Helmholtz Call for 2016 CSC Fellowship Applicants

## **Helmholtz Centre:** **Karlsruhe Institute of Technology (KIT)**

## **Department/Institute: Institute of Toxicology and Genetics (ITG)**

## **Supervising scientist: Dr. Steffen Scholpp E-mail：steffen.scholpp@kit.edu**

## **University for Registration ( for those looking for a dissertation): KIT**

## **Research Field: Life science, cell biology, developmental biology**

**Position:** 2 PhD Students **X** Sandwich PhD Student **□** Postdoc **□**

Development of complex multicellular organisms originating from one single cell is one of the most fascinating events in biology. Cells have to grow, divide, proliferate and differentiate to various cell types, which then have to be organized into specific tissues. Communication among cells by paracrine signalling is essential for these developmental processes, and also for tissue regeneration and stem cell regulation. The highly conserved family of Wnt proteins contains important regulators for all of the above-mentioned processes. Recently, we discovered a novel transport mechanism for Wnts: Wnt is distributed on signalling filopodia in vertebrates. In this project we will analyse the molecular mechanism of Wnt filopodia in the stem cell niche as well as in tumours. To this date we use state-of-the-art genome-editing methods in combination with super-resolution microscopy. (Hagemann et al., 2014; *J Cell Sci*; Stanganello et al., 2014; *Nature Commun.*)

**Research Area:**

**Specific Requirements:**

We are looking for a highly motivated PhD student to study cell biology of the Wnt/beta-catenin signaling pathway in zebrafish. Excellent background knowledge in genetics (e.g. genome-editing methods, such as CRISPR/Cas9) and cell biology (e.g. signal transduction cascades such as Wnt/beta-catenin) are important. Experiences in developmental biology (morphogens, signalling molecules, etc.) and microscopy techniques (multiphoton confocal microscopy, STED) are preferable but not required. Previous experience with zebrafish would be a further advantage.

The ability to quickly integrate into an international team and to work within an academic research environment is essential. You must show initiative, should be well organized and must pay attention to detail. General laboratory management skills are required.

**Work Place: Karlsruhe Institute of Technology, Karlsruhe, Germany**

**Earliest Start:** 2016

**Language Requirement:** English (fluent)