

mRNA recruitment into biomolecular condensates

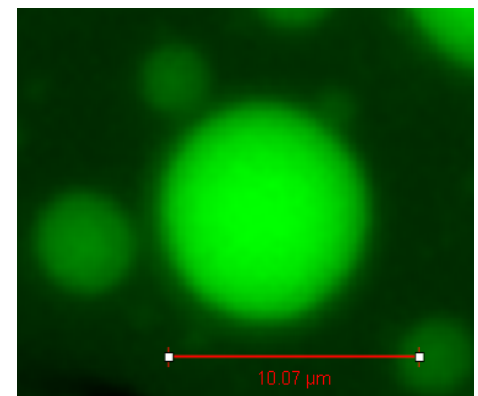
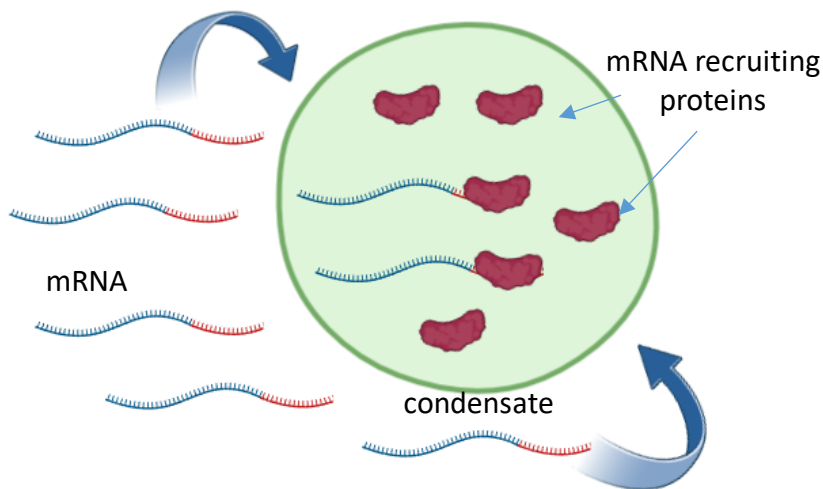
Professorship of Synthetic Biology – Masters Internship project from September

Biomolecular condensates are membraneless organelles. They are crucial for compartmentalisation, and are found in a wide variety of forms in nature, from stress granules to the nucleolus. Condensates create localised and specialised environments. Currently, scientists are researching how we can exploit condensates to give these environments functionality.

One function we are interested in studying further is the recruitment of mRNA into condensates. mRNA recruitment will lead to translational inhibition, which could enable condensates to be used for transcriptional repression and within signalling pathways. As such, establishing a robust and reliable method for selective mRNA recruitment is of a high interest to our lab.

Within this project, you will establish a method for the recruitment of mRNA into condensates in cell-free transcription-translation (TXTL) reactions. You will test a variety of ways to recruit and visualise mRNA to condensates, using batch reactions and a microfluidic chip platform.

This project will be offered as a Masters Internship project (3 months), starting from September 2024, with the Professorship of Synthetic Biology (SYB). If you are interested in this project, please send an expression of interest to emma.crean@tum.de. You should include a short statement of motivation and your CV



Condensate under a microscope