TITLE

Scanning Probe Microscopies

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Teaching staff

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Reception hours: Monday 15:00-17:00, Wednesday 15:00-17:00

Program of the course:

1) Scanning Probe Microscopies: the local probe approach, basic principles, operation modes, experimental set-up, design and instrumentations, historical overview and role in nanotechnology

2) Scanning Probe Microscopies typologies: scanning tunneling microscopy, atomic force microscopy, conductive atomic force microscopy, magnetic force microscopy, Kelvin probe microscopy.

3) Images acquisition and analysis with scanning probe microscopies: images acquisition, images manipulation, artifacts, images analysis.
4) Applications of scanning probe microscopies to the analysis of nanostructured metallic, insulating, semiconducting surfaces.

5) Nanofabrication using scanning probe microscopy: atomic scale manipulation of matter, local anodic oxidation, nanolithography.

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**Bibliography:**


