Title: Application and validation of new cutting-edge fiber-based technique to understand the role of dopamine in the brain
Location: Bernardo Sabatini lab, Harvard Medical School

In order to make decisions about the world around us we make choices based on previous experiences, which is regulated by a complex set of neuronal networks. These networks are regulated by dopamine, a neurotransmitter that is released whenever a reward (such as food or water) is received. Unfortunately, a lot can go wrong in decision making as well, which can be observed in addiction and Parkinson's disease.
In our lab we've worked on building a new type of device called fluorescence lifetime photometry with high temporal resolution (FLIP-R) that allows us to now for the first time investigate baseline levels of dopamine neurons and related downstream signaling in freely moving mice. Ultimately our goal is to understand the role that baseline levels of dopamine signaling play across the brain in decision making.
This internship involves learning various techniques, such as mouse behavior, fluorescence lifetime fiber photometry, fiber photometry, brain extraction, slicing and imaging. And depending on the interests of the applicants, there are opportunities to learn how to build optical set-ups, perform mouse surgery and learn programming skills. We're looking for applicants able to start between November 2023 and Januari 2024. The internship duration is between 6 and 10 months.

We have plenty of experience hosting master students and all our students have been very satisfied with their learning experiences (I'm happy to connect you with one of our previous students if you're interested in their experiences).

Feel free to reach out if you have any questions at bart_lodder@hms.harvard.edu
If you're interested in applying, please send me your CV and 2-3 small paragraphs with your motivation.

Bart Lodder
Graduate student in the Sabatini lab at Harvard Medical School

Individual Travel Grant can be requested at International Office Science via io@science.ru.nl