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1:30 PM-2:00 PM
Andor Technology

SRRF-Stream[+] - A Flexible and Effective Solution For Real-Time and Live Cell Super-Resolution Microscopy
Much of the inner workings of the cell are hidden from view below the classical diffraction limit of light-based imaging microscopy. Super-resolution techniques such as STORM, PALM, STED and SIM have smashed past this barrier and have helped enable cell biology to be studied in considerably more detail.

However, there are limitations to these techniques especially when considering live cell imaging. Super-resolution techniques may require costly microscopy equipment, high illumination intensities, long acquisition times or specialised fluorophores. SRRF (Super-resolution Radial Fluctuations) offers an alternative software-based approach that counters many of these limitations (Gustafsson *et al* 2016). Specifically, it allows for super resolution at low illumination intensities, using standard fluorophores on a conventional microscope. Understandably SRRF has become widely used. One development of SRRF is SRRF-Stream. This version is exclusive to Andor Technology and optimizes GPU processing to unlock real-time live super-resolution from a microscope.

We now present an updated version of SRRF-Stream called "SRRF-Stream[+]" which allows for improvements in the image quality over the original version of SRRF-Stream. We also show that SRRF-Stream+ can be used on Andor Sona back-illuminated sCMOS cameras having previously been available solely on Andor iXon EMCCD cameras. These new developments add to the previous benefits of SRRF-Stream, making it an even more flexible and useful part of the microscopists imaging toolbox.

Speaker
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