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Title
Using an open-source robotic platform to investigate social and hunting behavior in banded archerfish

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Abstract
Banded archerfish (*Toxotes jaculatrix*) often hunt by spitting at food items above the surface of the water, which requires a high visual acuity in addition to precise body position and orientation control. Hunting behavior in archerfish has been shown to have a social component-- kleptoparasitism is common, and "shooting" behavior is modulated in the presence of an audience. At least one study has reported that young archerfish learn to hunt by watching conspecifics. In this presentation, we explore the possibility of using a robotic lure to learn more about the social cues that govern archerfish hunting behavior. We summarize the development of an extensible, open-source robotic platform that can be used for a host of fish-robot interaction experiments, including those that require the type of motion required to replicate archerfish hunting behavior. We summarize the results of a pilot study showing that archerfish swimming behavior can be influenced by a swimming robotic lure, demonstrate the platform's flexibility in being adapted for an experiment that includes replication of archerfish hunting, and show preliminary results from an experiment-in-progress that seeks to determine what influence a "hunting" robotic lure has on archerfish social behavior.