

Training and Education for companies in the field of food waste reduction and valorization



Food Association

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Department of Food Science and Technology

Chair of Food Physics Laboratory

Secretary General of the ISEKI-Food Association (AT)



Charis M. Galanakis

Galanakis Laboratories (GR)

Chair Food Waste Recovery Group



Yildiray ISTANBULLU

Central Research Inst. of Food and Feed Control (TR)

Coordinator Postharvest Project

outline

- ISEKI-FOOD ASSOCIATION
- SPECIAL INTEREST GROUPS: Food Waste Recovery
Postharvest Handling
- ISEKI-FOOD TRAINING PLATFORM:
 - products: books, workshop, webinars, e-learning, digital library
 - services: EQAS-FOOD AWARD (Accreditation)
FOOD CAREERS PLATFORM (Certification)

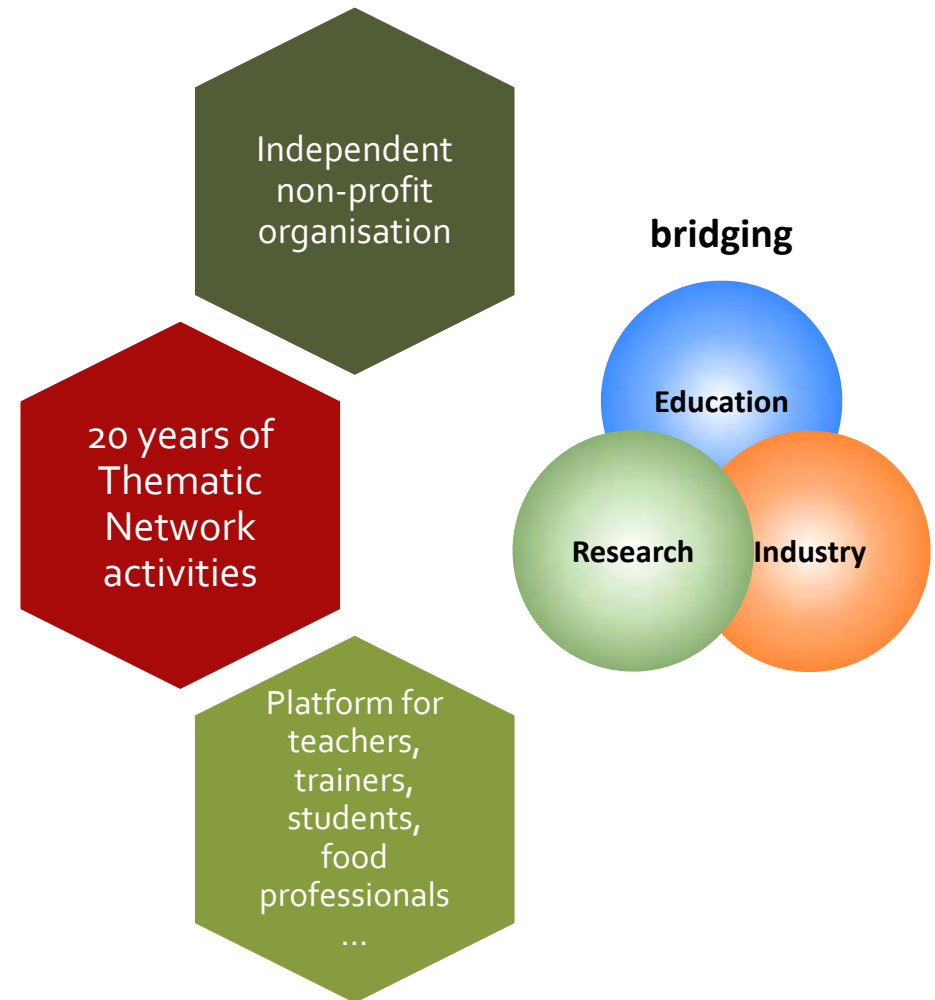


ISEKI Food Association

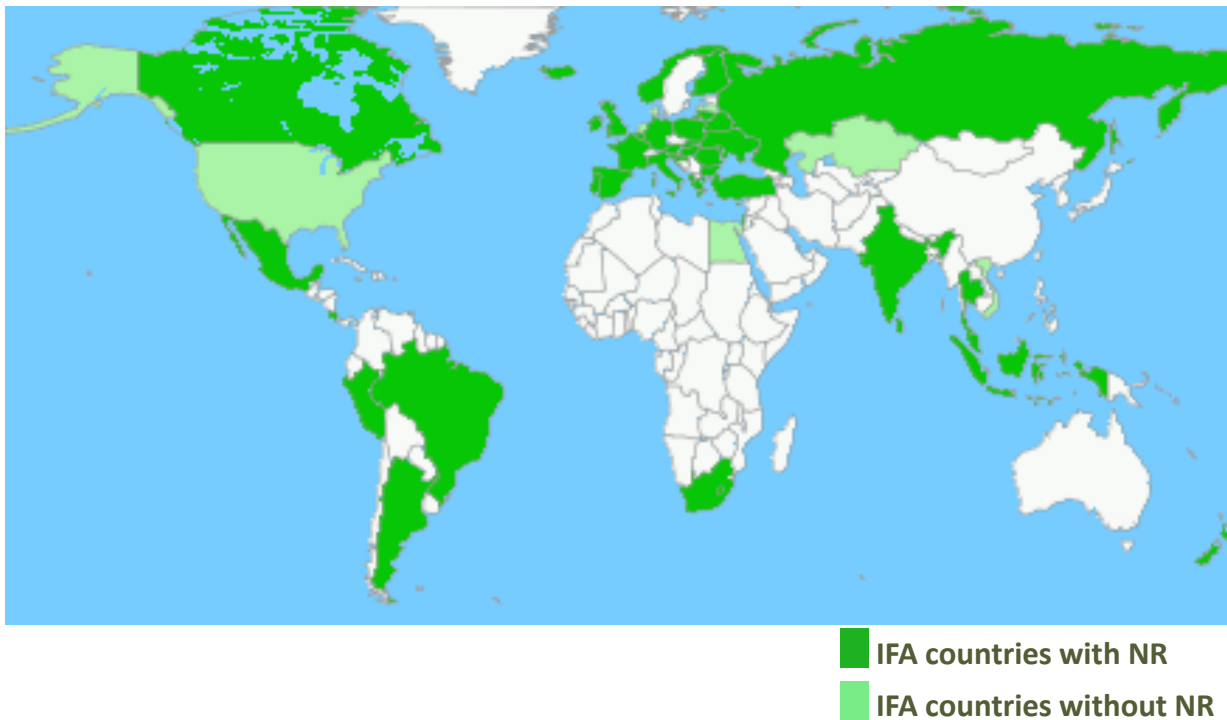
European Association for
Integrating Food **S**cience and **E**ngineering **K**nowledge **I**nto the
Food Chain

