



TRAINING SCHOOL COST CA22134 FOODWASTOP

Valorisation of food processing side-streams in a circular bioeconomy

26-28 May 2026

Cēsis, LATVIA

Local organizer Jessica Girardi (WG4 leader)

Chair Gianfranco Romanazzi, *Vice Chair* Fernando Pérez Rodriguez



With the kind contribution of





Sustainable network for agrofood loss and waste prevention, management, quantification and valorisation

c/o Department of Agricultural, Food and Environmental Sciences, Università Politecnica delle Marche
Via Breccie Bianche, 10 - 60131 Ancona, Italy – e-mail: g.romanazzi@univpm.it

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Introduction

Food loss and waste (FLW) is a global challenge recognised by international governments and organizations. Reducing FLW is key to sustainably ensuring nutritional food security for an increasing world population. It is a target of the Sustainable Development Goals of the United Nations, and the Farm to Fork Strategy of the European Green Deal. The FoodWaStop COST Action addresses these challenges and aims to: (i) build an interdisciplinary and multi-actor European Network that will also connect with non-EU Mediterranean countries, to promote knowledge on FLW beyond the state of the art; (ii) determine the incidence of FLW at critical points of the fruit and vegetable value chain; (iii) foster technological innovations and sustainable management strategies to reduce and prevent FLW; and (iv) valorise agrifood waste to promote a circular bio-economy.

Working Group 4 (WG4) of COST Action CA22134 FoodWaStop focuses on highlighting the scientific breakthroughs and techno-economics related to the valorisation of FW, with the goal of creating new concepts and methodologies for FW recycling and valorisation technologies. The deliverable-oriented knowledge creation on valorisation of FW will contribute to reduction of environmental pollution, promotion of sustainability and implementation of a circular bioeconomy. The contributions provided by the WG4 members are intended to explore available and adopted strategies for the potential industrial valorisation of fruit, vegetable and cereal side-streams for extraction of bioactive compounds (e.g., natural coloring, antioxidants, preservatives, antimicrobial agents, alternative packaging materials across different industries).

To achieve its goals, WG4 organizes this Training School in Latvia (Cēsis), where experts in the field of food processing side-stream valorisation in a circular bioeconomy will provide masterclasses to train young participants and prepare the next generation of specialists.





Aims



The aim of this Training School is to transfer knowledge on a practical strategy for valorising agri-food processing side-streams by treating valorisation as a systemic chain that starts from biomass generation → collection and stabilisation → extraction/transformation → to product development.

The career development of Young Researchers and Innovators will be supported by acquiring professional skills and knowledge enabling them to build a waste-to-resource mindset that is required to map where and in what form side-streams arise; treat by-products as food-grade products from the point of origin with hygiene and traceability; promptly stabilise the waste; and make resulting products visible and attractive to potential downstream users through establishing quality attributes and specification (quantity, composition, seasonality, hygiene status).

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Contents

The training school covers fundamental knowledge and shares good practices. The main topics covered are: (i) agri-food waste definitions and overview of current valorisation strategies, (ii) waste-to-resource approach, (iii) holistic biorefinery approach, (iv) workflow for resource valorisation, (v) challenges in effective valorisation.

The courses will be delivered by international experts in the field and include theoretical classes, practical applications and a field visit to a Nature and Technology Park designed for waste sorting, recycling and valorisation (e.g. reverse osmosis treatment process and the process of obtaining biogas and electricity from waste). In this way the participants will gain theoretical information in the field associated with real life scenarios.

