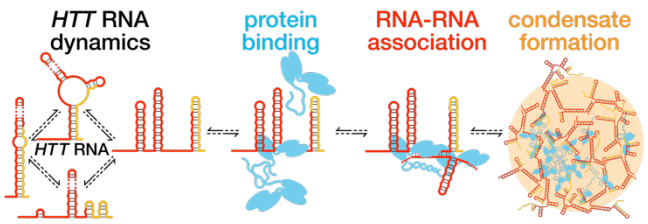
Exciting Opportunity for a PhD Researcher:
Join our team to investigate molecular mechanisms in Huntington's Disease!

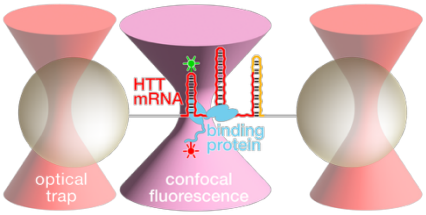
Application deadline: **October 31, 2026**

PhD Position in "Biophysical Origins of RNA Toxicity in Huntington's Disease"



In Huntington's Disease (HD), expansion of CAG repeats in the huntingtin (*HTT*) gene leads to a toxic gain-of-function that ultimately results in fatal neurodegeneration. Most HD research has focused on toxic effects of the *HTT*-encoded polyglutamine protein that aggregates in neurons. Recently, the *HTT* mRNA itself was found to condense and aggregate in cells, contributing to neuronal toxicity. We are using single-molecule tools to understand the properties of the *HTT* mRNA and associated proteins. The goal of the project is to **define the origins RNA toxicity** in HD and **identify targets for new therapies**.

Your Job. As a PhD candidate in this project, you will **design, execute and analyze single-molecule experiments** using a combination of optical tweezers and confocal fluorescence imaging, building on previous work (O'Brien *et al*., *Nat Comm* 2024). Together with our collaborators, you will produce materials for these experiments and develop novel approaches for protein and RNA labeling. Working at the interface of biophysics and biochemistry, you will **establish new paradigms that explain why some repeat RNAs are toxic** whereas others are not.



Your responsibilities will include independently conducting experimental work and performing data analysis, presenting your progress in regular team meetings, publishing your findings in peer-reviewed journals, participating in scientific conferences, and teaching and mentoring undergraduate and master students. Under mentorship from Prof. Christian Kaiser, you will have the freedom to explore your own ideas within the project goals, and work together with junior investigators in the group and engage with the research community at Utrecht University.

Your Profile. You are genuinely curious and passionate about science, willing to work independently, and motivated to understand biology at the molecular level. You have strong critical thinking and problem-solving skills, and you bring

- a MSc degree or equivalent in (bio)physics, (bio)chemistry or a related field
- experience with wet lab work and data analysis
- strong skills in scientific writing and communication
- proficiency in written and spoken English
- experience with single-molecule approaches (not required, but a plus)

Our offer. A position with **generous salary and benefits** (salary scale P, holiday pay and year-end bonus, pension scheme, partially paid parental leave and flexible terms of employment) as laid out in the Collective Labour Agreement for Dutch Universities, plus **benefits of Utrecht University for its employees** (including professional development opportunities, leave schemes, schemes for sports and cultural activities), as well as other employee benefits (visit Working at Utrecht University for more information).

Our environment. We are a research group in the Bijvoet Centre for Biomolecular Research at Utrecht University, a vibrant research environment with world-class facilities. You will be part of an interdisciplinary research team in the group of Prof. Christian Kaiser and work with both local and international collaborators.

Apply now. If you are enthusiastic about the position, please send a letter of motivation, your curriculum vitae, and contact information for at least two references via the **UU application portal** no later than October 31, 2026. Please direct inquiries for further information to Prof. Christian Kaiser (c.m.kaiser@uu.nl), or visit our group website (www.foldinglab.org) for more information.