1. Record Nr. UNINA9910136400103321

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Titolo	The world according to zebrafish: How neural circuits generate behaviour
Pubbl/distr/stampa	Frontiers Media SA, 2014
Descrizione fisica	1 electronic resource (367 p.)
Collana	Frontiers Research Topics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	Understanding how the brain functions is one of the most ambitious current scientific goals. This challenge will only be accomplish by a multidisciplinary approach involving genetics, molecular biology, optics, ethology, neurobiology and mathematics and using tractable model systems. The zebrafish larva is a transparent genetically tractable small vertebrate, ideal for the combination state-of-the- art imaging techniques (e.g. two-photon scanning microscopy, single-plane illumination microscopy, spatial light modulator microscopy and lightfield microscopy), bioluminiscence and optogenetics to monitor and manipulate neuronal activity from single specific neurons up to the entire brain, in an intact behaving organism. Furthermore, the zebrafish model offers large and increasing collection of mutant and transgenic lines modelling human brain diseases. With these advantages in hand, the zebrafish larva became in the recent years, a novel animal model to study neuronal circuits and behaviour, taking us closer than ever before to understand how the brain controls behaviour.