**Supervisor Expression of Interest**
**MSCA-IF Marie Skłodowska Curie Action-Individual Fellowship**

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<tr>
<th><strong>Supervisor name:</strong></th>
<th>Sergio M. Savaresi</th>
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<tr>
<td><strong>Department Name:</strong></td>
<td>Electronics, Information and Bioengineering (DEIB)</td>
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<td><strong>Research topic:</strong></td>
<td>Control Theory and Applications</td>
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**MSCA-IF Research Area Panels**
- CHE_Chemistry
- ECO_Economic Sciences
- **X ENG_Information Science and Engineering**
- ENV_Environmental and Geosciences
- LIF_Life Sciences
- MAT_Mathematics
- PHY_Physics
- SOC_Social Sciences and Humanities

**Politecnico di Milano Areas:**
- Cultural Heritage
- **X Smart Cities**
- Territorial Fragilities
- Health
- **X Industry 4.0**

**Brief description of the Department and Research Group (including URL if applicable):**
The DEIB is one of the largest European ICT departments, with nearly 250 faculty members and more than 500 non-permanent staff. The six department sections cover all aspects of ICT, with consolidated competences in telecommunications, systems and control, computer science and engineering, electronics, bioengineering and electrical engineering. DEIB is a preminent scientific institution committed to forefront research, education, and technology transfer in all the aforementioned disciplines.

The Systems and Control area of DEIB [http://www.deib.polimi.it/eng/systems-and-control](http://www.deib.polimi.it/eng/systems-and-control) is devoted to teaching and research in various fields related to control.
system science and engineering, industrial automation, robotics, systems theory, environmental systems, ecology, and operations research. Despite the rich variety of topics, both theoretical and application-oriented, a unifying system level viewpoint is generally adopted, which enables the analysis, the management, and the design of complex systems, through the powerful theoretical tools of mathematical modeling.

**Brief project description: (max 1 page)**

The project aims at developing innovative methods and tools that can be of interest for the solution of challenging research issues arising in the context of the recent evolution of Automation and Control, which are pervasive with the realm of Industry 4.0 and in the design of the future Smart Cities.

The project seeks a wide perspective on the chosen topic, ranging from contributions to new theoretical instruments that may open new perspective into an existing field of research, to its demonstration on real-life applications in relevant domains.

To do this while exploiting the specific skills and fulfilling the interests of the single candidate, the project focus will fall within the framework of one main research lines of the Systems and Control, or a combination thereof, namely:

- Robust and optimal control
- Switched and networked systems
- Hybrid systems
- Model identification and data-based control

As for the application domains, the main field of interest for the project will be one of those active in the Systems and Control area, so that the candidate will leverage on the existing contacts with industries in the related fields and on the experience of the DEIB researchers in

- Mobility and Automotive Control
- Control of Energy Systems
- Mobile and Collaborative Robotics
- Industrial Automation

Prospective candidates are encouraged to propose innovative research projects that could be efficiently integrated in the existing research areas so as to maximise the output of the collaborations inside the groups of the Systems and Control area, allowing to successfully tackle innovative research challenges.