

MARS DAY 2021

Thursday 18 March

Explore Mars with hidden heroes and UK STEM Ambassadors

As part of the Mars Day mission, there will be four 'fireside chats' starring UK STEM Ambassadors working in the UK space industry. Hear about their journeys from studying STEM subjects to participating in space missions here on Earth; how you don't have to be an astronaut to work in space; be inspired by the industry's contribution to international space exploration.



11.30 – 12.10 [SCIENCE IN SPACE](#)

Join a panel of STEM Ambassadors working in (the) space (industry) whose adventures began by studying science subjects. Session Patron is Dr Suzie Imber, a space plasma physicist, a high altitude mountaineer, an explorer, and maybe one day, an astronaut!



Patron: Dr Suzie Imber – Associate Professor in Space Physics, University of Leicester

Dr Imber is a space plasma physicist, a high altitude mountaineer, an explorer, and maybe one day, an astronaut! She was the winner of the BBC2 series 'Astronauts: Do You Have What It Takes?'



Panellist: Elena Favaro – Open University Postdoctoral Research Associate - Aeolian landscapes and processes, ExoMars

Dr Favaro is a planetary geomorphologist at the Open University. She is a member of the ExoMars team focusing on aeolian (wind-driven) processes at Oxia Planum - the landing site for the Rosalind Franklin Rover, touching down on Mars in 2023.



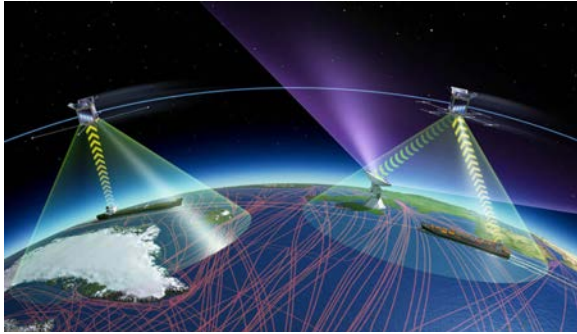
Panellist: Dr Hina Khan – Senior Project Manager at Spire Global UK

Dr Khan manages Spire's portfolio of UK project activity, working closely with the UK and European Space Agencies. This includes the delivery and implementation of technology development on the Spire nanosatellite platform to the development of data products for commercial application.



Panellist: Professor Caroline Smith – Head of Earth Sciences Collections, Principal Curator of Meteorites at the Natural History Museum

Over the last decade Professor Smith has participated with ESA and NASA to plan for a Mars exploration mission; has led a team of museum researchers to create a collection of various rocks and minerals to develop technologies for ESA's robotic exploration missions; become a member of the Mars 2020 Science Team and has a meteorite from the NHM on Mars at this very moment with Perseverance.



12.15 – 12.55 [TECHNOLOGY IN SPACE](#)

Hear how this panel of STEM Ambassadors launched into the world of space technology! Dr Jackie Bell is this session's Patron, a previous researcher in quantum chromodynamics, trainee astronaut and from Imperial College London's Department of Computing.



Patron: Dr Jackie Bell – Senior Teaching Fellow in the Department of Computing, Imperial College London

Award-winning science communicator and STEM advocate, Dr Bell is a previous researcher in quantum chromodynamics, TEDx speaker and candidate in the BBC2 series 'Astronauts: Do You Have What It Takes?'. Becoming a helicopter pilot in her spare time, Jackie has a keen interest in all things space and hopes to one day become Britain's next ESA astronaut.



Panellist: Dr Steve Banham – UK Space Agency Research Fellow, Postdoctoral Research Associate, Imperial College London

Dr Banham works on the NASA Mars Science Laboratory and ESA ExoMars missions, to understand habitability of ancient Martian environments. Detailed examination of the rocks on the surface of Mars can tell us about surface processes, the landscape at the time, how climate changed, and if the environment could have been habitable.



Panellist: Group Captain Andy Cooksley – Future Communications and Digital Systems Lead, Royal Air Force

Group Captain Cooksley ensures that the RAF has the information systems it needs to do its job. That includes satellite communication systems, being able to analyse intelligence information gathered from space, and making sure we keep an eye on what's happening in earth orbit so that the UK can operate its satellites safely.



