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## **Zebrafish embryos and larvae as a complementary model for behavioural research**

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# Propositions (Stellingen)

*Behorende bij het proefschrift*

## ***“Zebrafish Embryos and Larvae as a Complementary Model for Behavioural Research”***

1. The zebrafish displays a variety of behaviours from 19 hours post fertilization to 6 days post fertilization; these are influenced by extrinsic and intrinsic factors which must be controlled for before the start of an experiment (this thesis).
2. The zebrafish may not be able to replace rodent models in behavioural and toxicological studies, but it can act as a complementary model to save costs and provide more efficient resource management (this thesis).
3. A normal light-dark cycle is essential for zebrafish development; prolonged exposure to either constant dark or constant light can result in abnormal development (this thesis).
4. Sudden onset of darkness results in a stimulus that leads to hyperactivity in zebrafish larvae and if this stimulus is repeatedly applied, the larva shows habituation, expressed as decreasing activity (this thesis).
5. Zebrafish larvae prefer light environments over dark ones. They also show preference for orange and green while avoiding yellow, red, black and blue colours (this thesis).
6. Small size, short generation time, transparency at early life stages, and transgenic capabilities of zebrafish help to facilitate high-throughput screening, targeted toxicity testing and understanding of mechanisms underlying abnormal development.
7. Even though the last common ancestor of humans and zebrafish lived 450 million years ago, zebrafish and humans share 70% of disease genes (Howe *et al.*, 2013, Nature).

8. The pharmacokinetics and pharmacodynamics of compounds in zebrafish embryos and larvae are often neglected, even though they are vital when comparing zebrafish toxicity to mammalian toxicity.
9. DNA is like a computer program but far, far more advanced than any software ever created.
10. Having a PhD degree does not warrant success in life. It is the society and company which make or break you.
11. No matter how much you investigate, there is no cure for death.

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