www.iseki-food.net

What is ISEKI-Food Association?



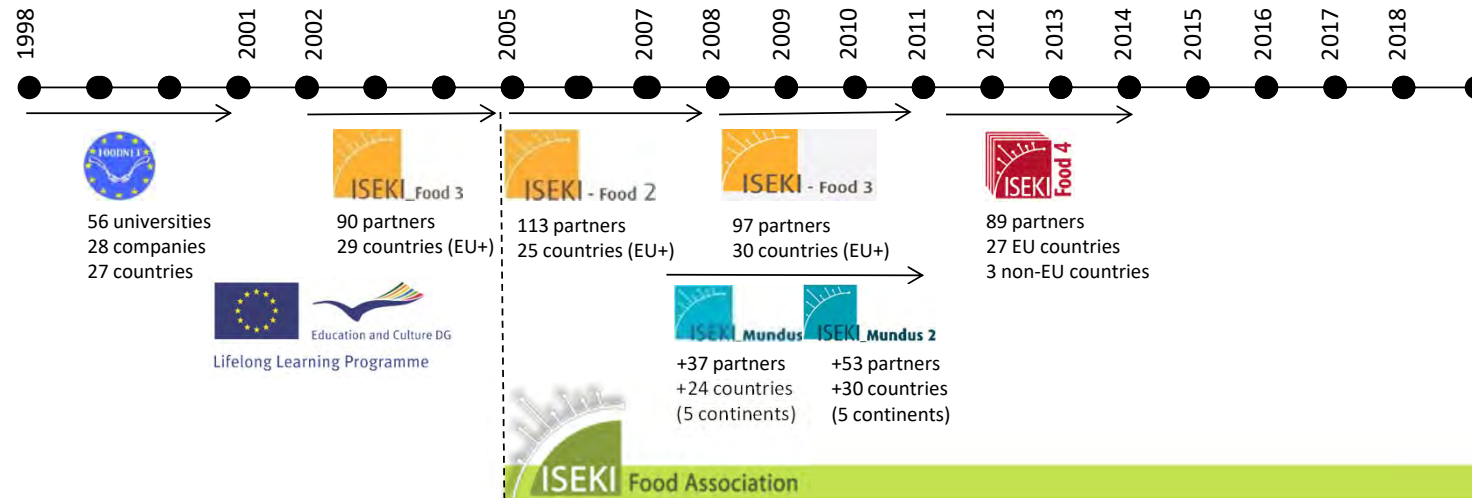
ISEKI-Food National Representatives



NR SPAIN:

- **Luis Mayor (Valencia)**
- **Victoria Ferragut (Valencia)**
- **Chelo González Martínez (Barcelona)**

