# Abstract

Formation and breakup of liquid droplets play key roles in a wide range of chemical processes, most of which are concerned with atomising the liquid into fine droplet sprays in a co-flow environment. The problem statement deals with impingement of liquid jet in cross-flow gas environmen . This report is aimed for CFD Modelling of Liquid Jet and Cascade Breakup in crossflows. The application is dominant in gas turbine engines where there is need to improve the performance of burners in combustor system. The goal is to present a good mesh strategy for simulating a jet in cross flow. The work will determine both the shape of the liquid column and dispersion pattern of the droplets and compare with the recent available literature

Problem Statement
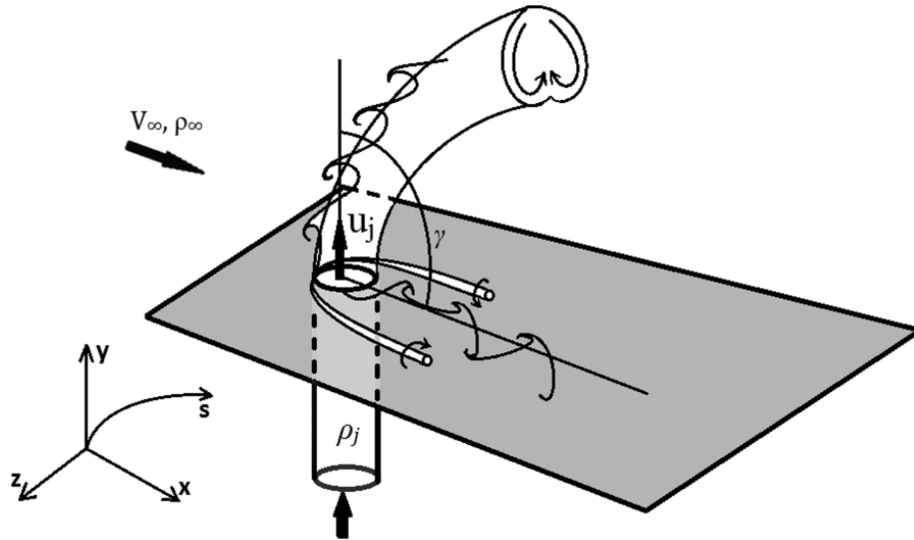
The work will initially involve 2d simulation and then finally do it for 3d geometry. Find the different characterisitics such as breakup length upon varying the boundary conditions by changing the liquid jet momentum w.r.t to cross flow momentum.

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