

Co-localized AFM-Raman and TERS



Reference

AFMRAM1

Price

1 815€ per attendee

Duration

3 days

Dates

11-13 March and 6-8 November 2024.

Schedule

From 9 am to 5.30 pm

Registration deadline

11 February and 6 October 2024

Location

455 avenue Eugène Avinée, 59120
Loos - France

Prerequisites

Dedicated to HORIBA customers only and knowledge of the technique and equipment.

Who should attend

Users of HORIBA Scientific AFM Raman spectrometers and scientists, engineers, technicians, Ph.D. students who have already acquired good skills in Raman spectroscopy or SPM.

Certification

A diploma is delivered at the end of the course.

Learning method

Theoretical presentation and instruments practice.

Course language

English

Objectives

- Acquire practical knowledge on Raman spectroscopy and Scanning probe microscopy.
- Learn how to use dedicated Raman and AFM software.
- Learn the methodology to perform TERS measurements (alignment, macros, procedures).

Day 1

PROGRAM

Raman spectroscopy introduction:

- Basics and advantages
- Instrumentation
- Raman measurement (spectrum and map)

Practical Session:

- Acquisition parameters optimization: choice of the laser, grating, confocal hole, laser power etc.
- 2D Raman imaging
- Data evaluation: cursors, CLS fitting, peak fitting

Scanning Probe Microscopy (SPM) Introduction:

- Basics and Instrumentation
- AFM measurement (AFM imaging mode, KFM, C-AFM and Curve Force) and artefacts
- AFM tip selection

Practical Session:

- Tips and sample installation.
- AFM topographic imaging measurement in AC mode
- Introduction to other modes and signals (KFM, C-AFM and Curve Force)
- Practical exercises

Day 2

Colocalized AFM-Raman analysis:

- Principle and examples of analysis
- Overview of the procedure

Practical Session:

- System configuration, getting ready for colocalized measurements
- Procedure on reference sample
- Hands-on on reference samples

TERS introduction:

- Principle and requirements.
- TERS prerequisites and TERS applications

Day 3

Practical Session:

- Laser alignment on the tip (AFM mode)
- TERS spectrum and TERS image acquisition on reference sample (parameters optimization)
- Hands-on on reference sample.

Options (to be selected among the list):

- Hands-on on brought samples (AFM-Raman, TERS)
- PFM and MFM