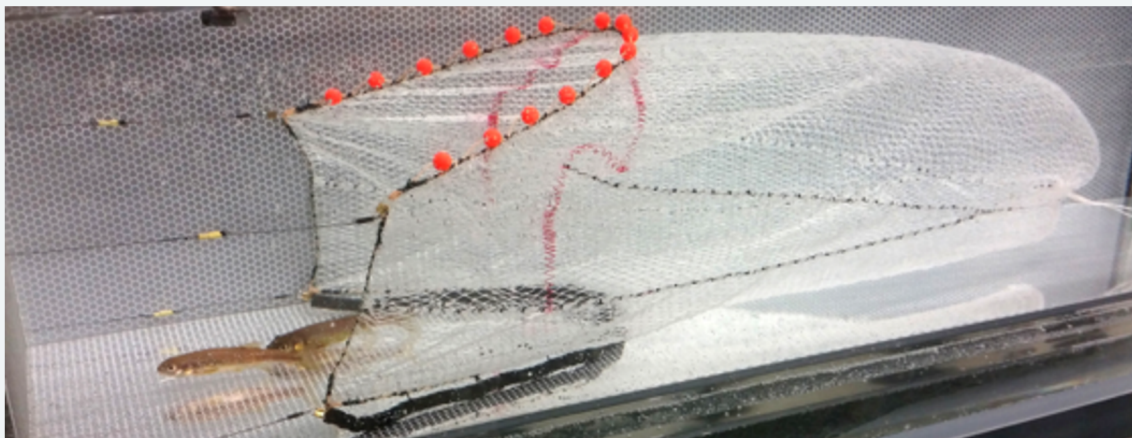




## Humans as predators: the potential for fisheries-associated selection on physiological and behavioural traits



There is increasing evidence that intense fishing pressure can not only deplete fish stocks but also cause evolutionary changes to fish populations. While body size and fecundity seem especially prone to change due to fishing in wild populations, there are numerous other behavioural and physiological traits that could also affect vulnerability to capture by fishing gear, and potentially contribute to fisheries induce evolution. Specifically, traits related to energy balance (e.g., metabolic rate), swimming performance (e.g., aerobic scope), foraging, and social behaviour seem especially likely to influence vulnerability to capture through a variety of mechanisms.

In this presentation, I review some of the work we've been doing in the laboratory and in the field, to examine the potential for fishing practices to select on physiological and behavioural traits in fish. Selection on these traits could produce major shifts in the physiological traits within populations in response to fishing pressure that are yet to be considered but which could influence population resource requirements, resilience, species' distributions and responses to environmental change.

**Date:** Friday Jan. 24th

**Time:** 16:00 (UTC+8)

**Venue:** Remote talk via Zoom + 3N01



### Shaun Killen

Shaun is a Professor of Ecophysiology at the University of Glasgow, in the School of Biodiversity, One Health, and Veterinary Medicine. He is interested in the physiological and behavioural ecology of animals and especially how energetic demand influences trade-offs involved with foraging and predator-avoidance behaviour. During his PhD at Memorial University of Newfoundland in Canada (2007), he studied how metabolic traits interact with behaviour throughout early development in larval marine fishes. His current work examines on how environmental change affects relationships between behavioural and physiological traits in an ecological context, often focusing on animal social behaviour. Killen has also examined the physiological effects of catch-and-release angling in fishes. Most recently, this line of inquiry into physiology and mechanics of fish capture is being extended to the study of mechanisms underlying fisheries-induced evolution.

