

МЕЖДИСЦИПЛИНАРНЫЙ СЕМИНАР

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БИОЛОГИЯ РАЗВИТИЯ

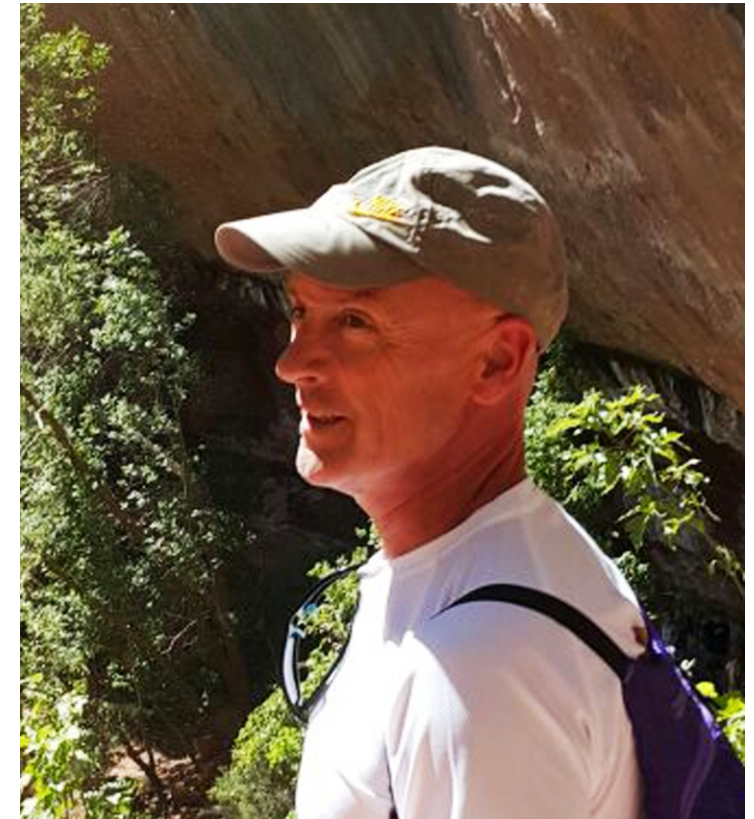
Институт биологии развития им. Н.К.Кольцова РАН

Научный совет РАН по биологии развития

ЧЕТВЕРГ 28 января в 11.00

**Neuro-Parasitology:
neurochemical
manipulation of host
by a parasitoid wasp**

СЕМИНАР проходит в 11.00
в Конференц-зале Института
биологии развития
ул.Вавилова,26
М."Ленинский Проспект"



Professor Frederic Libersat
Life Sciences Department,
Ben Gurion University of the Negev
and the Zlotowski Center
for Neuroscience, Beer Sheva, Israel

Neuro-parasitology is an emerging branch of science that deals with parasites that can control the nervous system of the host. The ability of parasites to alter the behavior of their hosts has recently generated an unusual interest in both scientists and non-scientists.

The parasitoid jewel wasp hunts cockroaches to serve as a live food supply for its offspring. The wasp stings the cockroach in the head and delivers a neurotoxic venom cocktail directly inside the prey's cerebral ganglia to apparently 'hijack its free will'. Although not paralyzed, the stung cockroach becomes a living yet docile 'zombie' incapable of self-initiating walking or escape running.

First, I will discuss the mechanisms by which the wasp finds its host Central Nervous System. Then, I will demonstrate that the venom contains components that are aimed at modulating specific circuits to the benefit of both the wasp and its offspring. In this respect, the wasp is taking advantage of neurotransmitters and neuromodulatory systems present in the host to induce a sequential and adaptive behavioral manipulation.