

#### PhD Program in TECHNOLOGY FOR HEALTH



# Automatic Control Strategies for Optimized Drug Administration in Anesthesia

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XXXI Cycle

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#### Background

In general anesthesia specific administered drugs induce unconsciousness with a desired level of depth of hypnosis (DoH) of the patient, suppress the physiological responses to nociceptive stimulation and block the neuromuscular activity. New discoveries in biology and the improved understanding of biological functions have contributed to the development of new sensors, actuators and mathematical models of the human body response to administration of drugs. This has allowed the introduction of control systems also in drug administration contexts.

### Objectives

My research field include the development of automatic closed-loop control system for the administration of anesthetic drugs on patients undergoing general anesthesia using physiological signal as feedback.

## Methodologies

