

Abstract Submitted
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Expanding the locomotion repertoire of the eigenfish: Study of wildtype zebrafish larva escape response¹ MARIA BENITEZ-JONES, Undergraduate Student, KIRAN GIRDHAR, Graduate Student, YANN CHEMLA, MARTIN GRUEBELE, Principal Investigator — The zebrafish larva is a thoroughly studied and an extensively used model for behavioral and biomedical research. The Zebrafish Laboratory at the University of Illinois at Urbana-Champaign has applied a mathematical method to describe quantitatively the larva's swimming behavior. With this method, the 98% of the larva's free-swimming behavior is described by its simplified *eigen*-fish model, which is a linear combination of its three characteristic components, or three *eigen*-modes. This presentation focuses on the quantification of a different swimming behavior called escape response in wildtype (WT) zebrafish larvae. Although more data is required before assuming certainty in our results, the escape response of the WT was also described up to 98% by three *eigen*-modes.

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