UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Scanning Probe Microscopy: Principles, Applications, and Image Handling

2324-1-124R007

Title

Scanning probe microscopy: principles, applications in nanosciences and image handling

Teacher(s)

Marcello Campione

Language

English

Short description

The aim of the course is to provide the basic principles of scanning probe microscopy (SPM) and related techniques, a summary of the methods applied in nanosciences, and basic knowledge of image artifact recognition and image handling.

Lecture I: Basic concepts of nano-probe/surface interaction

Lecture II: Signal monitoring in SPM techniques and image reproduction

Lecture III: Case studies in nanosciences: functional nanostructures, nanotribology, and mineral surface physiscs

Lecture IV, V, VI: Image handling: practical session with freeware software.

Expected outcome: Knowledge of potentiality of SPM techniques applied in cross-disciplinary fields. Acquisition of basic skills in interpreting and handling of false-colour SPM images.

Suggested years of attendance: I and II

Evaluation: NO

CFU / Hours

1 CFU - 12 Hours (6h lecture - 6h computer practical sessions)

Teaching period

II semester: 12th - 20th December 2024

Sustainable Development Goals