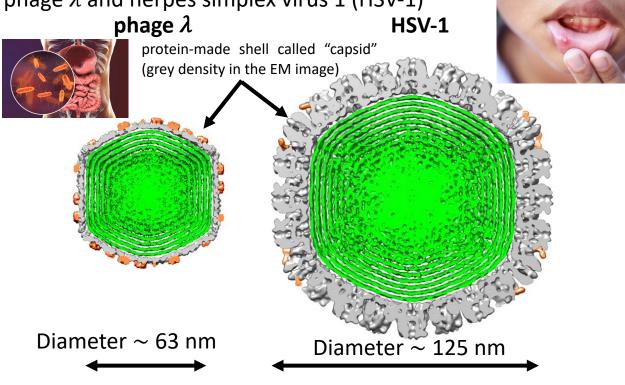
## **Virus Biophysics Group, Lund University**

Alex Evilevitch (PI)

Jose Ramon Villanueva (postdoc)

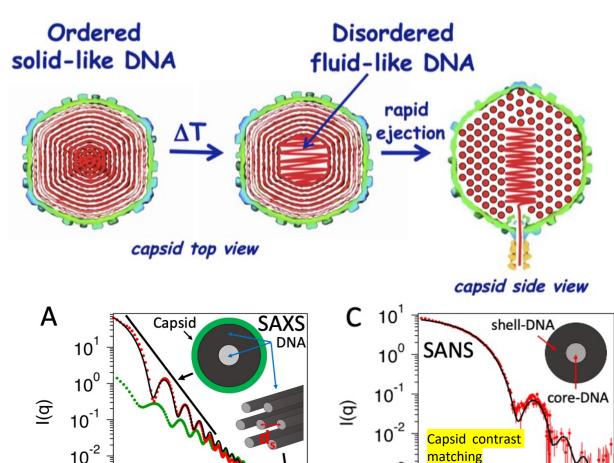
Our lab is researching the structure of two types of viruses: phage  $\lambda$  and herpes simplex virus 1 (HSV-1)



Inside those capsids there is double stranded DNA (green layers) whose length is hundreds of times larger than capsid's diameter:

L<sub> $\lambda$ </sub>= 16 490 nm, i.e., 261 times larger than phage  $\lambda$  capsid! L<sub>HSV1</sub>=51 000 nm, i.e., 408 times larger than HSV-1 capsid! It gives rise to a tightly packaged DNA which is evenly spaced inside the viral capsid. This DNA is packaged at high pressurization on the order of tens of atmospheres.

For phage  $\lambda$ , as temperature raises close to body temperature,



wt DNA phage  $\lambda$ 

q (Å<sup>-1</sup>)

empty capsid

43% D<sub>2</sub>O DNA-filled

phage  $\bar{\lambda}$  (background

q (Å