

Scheda Laboratori di Ricerca

<p>Denominazione del Laboratorio</p>	<p><i>Italiano:</i> Microscopia Elettronica e Nanotecnologie</p> <p><i>Inglese:</i> Electron Microscopy and Nanotechnology</p>
<p>Gruppo di Ricerca di Riferimento</p>	<p><i>Italiano:</i> Sensori Optoelettronici; Ingegneria Biomedica; Elaborazione delle immagini e sensoristica ottica e a microonde;</p> <p><i>Inglese</i> Optoelectronic sensors; Biomedical Engineering; Image Processing and Optical Microwave Sensors;</p>
<p>Descrizione sintetica delle attrezzature, della strumentazione e delle attività di ricerca</p>	<p>Main equipment</p> <p>Scanning electron microscope (SEM).</p> <p>Sputter coater for nanofilm deposition.</p> <p>Thermal evaporation system for nanofilm deposition..</p> <p>Beam blaker and Raith system for electron beam lithography.</p> <p>Spin coater for deposition of dielectric thin films.</p> <p>Heater.</p> <p>3D printers.</p> <p>Mini chemical hood.</p> <p>Mini fridge and fridge.</p> <p>Automatic mini lapping machine.</p> <p>Personal computer.</p> <p>Main activities of the Laboratory</p> <p>In the laboratory, research activities are carried out relating to:</p> <p>Preparation by metallization of thin films for observation and study of samples via SEM.</p> <p>SEM observation and study of nanostructures for integrated optical sensors.</p> <p>Development by electron beam lithography of nanostructures for integrated optical sensors.</p> <p>Deposition of nanofilms for photonic devices using spin coating, sputter coating and thermal evaporation techniques.</p> <p>Development of multilayers for organic semiconductor electronic and optoelectronic devices.</p>

Development of plasmonic biosensors and optical-chemical sensors for several application fields.

Development of plasmonic biochips based on periodic nanostructures.

Development of ultra-sensitive biosensors via modified plastic optical fibres and polymer waveguides.

The laboratory is also used as a teaching aid for degree theses, internships, and PhD theses.