SCIENTIFIC REPORT	
Reference	Short Term Scientific Mission COST FA1304
Beneficiary	Božidar Rašković Institute of Animal Sciences Faculty of Agriculture University of Belgrade Nemanjina 6, Zemun 11080 Belgrade Serbia e-mail: raskovic@agrif.bg.ac.rs
Host Researcher	Gudrun De Boeck Systemic Physiological and Ecotoxicological Research University of Antwerp Groenenborgerlaan 171 2020 Antwerp Belgium e-mail: gudrun.deboeck@uantwerpen.be
Period	from 07/09/2016 to 14/10/2016
STSM Reference Code	**COST-STSM -FA1304-34704**
STSM Title	Physiology of common carp (*Cyprinus carpio* L.) swimming in low environmental concentration of ammonia

Summary

The research project conducted gave the opportunity to the applicant to study new methods in physiology of fish swimming. The aim of the project was to evaluate importance of common carp swimming in nutrition trial. Several endpoints were established in order to evaluate performance of common carp constantly swimming at 0, 1.5 and 2.5 body lengths per second: oxygen consumption, critical swimming speed, weight gain, hepatosomatic index, condition factor, level of ammonia in fish blood plasma, energy budget analysis of liver and muscle, gene expression assay and water content in the muscles. Additionally, a comparison in oxygen consumption between fish swimming in flocks in large new raceways installed at University of Antwerp and single fish swimming performances at Blazka-type respirometers were studied. Fish were fed daily with 3% of their total body mass and after 28 days of the trial, common carp swimming constantly at both speeds showed increase in weight gain compared to control. Majority of fish species demonstrate similar pattern, which could potentially be very important to aquaculture: to increase weight gain during extensive swimming. This principle is well established for salmonid species, but common carp is typically perceived as “lazy” fish, inhabiting shallow and slow water primarily because of its feeding habits. First results obtained in this trial showed that common carp is following the same trend as salmonid fish species, but questions about its metabolism should be answered after complete data analysis. This STSM provided valuable experience to applicant in acquiring basic knowledge in physiology of fish swimming. Apart from conducting an experiment and obtaining fish swimming performance data, the applicant conducted several laboratory protocols, working in positive and enthusiastic atmosphere at University of Antwerp.