

JELKE FROS WINS BEIJERINCK PRIZE

Virologist Jelke Fros has won the 2020 Beijerinck Premium. The prize of 25,000 euros is awarded annually by the Royal Netherlands Academy of Arts and Sciences to talented young virologists.

Postdoc Fros (34) has won the prize for his work on the similarities between the genetic material of viruses and that of their hosts. In the genetic code of mammalian viruses, the different possible combinations of two successive building blocks are not found in equal proportions. Of the four nucleotides, the pairs CG and UA occur 60 per cent less than you would expect. Fros discovered there was a reason for this. Viruses have developed in that way in order to resemble their host more.

That similarity works in their favour as it lets them avoid the host's immune system.

Fros demonstrated in experiments that the more genetically similar viruses are to their host, the more successfully they can replicate in the host. That insight can be used to predict whether a virus will be successful in mammals and humans, and therefore a danger to them. The following step in his research is to exploit that similarity to develop safe and effective vaccines. Viruses can be weakened by adding GC and UA so that they resemble their host less, which makes them less successful.

Fros is the second WUR scientist to receive the Beijerinck Premium. Stan Brouns won it in 2013. **® RK**