



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Surface analytical methods: applications to materials science

2223-116R-M5

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#### **Titolo**

Surface Analytical Methods: Applications to Materials Science

#### **Docente(i)**

Dr. Filippo Radicati di Brozolo, Western Digital, California (retired)

#### **Lingua**

English

#### **Breve descrizione**

The course aims at providing an introduction to the main surface analytical methods and their application to the study of materials.

The following topics will be addressed.

- Introduction to Surface Analysis: definition of solid surface stimulation of solid materials with different means, photons, charged particles; analysis of emitted signals by means of electron spectroscopies; description of surface- capable electron spectroscopic techniques, their relationships with Electron Microscopy; Auger Electron Spectroscopy as a by-product of Secondary Electron Microscopy.

- X-ray stimulation of surfaces, and related analytical techniques: XPS/ESCA (X-ray Photoelectron Spectroscopy/Electron Spectroscopy for Chemical Analysis).
- Advanced techniques related to XPS: synchrotron radiation as X-ray source; analytical applications of XAS, EXAFS and XANES; overview of Near-Field techniques, tip-enhanced imaging and spectroscopy techniques (PiFM, NSOM etc)
- Ion spectroscopies: stimulation of secondary ions from solid surfaces; SIMS and MALDI-TOF.

## **CFU / Ore**

1 CFU / 8 hours

## **Periodo di erogazione**

26/01/2023 (16.30 - 18.30)

27/01/2023 (16.30 - 18.30)

30/01/2023 (16.30 - 18.30)

31/01/2023 (16.30 - 18.30)

EDIT: POSTPONED TO 14-17 March 2023, same time.

## **Sustainable Development Goals**

ISTRUZIONE DI QUALITÀ

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