



***Lecture on Tuesday 8<sup>th</sup> April 2025***

***12 Years of Curiosity at Gale Crater, Mars***

**Presented by**

***Professor Susanne P. Schwenzer***

**Venue: Husborne Crawley Reading Room, Turnpike Road, Husborne Crawley, Beds.  
Post code: MK43 0XB**

**Venue opens and refreshments from 6.30pm. Lecture starts at 7pm**



Dr Susanne P. Schwenzer is a Professor of Planetary Mineralogy in the School of Environment, Earth and Ecosystem Sciences, and a mineralogist by training. She joined the Open University in 2009 for a post-doctoral position, became a Research Investment Fellow in 2013, a lecturer in 2015, a senior lecturer in 2017, and a professor in 2024.



Her professional journey started with the goal to become a journalist... To acquire knowledge in one field relevant to journalistic reporting, she decided to study a natural science and settled on mineralogy. During her studies she worked at a German newspaper in parallel, and then decided to pursue a PhD. She graduated from University of Mainz with her PhD in 2004 and held post-doctoral positions in the field of noble gases (Max-Planck Institute for Chemistry, Germany) and impact-cratering (Lunar and Planetary Institute, US), before coming to the OU.

Her research interests span a wide range that can be summarized as 'volatile-rock interactions'. She studies noble gases and their incorporation into minerals and rocks, and investigates changes that fluids cause when in contact with rock. Her main tools are mineralogical and isotopical investigations, and thermochemical modelling. Most importantly for this talk, she is a member of the NASA Curiosity rover team since the landing of the rover at Gale crater in 2012. She is also an interdisciplinary scientist on the ExoMars rover team, and has participated in the ExoMars field trial in the Atacama Desert as the field geologist, which is shown in the image.

### Abstract

In her talk, Susanne will focus on the Curiosity rover mission. She will start by summarizing 12 years of rover exploration of Gale Crater, and then focus on some aspects of the findings. Overall, the sedimentary record at Gale Crater shows a transition from a lake environment to a drier climate with evaporites. The rover traverse has revealed very different rock types, from conglomerates to mudstones, and a diverse mineralogy from clays to gypsum. Of course, a look at the Martian atmosphere should not be missing, with methane being one of the most interesting topics.

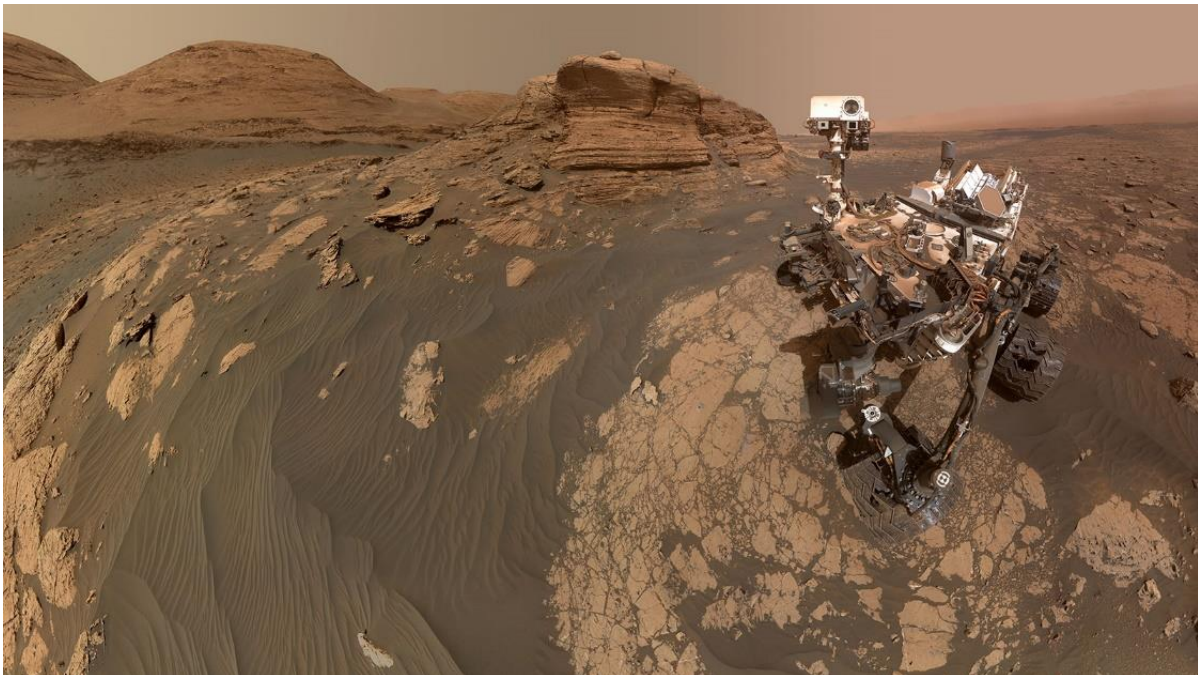
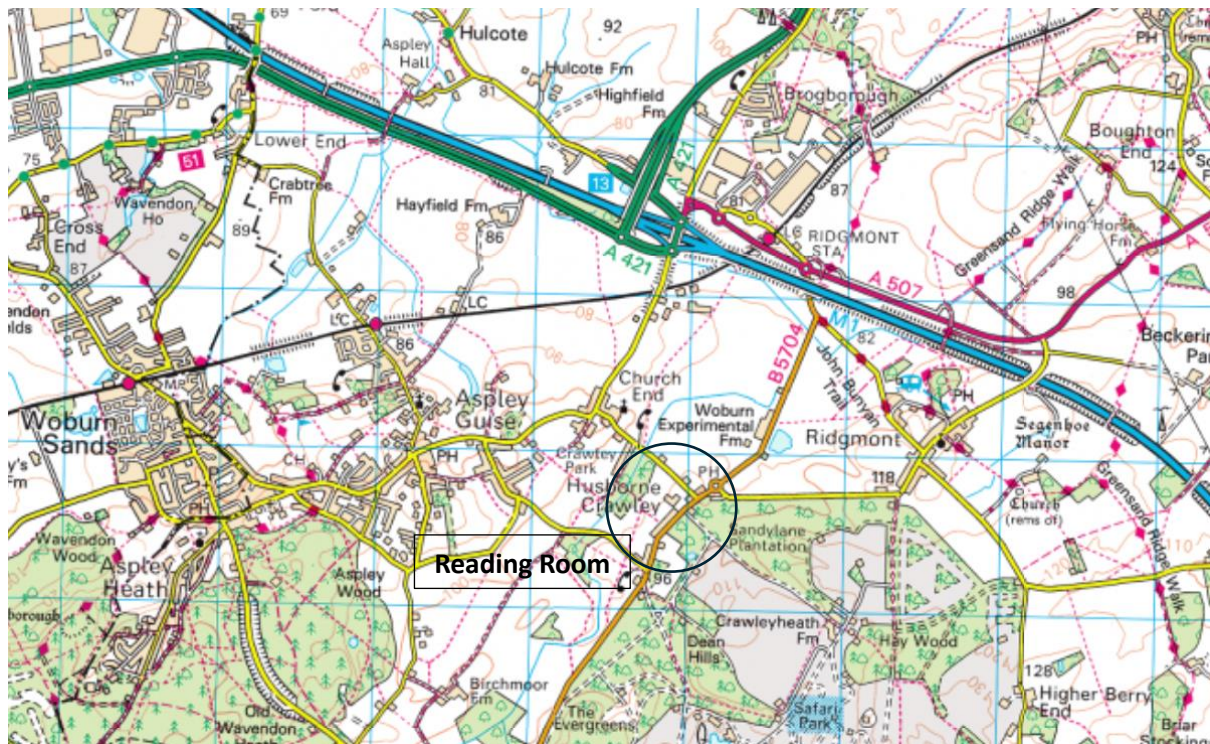


