Room 103C: Monday, February 12

3:30 PM – 5:00 PM
LUMICKS

Accelerating Biological Discovery: An Automated, End-to-End Solution in Single-Molecule Research
Dynamic single-molecule research has revolutionized our understanding of biology by providing crucial insights into key molecular and cellular mechanisms, such as DNA repair and phase separation processes, among others.

However, this field of science has traditionally been accessible only to experts capable of building and operating complex home-built instruments, able to produce specific DNA or protein samples, and developing sophisticated algorithms for correct single-molecule data analysis and interpretation.
To democratize access to single-molecule technologies, LUMICKS C-Trap was introduced as the first instrument of its kind. LUMICKS C-Trap uniquely combines optical tweezers, single-molecule fluorescence, and automated microfluidics, allowing the correlation of single-molecule force and fluorescence measurements in real time to enable the investigation of dynamic molecular mechanisms with a ready-to-go instrument.

Here, we will unveil our latest advancements in creating a comprehensive end-to-end solution designed to transform the field of dynamic single-molecule research: from a vast range of DNA and protein samples to the full automation for instrument set-up and experiment execution, all the way to a seamless data analysis and interpretation.

Speaker
Trey Simpson, Senior Application Scientist, LUMICKS