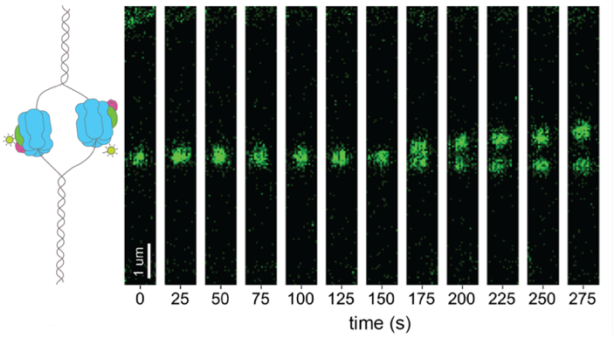
Exciting Opportunity in Single Molecule Biophysics!
Join our lab at the University of Oxford as Senior Postdoctoral Researcher in Biophysics!



Ready to embark on a scientific single-molecule biophysics mission to understand DNA replication and/or chromosome organization? We are looking for a Senior Postdoctoral Researcher to join the Nynke Dekker Lab, which is well-known both for its development of single-molecule techniques (McCluskey Optics Express 2021; Liu ACS Photonics 2024) and their application to the study of biological phenomena (Sánchez Nat Commun 2021; Janissen Mol Cell 2021; Ramírez Montero Nat Commun 2023, image above right; Sánchez Nat Commun 2023). The group is part of the Department of Physics and housed in a state-of-the-art building (image above left) that hosts the interdisciplinary Kavli Institute for Nanoscience Discovery.

In this project, you will design and employ novel forms of biophysical instrumentation (e.g. advanced optical tweezers and magnetic tweezers) to allow us to better study DNA replication and/or chromatin organization at the single-molecule level in a sufficiently high-throughput manner. You will have the flexibility to develop instrumentation using either our commercial systems or custom-built setups, based on your judgment in collaboration with the team. You will then use this instrumentation together with other group members to acquire data on DNA replication and/or chromatin organization at the single-molecule level, and analyze the resulting datasets using biophysical modelling. Both an interest and aptitude in instrumentation development and quantitative biophysics, as well as a willingness to acquaint oneself with biochemical approaches and interact with local and external experts in molecular biology and biochemistry, are essential.

This research, carried out together with collaborators at the University of Oxford, the Francis Crick Institute, the Hubrecht Institute, and elsewhere, should lead to new discoveries and insights that inform our quantitative understanding of DNA replication and/or chromosome organization and advance these exciting fields while contributing to the next generation of in vitro single-molecule methods.

We are particularly interested in experimentalists passionate about biophysical instrumentation and its applications to biological systems. The post is for 3 years and the ideal candidate will have a PhD in biophysics or closely related field, and strong skills and interest in advanced biophysical instrumentation and force spectroscopy (optical or magnetic tweezers, AFM); strong quantitative skills in data analysis and scientific programming; and a willingness to develop an understanding of the relevant biophysical and biochemical concepts (e.g. DNA polymer physics, protein structure and function, mechanochemistry, single-molecule kinetics, etc.). The successful candidate will have an independent, well-organized, and reliable work style together with an ability and interest in working in an interdisciplinary team. He/she will employ strong interpersonal communication skills to help establish a scientifically outstanding and warmly communicative interdisciplinary team at the University of Oxford and leadership ability to guide fellow group members on quantitative biophysical experiments. In doing so, he/she will develop plenty of opportunities to publish results together with other biophysicist and biochemist members of the lab! Click here for further details.

Apply by **noon on 2 January 2024**. UK visa costs and NHS surcharge fees will be covered.

Any enquiries? Email Prof Nynke Dekker at nynke.dekker@physics.ox ac.uk. We hope to hear from you!