Figure 1: Curiosity 'selfie' at Mont Mercou, image credit NASA/JPL



## Accessing the venue

The meeting will be held in the Husborne Crawley Reading Room, Turnpike Road, Husborne Crawley, Beds, MK43 0XB. The Reading Room is shown on the maps below.



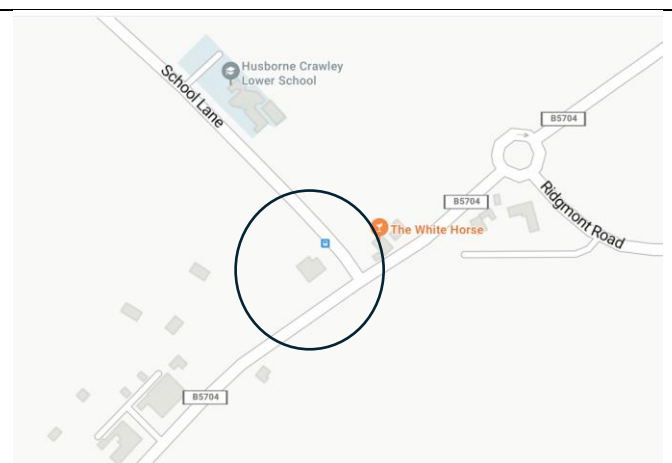
### Public transport

**By rail:** There is no station in Husborne Crawley. The nearest stations are both on the Bletchley to Bedford Marston Vale line at Aspley Guise and Ridgmont stations. Both these stations are about 2km from the venue.

**By bus:** There are a limited number of bus routes serving Husborne Crawley with a stop on School Lane outside the venue (opposite White Horse pub).

### By car

There is a car park at the venue with the access off the B5704 Turnpike Lane immediately west of its T-junction with School Lane. To the east of this junction is the White Horse pub, and the B5704 is called Mill Road. There is parking for at least a dozen cars.





**This event is free of charge, but registration is essential, priority will be given to Fellows and Student Fellows of the Geological Society who are members of the Home Counties North Regional Group. Fellows and Student Fellows of all other Geological Society Regional Groups are welcome to register their places, also free of charge.**

**Please book your places, stating in-person or online attendance, on a first-come-first-served basis by e-mail to [homecountiesnorthregionalgroup@gmail.com](mailto:homecountiesnorthregionalgroup@gmail.com).**

For more information on the Home Counties North Regional Group visit the website  
<http://www.geolsoc.org.uk/hcnrg>

**CPD (Continuing Professional Development) hours** – This Home Counties North Regional Group event qualifies for your CPD hours spent travelling to/from and attending the event. The content is intended to be suitable for early career through to experienced geologists and related professionals.

**This event is supported by RSK, and Soil Consultants**

