



Monday, March 30, 5:30 - 5:50PM

The basic principle of Airyscanning and its implementation

Airyscanning is a technique based on confocal laser scanning microscopy. We introduce a detector concept that drastically improves signal by utilizing light that otherwise is rejected by the confocal pinhole. The increased signal-to-noise ratio can be used to retrieve high resolution information. Since this technique uses the confocal principle, it's important first to understand the resolution of a confocal microscope and how it can be boosted using the concept of pixel reassignment. Then, you need to consider how Airyscan from ZEISS distinguishes itself from pixel reassignment and why it excels alongside other related technologies. We discuss how the Airyscanning principle is put to work technically as an add-on to the ZEISS LSM 8 family and compare Airyscan technology to structured illumination microscopy (SIM) and other superresolution techniques.