INSIGHT SEMINAR: The Future of Bioimaging with Abbelight - Single Molecule Localization Microscopy and Automated TIRF

PAULINA NOWAK

May 06, 2024
12:00 to 13:00
Seminar Room

BIO:

Abbelight is a French company founded in 2016 based on the work of Sandrine Leveque-Fort's lab on Single-Molecule Localization Microscopy (SMLM). Over the last eight years, the company has reached several milestones by creating user-friendly and complete solutions for SMLM and TIRF imaging. Abbelight aims to empower researchers worldwide with innovative yet accessible technologies, accelerating advancements in biological and biomedical research.

Paulina obtained her Master's degree in Biophysics from Jagiellonian University in Cracow,

Poland. Fascinated by advanced microscopy techniques, she joined Prof. Christoph Cremer's lab in Mainz, Germany, to learn SMLM and explore its applications. After training in super-resolution microscopy, she joined the group of Prof. Aurelien Roux in Geneva, Switzerland, where she got her Ph.D. for work in plasma membrane mechanobiology using cutting-edge microscopy techniques. In 2023, she joined Abbelight to explore new advanced imaging applications and help researchers benefit from cutting-edge technologies.

ABSTRACT

Super-resolution microscopy is a Nobel Prize-winning optical imaging technique that allows crossing the diffraction limit. Among the three super-resolution methods, Single Molecule Localization Microscopy (SMLM) achieves the best resolution, reaching 20nm. This capability opens new possibilities for studying biological structures and processes at the nanoscale. Abbelight's researchers and engineers have developed cutting-edge solutions to overcome SMLM's limitations. Key advancements from Abbelight will be presented:

1) ASTER - the largest and most homogenous field of view available on the market,

2) Spectral Demixing - the unique approach for multi-color SMLM imaging,

3) Ultimate 3D - 3D imaging with isotropic resolution in the xy and z axes.

The talk will cover the technique's most common applications in neuroscience, cell biology, medical diagnostics, and other fields.

Hosted by: Prof. Dr. Maria Garcia-Parajo