

## 1. Summary.

The Short Term Scientific Mission was funded by a grant from COST Office (Food and Agriculture COST Action FA1304: *Swimming of fish and implications for migration and aquaculture*; FITFISH).

The STSM was conducted at DTU Aqua in Hirtshals Denmark, and had a duration of 8 weeks. It was supposed to be only 6 weeks, but because of the unfortunate event of a outbreak of “freshwater white spot disease” (*Ichthyophthirius multifiliis*) on the fish in the experiment, it had to be put on hold for 2 months and prolonged for 1 week the next stay.

The aim was to investigate swimming performance in rainbow trout (*Oncorhynchus mykiss*) over a 5-fold size range, from 50 grams to 500 grams in bodymass. The optimal swimming speed ( $U_{opt}$ ) for rainbow trout is generally assumed to be 1.0 – 1.1 body length/second ( $BL\ s^{-1}$ ), which is considered to be the most energetically efficient swimming speed for rainbow trout with a mass of  $\approx 250g$  (Webb, 1971; Weihs, 1973; Walker and Emerson, 1978). As such,  $U_{opt}$  is by many considered to coincide with the swimming speed for optimal growth (Davison & Herbert, 2013). While Brett (1965) determined the relationship between size and oxygen consumption during sustained swimming speeds in sockeye salmon, no effort has been made to determine how fish size (length) influences  $U_{opt}$  and COT in rainbow trout.

Despite of a few bumps in the road, the experience was highly successful in regards to how much I have learned on the field of respirometry in fish, and hopefully this will be shown in the results that we aim to publish. I have met many interesting people at DTU that I am sure I will stay in touch with in the future. This is certainly very valuable in regards to my career and further research and I am very glad to have had the opportunity to do a STSM in this institution.

I would like to thank both the FitFish and COST organization as well as DTU for this valuable experience. And also I would like to give a special thanks to Peter Vilhelm Skov and Javed Rafiq Khan at DTU for all the help with my experiment.



Picture: Caroline Navjord and Javed Rafiq Khan at DTU.