Development of ISEKI-Food

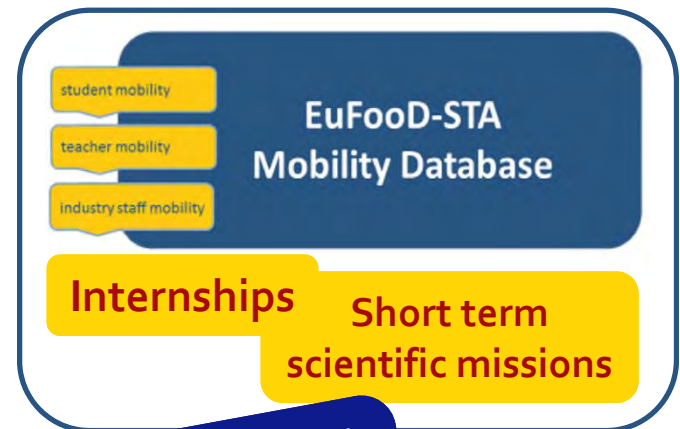
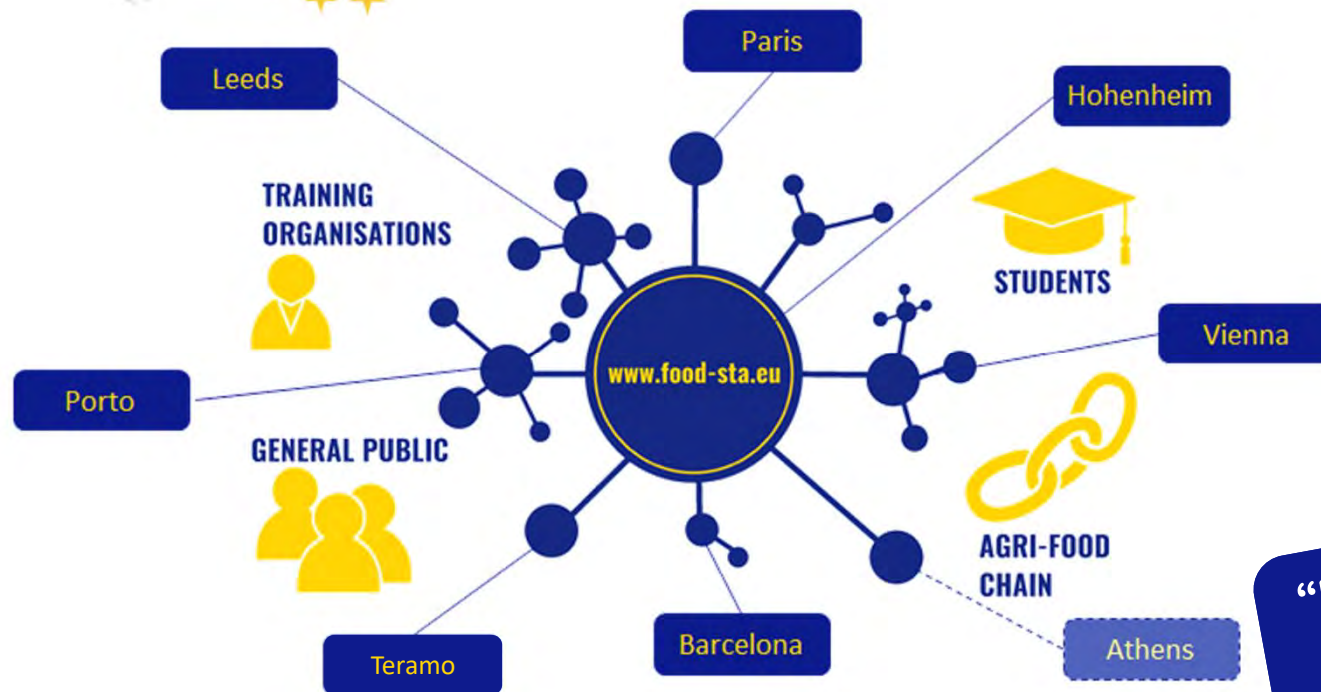
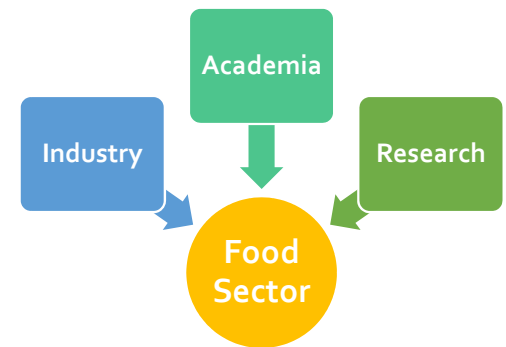


Be involved in the IFA activities and become a member





FooD-Studies & Training Alliance:
bridging industry, academia and research



“FoodFactory-4-US”
International students competition

Platform with **local hubs** for international and sustainable collaborations

www.food-sta.eu/

for industry (SMEs) and universities

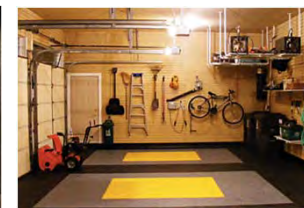
- Finding **experts** and **partners** for implementing new technologies (multidisciplinary)
- Providing **resources**:
 - pilot plant
 - laboratories
 - templates for CA, contracts: use of facilities, research including IPR, ...