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Agenda

Tuesday 26/5/26 Space Education Center https://kosmosacentrs.lv/en/		Wednesday 27/5/26 Field Trip ZAAO education center “URDA” https://www.urda.lv/en		Thursday 28/5/26 University of Latvia in Rose square https://www.lu.lv/par-mums/struktura/filiales/cesu-filiale/	
08.30-09.00	<i>Registration of participants</i>	09.00	<i>Departure for the “URDA” Nature and Technology Park. Registration of participants on the bus</i>	09.00-9.30	<i>Joint reflections from the field trips (MCs Jessica Girardi, Baltic Studies Centre)</i>
09.00-09.30	<i>Welcome by the local organizer (MSc Jessica Girardi, Baltic Studies Centre) and FoodWaStop Chair (Prof. Dr. Gianfranco Romanazzi, Marche Polytechnic University). State of the art of COST Action CA22134 FoodWaStop</i>	09.30-10.00	<i>Arrival and networking</i>	09.30-10.00	<i>Challenges of valorizing fruit by-products and wastes for circular bioeconomy (Dr. Ozgur Tarhan, Uşak University)</i>
09.30-10.00	<i>Welcome by Cēsis Municipality vice mayor (Dr. Inese Suija Markova, Deputy Mayor of Cēsis Municipality), overview of the regional plan for food waste valorisation and insight from the</i>	10.00-11.00	<i>Presentation of ZAAO Company and its educational section “URDA”. Emphasizing a bioeconomy-based approach to waste management services (MSc</i>	10.00-10.30	<i>EIT Food Hub Latvia - comparable quantitative data on potential resources and connecting stakeholders of the value chain (Dr. Ilze Laukaleja-Broka, Latvia</i>

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	<i>LIFE project ‘Waste to Resource’ (MSc Lāsma Ozola, Waste-Free Community of Cēsis Municipality)</i>		<i>Mārtiņš Niklass, Chief of development at ZAAO)</i>		<i>University of Life Sciences and Technologies)</i>
10.00-10.15	<i>Guidelines for valorisation of food processing by-products (Prof. Dr. László Abrankó, Hungarian University of Agriculture and Life Sciences)</i>	11.00-12.00	<i>Excursion to Daibe Circular Economy Center and BNA bioFactory (MSc Mārtiņš Niklass, Chief of development at ZAAO)</i>	10.30-11.00	<i>Customer/consumer acceptance: upcycling vs feeding (social equity implications) (Prof. Dr. Miķelis Grīviņš, Rīga Stradiņš University)</i>
10.15-10.45	<i>Industrial Symbiosis – an end or a means? State of the art in the Baltic Sea Region (Dr. Maija Kāle, TBD)</i>	12.00-13.00	<i>Lunch</i>	11.00-11.30	<i>Coffee break</i>
10.45-11.15	<i>An approach to estimating food industry by-products using available statistical data (Dr. Elīna Dāce, Baltic Studies Centre)</i>	13.00-13.50	<i>Smart small-scale biowaste sorting and composting management (Msc Zane Kopštāle, Kompost LV)</i>	11:30-12:00	<i>Mushroom valorisation of agri-food waste in circular bio economy (Prof. Dr. Slaven Zjalic, University of Zadar)</i>
11.15-11.45	<i>Coffee break</i>	14.00-15.00	<i>Workshops: small scale compost model building (MSc Zane Kopštāle, Komposts LV) & plant in biocompost soil (“URDA” team)</i>	12.00-12.30	<i>SporaLab - the valorisation pathways in a functional mushroom company (BSc Rihards Grāvis, SporaLab)</i>
11.45-12.00	<i>Valorising food waste using insect bioconversion: Challenges and</i>	15.10-16.00	<i>Compost management in Farming industry (MSc Dace Zariņa,</i>	12.30-13.00	<i>Scaling up black soldier fly rearing - the BIOMUND</i>

