Popular science summary of the PhD thesis

PhD student	Maria Sokolova
Title of the PhD thesis	Development of an optical catch monitoring tool for demersal trawl fisheries
PhD school/Department	DTU Aqua

The project demonstrates the end-to-end development of an optical catch monitoring tool for demersal trawl fisheries and demonstrated on *Nephrops*-directed fishery case study. Demersal trawl fisheries are characterized as mixed due to high presence of bycatch in the resulting catches. Trawl gear modifications have been implemented and developed for decades, however the particular issue still persists. Additionally, in the case study the target species – *Nephrops*, has a specific behavior of diel emergence from the burrows, which they make in the seabed. That means, that there is a specific time window when they are outside of the burrows and can be caught by the trawl. The proposed optical monitoring tool enables a high quality video monitoring of the catch building process through a developed trawl modification and a portable camera device as well as automated detection, classification and count of catch. This specific information can be used by the fishers to transform traditionally 'blind' fishing process to a targeted and deliberate. Moreover, fishers will be able to comply better with ambitious management plans implemented in the EU, e.g. Common Fisheries Policy Landing Obligation.