



D5.2

Open-access
IS_MIRRI21 CWE
with advanced T&E
courses offered



The project "Implementation & Sustainability of Microbial Resource Research Infrastructure for 21st Century" (IS_MIRRI21) has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n° 871129. This document reflects only the author's view and the European Commission is not responsible for any use that may be made of the information it contains.

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Project number:	871129
Project acronym:	IS_MIRRI21
Project title:	Implementation & Sustainability of Microbial Resource Research Infrastructure for XXI Century
Start date of the project:	1st of February 2020
Duration:	36 Months
Programme:	H2020/Research and Innovation Actions: INFRADEV-03-2019

Deliverable type:	Other
Deliverable reference number:	D5.2
Work package:	WP5
Due date:	31 July 2021
Actual submission date:	31 July 2023

Responsible organisation:	BELSPO		
Editor:	Heide-Marie Daniel		
Version:	Revised by:	Date:	Notes:
V1.1 (based on Previous offer)	Luis Almeida	25/02/22	Commented and completed
V1.2 (training list update)	Paris Laskaris	15/06/23	Edited for better readability and clarity
V1.3	Heide-Marie Daniel	11/07/23	Revised Version
V1.4	Marco Beccuti	12/07/23	Internal Review 1
V1.5	Teresa Vilaça	20/07/23	Internal Review 2
V1.6	Heide-Marie Daniel	28/07/23	Editing version
V1.7	Bassem Kheireddine	28/07/23	Final version
V2.0	Nelson Lima	31/07/23	Submission

Abstract:	IS-MIRRI21 aims to develop a Training & Education gateway that is used to inventory and promote the training courses that are currently offered by partner mBRCs. Based on the responses to the survey performed, again in RP2, as part of D5.1, the necessary information on the courses, currently offered, was assembled, updated, and presented on a series of web pages within the Training and Education gateway. Twenty-five training courses are currently offered through the gateway.
Keywords :	Training & Education gateway

Dissemination level :	Public	X
	Confidential (for the Consortium and EU Commission Services only)	

Abstract

IS-MIRRI21 aims to develop a Training & Education gateway that is used to inventory and promote the training courses that are currently offered by partner mBRCs. Based on the responses to the survey performed, again in RP2, as part of D5.1, the necessary information on the courses, currently offered, was assembled, updated, and presented on a series of web pages within the Training and Education gateway. Twenty-five training courses are currently offered through the gateway.

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1. Introduction

The goal of WP5 is to develop and offer IS_MIRRI21 training programs that correspond to the needs of different user categories (e.g., scientists, industrials, international organizations) and contribute to the capacity building within the scientific community as well as industrial users via one of the IS_MIRRI21 web-based project platforms, the open-access Training & Education (T&E) gateway. The objective of deliverable D5.2 is to build and deploy the T&E gate on the Collaborative Working Environment (CWE) in cooperation with WP6 and to use this channel to inventory, streamline and promote the training courses that are currently offered by the partner mBRCs. The work performed in WP5 for the compilation of the catalogue of T&E offered by MIRRI, served as input for the technical team working on CWE implementation to develop and make available the T&E gate. This gate was implemented and made available at www.mirri.org in a first version (for the preliminary version of the CWE), thus fulfilling the MIRRI objective of dissemination of the actual T&E offered, but aimed at being subsequently updated with improved course content and advanced features for the user to browse and consult the catalogue (improved T&E gate for the final version of the CWE)

2. Working method

The MIRRI partners T&E offers, elaborated as part of D5.1, served as input for the implementation of the T&E gate in the CWE. This implementation was done in two phases:

- 1) A basic version as part of the preliminary CWE version, as presented in Deliverable 5.2. This version was implemented from the raw data that were summarized and transformed into a form useful for web-based presentation in July 2021, and was available for the immediate dissemination and consultation by MIRRI stakeholders since month 19, with a small delay according to the planned delivery in month 18. The delay was due to it coinciding with the annual holiday period, with the associated difficulties in finding common agendas for the responsible partners to test, comment and meet for final verifications and approval, before making the information available online.
- 2) The partners of WP6 worked out a more advanced and user-friendly version, as part of the final version of the CWE and based on feedback received on the preliminary version, and providing improved presentation of information, advanced functionalities for searching and filtering the catalogue information, thereby giving the user easier interaction/usability to browse of the catalogue content according to his/her needs/interests.

