**Understanding virus assembly via quantitative fluorescence microscopy**

S. Chiantia,– Cell Membrane Biophysics – University of Potsdam

Our research focuses on the identification of molecular interactions (e.g. during protein oligomerization) driving the assembly of viruses, namely Influenza A virus and Hantavirus. We tackle these questions either by using biophysical models of cell membranes or directly in living cells, thanks to the application of cutting-edge microscopy techniques that can provide quantitative information also in complex biological samples. Such techniques are based on fluorescence microscopy and, more specifically, on the mathematical analysis of equilibrium fluctuations. Our recent results deepen our understanding of how viral proteins interact at the plasma membrane of infected cells and demonstrate that our experimental approaches can be successfully applied to investigate complex networks of protein-protein and protein-lipid interactions in biological systems.