MS28-1-1 Exploring the unknown world of the virosphere
#MS28-1-1

I. Cormack [1], E. Tarrant [1], E. Pohl [1]
[1]Durham University - Durham (United Kingdom)

Abstract
Biotechnology plays an ever-increasing role in the production of everyday products, from food ingredients to vaccine development. Many of the key tools in biotechnology have been discovered from the study of viruses as their genomes are packed with novel nucleic acid-processing enzymes.1 However, the vast majority of viruses have not been characterised.2 Therefore, the European Virus-X consortium sampled viruses from extreme environments to sequence and characterize their proteins.2 From this, several hundred gene products have been characterised. A number of viral proteins sourced from these extreme environments were identified with the potential to enhance a wide range of current molecular biology techniques. One group of proteins, single-stranded DNA binding proteins, show potential to enhance loop-mediated isothermal amplification specification and assay time.2 These binding proteins await characterisation using a range of biophysical and structural techniques which include X-ray crystallisation and cryogenic electron microscopy.

References
1. G. Ofir and R. Sorek, Cell, 2018, 172, 1260-1270.
2. Aevarsson, A. et al., FEMS Microbiology Letters, 2021, DOI: https://doi.org/10.1093/femsle/fnab067.