The access to the T&E gate in the CWE can be done from the IS_MIRRI21 project web portal (<https://ismirri21.mirri.org/project-platforms/cwe/>) as illustrated in Figure 1.

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Collaborative Work Environment Platform

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The MIRRI Collaborative Work Environment (CWE) is an online platform that serves as a hub for interaction and support for collaborative activities among the MIRRI partners, and all the universe of MIRRI's stakeholders. The CWE is a single access point to microbial resources, data and services as well as state-of-the-art facilities and expertise from MIRRI's 50 plus member organisations in 11 European countries. Through the CWE, MIRRI provides a sustainable platform for enlarging knowledge base and scaling up of professional development in biosciences and biotechnology as well as for the sustenance of a competitive and resilient bioeconomy.

The CWE is a platform providing a set of tools to support the mission of MIRRI to create and consolidate a single, unified infrastructure to solve and mitigate the bottlenecks that impede faster microbiological-related developments in Europe. Through this, MIRRI intends to boost multinational collaboration by fostering rapid and reliable access to data, raw materials and expertise in its three key domains: Health & Food, Agro-Food, and Environment & Energy. Through the CWE, MIRRI strives to promote complementarity, reduce unwanted redundancy and continuously improve the capacity of its member organisations in order to preserve microbial materials in a coordinated (non-fragmented), traceable and cost-effective way. Thus, contributing to the reproducibility, integrity and cumulative character of research.

MIRRI envisions a bright future of greener, healthier and sustainable world, based on the preservation, study and valorisation of microbial resources and biodiversity.

The CWE has four main gateways:

MICROBIAL RESOURCES AND DATA
The broadest range of high-quality microbial strains, their derivatives and associated data
MIRRI catalogue of strains

EXPERT CLUSTERS
A collaborative space for research and innovation actors to converge knowledge and expertise
MIRRI's Expert Cluster platform

MIRRI - CWE Collaborative Work Environment

SERVICES
Catalogue of services to remotely, physically or digitally access microbial resources and state-of-the-art facilities at national and international level
MIRRI's catalogue of services
MIRRI's TNA programme

TRAINING AND EDUCATION (T&E)
Higher training and education courses for capacity building
MIRRI's T&E courses

The Gate to MIRRI's services	▶
The Gate to Microbial Resources and Data	▶
The Gate to Collaboration and Expert Clusters	▶
The Gate to Training and Education (T&E)	▶

— Access to MIRRI's Services

MIRRI's digital materials targeted to a broad audience and the catalogue of microbial resources are to be freely accessible and searchable online, therefore, open to any interested user. Access to the other services is to be restricted to users from academia, business, industry and public service (recognised institutions), and requires registration on the MIRRI platform and/or application to be granted access.

Depending on the purpose of the access, four different access modes are to be available: Excellence-driven, Market-driven, Technical-need-driven and wide. There are three types of access: Physical, Remote and Digital. Physical and Remote access follow the principles of the *European Charter for Access to Research Infrastructures*, and offer new opportunities to users by providing qualified personnel and dedicated equipment.

For more information about access to MIRRI's services, contact us at access@mirri.org

Figure 1 Access to the CWE from in IS_MIRRI21 web portal

<https://ismirri21.mirri.org/project-platforms/cwe/>

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During the future operation of MIRRI, updates will need to be implemented on the website when course providers change their offers. Updated information is collected and reviewed by the responsible MIRRI partners (for the duration of the IS_MIRRI21 project the responsibility is on the partners involved in WP5), and the information is relayed to the MIRRI IT officer for integration in the online catalogue using the features and functionalities available in the CWE management back office.

3. Results

Twenty-five training courses are currently offered through the T&E gateway (Table 1). A screenshot of the introductory page for the T&E catalogue is presented in Figure 2. The results of both phases of implementation are presented in Figure 3, showing part of the preliminary version the T&E catalogue presentation and in Figure 4, showing part of course details presentation.