- 1 contact point
- **expert database**



- “**Garage**”: protected environment to develop and test new developments





ISEKI Food Association

FoodD-STA centre

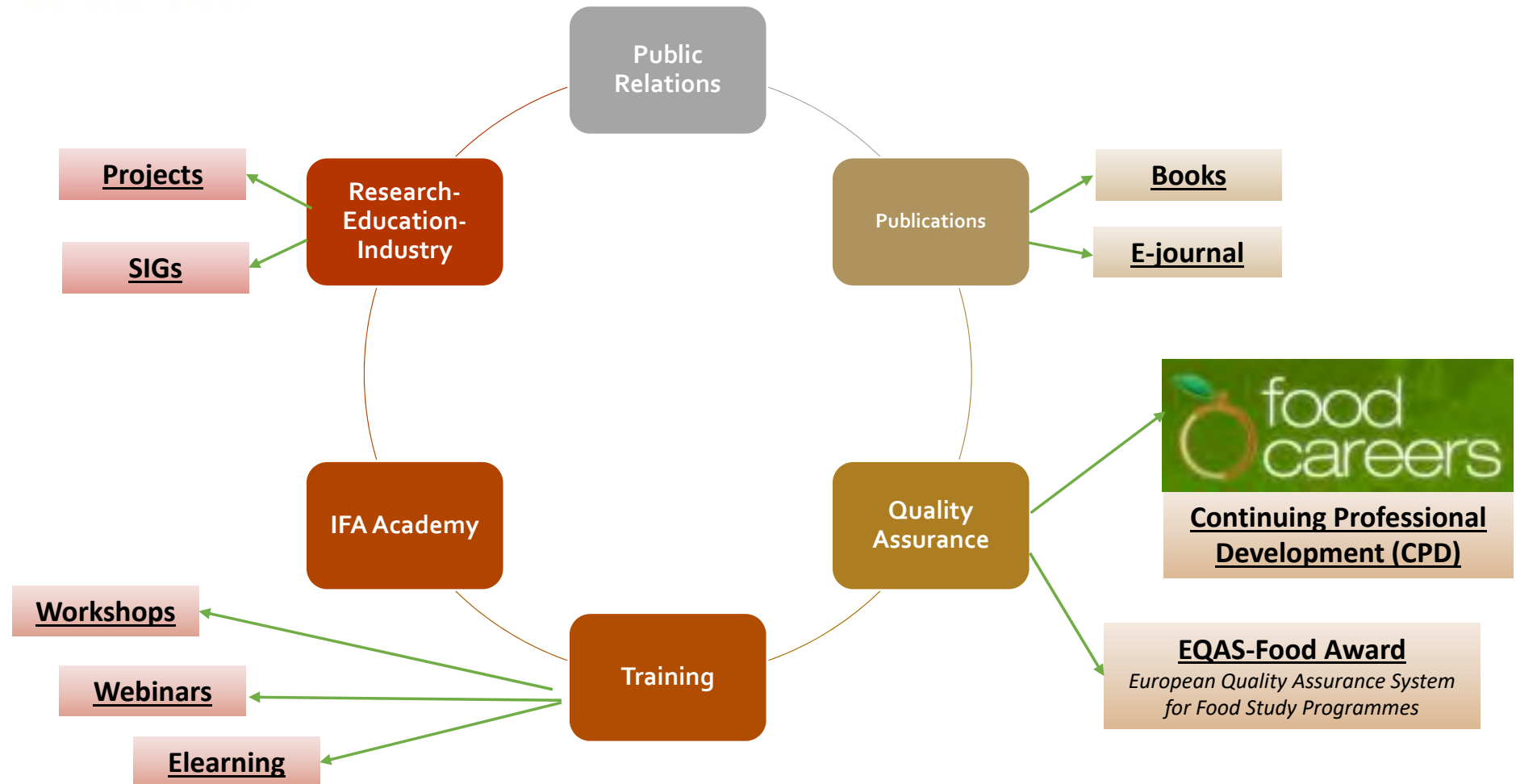


food companies, universities, multiplier organisations. training providers



apply at <https://www.food-sta.eu/>

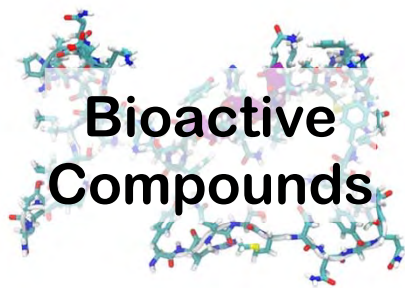
ISEKI-Food Teams





*Actively contribute
and collaborate!*

*Open to all
interested people!*



Chair: Charis M. Galanakis, Galanakis Laboratories (GR)
thousands of associated professionals and researchers from more than 60 countries

Open Innovation Network

Our goal is to help food industries recover food waste and
improve sustainability

[Learn More](#)



Food Association

Food Waste Recovery Group

+ Problem Solving Resources

+ Phone Consultation

+ On-site Facilitation

+ Customized Coaching and Training

+ State of the Art Insights

+ Feasibility Studies

+ Tailor-made Studies

+ Laboratory Services



Books



Courses



Experts Database



Publications



Workshops



Webinars

ISEKI-Food Training Platform

PRODUCTS

- Books, Publications
- Workshops
- Online courses
- Webinars
- Digital Library

SERVICES

- Accreditation of **Food Study Progr.**
- Certification of **Short Courses**
- Certification of **Food Professionals**

Books: *Springer ISEKI-Food Series*



25% Discount
for IFA-Members



Food Waste Recovery Group: Books



Food Waste Recovery Group: Publications

<http://www.foodwasterecovery.group/publications/>



Food ar
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Authors

Eleni
Franz
Olek
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Niko
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✉



ELSEVIER

Review

Recover
from fo
technol

Charis M. Galana



ELSEVIER

Implemer
olive mill
cosmetics

Charis M. Galanakis ^a,

Trends in Food Science & Technology

Volume 26, Issue 2, August 2012, Pages 68-87



Industrial Crops and Products

Volume 111, January 2018, Pages 30-37



Recovery and Utilization of Valuable
Compounds from Food Processing B

Edited by Andreas Schieber, Charis Galanakis
Volume 65, Part C,
Pages 299-484 (November 2014)

Workshops

food professionals
train
university teachers

Food Defense - Produktschutz im Lebensmittelsektor



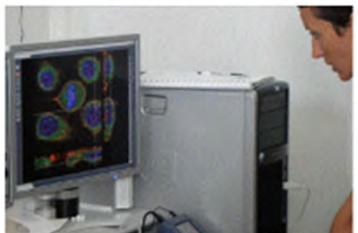
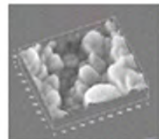
FIRST SCHOOL OF NANOTECHNOLOGY IN THE FOOD CHAIN
29-30 August 2011, Milano, Italy



