

Matt Simis 20/03 h 14:00 16:00

The Principle of Dynamic Holism: guiding methodology for investigating cognition in non-neuronal organisms

Abstract:

The research programme of basal cognition is a bottom-up approach to cognition which aims to investigate basal cognitive capacities and mechanisms in non-neuronal organisms. Being that basal cognition is committed to producing testable hypotheses that are subject to empirical investigation, this programme faces a formidable methodological challenge: when designing experiments, how can investigators avoid using zoo-centric assumptions that are insensitive to or even misrepresent how some non-neuronal model organism of interest makes its living within its econiche? The aim of this talk is to meet this challenge head-on by articulating and arguing for what I call the Principle of Dynamic Holism (PDH), a methodological principle for guiding research on non-neuronal cognition. In this talk I will spell out PDH and describe how it may be seen in relation to various holistic research programmes in human-focused cognitive science and psychology. I will then present an argument from analogy that is based on the fact that a holistic turn in developmental biology over the last 50 years has provided a fruitful complement to a gene-focused approach to developmental explanation. The value of PDH will then be exemplified by comparing two different experiments on acellular slime mould's (*Physarum polycephalum*) use of its extracellular slime in spatial navigation tasks.