Table 1 Overview of the offered courses

	Partner Organisation	Title of Training Course
1	BELSPO BCCM-consortium	Preservation of micro-organisms
2	Belgian Science Policy - BELSPO (BCCM coordination cell)	Management of culture collections
3	BCCM/IHEM	Moulds in the indoor environment and outdoor air
4	BCCM/MUCL (UCLouvain)	International training on in vitro culture of arbuscular mycorrhizal fungi
5	ULPGC-BEA	Microalgae Methods for Biobanking: from bioprospection to biodiversity conservation and biotechnological evaluation
6	Institute Pasteur	MOOC Biobanking
7	Institute Pasteur	Biobanks and the profession of curator
8	Institute Pasteur	Biological Resource Center and conservation
9	Institute Pasteur	Next generation sequencing for public health microbiology
10	INRAE - CIRM	Roles of Microbiological Resource Centers (mBRCs) in the 21st Century
11	Institute of Agriculture and Food Biotechnology- State Research Institute	Identification of Alicyclobacillus sp. by molecular biology techniques
12	Westerdijk Fungal Biodiversity Institute (KNAW-WI), Utrecht, the Netherlands	Food and Indoor Mycology course
13	Westerdijk Fungal Biodiversity Institute (KNAW-WI), Utrecht, the Netherlands	Fungal Biodiversity
14	Institute Pasteur	Cyanobacteria, microalgae and biofuels: from naturally produced to industrial process, by a loop in the lab
15	Institute Pasteur	Most Cyanobacteria are rich producers of Natural products
16	Micoteca da Universidade do Minho	Polyphasic identification of food borne fungi
17	Micoteca da Universidade do Minho	Quality Management Systems and its applicability in culture collections
18	Institute Pasteur	Phylogenomics of Bacterial Pathogens, and diagnostic implications
19	Institute Pasteur	Bacterial Pathogen Population biology and public health applications
20	BCCM/ULC	Cultivation and polyphasic cyanobacterial characterization
21	BCCM/ULC	Isolation, cultivation and preservation of cyanobacterial strains
22	UNITO	Morphological and molecular identification of air-, water- and food-borne fungi
23	UVEG-CECT	Preservation and Control of Microbial Strains
24	Microbial Strain Collection of Latvia, University of Latvia (UL-MSCL)	Microbiology 1
25	Microbial Strain Collection of Latvia, University of Latvia (UL-MSCL)	Microbiology 2 (Virology)



MIRRI brings **Training and Education (T&E)** to the core of its activities, aiming at facilitating the access to T&E towards different users – e.g., scientists, collaborators of mBRCs and culture collections, entrepreneurs/industrials, high-school teachers, journalists and science communication professionals, policy makers, etc. –, thus contributing to the capacity building within the bioscience and the bioindustry communities, as well as the society. MIRRI will endeavour to fill identified, demand-driven T&E gaps, as well as developing and designing new, effective tools to deliver T&E.

[Courses catalogue](#)

Figure 2 Introductory page for the T&E gate in the CWE. <https://www.mirri.org/training-education/>

