

"In virus" structural biology of SARS-CoV-2 and other viruses

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Abstract

We are interested in the structures and lifecycles of pathogenic enveloped viruses. Using a combination of cryo-electron microscopy, cryo-electron tomography and computational image processing we can obtain structures of proteins to high-resolution in-situ within virus particles. By doing so we can learn how viral proteins interact with one another to assemble virus particles, and how they then rearrange to perform or to adapt their functions at different stages of the viral lifecycle. I will present some of our recent data on viruses including influenza A and SARS-CoV-2. I will discuss the techniques used to obtain these data, and their implications for understanding the biology of these viruses.