



At the University of Vienna (15 faculties, 4 centres, about 188 fields of study, approx. 9.400 members of staff, more than 90.000 students) the position of a

## **PhD Candidate (m/f) in fish molecular and behavioral neuroscience**

is vacant.

The Tessmar-Raible group (<http://www.mfpl.ac.at/groups/mfpl-group/group-info/tessmar.html>) at the Max F. Perutz Laboratories/ Research Platform 'Rhythms of Life' at the University of Vienna/ Vienna Campus Biocenter is looking for a student interested in pursuing a PhD project in the area of fish molecular and behavioral neuroscience.

We are particularly interested in understanding how differences in natural light impact on the physiology and behaviour of animals. Vertebrates in general, but especially fish, possess photoreceptors (e.g. Opsins) in the brain and other tissues outside the eye. The biological roles of such 'non-visual' photoreceptors remain largely unknown.

The project will focus on a particular slowly evolving set of vertebrate Opsins, which we found to be partly co-expressed in interneurons of the brain. Single and double Opsin mutants will be analyzed for their changes on behavioral, physiological and molecular level.

Part of the behavioural analyses will make use of a virtual reality system that we developed and use in a close collaboration with the lab of Prof. Andrew Straw (University of Freiburg, Germany). This system allows us to assess the effects of Opsin loss on behaviours under different background illumination and for different visuo-motor tasks. The setup generates and project perspective-correct 3D visual stimuli to freely swimming fish in a closed-loop manner. Analyses will start with a still relatively simple repertoire of visual and light-dependent stimuli with the plan extend to the simulation more naturalistic and complex environments.

The working language is English and we welcome scientists and students from anywhere in the world. The PhD candidate will be embedded in the newly founded Vienna Doctoral School (VDS) for Cognition, Behaviour and Neuroscience (COBENE) at the University of Vienna. The main goal of VDS COBENE is quality assurance in PhD training and education. In addition the organization stands for promotion of inter and trans disciplinary knowledge exchange.

### **Profile:**

- Proficient knowledge of English
- Excellent academic standing
- Research experience in molecular biology and a serious interest in neuroscience
- Computational and programming skills would be beneficial for the virtual reality experiments

For further information about the project and application (including academic CV, 2 letters of recommendation, and a statement of research interests), please e-mail to Kristin Tessmar-Raible ([kristin.tessmar@mfpl.ac.at](mailto:kristin.tessmar@mfpl.ac.at)) till August, 31<sup>st</sup> 2016.

Reference: Fischer, RM et al. PLoS Biol. 2013;11(6):e1001585. doi: 10.1371/journal.pbio.1001585.

The University of Vienna promotes the employment of woman in fields of work in which they are underrepresented and therefore encourages qualified women to apply to this opening. Disabled people will be preferentially treated if qualified.