FONDAZIONE
FILARETE

Fa. INFRAPROTECT

23. Oktober 2013



European
Food-STA



STAMAG



Erasmus+

554312-EPP-1-2014-1-AT-EPPKA2-KA

“Hands-on Training on Baking Technology”
CPD certified Workshop, Vienna, 21-23 November 2017



Food Waste Recovery Courses, Workshops

Development of Value-Added Products from Food Wastes and by-products

January-February 2019 in ISA Lille University

topics: Situation and opportunities, Wastes recovery, Discarded food products valorization

Food Waste Recovery Workshop

- **Vienna (2016):** state of the art knowledge, basic theory, success stories of real industrial applications, round table discussions
- **Stuttgart (2018):** recovery of valuable compounds (polyphenols, antioxidants, pectin, carotenoids, proteins etc) from food processing by-products (olive mill waste, grape marc, coffee silverskin, and cereal processing by-products etc)
- **Cyprus (2020):**



ISEKI-Food E-learning Platform

Available courses

- ✓ Entrepreneurship in the Food Industry (50h)
- ✓ Open Innovation
- ✓ Food Safety in the Catering Sector (50h)
- ✓ Hygienic Design in the Meat Industry (50h)
- ✓ Hygienic Design in the Dairy Industry (50h)
- ✓ Canning (50h)
- ✓ Food Packaging (50h)
- ✓ Freezing and Thawing (50h)
- ✓ **Food Waste recovery (30h)**
- ✓ **Residue Processing for a Sustainable Food Industry (50h)**
- ✓



The screenshot shows the IFA E-learning platform interface. At the top, there is a header with 'IFA E-learning' and a language dropdown set to 'English (en)'. Below the header are logos for the ISEKI Food Association, European FoodD-STA, and Connect4Action. The main content area is divided into three sections: 'NAVIGATION' on the left with links for Home, My home, ISEKI-Food E-learning, My profile, My courses, and Courses; 'ADMINISTRATION' with a link for My profile settings; and 'Courses' on the right with a list of available courses: European FoodD-Study & Training Alliance, SEA-ABT (South East Asian Academy for Beverage Technology), and Connect4Action. A 'My courses' section is also visible at the bottom right.

ISEKI-Food members: **free!**
Non-members: 50€/ course

<https://moodle.iseki-food.net/>

Food Waste Recovery Group, e-course

Home ▶ Courses ▶ European Food-Study & Training Alliance ▶ Food Waste Recovery (30 h)

Turn editing on

NAVIGATION

Home

- My home
- ISEKI-Food E-learning
- My profile
- Current course
 - Food Waste Recovery (30 h)**
 - Participants
 - Badges
 - FOOD WASTE RECOVERY (30 h)
 - Food Waste Recovery e-Course
 - Lectures
 - Resources & Further Reading
 - Quizzes (Multiple Choice)
 - Tests (Multiple Skills)
 - FEEDBACK

FOOD WASTE RECOVERY (30 h)



announcements

general discussion forum

if you have any question to trainers or other participants, please post it here

Food Waste Recovery e-Course

Background

As long as food processing exists, non-consumed materials will be considered a substrate of treatment, minimization, or prevention. On the other hand, the prospect of recovering high added-value compounds from these materials is a scenario that started few decades ago. The first successful efforts dealt with the recovery of oil from olive kernel; the production of

SEARCH FORUMS

Go

[Advanced search ?](#)



Food Waste Recovery e-course

- 01. The Agroindustrial Sector - A Global Perspective, Challenges & Opportunities (Charis M. Galanakis)**
- 02. Classification & Target Compounds (Charis M. Galanakis)**
- 03. The Universal Recovery Strategy & Conventional Technologies (Charis M. Galanakis)**
- 04. Emerging Technologies, Safety & Cost issues (Charis M. Galanakis)**
- 05. Scale-up Problems, Commercialized Methodologies & Applications (Charis M. Galanakis)**
- 06. Colloidal Gas Aphrons for the Separation of Macro- & Micro-molecules (Giorgia Spigno)**
- 07. Ultrafiltration for the Separation of Macro- & Micro-molecules (Charis M. Galanakis)**
- 08. Isoelectric Solubilization/Precipitation for the Recovery of Protein & Lipids (Reza Tahergorabi)**
- 09. Ultrasonics & Microwaves in Extraction Processes (Smain Chemat)**
- 10. High pressure extraction (Nagendra K. Prasad)**
- 11. Antioxidant Compounds Extraction assisted by High Pressure Processing (Francisco J. Barba)**
- 12. Aqueous two-phase separation (Ooi Chien Wei)**
- 13. Overview of supercritical fluids extraction (SFE) (Juliana M. Prado)**
- 14. Parameters that influence SFE (Juliana M. Prado)**
- 15. Applications for a product development protocol (Juliana M. Prado)**
- 16. Biorefinery concept. An opportunity for improving the sustainability of coffee sector (Dolores del Castillo)**



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ISEKI-Food E-learning

 Test 1

 Test 2

 Test 3

 Test 4

 Test 5

 Test 6

 Test 7

 Test 8

 Test 9

 Test 10

 Test 11

 Test 12

If we use a 25 kDa membrane to separate pectin from co-extract compounds such as phenols and sugars, what kind of compounds we will recover in the concentrate and permeate stream, respectively?

Answer:

Which membrane material is more hydrophobic, polysulphone or polyethersulphone?

