

Behaviour of Arthropod Disease Vectors: A Source for Biorational Pest Control in a One Health Context, 4-5 Jul 2022, Montpellier, France.

Mosquito behavioural responses to sound: implications for sound traps and mosquito control

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Abstract: Inter-mosquito sound detection is essential during in-fly mating behaviour and some species detect the sound of their blood hosts to localize them. First, this presentation will describe 1) the basic mechanism of mosquito hearing, 2) the ranges of sound frequencies and sound levels they can hear in electrophysiology studies, and 3) the behavioural response to sound stimuli and natural sound sources. Second, this knowledge will be used to draw some implications for controlling mosquito with sounds (traps, repellents, or mating disruptions).

Biography: Dr Lionel Feugère is a senior Research Fellow in Bioacoustics at the Natural Resources Institute, University of Greenwich. Lionel Feugère's research interests are the uses of computational audio techniques and interactive audio-visual systems to study sound communication. He aims to gather behavioural entomology, sensory physiology, and acoustics to understand the sound production and auditory communication found in some animals and to use this knowledge to reduce the impact of pest insects responsible for major public health issues. Since 2017, Lionel has mainly been involved in the study of mating swarms and mating chases of mosquitoes which are known both to have one of the most sensitive auditory organs among the invertebrates and to be vectors of serious diseases in humans and animals.