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	<i>opportunities (Dr. Sarah Milliken, University of Greenwich)</i>		<i>Latvian Rural Advisory and Training Centre)</i>		<i>experience (BSc Kārlis Sams, CEO Biomund)</i>
12.00–12.30	<i>Organic waste as substrates for insect production for animal feed - STSM experience (MCs Jessica Girardi, Baltic Studies Centre)</i>	16.00	<i>Departure from the Nature and Technology Park. Arrival in Cēsis at approx. 16.30</i>	13.00-13.30	<i>Coffee break</i>
12.30-13.00	<i>Method for detecting microplastics in farmed insects (Dr. Nathan Meijer, Wageningen Food Safety Research)</i>	16.30-17.30	<i>Free time</i>	13.30-14.00	<i>CLEANTECH LATVIA - Synergia Platform & Accelerator program (MSc Vanda Rogovska, project manager at Cleantech Latvia)</i>
13.00-14.00	<i>Lunch</i>	17.30	<i>Departure for the beer tasting and tour at the Valmiermuiža brewery</i>	14.00-14.30	<i>Industrial symbiosis workshop: successfully applied case studies from the Gauja National Park Bioregion (MSc Kristīne Aboliņa, Cēsis Municipality)</i>
14.00-14.15	<i>From agri-food waste to value: risk assessment and predictive approaches for biological fractions (Dr. Fernando Pérez Rodríguez, University of Córdoba)</i>	18.00-19.30	<i>Beer tasting and tour at the Valmiermuiža brewery</i>	14.30-16.30	<i>Lunch & workshop (at and led by Labas saknes)</i>

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14.15-14.45	<i>By-product use in circular bioeconomy: different business models (Prof. Dr. Tālis Tisenkopfs, Baltic Studies Centre)</i>	19.30-22.00	<i>Group Dinner at Valmiermuiža</i>	17.00	<i>Guided walk in the city and free evening</i>
14.45-15.15	<i>From side streams to food solutions: decision trees, data, and real-world upcycling examples (TBD)</i>	22.30	<i>Return in Cēsis</i>		
15.15-15.45	<i>Coffee break</i>				
15.45-16.00	<i>Environmental and economic assessment of food-packaging systems with a focus on food waste (Prof. Dr. Victoria Krauter, Hochschule Campus Wien)</i>				
16.00-17.30	<i>Group exercise: Value Stream Mapping. The goal is to create a diagram of the material flow for a given case study (led by Prof. Dr. Victoria Krauter, Hochschule Campus Wien)</i>				
17.30-18.00	<i>Networking Aperitivo and free evening</i>				

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Language

The Training School will be delivered in English. The level of proficiency of the candidates in this language will be requested during the application process.

Certificate of completion

FoodWaStop in collaboration with the local organiser will issue a certificate that will confirm participation in the Training School.

Organizational matters

The duration of the Training School will be 3 days from May 26th to 28th. Thus, trainees are invited to arrive in Cēsis on Monday, May 25th and to leave on Friday, May 29th.

Travel info

All participants are expected to make their own travel and accommodation arrangements for the Training School.

Closest airport: Airport RIX (Riga airport): 100 km from Cēsis (approx. 1h 40m car drive). From the Airport a bus line 22 is running every 10 minutes to Riga center/train station (<https://www.1188.lv/en/transport/cities/riga/70-4673>). From the train station (<https://maps.app.goo.gl/cXgXU5xKfdrngUkD8>) or bus station (<https://maps.app.goo.gl/5QAeWVuZYvpbiLrt5>) it is possible to reach Cēsis by public transport, either by train (approx. 1h 40m trip) or by bus (approx. 2h trip).

Travelling to Cēsis by train: Train schedules - <https://www.vivi.lv/en/>.

Travelling to Cēsis by bus: Bus schedules - <https://www.1188.lv/en/transport/buses/rigas-sao/cesu-ao/105317/105255>.

Both the train station and the bus station are located in Cēsis city center.

It is strongly advised to download the Mobilly app to be able to purchase tickets easier and faster (<https://mobilly.lv/en/>)

For more details, check the official page of tourist info:

<https://visit.cesis.lv/en/transport/how-to-get-here/#by-public-transport>

Reimbursement for COST invited participants

For participants invited from the COST Action CA22134 FoodWaStop budget, the cost of participation will be reimbursed according to COST rules after daily signature of the attendance list at the Training School and submitting the reimbursement claim form on e-COST once back at home. Participants need to book their own accommodation and cover food costs (except for snacks at the coffee breaks), with a fee of 20 Euro per day for lunches, while the group dinner is optional.

