



York Society of Engineers

7:30 pm. Thursday 2nd November 2023

Live Lecture

Room P/L/001, Physics/Electronics Building, Campus West, University of York

Communicating with the Voyager Spacecraft

by

Professor Emeritus Andy Marvin



Courtesy NASA/JPL-Caltech

The two Voyager spacecraft were designed and launched back in the seventies when Andy was an engineering student. They use the hardware technology that Andy was taught about at the time. That they are still operational nearly fifty years later is nothing short of amazing. In the early days we saw spectacular colour images of the outer planets. More recently the cameras have been turned off partly to conserve power and partly because even the outer planets are now so far away from the spacecraft that they just show up as dots. Each of the spacecraft is a vast distance from earth, yet we can still communicate with them, receiving data about the local space environment at the edge of the solar system.

How on earth is this possible?

In this lecture Andy will show how it is possible. There will be some very very big numbers and there will be some very very small numbers as he explains how it is done and runs through the calculations to show how it all works.

Andy will do the sums - all you have to do is wonder!

Please note, this lecture will be a live talk in Room P/L/001, Physics/Electronics Building, Campus West, University of York.

Wearing of masks is encouraged (but not mandatory); taking a lateral flow test prior to the meeting (with negative result) is also recommended. There is plenty of space in the lecture theatre for “social distancing”.

Please see the Covid-19 guidance below from the University of York:

The safety of our audience members and staff are our priority, and the University of York continues to have strict cleaning regimes and enhanced ventilation in place.

Please note that the University of York is promoting a message of protect, respect and be kind in relation to Covid-19 and we therefore politely ask that all attendees consider wearing a face covering whilst moving around indoors, washing hands regularly and taking a lateral flow test in advance of the event. We also ask that you do not attend if you experience any symptoms that could relate to a Covid-19 infection OR if you are self-isolating. Events staff will wear face coverings (unless exempt) and clear signage will be available to access hand sanitizer and hand washing facilities.