Panellist: Sara Motaghian – Space and Planetary Science PhD researcher working on ExoMars, Natural History Museum and Imperial College London

As a PhD student with the Natural History Museum and Imperial College London, Sara works on some of the spectral instrumentation on board the ExoMars 2022 mission, focusing on how we use these instruments and developing protocols and software to maximise scientific return during the mission. The aim is to identify areas that might harbour evidence of life.



13.00 – 13.40 [ENGINEERING IN SPACE](#)

This sessions' Patron, John Chinner from Airbus, is joined by a panel of STEM Ambassadors who work in space exploration having studied engineering. Their missions include Rosetta, the Solar Orbiter and the ExoMars rover launching in 2022 to Mars.



Patron: John Chinner – Airbus Defence and Space Engineering Academy

John is a Principal Engineer at Airbus Defence and Space, the largest aerospace company in Europe. They are responsible for building spacecraft for projects such as Rosetta, the Solar Orbiter launched recently to study the Sun, and the ExoMars rover that will launch to the red planet in 2022 to search for signs of past or present life.



Panellist: Hemanth Alapati – Design Engineer, Space Imaging, Teledyne e2v

The Teledyne E2V apprenticeship scheme has given Hemanth the opportunity to work in this engineering world. He is a design engineer involved in various aerospace projects in this company which is a global leader, working with the world's largest space agencies.



Panellist: Hannah Bilby – Mechanical Engineer student, Lancaster University and placement in spacecraft dynamic testing, RAL Space

Involved in the testing of space equipment for the launch and operational environment at RAL Space, Hannah is on placement from Lancaster University. RAL Space carries out world-class science research and technology development with significant involvement in more than 210 spacecraft. It is an integral part of the Science and Technology Facilities Council (STFC) and is the space hub for UK R & I.



Panellist: Dr Helen Miles – Lecturer and part of the ExoMars mission team, Department of Computer Science, Aberystwyth University

Dr Miles is a computer scientist with a focus on computer graphics and data visualisation. Working with the ExoMars mission team at UCL's Mullard Space Science Laboratory, she focuses on the PanCam camera system, one of two UK-led instruments on the rover. They are working to develop hardware and software that will let scientists make the most of every bit of data that comes back.



Panellist: Flight Sergeant Rhys Williams – Cyberspace Communication Specialist, RAF HQ Air Command Space Engineering Role Office.

In this role, Flight Sergeant Williams provides engineering oversight and assurance for the missile defence radar at RAF Fylingdales and the UK Space Operations Centre at RAF High Wycombe. He focuses on a whole range of projects including space junk, satellite tracking and satellite comms.



13.45 – 14.25 [MATHS IN SPACE](#)

This panel of UK STEM Ambassadors cover how studying maths launches you into the space industry and beyond! Session Patron, Áine O'Brien, studies Planetary Science & Astrobiology and is part of the ExoMars outreach project, Roving with Rosalind.



Patron: Áine O'Brien – Planetary Science & Astrobiology PhD, University of Glasgow

Part of the ExoMars outreach project, Roving with Rosalind, Áine is currently analysing Martian meteorites for organic materials to help us understand whether Mars was ever habitable. She is also part of the team studying the meteorite which landed in Gloucestershire at the end of February, England's first in 30 years! Early analysis suggests it contains extremely ancient pieces of interplanetary debris that predate our own planet.



Panellist: Phil Allen – Space Vehicle Architect, Airbus

Phil's role involves leading teams of specialists in feasibility studies of various space mission concepts. The work involved covers a wide variety of disciplines, from system engineering, through mechanical and electrical architecture, to highly specialised design of payloads such as optical or radar instruments. Phil finds the whole field of space engineering engaging, but has particular interest in orbital mechanics and space weather.



Panellist: Ingmar Kamalagharan – Education and Outreach Manager, UK Space Agency

Ingmar's fascination with space and science led him to study a masters in Astronomy at UCL. After graduating he took a break to pursue his other passion of music, working as both a musician and production manager for high profile bands around the world. He returned to space at the UK Space Agency, spending 3 years on the ESA telecommunications programme before moving to space education. Passionate about exploring the links between art and science, Ingmar produced the Mars Perseverance film in collaboration with the artist Luke Jerram.



Panellist: Louise McCaul – Project Manager at STFC RAL Space

After joining the STFC's graduate scheme, Louise now works at RAL Space. She manages projects to design and build cameras for spacecraft instruments. Louise has also worked as a mentor at Space School UK for many years.

We hope you can join our Mars Day mission!

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MarsDay.org.uk