

## Dances of Millions of Molecules: Unveiling Molecular Processes through a New Advanced Single-Molecule Microscope

Chirlmin Joo, a biophysicist from TU Delft, is poised to unveil groundbreaking insights into the intricate relationship between sequence, structure, and function in biomolecules. He will introduce the innovative Single-molecule Parallel Analysis for Rapid eXploration of Sequence space (SPARXS), an unprecedentedly highly parallel technique that combines single-molecule fluorescence with next-generation sequencing. Through SPARXS, millions of sequences are dynamically explored, revealing sequence-dependent biophysical and biochemical properties at the single-molecule level. Joo's background includes pioneering studies on human Argonaute and bacterial CRISPR mechanisms, showcasing expertise in unraveling complex biological systems. This seminar provides a unique opportunity to explore cutting-edge new techniques in molecular biology.

