

Study of cell membrane plasticity in pituitary endocrine cells of the teleost model medaka

We are seeking for a motivated and ambitious postdoc who would be interested in developing a proposal to investigate vertebrate pituitary endocrine cell membrane plasticity in the model fish medaka (*Oryzias latipes*). We will help the candidate to write the application for the Marie Curie postdoctoral fellowship (deadline: September 2021). If granted, the funding will provide salary to the applicant for **two years at the Norwegian University of Life Sciences** (Ås, Norway). This project is expected to include among others, electrophysiology, RNAscope (multiplex fluorescent in situ hybridization), immunofluorescence and advanced imaging techniques. This work will be done under the supervision of **Dr. Romain Fontaine**, in the laboratory of **Prof. Finn-Arne Weltzien** (international environment) that is located in the brand-new veterinary faculty building with a new state of the art model fish facility, and in close collaboration with **Prof. Trude M. Haug** at the **University of Oslo** (Oslo, Norway).

The pituitary is an endocrine gland found in all vertebrates which regulates essential physiological functions such as growth, homeostasis, stress and reproduction. Located below the brain, the pituitary receives a myriad of signals from the brain which itself integrates internal and environmental signals. According to these signals, the pituitary modulates the number and activity of the different endocrine cell types that it is composed of, allowing to adjust hormone production to the needs which is changing during the life of an animal.

Our laboratory has recently developed two **transgenic lines** in the teleost fish model medaka (similar to zebrafish in many aspects but with genotypic sex determination system and less complex genome) where the green and red fluorescent protein are produced in two different endocrine cell populations. The established lines have allowed us to determine that these endocrine cells proliferate and make extensions that they use to form connections with other cells. We are now interested in investigating further the plasticity of these cells by studying the **effect of endocrine and environmental factors on the membrane plasticity**, including the **receptor and ion channel composition** and the **formation of these extensions**.

For any further information or question, please contact Dr Fontaine:

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