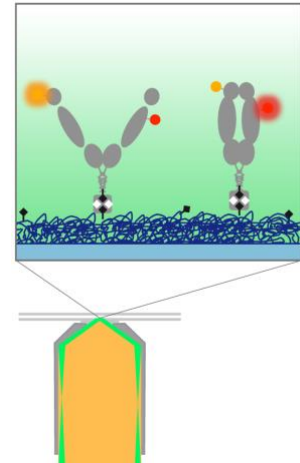


PhD student in biophysics, single-molecule FRET and protein conformational dynamics

The NanoDynamicsLab.nl is looking for a talented and motivated PhD student in interdisciplinary biophysics to strengthen our existing single-molecule FRET team to study protein dynamics and how they are linked to energy sources and specific structural elements of the chaperone protein Hsp90.

Research project

Conformational dynamics play a central role in protein function, as most proteins alternate between several conformations during their functional cycle. Commonly available 3D structures (from cryoEM, x-ray crystallography, etc.) represent precise static snapshots, but they are blind for the sequence order of events that give rise to protein function. At the NanoDynamicsLab, we directly measure such molecular dynamics experimentally and at the single-molecule level. We aim to understand their energetic origin, and to link them to key structural elements. In this project, we investigate protein chimeras to unravel the structural origin that causes the striking functional differences found in prokaryotic and eukaryotic chaperone Hsp90, such as differences in the mechano-chemical cycle, nucleotide dependence, interaction partners etc. To this end, we develop and apply new single-molecule FRET sensing schemes.



Candidate profile

For this interdisciplinary, and fully funded project, we are immediately looking for an enthusiastic PhD student trained in (bio-)physics, biochemistry, interdisciplinary nanoscience or similar areas. Practical experience in these areas, in protein handling, and single-molecule experiments are desired. The following skills will be necessary (and can be acquired) during this interdisciplinary project: single-molecule kinetics, protein biophysics and protein biochemistry techniques, advanced data analysis and pattern recognition, optics and FRET. We further expect the candidate to have a reliable and pro-active work style, to be communicative and interested in the broader field of protein biophysics thereby contributing to an open and interactive lab culture. It goes without saying that we welcome applications of friendly and driven humans of all kind.

Please send your application – including motivation letter, CV, and email addresses of 2-3 references – before January 17th, 2021, to sonja.schmid@wur.nl.