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Title: Measuring the Temporal Dynamics of Zebrafish Behavior
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Abstract: MEASURING THE TEMPORAL DYNAMICS OF ZEBRAFISH BEHAVIOR

Zebrafish have become a popular model in environmental and biomedical research. The wealth of knowledge regarding their genetics, biochemistry, and physiology has increased exponentially in recent years. Their small size and ease of husbandry have made them an indispensible model organism in ecology, developmental biology, pharmacology, neurobiology and toxicology, to mention only a few research fields. Given their increasing popularity, there is a need to have a firm understanding of their behavior. Behavior represents the highest level of biological integration for an organism, and the means by which it interacts with its environment to promote well-being, survival, and perpetuation of the species. Behavior also offers a window on the internal mechanisms underlying effective interactions with the environment. Recognition of the importance of behavior analysis is becoming increasingly clear, and as a result numerous methods have been devised to measure behavior in both deve! loping and adult zebrafish. Behavior, however, involves dynamic processes that occur anywhere from milliseconds (e.g., startle responses) to minutes (e.g., locomotion and learning), and to even longer time frames of hours, days and months (e.g., circadian rhythms, reproduction, development and aging). Each time frame offers unique methodological and analytical challenges. The 2010 Conference on Measuring Behavior provides an ideal forum for bringing together noted researchers from many countries to discuss their methods for evaluating the temporal dynamics of zebrafish behavior.

This symposium will convene a panel of experts that employ zebrafish behavior in their research programs. Emphasis will be placed on the methods used to measure behavior and how the measures are summarized and analyzed. Each speaker will also show how the methods are used to determine the behavioral impact of the variables of interest (e.g., drugs, toxicants, gene mutations) in their research.

Proposed Program

- Introduction: Measuring the temporal dynamics of zebrafish behavior
- Measuring behavioral reflexes
- Measuring stimulus guided behavior
- Measuring locomotion and learning
- Measuring circadian rhythms
- Measuring seasonal/life-stage changes
- Concluding remarks