

## **Astronomy Talk 22<sup>nd</sup> February 2022**

### **Life in the Universe**

This Zoom talk was given by the chairman. 82 attended.

Firstly, we looked at why are we so interested in this subject, our cultural background to this question and The Drake Equation.

Then we covered the development of the universe & our galaxy, including how we get to have the chemical materials and environment available for life to exist, including appropriately placed stars.

Local astrophysical requirements included the need for stability, what we've found with exoplanets, what sorts of stars are appropriate, the effect of the Moon, bombardments, and impacts.

Early biological needs looked at how quickly life arose on Earth, how complex life may have developed, including biological and environmental constraints on its development.

Planetary stability and environment went through the Moon and tides, plate tectonics, temperature stability, especially snowball Earth, major volcanism, and impact events.

Other biological phenomena looked at why the 'Cambrian Explosion' was when it was, mass extinctions and climate needs.

Finally, the discussion ended with a view on the likelihood of complex life elsewhere, taking us back to the Drake Equation and review each of the terms. The conclusion was that simple life is possibly widespread, whereas intelligent or complex life is unlikely to exist elsewhere in the Milky Way.