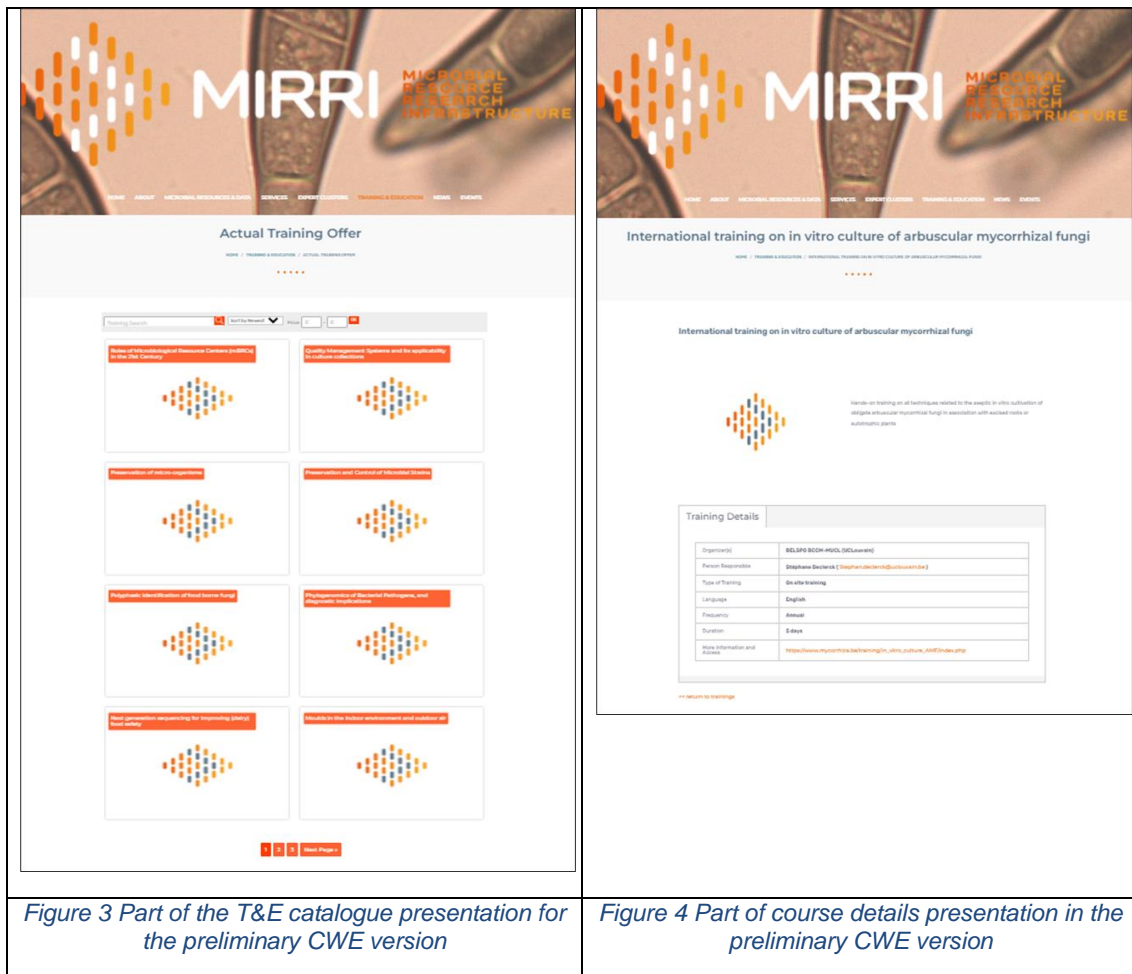


Figure 3 Part of the T&E catalogue presentation for the preliminary CWE version

Figure 4 Part of course details presentation in the preliminary CWE version

The advanced functionalities and features are illustrated in the following Figures 5 to 9. The comparison shows the improvements and constitutes the CWE evolution, regarding the T&E gate, from its preliminary to its final version.

