Heller Lecture Series - Prof. Lars Chittka - March 21st, 2017

March 21, 2017

Prof. Lars Chittka: How Bees Learn from Each Other

Heller Lecture Series in Computational Neuroscience

Prof. Lars Chittka
Queen Mary University of London

On the topic of
"How Bees Learn from Each Other"

The lecture will be held on Tuesday, March 21, 2017 at 17:00
Location: ELSC, Silberman Bldg., 3rd wing, 6th floor

Abstract:

The social brain hypothesis holds that the cognitive demands that come with living in societies have shaped brain evolution, and that social group size might in turn be linked to brain size. This hypothesis is controversial even within the primate world, but more complications arise when one inspects the social insects. Ants, bees and wasps build cohesive societies with small brains and 10s of thousands to millions of individuals. Just like in humans, these societies are not (only) held together by individual recognition, but by learnt cues that indicate the location of society, and the place of the individual within it. However, it would be incorrect to view social insects as anonymous societies, since individual recognition determines dominance hierarchies in several species. The facial recognition of some social wasp species is one example, and indeed some insects can assemble configural representations of facial cues, and identify faces even when rotated. There are also various forms of social learning in the insects, where insects learn from one another where and how to forage, where to expect danger, and how to solve complex puzzles involving tool use. A unique process of social information processing is observed in honeybee swarms, where a democratic decision making process takes place to find a new home for the swarm.
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