

# CPSwarm

*Towards Smart Autonomous Cyber-Physical Systems: Unmanned Aerial/Ground Vehicles and Robots*



On 13th December in Turin, LINKS Foundation presents the Workshop *Towards Smart Autonomous Cyber-Physical Systems: Unmanned Aerial/Ground Vehicles and Robots*. The event is organized by the H2020 project CPSwarm (coordinated by LINKS and overall involving 9 partners from 6 EU countries) and will present several EU relevant initiatives on Cyber-Physical Systems (CPSs) with high degree of autonomy.

In the starting phase of the workshop, several EU projects that share the objective to support the engineering of autonomous CPSs will present their mean outcomes. The list includes few H2020 projects: Teamplay, the H2020 projects funded within the ICT-01-2016 call i.e., BONSEYES, CPSwarm, DEIS and CERBERO (part of the CPS Cluster) as well as Bugwright2.

Then, the workshop will focus on the results obtained by CPSwarm project, actually aimed to provide tools that ease design, development and integration of complex herds of heterogeneous CPSs, which collaborate based on local policies and that exhibit a collective behavior capable of solving complex, industrial-driven, real-world problems.

Furthermore, the workshop will introduce few challenges in promoting the adoption of smart CPSs in urban areas. More specifically, the Turin ecosystem will be presented along with the relevant initiatives.

The workshop will include more interactive sessions: the posters related to the workshop topics will be presented and the attendees will be able to discuss directly with the people involved in research and innovation projects- Furthermore, the CPSwarm open-source components will be introduced in detail, with Q&A sessions to discuss their features with the CPSwarm developers and to get feedbacks about them.

All the sessions will involve partners and professionals, coming from all over Europe.

## WORKSHOP ORGANIZATION COMMITTEE

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### Venue:

Sala LAQ  
Fondazione LINKS  
Tel. +39 011 1975 1111  
Corso Castelfidardo 30  
10138 Torino  
Piemonte, Italy

### Date:

13<sup>th</sup> December 2019  
09:00 – 16:30



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13<sup>th</sup> December 2019, 09:00 – 16:30

TIME	TOPIC	SPEAKER
8:30	<i>Registration</i>	
9:00	<i>Welcome</i>	Massimo Marcarini (General Manager of LINKS Foundation)
9:10	<i>Overview of the workshop</i>	Claudio Pastrone (LINKS Foundation)
9:20	<i>EU Relevant initiatives</i>	
9:25	<i>Teampay Project</i>	Emad Ebeid (University of Southern Denmark)
9:40	<i>BONSEYES Project</i>	Daria Shirokova (NVISIO) Bonseyes Community Association (BCA)
10:00	<i>CPSwarm Project</i>	Claudio Pastrone (LINKS Foundation)
10:20	<i>CPSwarm Overview</i>	CPSwarm Consortium
	- <i>CPSwarm envisioned scenarios</i>	Farshid Tavakolizadeh (Fraunhofer FIT)
	- <i>Overall CPSwarm Workbench</i>	Akos Milánkovich (Search-Lab)
	- <i>Security</i>	CPSwarm Consortium
10:50	<i>CPSwarm demos</i>	CPSwarm Consortium
11:25	<i>COFFEE BREAK</i>	
11:40	<i>CERBERO Project</i>	Francesco Regazzoni (ALARI)
12:00	<i>BugWright2</i>	Cedric Pradalier (GeorgiaTech)
12:15	<i>Poster elevator pitch</i>	
12:30	<i>Lunch and Poster Session</i>	
13.45	<i>In-depth presentation of CPSwarm Workbench and Tools</i>	CPSwarm Consortium
	- <i>Integrated Workbench</i>	Farshid Tavakolizadeh (FIT)
	- <i>Modelling and Code Generation</i>	Etienne Brosse (SOFTEAM)
	- <i>Simulation and Optimization</i>	Davide Conzon (LINKS)
	- <i>Deployment tool</i>	Farshid Tavakolizadeh (FIT)

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TIME	TOPIC	SPEAKER
15:10	<i>Towards Smart CPSs in Urban areas</i>	
15:15	<i>Regulatory Framework for drones</i>	Gianfranco Todesco (City of Turin)
15:30	<i>PIC4SeR - PoliTo Interdepartmental Centre for Service Robotics</i>	Prof. Marcello Chiaberge (PoliTo)
15:50	<i>Torino City LAB</i>	Elena Deambrogio (City of Turin)
16:10	<i>Wrap up and Conclusion</i>	Claudio Pastrone (LINKS Foundation)
16:30	<i>CPS aperitif and Networking</i>	

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