

Scheda Laboratori di Ricerca

Denominazione del Laboratorio	<p><i>Italiano</i></p> <p>Laboratorio di Optoelettronica ed Elettronica per Sensori e Biosensori</p> <p><i>Inglese</i></p> <p>Optoelectronics and Electronics for Sensors and Biosensors Laboratory</p>
Gruppo di Ricerca di Riferimento	<p><i>Italiano</i></p> <p>Sensori Optoelettronici; Ingegneria Biomedica; Elaborazione delle immagini e sensoristica ottica e a microonde; Monitoraggio dell'integrità strutturale.</p> <p><i>Inglese</i></p> <p>Optoelectronic sensors; Biomedical Engineering; Image Processing and Optical Microwave Sensors; Structural Health Monitoring</p>
Descrizione sintetica delle attrezzature, della strumentazione e delle attività di ricerca	<p>Main equipment:</p> <ul style="list-style-type: none"> - Glass processor unit for the realization of splices, tapers, couplers, etc. (Vytran GPX3800). - Automated cleaver for silica optical fibers. - Narrow linewidth lasers at 850 nm and 1550 wavelength. - Optical components, optical fibers. - Optical Time-Domain reflectometers (OTDR). - Optical Spectrum Analyzer. - Electronic equipment (vector network analyzers, digitizers, oscilloscopes, function generators, etc.). - Mechanical tools. - Personal computers. - White light sources (from 360 nm to 1700 nm). - Spectrometers (from 350 nm to 1023 nm). - Spectrometers (from 200 nm to 800 nm). - Polymer optical fiber (POF) splitters. - LED sources. - UV/VIS photodetectors. <p>The research activities are focused on:</p> <ul style="list-style-type: none"> - Distributed strain and temperature optical fiber sensors. - Distributed acoustic sensors. - Development and characterization of optical biosensors and optical-chemical sensors. - Development and characterization of electronic sensors and biosensors. - Characterization of specialty fibers for sensing applications. - Numerical simulations of integrated optical devices.