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Title
Zebrafish-robot interactions for hypothesis-driven experiments in behavioral neuroscience

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Abstract
Zebrafish are gaining momentum as the third millennium laboratory species for the investigation of several functional and dysfunctional biological processes in humans, including the fundamental mechanisms modulating emotional patterns, learning processes, and individual and social response to alcohol and drugs of abuse. Robotics offer a powerful range of theoretical and experimental approaches that can advance our understanding of this animal model. In this talk, we report recent advances on the design of robotics-based platforms to elicit highly-controllable and customizable stimuli for laboratory experiments on zebrafish behavior. We summarize research on model-based control of the behavior of live animals, social learning, and behavioral teleporting.