Master thesis - New turbulence-chemistry interaction models for combustion LES

In this project, the student will research different ways to interpret the Partially Stirred Reactor (PaSR) model, which is used to capture turbulence-chemistry interactions, and implement these in code. The student will test the different strategies in Large Eddy Simulations (LES) of a turbulent combustion case from the literature. The student is also encouraged to invent and test novel ways to interpret the model.

Aim:

- Provide an informative review of possible modeling strategies, including potential novel methods
- Implement a number of strategies in code
- Carry out LES with different modeling strategies to determine their effect and accuracy