Project 1.2 Sensing sociability: the neural basis of differences in social behavior

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Background:

Successful social interactions in social species, like humans, enable individuals to integrate into their social environment, communicate, cooperate, and learn from others. However, sociability levels vary among individuals, ranging from withdrawal and indifference to indiscriminate attachment. Decreased sociability is linked to brain disorders such as depression, schizophrenia, and autism spectrum disorders, yet little is known about the underlying neural circuits and their activity range. Studying social behavior in mice models offers an opportunity to explore these mechanisms. By utilizing our automated system for measuring group-housed mice's social behavior and our knowledge of neural circuits involved in social interactions, we aim to uncover the physiological range of sociability and understand the dynamics of the circuits necessary for initiating and maintaining social interaction. We will focus on the anterior cingulate cortex – central amygdala – ventral tegmental area pathway. This research will inform the development of targeted treatments for social deficits, particularly in autism, based on optimal circuit activity.

Aim:

By utilizing our automated system for measuring group-housed mice's social behavior and our knowledge of neural circuits involved in social interactions, we aim to uncover the physiological range of sociability and understand the dynamics of the circuits necessary for initiating and maintaining social interaction. We will focus on the anterior cingulate cortex – central amygdala – ventral tegmental area pathway.

Requirements:

- A person who will be recruited for this position is expected to hold a Master's degree in biology, neuroscience, psychology, or similar,
- moreover, she/he should be strongly motivated to learn and to make scientific discoveries,
- fluency in English is an important requirement, due to a need for effective science communication and an international character of the scientific environment, where the research will be conducted,
- previous experience with laboratory work i.a. as a volunteering student and a track record of professional development in areas related to systems neuroscience will be significant assets