



UNIVERSITÀ  
DI PAVIA

**Ph.D. Program in Electronics, Computer Science and Electrical Engineering**

## **COURSE**

### **Systems and control colloquia I**

***Proff. E.M. Aiello – G. De Nicolao – A. Ferrara –  
G. Galuppini – L. Magni – C. Toffanin***

**OBJECTIVES:** The course aims at sharing the main methodologies developed and used in the Identification and Control of Dynamic Systems Laboratory, as well as a number of relevant areas of application. The course is set up with a flipped learning approach, in order to improve the PhD students' soft skills while presenting, discussing and critically evaluating scientific topics. In this respect, the PhD students will be an active part of the teaching, through the presentation of their own research, and during the open discussion of the presented topics.

#### **PROGRAM**

- The course covers a wide range of topics, with emphasis on both methodological and application aspects.
- Methodological topics: including – but not limited to - variable structure control, nonlinear model predictive control, statistical learning for model identification, hybrid systems, learning-based control.
- Applications: including – but not limited to - automotive, artificial pancreas, industry and water 4.0, power generation, lithium-ion batteries.

**EVALUATION:** 3 CFU will be assigned based on attendance and a presentation of a research topic.

**ATTENDANCE:** Students who are not able to attend in person can contact the professors to receive a ZOOM link.

**LECTURES:** 10h; **CREDITS:** 3 CFU

**SCHEDULE:** The course will start on Oct. 21<sup>st</sup>, at 2 p.m. Date and time of the following meetings will be notified to the participants on a rolling basis. The course will take place in the **GREEN** Seminar Room.

**Ph.D. Coordinator**

Prof.ssa Ilaria Cristiani

Course in English  
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