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Membrane module design – optimization of forward osmosis biomimetic membrane using computational fluid dynamics (CFD)

Computational fluid dynamics (CFD) analysis will provide membrane/module design strategies for Forward Osmosis (FO) process using the software Open FOAM in collaboration with **Aquaporin A/S** as part **of MEMENTO** project (http://www.memento.env.dtu.dk/). The main focus of the simulation will be to optimize membrane internal geometry (e.g. aquaporin protein and vesicle loading and porosity and tortuosity of the support material). The CFD model will be validated against the experimental study.

Project type

Topic is suitable for MSc project

Pre-requisite

Experience with CFD software: Fluent, Comsol, Open FOAM

Group size

1-2 students

Department of supervisors

Main supervisor: DTU Environment/Aquaporin A/S

Co-supervisor: DTU Environment

Contact person

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