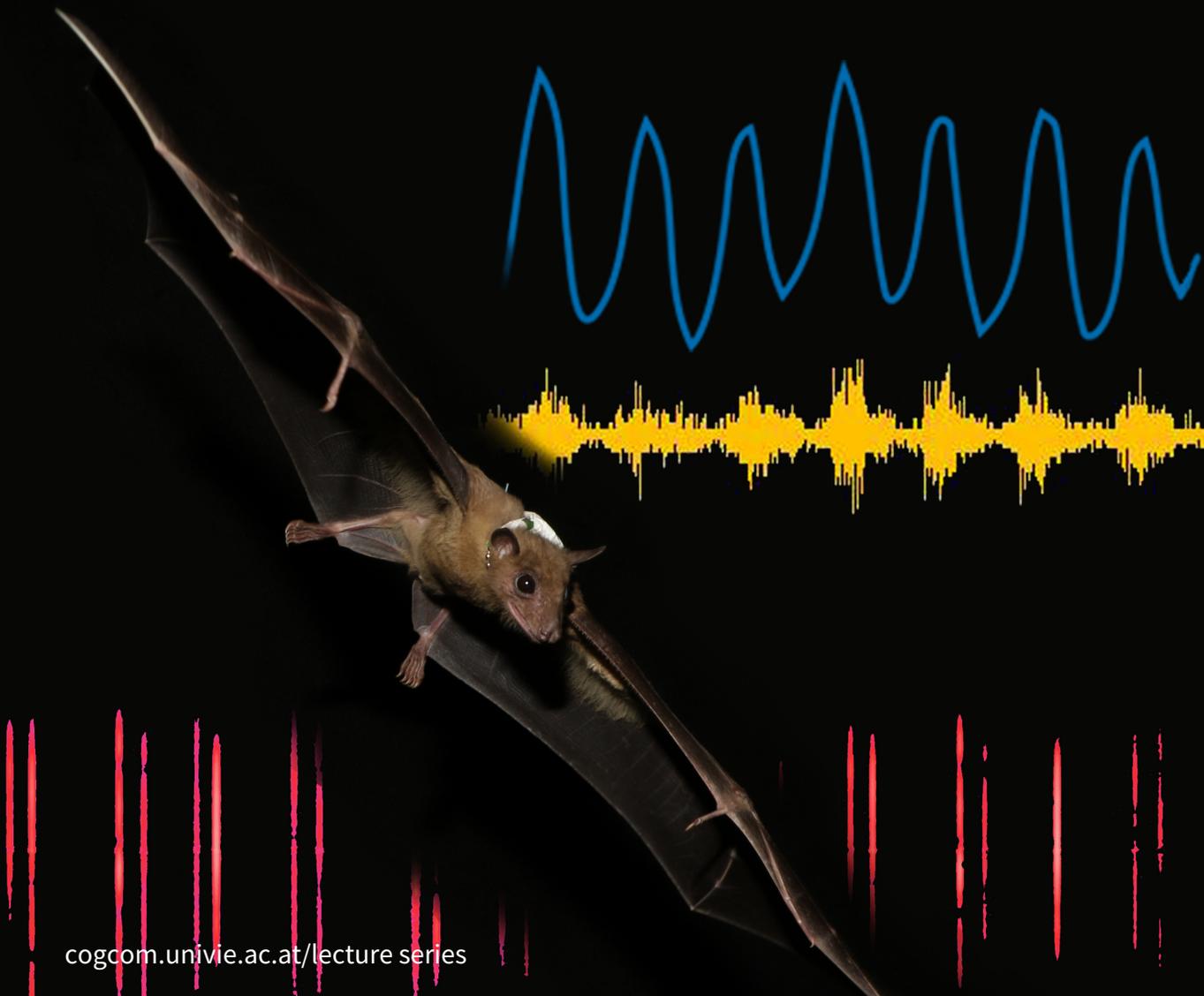


YOSSI YOVEL, PhD FROM SENSORY PERCEPTION TO FORAGING DECISION MAKING – THE BAT'S POINT OF VIEW

Monday, 03.06.2019, 11:30 at Lecture Hall 2, UZA I



YOSSI YOVEL, PHD

FROM SENSORY PERCEPTION TO FORAGING DECISION MAKING – THE BAT’S POINT OF VIEW

Bats are remarkable aviators and amazing navigators. Many bat species nightly commute dozens of kilometres in search of food, and some bat species annually migrate over thousands of kilometres. Studying bats in their natural environment has always been extremely challenging because of their small size (mostly <50 gr) and agile nature. In the past four years, we have developed novel miniature technology to GPS-tag small bats, thus opening a new window to document their behaviour in the wild. However, the movement of an animal alone is not sufficient for studying its behaviour and its decision processes. We therefore equipped our miniature GPS devices with an ultrasonic microphone, which allows monitoring the sonar and social communication of freely behaving bats. Because echolocating bats rely on sound emission to perceive their environment, on-board recordings enable us to tap into their sensory ‘point of view’ and to monitor fundamental aspects of their behaviour such as attacks on prey and interactions with conspecifics. This intimate description of behaviour allows us to examine sensory decision making under natural conditions. In my talk, I will present several projects that examined how bats combine sensory information with social information in order to improve foraging. I will also present our current effort to include more on-board sensors for the study of bat Neuro-Ecology including acceleration, EEG and physiology sensors.

Yossi Yovel is the head of the NeuroEcology lab in Tel-Aviv University. The lab aims to address the gap between Neuroscience and Ecology by developing miniature technologies that enable to conduct controlled experiments with wild animals in their natural environment. The lab focuses on echolocating bats and is interested in a wide range of fundamental behaviors including long and short-range navigation, social networks and collective behavior, sensory decision making, inter-sensory integration, and vocal communication, as well as bio-sonar and bio-inspired robotics.