Answer:



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Food Association

Residue processing for a sustainable food industry (50h)

Residues processing (René A. Lara-Díaz)

Production of pectin preparations from the solid wastes separated during apple juice

technology

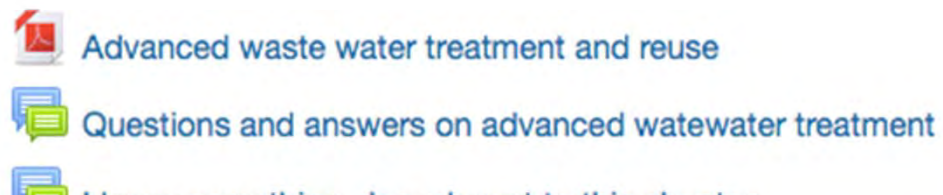
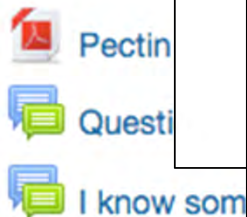
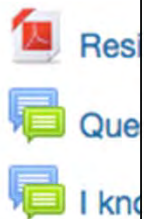
Olive Oil Byproducts (Beraat Özcelik & Fatma

Tsveta Hor

Damyanov

Agricultural byproducts as a source of antioxydants (BERAAT ÖZÇELİK & IJLAL BERKTAS)

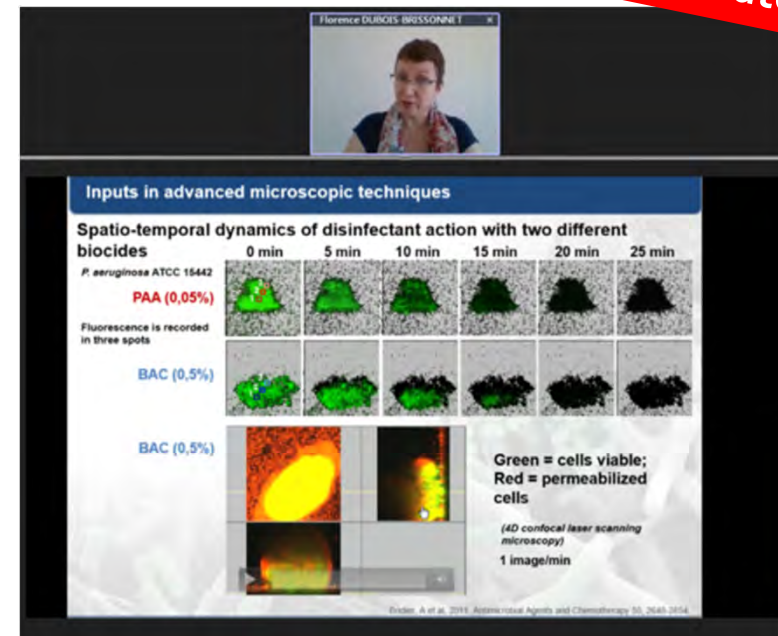
Advanced waste water treatment (Cecilia Hodúr)



- Discuss your research with the rest of the world!
- You need just to prepare a 30 min presentation!
- ISEKI-Food organizes the rest!

ISEKI-Food Webinars

Most of them are free of charge!
Registration mandatory!



<https://www.iseki-food.net/webinars>

Food Waste Recovery, Webinars

- 9 Sep. 2016. [Innovation Strategies in the Food Industry: Tools for Implementation.](#)
- 11 Feb. 2016. [Food Waste Recovery: Processing Technology and Industrial Techniques.](#)
- 14 Jan. 2015. [Separation of isoflavones from okara – a case study towards more sustainable process design.](#)
- 10 Dec. 2014. [Encapsulation the final stage.](#)
- 26 Nov. 2014. [New integrated process extraction-adsorption for selective recovery of phenolic compounds.](#)
- 5 Nov. 2014: [Colloidal Gas Aphrnos \(CGA\) for the recovery of bioproducts.](#)
- 13 Nov. 2013: [Antioxidant compounds extraction from plant food materials and by-products assisted by high pressure processing.](#)
- 25 Sep. 2013: [Aqueous two-phase separation for the recovery of valuable compounds from food wastes.](#)
- 19 Jun. 2013: [The use of supercritical technology for the recovery of valuable compounds.](#)
- 22 May 2013: [Microwaves and ultrasound as novel extraction technologies for the recovery of active ingredients.](#)
- 18 Apr. 2013: [Ultra high pressure-assisted extraction of bioactive compounds.](#)
- 20 Mar. 2013: [Natural origin lycopene isolation and purification by “green downstream processing.](#)
- 18 Feb. 2013: [Recovery & reutilization of high added-value compounds from food wastes: \(V\) Ultrafiltration for the fractionation of winery sludge phenols.](#)
- 11 Dec. 2012: [Protein and Lipid Recovery from Muscle Food Processing By-Products with Isoelectric Solubilization/Precipitation.](#)

.....

