Meeting 1 - 20/10/2020

- Found a dataset- tried to debunk it. http://cdsportal.u-strasbg.fr/?target=HD%20226868
    - Find out what “Main ID” column represents
    - Plot Luminosity vs arcsec
    - SEARCH FOR MORE DATASETS
- Obtain basic data about the system
    - Mass of system and further aspects
    - Radius/size/ celestial coordinates
    - Luminosity data (When plotted with time, can get orbital period)
    - Orbital periods (if readily available then coolz)

- Start numerically solving the collapse/delayering condition (ask mathphy team for relevant equations/functions, or just work on it whilst consulting mathphy)
- Numerically solve the accreting phenomenon and the matter falling into the black hole. (Bridge point 3 and 4 finally)
- Start animating the process with Unity-
    - a black hole shader; as it is performed by ray tracing, it conforms to the actual appearance of the black hole. The shader also considers the gravity redshift effect which is in theory caused by the differences of gravitational force between the observer and the light source. (For generating accretion disk)
    - Redshift texture is a lookup texture for gravitational redshift. The horizontal axis is 3a / R, and the vertical axis is a / r0. Where R, r0 are the position (radius) of the light source and the position (radius) of the observer.
        - If you want to generate this texture, you can use the python notebook (opensource from github user conjLob)Notebooks/Redshift.ipynb

As soon as the theory team figures out the condition at which the black hole begins to feed on star, we’re good to go. From the sim, estimate the evolutionary time of this collapse process.

Software to be used: Unity, Python (Anaconda distribution), Ansys-Fluent or OpenFOAM.