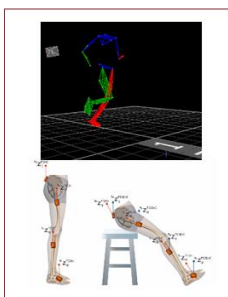


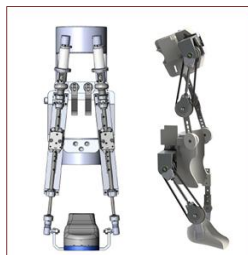
The Mechanical Measurements Laboratory includes 14 computer stations, 7 workbenches, a welding station and 2 benches under extractor hood. The instrumentation, both for basic and for specific applications includes:

- ◆ **Essential Equipment:** Measurement chains for strain gauges, thermocouples, piezoelectric accelerometers, electromagnetic exciters, bench power supplies, signal generators, power amplifiers, multimeters, digital oscilloscopes, sensors for measuring temperature (thermocouple, PT100, etc.), sensors for displacement measurement (LVDT, linear and rotary encoders, potentiometers, absolute and incremental encoder), speed and acceleration (tachometers and capacitive and piezoelectric accelerometers), sensors for force and torque measurement, sensor for pressure measurement (piezoresistive sensors), Inspire 3D printer S250, FARO measuring arm.
- ◆ **Energy Systems measurements instrumentation:** 4-channel Micro Gas Chromatograph, Power-train "tank-to-wheel" fully instrumented with catalytic reformer and PEM fuel cell for global efficiency measure. Thermal imaging camera, FLIR, bench with power supply and electronic load for measuring the efficiency of lithium batteries, system for measuring the efficiency of the PV panels (with pyranometer).
- ◆ **Biomechanics Measurements instrumentation:** System of twelve IMU sensors for motion analysis, 6-cameras optoelectronic system for motion analysis, two 6-components AMTI force platforms, 16-channels EMG system, robot for upper limb rehabilitation, pressure matrix suitable for posturography, two biaxial electrogoniometers, robot for ankle rehabilitation.
- ◆ **Industrial Bioengineering Section - Clinical Ultrasound Imaging:** Ultrasound probes, ultrasound test object, low-frequency ultrasonic cavitation sonicator, linear and angular micro-positioners.

MOTION ANALYSIS

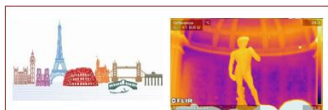


ROBOT MEDIATED THERAPY

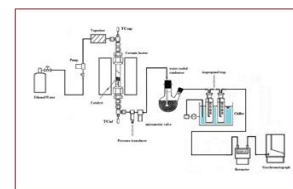


BATTERY PERFORMANCE

CULTURAL HERITAGE



TISSUES STRAIN



HYDROGEN PRODUCTION