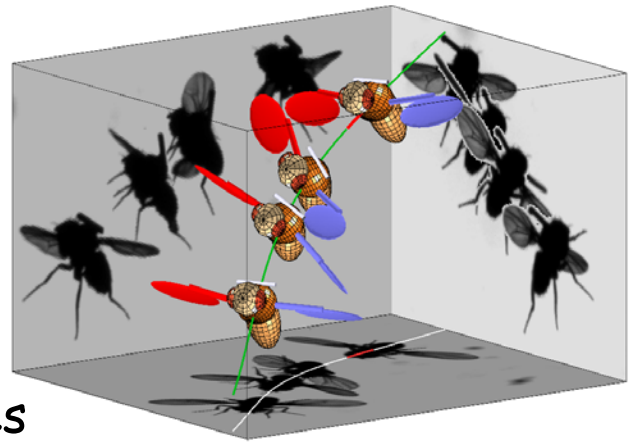
Ben-Gurion University of the Negev
Jacob Blaustein Institutes for Desert Research
The Swiss Institute for Dryland Environmental and Energy Research
Mitrani Department of Desert Ecology



Seminar

Tsevi Beatus

Department of Neurobiology, The Institute of Life Sciences Bioengineering Center, The School of Computer Science & Engineering, The Hebrew University of Jerusalem

Tuesday, November 6, 2018, 12:00
Seminar Room, Old Administration Building

Participants are invited to meet the seminar speaker at the MDDE meeting room immediately after the seminar (~ 13:00). Please bring your lunch; snacks will be provided.

The Flight Control Reflex in the Fruit Fly

A flying insect is a nonlinear dynamical system subject to fast-growing mechanical instabilities that must be continuously controlled to allow flight. In this talk we will present a perturbation experiment that elucidates how fruit flies control their rotational degrees of freedom: yaw, pitch and roll. Along roll, for example, flies respond to mechanical perturbations within a single wing-beat, or 5 milliseconds, making this correction reflex one of the fastest in the animal kingdom. These results, along with initial evidence for nonlinear control mechanisms, pose insect flight control as a potential model system for studying the neural mechanism of such fast stabilization reflexes.