

**Ph D in Materials for Sustainable Development**  
**Teaching Activity 2023/24**

**TITOLO CORSO**

Nanomaterials: preparation, properties and applications  
Professor Tahereh Rohani

*Location:*

**Aula Seminari – Dept. Chemical Science and Technologies**

*Calendar:*

June (14:30- 16:30)

Monday 10 - Friday 14

Monday 17-Thursday 20

Monday 24-Thursday 27

July (14:30- 16:30)

Monday 1 - Monday 4

***Syllabus***

Definition and principle of nanotechnology; Molecular basis; Techniques for the synthesis of nanomaterials: sol-gel, physical vapor deposition, chemical vapor deposition, sonochemistry, microemulsion; Type and classification of nanomaterials: magnetic nanomaterials, semiconductor nanomaterials, porous nanomaterials, aerogel, silica nanomaterials, carbonaceous nanomaterials.

***Programma***

Definizione e principio delle nanotecnologie; Basi molecolari; Tecniche per la sintesi di nanomateriali: sol-gel, deposizione fisica da fase vapore, deposizione chimica da fase vapore, sonochimica, microemulsione; Tipologia e classificazione dei nanomateriali: nanomateriali magnetici, nanomateriali semiconduttori, nanomateriali porosi, aerogel, nanomateriali di silice, nanomateriali carboniosi.