Robotics for Bioenginnering (RB)

A.A. 2024/2025

MON	(14h30-16h30) (NA-II-A11, Agnano)
THU	(11h30-13h30) (NA-II-A8, Agnano)

1. Introduction to soft and collaborative robotics: areas of use and state of the art;

2. Hardware solutions for a collaborative system: soft covers and variable impedance actuators;

3. Soft robots: modeling and control;

4. Continuous and snake-like robots;

5. SOFA simulator;

6. Bioinspired robots;

7. Microrobots and magnetic actuation.

8. Teleoperation: introduction and definition of the different existing schemes (unilateral and bilateral), methods of representation and control of a teleoperated system, passivity and stability, tank theory;

9. Haptic interfaces: definition and control schemes;

10. Shared and semi-autonomous control: impedance control in collaborative robots;

11. Supervised autonomy: control architectures and interfaces;

12. Learning techniques applied to shared control.