▼ Attachments

Abstract:

 [Abstract_Charis innovation strategies.pdf](#)

Presentation:

 [Online Book Presentation Innovation Strategies In the Food Industry.pdf](#)

▼ Recording





Erasmus+

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Invitation to Opening Conference

The Second International Executive Committee Meeting Was Held

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[PARTNERS](#)

[TRANSNATIONAL MEETINGS & TRAININGS](#) ▾

[MULTIPLIER EVENTS](#)

[OUTPUTS](#)

[E-LEARNING](#)

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Post Harvest Project

Post Harvest Project E-Learning

[Home](#)

[Courses](#)

Search courses:

Go 



Developed by T100

Best Innovative
Approach to
Minimize Post
Harvest Losses
within Food
Chain for VET –
Overview



Developed by T100

Best Harvesting
Techniques



Developed by T100

Packaging
Opportunities
Training Material



Developed by T100

Best Storage and
Transportation
Practices



Sales Conditions in Retail and Wholesaler Market



Access



Marketing Opportunities of Fruits



Access



Food Losses Valorization Applications



Access



Economic analysis report of postharvest losses for some fruits



Access

Postharvest E-learning



Erasmus+



You are currently using guest access ([Log in](#))

Best Harvesting Techniques

Home

Courses

Best Harvesting Techniques Best Harvesting Techniques

General

EN

EN



1. BEST HARVESTING TECHNIQUES



Erasmus+

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"Best Innovative Approach to Minimize Post Harvest Losses within Food Chain for VET"

[POSTHARVEST]

Table of contents

- 1. BEST HARVESTING TECHNIQUES
- 2. Content
- 3. What is harvest?
- 4. Harvesting of Fresh Fruit and Vegetables
- 5. Main principles of harvesting
- 6. Maturity
- 7. Maturity indices
- 8. Best Harvesting Practices of Grapes
- 9. Best Harvesting Practices of Grapes
- 10. Kinds of clusters to be discarded or included in a low grade category

4. Do you know what Linear Economy is?



Do you know what Linear Economy is?

Food Losses Vo

Home

Courses

Food Loss



EN

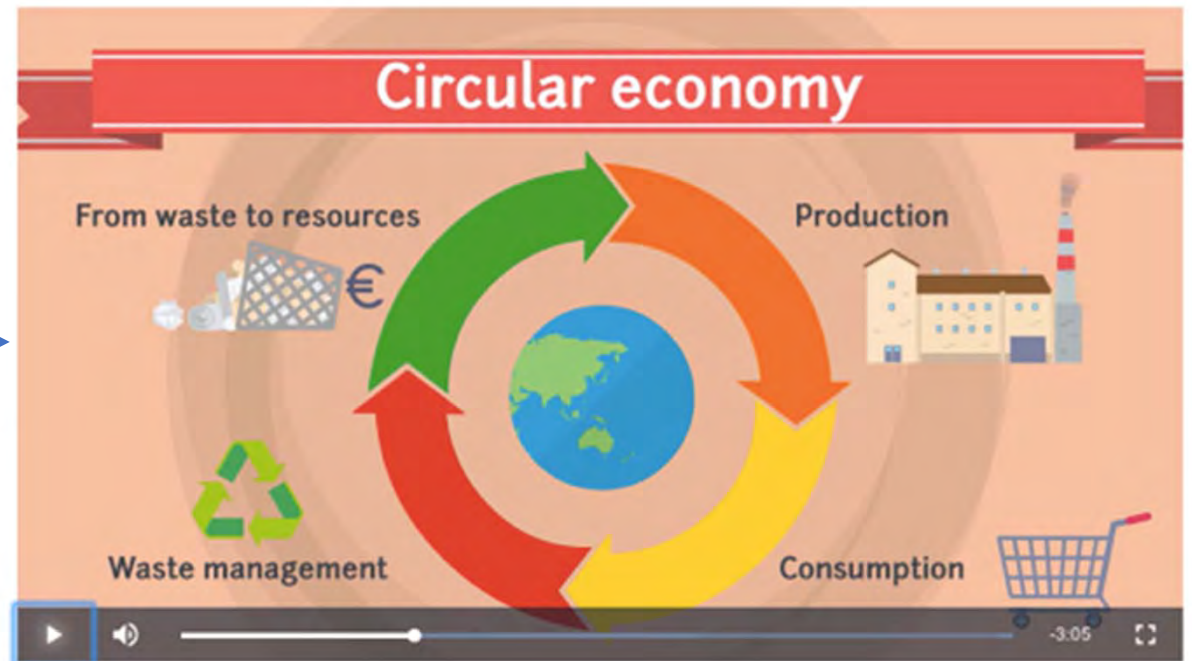


Video (EN)



TEST (EN)

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Postharvest E-learning

Question 3

Not yet answered

Marked out of 1.00

Flag question

Circular Economy:

Select one:

- ☐ a. Is a non-sustainable economy model
- ☐ b. Will not ensure food and water in the future
- ☐ c. It is not a recommended solution
- ☐ d. Implies to recover and regenerate products and materials

Quiz navigation

1	2	3	4	5	6	7
8	9	10				

Circular Economy:

Select one:

- ☐ a. Is a non-sustainable economy model
- ☐ b. Will not ensure food and water in the future
- ☐ c. It is not a recommended solution
- ☐ d. Implies to recover and regenerate products and materials

Cevabınız yanlış.

