



## Master's thesis projects in cryo-electron tomography and synthetic biology of human RNA virus replication

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We offer master's thesis projects in our new group at Umeå University. The projects will use innovative structural and mechanistic approaches to study the replication of human RNA viruses.

As a master's student in the Carlson lab, you will be trained in one or more of the following methods:

- **purification and characterisation** of challenging membrane-associated proteins
- **cryo-electron microscopy and cryo-electron tomography** of purified macromolecular complexes and cells
- **synthetic biology** (a.k.a. *in vitro* reconstitution) of membrane-bound processes on giant unilamellar vesicles (GUVs)
- **fluorescence microscopy**



***Make your own virus:***  
**synthetic biology**  
**of virus replication using**  
**GUVs and quantitative**  
**fluorescence microscopy**

Applicants should ideally have a background in e.g. biophysics, applied physics, structural biology, biochemistry or cell biology, but ambitious and enthusiastic candidates will always be considered. Your application should contain a statement of interest, contact information to at least one referee and description of past courses and experience.

Send your application, or any informal questions, to Lars at [lars-anders.carlson@umu.se](mailto:lars-anders.carlson@umu.se).

We look forward to hearing from you!