

WELASER SUMMER SCHOOL

AI-AUTONOMOUS ROBOTS FOR AGRICULTURE – WEEDING WITH LASER



“AI-Autonomous Robots for Agriculture – Weeding with Laser” is a short summer school to introduce intelligent autonomous robotics for agriculture focused on the specific example of weeding with laser. The course is intended for undergraduate, master’s and PhD’s students, PhD researchers, industry practitioners and academics interested in the robotics trends for agriculture, including technical, scientific, economic and ecological aspects.

This school is part of the dissemination activities of the WeLASER project (European Union H2020 programme, N. 101000256).

DATES AND VENUE:

The course will be taught on July 10 to 12 and will consist of online lectures for the first and second days. The third day will focus on a training course and demonstrations. Registered students will be invited to attend the training and demonstration on-site that will be carried out at the

Centre for Automation and Robotics, CAR (UPM-CSIC)
Carretera CAMPO-REAL km 0,2; La Poveda
28500 Arganda del Rey, Madrid, Spain

Free refreshments and transportation (Madrid-CAR-Madrid) will be provided. The course is free of charge but will require a pre-registration. A diploma will be provided to the attendees.

The registration form is available at the following links:

<https://welaser-project.eu/>

<https://welaser-project.eu/welaser-summer-school/>

PROGRAMME

Day 1 (online) Monday, July 10, 2023	
09:30-10:15	Introducing the summer school Precision agriculture and robotics Pablo Gonzalez-de-Santos (CSIC, Spain)
10:15-11:00	AI controllers for autonomous robots Luis Emmi (CSIC, Spain)
11:00-11:15	Break
11:15-12:00	Cloud computing for agriculture Matteo Francia (University of Bologna, Italy)
12:00 – 12:45	Precision agriculture: farm economics and B2B management (Ghent University, Belgium)

Day 2 (online) Tuesday, July 11, 2023	
09:30-10:15	AI algorithms for weeding with laser Laser Zentrum Hannover, Germany
10:15-11:00	Laser effect on crops and animals Christian Andreasen (University of Copenhagen, Denmark)
11:00-11:15	Break
11:15-12:00	IoT for agriculture Giuliano Vitali (University of Bologna, Italy)
12:00-12:45	Real robots for real agriculture (AGREENCULTURE, France)
12:45-13:30	Ecological aspects of using autonomous robots for agriculture Janusz Krupanek (Institute for the Ecology of Industrial Areas, Poland)

Day 3 (On-site / Online) Wednesday, July 12, 2023		On-site	Online
09:30-10:00	Moving from Madrid to CAR (UPM-CSIC)	CAR Shuttle	
10:00-10:30	<ul style="list-style-type: none"> • Introducing CAR • Introducing the demo Pablo Gonzalez-de-Santos (CSIC, Spain)	CAR Auditorium	Online
10:30-11:00	Introducing the WeLASER equipment and training Luis Emmi (CSIC, Spain)	High-bay Lab	Online
11:00-11:30	Coffee break		
11:30-13:00	Demo Luis Emmi (CSIC, Spain)	Experimental Field	Online
13:00-13:15	Questionnaire to attendees Pablo Gonzalez-de-Santos (CSIC, Spain)		Online
13:15-14:30	Lunch at CAR-CSIC		
14:30	Returning to Madrid	CAR Shuttle	