The correct answer is: Implies to recover and regenerate products and materials

Previous page



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IFA E-learning Platform

Best Storage and Transportation Practices

Best Harvesting Technique



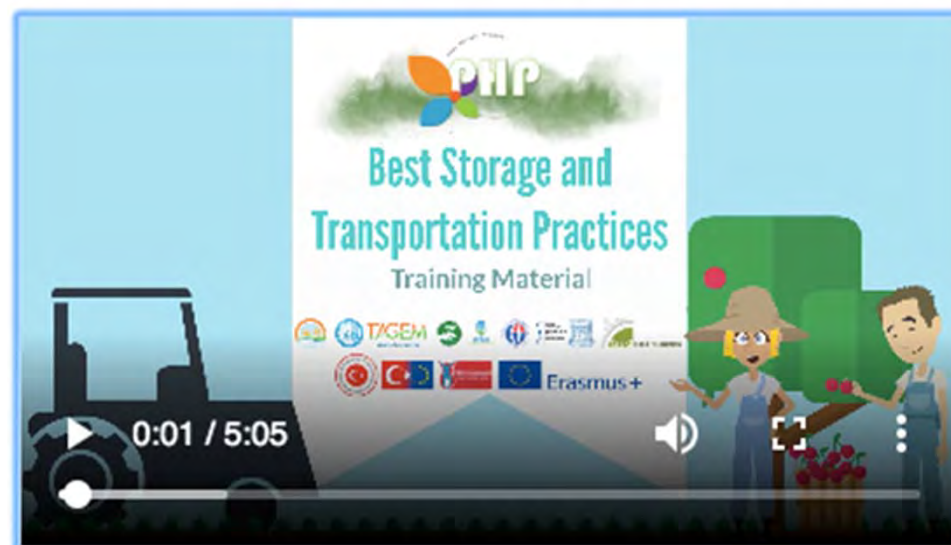
Short presentation on: Best Harvesting



Essay on: Best Harvesting Techniques



Self evaluation on: Best Harvesting Tec



Short presentation on: Best Storage and Transportation Practices 3.5MB PDF document



Essay on: Best Storage and Transportation Practices 2MB PDF document



Qself evaluation: Best Storage and Transportation Practices



Question 9

Incorrect

Mark 0.00 out of 1.00

Flag question

Edit question

Which expression is wrong concerning harvesting of figs?

Select one:

- ☐ a. Figs should be placed in boxes in plastic or paper viols to avoid the packaging to get dirty because of the secretions of the fruit.
- ☒ b. Harvest must be done by bending the shells and stalks of the fruit by hand. ✗
- ☐ c. Figs must be harvested before getting fully mature in order to extend transportation and marketing time.
- ☐ d. The most useful maturity indices for figs are fruit firmness and color.

Your answer is incorrect.

The correct answer is: Figs must be harvested before getting fully mature in order to extend transportation and marketing time.

Databases for the food sector

<https://db.iseki-food.net>

Find and share
teaching materials
for free!



DIGITAL LIBRARY



EXPERTS DATABASE

→ More than **1200 digital teaching materials**

(tutorials, eBooks, audios, videos, ...)

→ for **students, trainers, teachers, professionals**

→ Train your staff!

→ You can contribute!

→ Connect

→ Find **leading experts** in the Food Sector

*(quality & safety, hygienic design,
entrepreneurship, ...)*

→ **Become an expert!**

Accreditation & Certification

Give **more value** to your degree programmes/short courses by certification!

Accredited degree programme

- ✓ **BSc. Food Science and Technology**
University of Teramo
- ✓ **MSc. Food Science and Technology**
University of Teramo
- ✓ **BSc. Food Science and Technology**
Kaunas University of Technology
- ✓ **MSc. Food Science and Safety**
Kaunas University of Technology
- ✓ **BSc. Brewing and Beverage Technology**
University of Applied Sciences Weihenstephan-Triesdorf
- ✓ *Chulalongkorn University Bangkok:*
- ✓ *Kasetsart University Bangkok: ...*
- (Murcia)

**EQAS-Food
Quality
Label**



Subject specific Accreditation of Degree Programmes

STANDARD ROUTE	EXTENDED ROUTE
DOCUMENTATION FROM PRIOR REVIEW SAR and audit reports must be included. Additional information on the alignment to the EQAS learning outcomes must be provided. Can include a single programme or group of programmes.	SELF-ASSESSMENT REPORT (SAR) Framework supporting documentation provided by EQAS. Can include a single programme or group of programmes.
ASSESSOR REVIEW Documentation shared with assessors. No audit. Team composed of teachers, industry specialists.	
DECISION ON THE AWARD Based on information provided in the documentation. Decision by IFA Accreditation Commission.	
ASSESSOR REVIEW Documentation shared with assessors. Two days audit for a single programme. Team composed of teachers, industry specialists and senior student.	
DECISION ON THE AWARD Based on self-assessment and audit reports. Decision by IFA Accreditation Commission.	

Certification of Short Courses

Self-assessment report

Framework supporting documentation provided by EQAS.

Submitted at least 10 weeks before start of the course.

Assessor review

Documentation shared with assessors.
Team composed of teachers and/or industry specialists.

May include visit to provider.

Decision on the Award

Based on self-assessment and audit reports.

Decision by IFA Accreditation Commission.

More info: www.iseki-food.net/accreditation

Continual Professional Development



<https://www.foodcareers.eu>

DATABASE ON TRAINING ACTIVITIES offered by different training providers

CERTIFICATION of training activities/short courses

- Certificate of Attendance
- Certificate of Completion



CERTIFICATION of job profiles

SPECIALITIES

- Food Quality & Safety
- Food Product Development

LEVELS

- Technologist
- Supervisor
- Manager

**Get a certificate
for your qualification!**



Food Association



6th International ISEKI-Food Conference

in Nicosia/Cyprus, 8-10 July 2020

SDGs (Sustainable Development Goals)

<https://iseki-food2020.isekiconferences.com>

