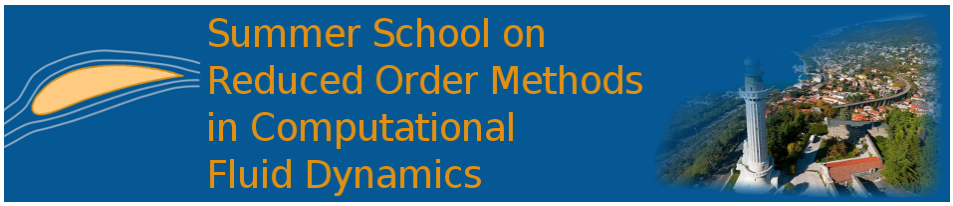

Contribution ID: **41** Type: **Poster**

Using Lagrangian models in the simulation of water borne infectious diseases

Wednesday, July 10, 2019 4:21 PM (3 minutes)

Fish farming is increasingly important as the demand on food supplies grows with the world's population. Limiting the spread of disease within such farms is vital, as the detection of such diseases calls for immediate eradication of the infected farm. Optimal farm placement from the prediction of disease spread could potentially limit the spread of infections within these farms. Previous attempts at the prediction of disease spread between farms have not considered significant components of the problem. This study combines a population model with a Lagrangian particle tracking model, to simulate the spread of disease particles as they are generated. The model also considers the influence of the cages on the velocity field, which has been neglected by previous studies. An in-house developed code is used to model the spread of the disease. This code incorporated flow fields generated by OPENFoam, taking into consideration the effect of porous fish farms. The main aim of the study is to couple the disease model to data generated by Delft3D-FLOW.

Primary author: Ms KENNEALY, Meghan (Stellenbosch University)

Co-authors: Prof. SMIT, Francois (Stellenbosch University); Dr WILMS, Josefine (Adviseur at Deltares Software Centre (DSC, Deltares))

Presenter: Ms KENNEALY, Meghan (Stellenbosch University)

Session Classification: Poster blitz