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Postdoctoral Position in Experimental Biophysics Biomolecular Nanomanipulation Group Paris, France

The cell has evolved a large toolkit of enzymes dedicated to repairing different specific kinds of lesions in DNA. Although many such enzymes can work alone to effect repair, some must work together as large, dynamic complexes to accomplish the task at hand. This is particularly true of processes such as homologous recombination or the post-replicative repair of mismatched, bulged or deleted bases. For many such systems a complete mechanistic understanding of the repair process is lacking, due essentially to the complexity involved in applying standard biotechnological approaches to the study of transient and dynamic multisubunit protein systems. In such cases, the use of novel high-resolution, time-resolved biophysical approaches is necessary to address outstanding mechanistic questions.

Our lab, part of the Institut Jacques Monod (CNRS and University of Paris 7- Paris Diderot) in Paris, France uses single-molecule approaches to carry out investigations of the mechanical and biochemical properties of the molecular machines involved in DNA repair, in particular the mismatch repair (MMR) system. This system has been widely implicated in human cancer and disease, and so a better understanding of its mechanism of action is actively being sought out.

This project is generously funded through a collaborative Research Consortium of the European Union's Framework Program 7 which, in addition to our research group, brings together structural biologists, biochemists, geneticists, and physicists in an exciting pluridisciplinary effort.

A postdoctoral position involved in the single-molecule biophysics part of this project is now available. A background in biochemistry or biophysics — with no preference between the two — is required. If interested, please ask for more information or send your CV with a cover letter stating your motivation and contact details of three recommenders to Terence Strick (strick@ijm.jussieu.fr).