



# SMART4ENV

UVIC SUMMER SCHOOL

## SUMMER SCHOOL on Strategies for Adapting to and Mitigating the Effects of Climate Change in the Agricultural Sector

BETA TECHNOLOGICAL CENTER

### Learning outcomes:

The UVIC Summer school is expected to host up to 15 participants, especially undergraduate, master and PhD students that are eager to explore Strategies for adapting to and mitigating the effects of climate change in the agricultural sector, through the sustainable management of nutrients, fertilisers, and water.

This event will be hybrid (in person and online) in order to facilitate participation of those unable to attend in person.

### Participants will have an opportunity to deepen their knowledge on:

- Nutrient recovery for soil degradation and quality losses, regenerative agriculture, management of carbon stocks, and improving nutrient management through capitalisation.
- Biofertilisers and organic farming, soil sampling and fertiliser management through digital technologies, smart monitoring and management systems for sustainable fertilisation: Decision Support Systems (DSS), and waste revalorisation techniques for soil health: anaerobic digestion, composting and solid-state fermentation and pyrolysis.
- Digital twins for irrigation supervision and control, water reuse and ferti-irrigation, treating and reclaiming water with nature-based solutions (NBS) and digitalisation of water.

**UVIC SUMMER SCHOOL  
BETA TECHNOLOGICAL CENTER**

**Nutriday 24th April 2024**

|              |  |  |
|--------------|--|--|
| 10:00-10:30  | <b>Registration &amp; Welcome</b>  |  |
| 10:30-11:00  | Presentation of BETA Technological Center.   | Laia Llenas - BETA TC  |
| 11:00-11:30  | Icebreaker activity & Introduction of the SMART4ENV project.                         | Selda Murat & Şebnem Aynur - TÜBITAK MAM                           |
| 11:30-12:15  | Session 1: Addressing soil degradation and quality losses through nutrient recovery. | Diana Jiménez & Laura Díaz - BETA TC                               |
| 12:15-12:30  | Networking session between Turkish and Spanish researchers.                          |  |
| 12:30-13:15  | Session 2: Regenerative Agriculture: Management of carbon stocks.                    | Rosa Vilaplana, Andrea Casadesús & Carlos Alberto Torres - BETA TC |
| 13:15-15:00  | <b>Lunch</b>   |  |
| 15:00 -15:45 | Session 3: Improving nutrient management through capitalisation.                     | Victor Carbajal - BETA TC  |
| 15:45-16:30  | Visit to the Beta Technological Center.  |  |

**Fertiday 25th April 2024**

|              |   |   |
|--------------|---|---|
| 10:00-10:30  | <b>Registration &amp; Welcome</b>   |   |
| 10:30-11:15  | Session 1: Biofertilizers and organic farming: Reducing environmental impacts with alternative sustainable fertilisers.                 | Laura Díaz & Ana Robles - BETA TC                                 |
| 11:15-12:00  | Session 2: Smart monitoring systems for precision fertilisation: Soil sampling and fertiliser management through digital technologies.  | Rosa Vilaplana - BETA TC & Nazerke Amangeldy - Ghent University   |
| 12:00-12:30  | Networking session between Turkish and Spanish researchers.   |   |
| 12:30-13:15  | Session 3: Smart monitoring and management systems for sustainable fertilisation: Decision Support Systems.                             | Berta Singla - BETA TC & Chantal Hendriks - Wageningen University |
| 13:15-15:00  | <b>Lunch</b>  |   |
| 15:00 -15:45 | Session 4: Waste revalorisation techniques for soil health: Anaerobic digestion, Composting and Solid-state fermentation and Pyrolysis. | Oscar Mauricio & Laura Mejias- BETA TC                            |

**Waterday 26th April 2024**

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|-------------|---|---|
| 10:00-10:30 | <b>Registration &amp; Welcome</b>   |   |
| 10:30-11:15 | Session 1: Digital twins for irrigation supervision and control. The Spanish context, introduction the irrigation water control, irrigation support technologies and regional surveillance. | Jaume Casadesús - IRTA                          |
| 11:15-12:00 | Session 2: Experiences, projects and achievements on water reuse and ferti-irrigation.  | Lidia Paredes - BETA TC                         |
| 12:00-12:30 | Networking session between Turkish and Spanish researchers.   |   |
| 12:30-13:15 | Session 3: Treating and reclaiming water with Nature Based Solutions.   | Lorenzo Proia -BETA TC                          |
| 13:15-15:00 | <b>Lunch</b>  |   |
| 15:00-15:45 | Session 4: Digitalisation of water.   | Carmen Espinosa & Adrià Salvans - AIGÜES DE VIC |