

# Master thesis project: studying BMP as a cofactor for influenza virus entry

**Period:** Fall 2023 – spring/summer 2024

**Location:** Laboratory of Molecular Biophysics, Department of Cell and Molecular Biology, BMC, Uppsala Universitet

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## Background

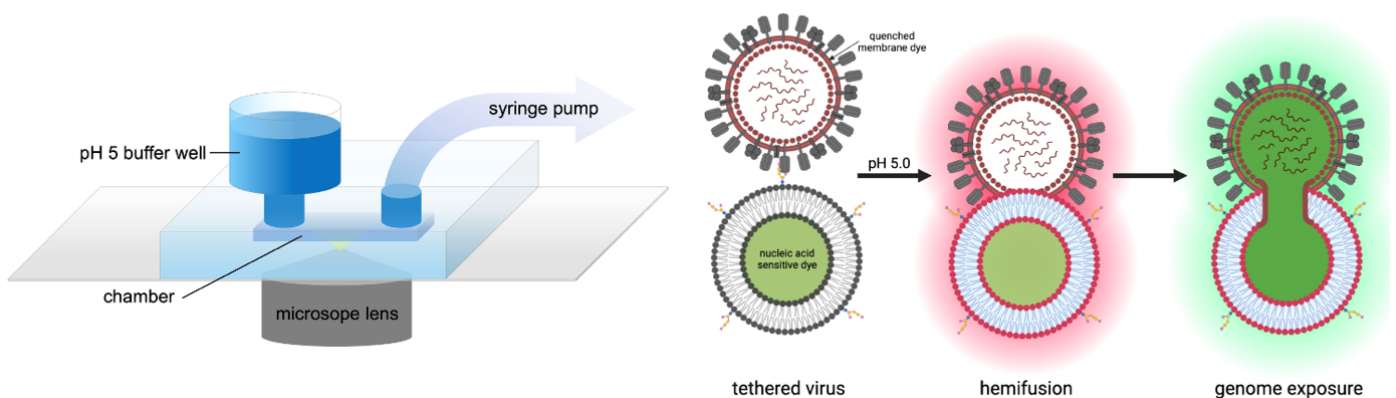
The [Kasson lab](#) studies the physical mechanisms underpinning viral entry of enveloped viruses, using model viruses like influenza, SARS-CoV-2, HIV and Zika virus. We are currently looking for a motivated and curious master student interested in undertaking their thesis project with us.

## Project outline

The project will aim to build on our previous work demonstrating that influenza virus fusion is dependent on the phospholipid BMP, which is exclusively found in the endosomal/lysosomal membrane (Mannsverk, Villamil Giraldo, and Kasson 2022). The project outline includes, but is not limited to:

1. Measuring fusion between liposomes containing BMP and influenza viral particles (see schematic below) and assessing to what extent an anti-BMP antibody can block/perturb fusion.
2. Attempting to inhibit viral entry and replication of influenza viral particles with target cells, using an anti-BMP antibody.
3. If time permits, attempt to reduce cellular BMP levels, and measure the effect on viral entry/fusion.

## Virus-liposome fusion assay :



## Who are we looking for?

The prospective student should have a background in biophysics, biochemistry, virology or the equivalent. Basic practical laboratory skills are essential. But most importantly, we are looking for a motivated, curious student willing to learn new things and with an interest in the subject.