

PhD position in optogenetic investigations of multisensory integration in mouse cortex

How does the brain compute sensory information? And more importantly, how are different sensory modalities like vision, sound and tactile information integrated on the level of individual neurons? The Systems Neurophysiology Lab at the RWTH Aachen University focuses on the processing of multisensory information in cortex of mice during navigation in virtual reality. Applying state-of-the-art multiphoton imaging techniques, we manipulate cortical neurons and measure their responses to multisensory input. Together with combinations of patch-clamp recordings and holographic optogenetics we further identify the local wiring diagrams of the underlying neuronal networks.

We are currently looking for motivated PhD students to participate in this study. Experience in patch-clamp recordings, imaging or behavioral neuroscience as well as computer programming skills (i.e. Matlab, Labview, Python) are welcome. Intense training in neuroscience and technical expertise will be provided and participation in the vibrant research groups of the institute is expected.

The PhD project will be integrated in the Graduate School "Multisenses-Multiscales" (www.rtg2416.rwth-aachen.de) with an interdisciplinary approach to study multisensory integration in the brain. The Systems Neurophysiology Lab is situated in the Zoology Institute and jointly connected with the University Hospital and the Research Center Jülich. The RWTH Aachen is one of Germany's Excellence Universities and offers an ideal environment for education and scientific exchange and education. And the unique location at the border triangle of Belgium, Holland and Germany makes Aachen a vibrant city with high quality of life.

Applications should include a motivation letter, CV, the academic achievements and 2 letters of recommendation.

Please contact Prof. Bjoern Kampa (kampa@brain.rwth-aachen.de).
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