jezero Crater <i>Jack Wright, The Open University</i>
15.00	Hydrological activity duration, sources and climate implications of complex fluvial channel systems <i>Maarten Kleinhans, Utrecht University</i>
15.15	Update on the mapping of northern Xanthe Terra as a reference site for the Exomars 2022 landing site in Oxia Planum <i>Thomas Frueh, University of Münster</i>
15.30	Q&A with panel discussion
15.55	Close

19.30	Public lecture: Luke Daly The geological history of a Martian volcano

Day Three – 4 November

Session 5: To boldly go: Current and future missions to Mars

10.30	Welcome address
10.35	CaSSIS – extending mineralogical studies with a low spectral resolution imager <i>Nicolas Thomas (invited speaker), Physikalisches Institut, Universitaet Bern</i>
10.55	It's not over yet: The HRSC Camera on Mars Express after 17 years of observations <i>Daniela Tirsch, Institute of Planetary Research, German Aerospace Center (DLR)</i>
11.10	BREAK
11.20	Optimising ExoMars PanCam Multispectral Science: Learning Efficient Filter Combinations for the Characterisation of Oxia Planum <i>Roger Stabbins, Natural History Museum</i>
11.35	Development and characterisation of a mineralogical simulant for Oxia Planum <i>Amy Dugdale, The Open University</i>
11.50	Q&A with panel discussion
12.15	LUNCH
Session 6. Clays, water, and wind: Getting ready to rove with Rosalind Franklin	
13.15	The Geological Setting of the ExoMars Rover Landing Site at Oxia Planum <i>Peter Fawdon, The Open University</i>
13.30	Mapping of the Oxia Planum Clay-Bearing Unit using Colour and Stereo Surface Imaging System (CaSSIS) and HiRISE imagery <i>Adam Parkes-Bowen, University of Leicester</i>
13.45	BREAK
13.55	Where There's a Hill, There's a Way: Mounds in the ExoMars Rover Landing Site <i>Joe McNeil, The Open University</i>
14.10	Periodic Bedrock Ridges in Oxia Planum and the wider Circum Chryse Region, Mars: preliminary results from a systematic survey <i>Elena Favaro, The Open University</i>
14.25	Q&A with panel discussion
14.45	General Discussion
15.15	Close
17.30	Mars Careers Panel