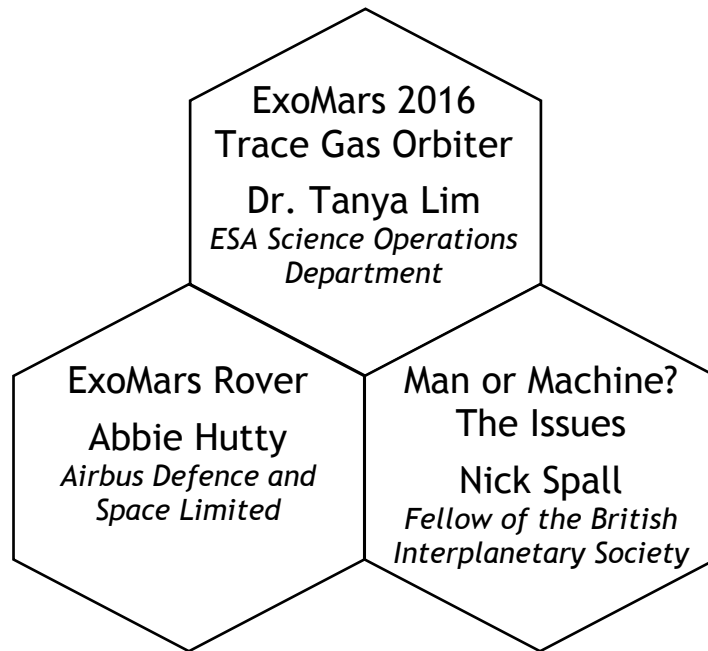


Mars - Man or Machine?

Seminar Chair: Professor Yang Gao



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Mars - Man or Machine?

Admission Free

Wednesday 8 November 2017, 6:45 pm

(Registration & light refreshments from 6:00 pm)



The Weston Auditorium
de Havilland Campus
University of Hertfordshire
Hatfield, Herts, AL10 9EU

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EMSTA Prestige Seminar 2017

Speakers

Professor William Clocksin, Head of School for Computer Science, UH.
Professor Clocksin was appointed Professor of Computer Science and Head of the School of Computer Science at the University of Hertfordshire in September 2010.

Professor Yang Gao, FIET FRAeS.
Associate Dean (International), Faculty of Engineering and Physical Sciences.
Professor of Space Autonomous Systems, Head of STAR Lab, Surrey Space Centre.

Dr. Tanya Lim, FRAS, ESA/ESAC Science Operations Department
Tanya Lim is based at the ESA Science Operations Department and is the archive scientist for both the ExoMars 2016 and Rover Surface Platform missions. Prior to working to ExoMars she was the manager of the SPIRE instrument on the Herschel Space Observatory and during this period she led the internationally distributed operations team and also worked as the test and calibration scientist for the instrument.

Abbie Hutty, FIMechE, Airbus Defence and Space Limited
Abbie Hutty graduated from University of Surrey with an MEng in Mechanical Engineering in 2010. She has worked at Surrey Satellite Technologies Ltd (SSTL) and at Astrium, now Airbus Defence and Space. In 2012 Abbie joined the ExoMars Rover Team, becoming Lead Spacecraft Structures Engineer for the ExoMars Rover Vehicle in 2014.

Nick Spall, Fellow of the British Interplanetary Society :
Nick has travelled extensively, interviewing NASA, ESA, Russian and private astronauts and engineers, plus he has taken part in astronaut training involving centrifuge and zero-g parabola flights. He coordinated the UK HSF campaign that helped see Tim Peake become the first official UK astronaut and fly the Principia mission to the International Space Station in 2015-16. Nick is a keen proponent of human spaceflight as being the most effective and inspirational way of exploring and, one day, colonising the Solar System.

Professor Hugh Jones, Director of Research, Science and Technology Research Institute, UH.
Professor Jones maintains an active personal research profile in the Centre for Astrophysics Research in the field of low-mass stars, brown dwarfs and exoplanets.

Mars - Man or Machine?

Programme

6:00 pm Registration, refreshments and networking

6:45 pm Seminar

Welcome: Prof. John Senior

Opening Remarks: Professor Yang Gao

Our Chair for the evening will present the 2017 EMSTA Award to an outstanding young Arkwright Scholar. She will then set the scene for the Seminar.

1st Speaker: Dr. Tanya Lim, ExoMars 2016 Trace Gas Orbiter (TGO)

The ExoMars 2016 mission is currently at Mars aerobraking towards its science orbit which is expected to be reached in April 2018. The 2016 mission will study trace gasses in the Martian atmosphere to advance our understanding of climatology and the link between the atmosphere and surface. One aspect of the mission of particular interest is the study of the origins of Methane, which potentially are biological. Tanya's talk will introduce the mission and give an update on status and early results.

2nd Speaker: Abbie Hutty, ExoMars Rover

ExoMars is Europe's first Rover mission to Mars – a mission in search of life, past or present. Abbie Hutty, the lead Spacecraft Structures Engineer working on the rover, will describe the mission's aims and objectives, some of the major challenges and design drivers of a robotic mission to the Mars surface, and how engineers are developing new technology and software to meet those challenges.

3rd Speaker: Nick Spall, Man or Machine? The Issues

- Routes for humans to Mars - NASA's plans, Elon Musk's plans,
- What it will do to the body? - zero-g effects, radiation dangers, disease and death mid-mission
- What will it do to the mind? - isolation, spacecraft confinement, distance from Earth contact and support, signal delays
- Surface operations and issues - dust, radiation, resource utilisation
- Effectiveness of human operations, and scientific results.

Open Forum: questions and answers

Vote of Thanks: Professor Hugh Jones

9:30 pm Close