

Registration and fees

Workshop participation requires registration through our website by August 15, 2018 at the latest. We recommend registering early as the number of participants is limited. Early bird prices are offered for registrations made until May 31, 2018.

PicoQuant has a fee waiver program for a small number of participants from universities or academic sector. Please see our website for details on how to apply for this program.

	until May 31, 2018	until August 15, 2018
Academic/university	340 Euro	390 Euro
Industry/private sector	750 Euro	900 Euro

Location

The workshop will be held at the WISTA campus in Berlin-Adlershof, located in the south-eastern part of Berlin (about 25 minutes away from the city center).



The science and technology park
Berlin-Adlershof

Brandenburger Tor, Berlin city center



PicoQuant workshops since 1994



About PicoQuant

Founded in 1996, PicoQuant has become a world-leading R&D company specialized in optoelectronics for single photon counting applications. The company is based in the science and technology park of Berlin-Aldershof, Germany. The product portfolio encompasses picosecond pulsed diode lasers, photon counting instrumentation, fluorescence lifetime spectrometers, FLIM and FCS upgrade kits for laser scanning microscopes as well as time-resolved confocal and super-resolution microscopes. The PicoQuant group currently employs around 80 people.

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24. International Workshop on

Single Molecule Spectroscopy and Super-resolution Microscopy in the Life Sciences

Berlin, Germany
September 12-14, 2018

Aim and purpose

The workshop aims to provide an interdisciplinary platform for the exchange of experience and information as well as sharing recent findings in the field of ultrasensitive optical detection down to the single molecule level and beyond the classical diffraction limit. The target audience are researchers and developers from Physics, Chemistry, Biology as well as from Life or Materials Science.

Ultrasensitive microscopy and spectroscopy techniques have become standard tools for fundamental biological and biomedical research, allowing studying the function and structure of individual biomolecules as well as interactions between them. The range of techniques and methods has steadily grown since the first report of single molecule detection in 1976.

Today, single molecules can be detected using either wide field or confocal fluorescence microscopy, Scanning Nearfield Optical Microscopy (SNOM), Atomic Force Microscopy (AFM), or Raman scattering. Time-resolved methods such as Fluorescence Lifetime Imaging (FLIM), Fluorescence Correlation Spectroscopy (FCS) or even multidimensional fluorescence methods are used on a daily basis in imaging facilities. Measurements beyond Abbe's diffraction limit are possible thanks to techniques such as Stimulated Emission Depletion Microscopy (STED), localization microscopy (PALM, STORM, dSTORM, GSDIM), or fluctuation microscopy (SOFI). Interest in super-resolution microscopy techniques has increased in recent years and their importance was recognized through the Nobel Prize in Chemistry awarded to Eric Betzig, Stefan W. Hell, and W. E. Moerner in 2014.

The current focus in ultrasensitive optical detection lies not only on improving and extending the range of single molecule and super-resolution techniques, but also to use them for challenging applications ranging from chemical analysis to biophysics, biological and biomedical research, medical diagnostics, and materials research.

Invited speakers and their tentative titles

Jiji Chen (NIH, National Institute of Biomedical Imaging & Bioengineering, USA)
"3D Single molecule imaging of transcription factor dynamics and regulation"

Christian Eggeling (University of Oxford, UK)
"Dissecting molecular (membrane) dynamics with advanced (super-resolution) microscopy"

Maria García-Parajo (ICFO – The Institute of Photonic Sciences, Spain)
"Fluorescence correlation spectroscopy at the nanoscale on living cells using photonic nano-antennas"

Suliana Manley (EPFL Zurich, Switzerland)
"High-throughput super-resolution fluorescence microscopy: structure and dynamics"

Johan Paulsson (Harvard University, USA)
To be announced

Nicolas Plachta (Agency for Science, Technology & Research (A*STAR), Singapore)
"Imaging the molecular and cell dynamics that form the early mouse embryo"

Jérôme Wenger (Institut Fresnel, France)
"Optical nanoAntenna with fluorescence correlation spectroscopy to probe the nanoscale dynamics of biological membranes"

Jerker Widengren (KTH - Royal Institute of Technology, AlbaNova University Center, Sweden)
"Transient state (TRAST) imaging/spectroscopy"

(subject to change)



Student award

As nurturing young scientists is important to PicoQuant, we host a competition for the "Best Student Talk" with an award worth 750 Euro.

Undergraduate and graduate students are encouraged to submit their contributions until May 31, 2018.

Call for papers

We invite all researchers working in the field of Single Molecule Spectroscopy and super-resolution microscopy to submit contributions on new and relevant topics, either as a talk or a poster.

Deadline for abstract submissions is May 31, 2018.