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Self-funded participants

The Training School accepts applications from candidates that have their own source of funding. Those participants will need to cover the cost of all the meals themselves.

The venues

The activities of the Training School will take place in two different venues located in Cēsis city center. The program of the 1st day (Tuesday, May 26th) will take place at the Space Education Center (<https://kosmosacentrs.lv/en/>). The building is located downtown, on Cīrulišu Street, 63. It is reachable by foot from the old town in around 30 minutes. It is connected with the old town by the CATA bus line 3005 (see timetable [here](#)) or 3010 (see timetable [here](#)), direction Ciruliši. See map below (<https://www.cata.lv/index.php/regularie-parvadajumi/autobusu-kustiba/cesis>).

Cēsu pilsētas autobusu kustības shēma









The program of the 3rd day (Thursday, May 28th) will take place at the University of Latvia branch office in Rose Square (<https://www.lu.lv/par-mums/struktura/filiales/cesu-filiale/>). The building is located in the old town at walkable distance from the main accommodation area.

For the 2nd day (Thursday, May 27th) a field trip is organised. The visit will take place at the ZAAO education center URDA (<https://www.urda.lv/en>) located in an area around a 30 minute drive from Cēsis center.

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Optional activities

In addition to the regular agenda of the Training School, three extra activities are proposed, and each participant is asked to register in advance for these (one or more).

- 1) **Guided tour at the Space Education Center** → to take place at the end of the first day, tailored to the thematic focus, highlighting resource efficiency, circularity and waste management challenges in space exploration. 7 EUR/ per person. Duration approx. 1 hour.
- 2) **Beer tasting at Valmiermuiža brewery** → special brews (tour in the brewery + five beers/alcohol or alcohol-free). The visit starts with a guided tour in the brewery after the tasting of five different craft beers. During the tour the guide will share the story about malt spent grain valorisation strategies adopted by the company within a circular bioeconomy approach. 17 EUR/ per person. Duration 1,5 - 2 hours.
- 3) **“Labas saknes” workshop** → short story about the creation of the company and no-waste production process, followed by a tasting of all our products. During the tasting you will try freshly squeezed and fermented carrot juice, 6 types of healthy savoury snacks, and 4 types of sweet snacks. At the end of the experience, participants will have the opportunity to make their own dried fruit and carrot candies, package them, and take them home. 11 EUR/ per person. Duration 1 - 1.5 hours.

Accommodation

Hotel selection/reservation needs to be managed by the participants. We strongly recommend that you make your reservation as soon as possible. Please be aware that accommodation can sell out very fast. There are not many options for booking a hotel or a guesthouse in the town. See the platform [booking.com](https://www.booking.com) for the suggested ones or other kinds of privately managed accommodation.

Suggested accommodation:

Hotel Cēsis

Address: Vienības square 1

Website: [Hotel Cēsis](https://www.hotelcesis.lv)

Hotel Vanadziņa māja

Address: Rīgas street 15

Website: [Hotel “Vanadziņa māja”](https://www.vanadzina.lv)

Hotel Katrīna

Address: Lielā Katrīnas street 21

Website: [Hotel Katrīna](https://www.hotelkatrina.lv)

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Address: Gaujas street 88

Website: [Villa Santa Hotel](#)

Hotel Province

Address: Niniera street 6

Website: [Hotel Province](#)

Rucka Manor

Address: Piebalgas street 19

Website: [Rucka Manor Apartments](#)

Contact person Megija Herbsta (+37126265463)

10% discount on the room price

Spīdala house

Address: Lielā Katrīnas street 12a

Website: [Spīdaldas nams](#)

The Vicarage

Address: Torņa street 3

Website: [Mācītāja māja](#)

Apartments: [suggested options](#)

Prepare yourself for your trip to Cēsis

Feel free to take a look at the digital version of the city tourism guide (pages 2-6):

[CN_turisma_celvedis_EN-2025.pdf](#)

Contact person

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