



CICLO

**CONFERÊNCIAS 18|19**

ISPA - INSTITUTO UNIVERSITÁRIO

# FISHING SOCIALITY: THE ROLE OF OXYTOCIN-LIKE PEPTIDES IN ZEBRAFISH SOCIAL BEHAVIOR



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Social individuals recognize and approach their conspecifics, suggesting conserved neural circuits among species that process social relevant information. Key neuromodulators such as the oxytocin-like family peptides (isotocin in fish, mesotocin in birds, reptiles and amphibian, and oxytocin in mammals) have been implicated in the regulation of different aspects of social behavior across species, through mechanisms that are still not fully understood.

We took advantage of a simpler-minded and highly social animal model with a well-characterized repertoire of social behaviors and a wide genetic toolbox available - the zebrafish model - to explore what drives their motivation to approach conspecifics, and how oxytocin-like peptides regulate sociality. Zebrafish recognize and approach their conspecifics to form shoals, being able to differentiate between other living organisms and non-living objects in the environment. The nature of this attraction is not clear, but being surrounded by conspecifics, prey and even predators, they may use visual motion cues to approach certain motion patterns, while avoiding others, in order to survive. We have been collecting evidences supporting that adult zebrafish perceive biological motion, being attracted by particular elementary cues of animacy. Furthermore, we have been using genetic tools to manipulate the oxytocinergic system (oxytocinergic neurons, oxytocin receptor, oxytocin ligand) to study how its loss of function during embryonic development, or throughout the organism's lifetime, modifies the development of social behaviors in this species. Our data, so far, suggests that elementary cues of animacy promote social approach in zebrafish, and although they do not seem directly regulated by oxytocin, this neuromodulator seems to modulate other aspects of higher cognition, such as social memory. Thus our data supports that oxytocinergic neurons modulate distinct aspects of social behaviors through different mechanisms.

**24 SETEMBRO 2018**

12H30 | AUDITÓRIO 1

HOST  
**BEATRIZ  
FERNANDEZ**

**ENTRADA LIVRE**



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