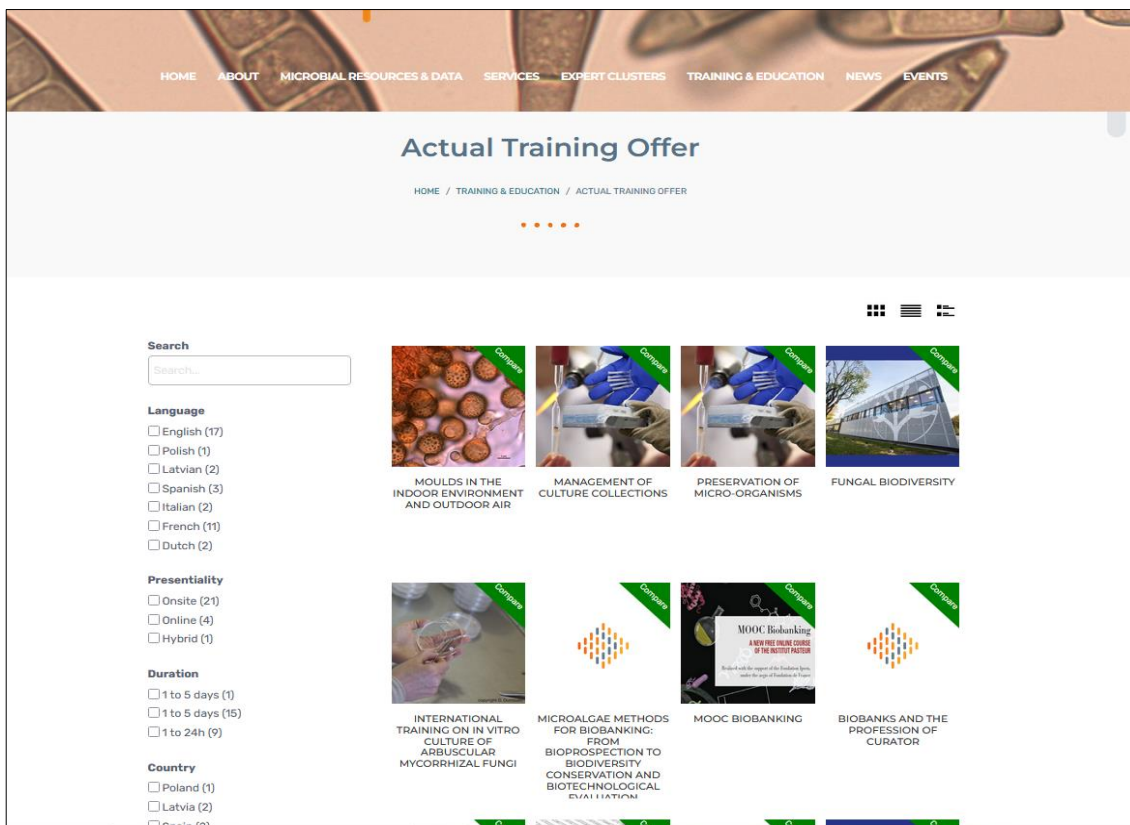


Figure 5 Improved T&E catalogue in tile-view mode

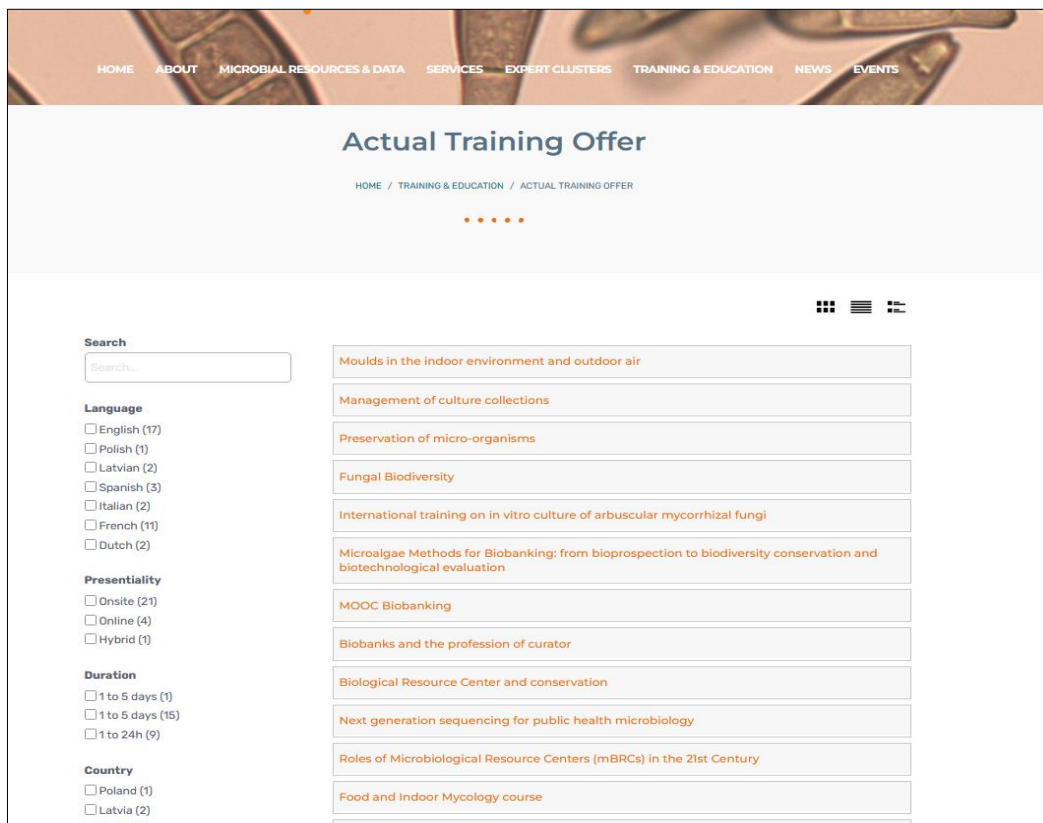


Figure 6 Improved T&E catalogue in list-view mode

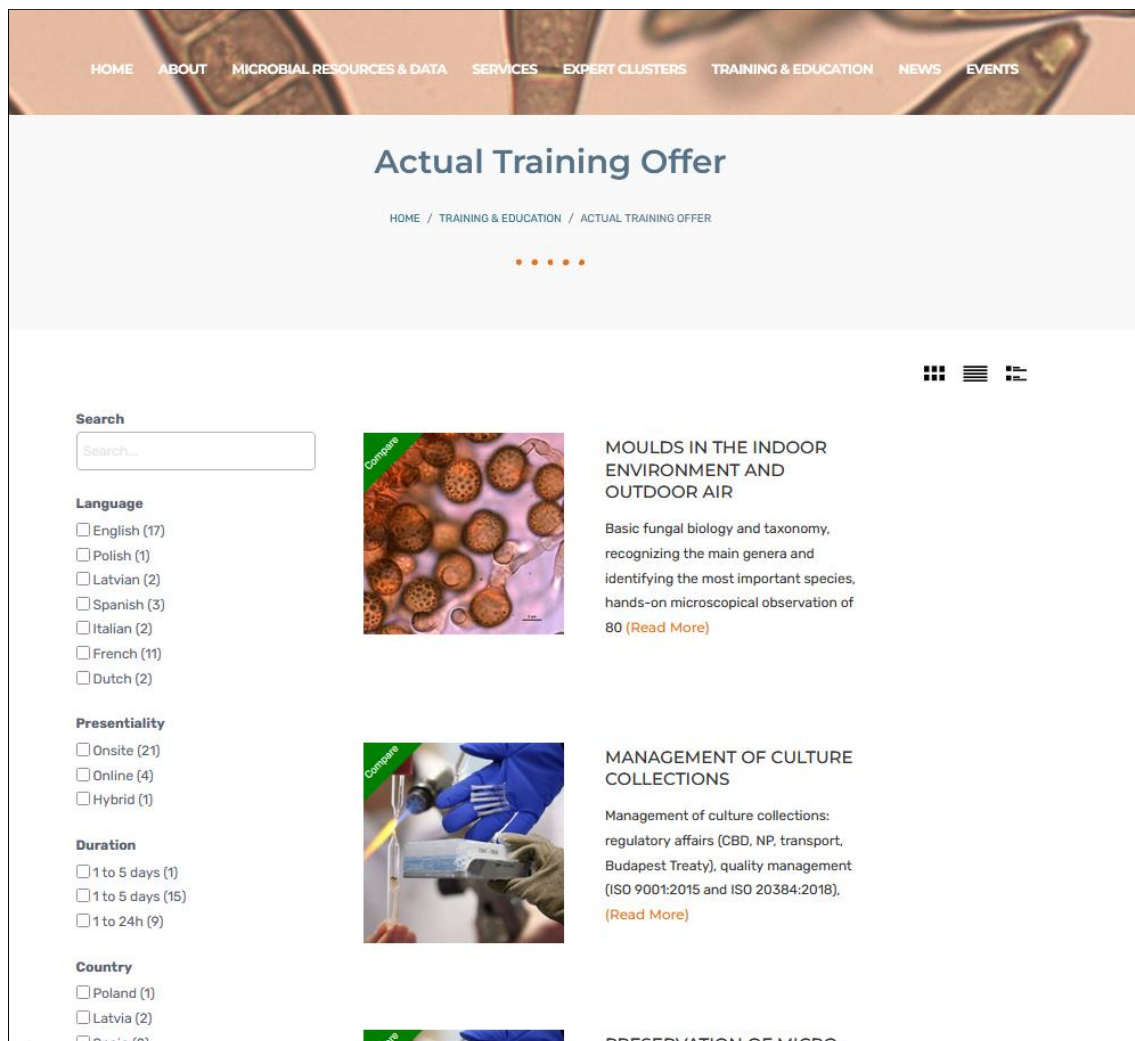



Figure 7 Improved T&E catalogue in combined-view mode

Actual Training Offer

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.....

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MOULDS IN THE INDOOR ENVIRONMENT AND OUTDOOR AIR


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Description	Detailed information	Contact
		MIRRI

Basic fungal biology and taxonomy, recognizing the main genera and identifying the most important species, hands-on microscopical observation of 80 species, techniques for analysing the indoor environment and the outdoor air (sampling, etc.), recent developments in fungal identification, basics in molecular identification of fungi (theory), links with human health.

Figure 8 Improved T&E catalogue showing the summarized course description

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Description	Detailed information	Contact	
		MIRRI	
<p>Organisation: BCCM/IHEM</p> <p>Person responsible: Dirk Stubbe (dirk.stubbe@sciensano.be)</p> <p>Type of training: on-site training</p> <p>Language: English,Dutch,French</p> <p>Frequency: 2-3 times per year, depending on the participants and demand</p> <p>Presentiality: Onsite</p> <p>Duration: 1 to 5 days</p> <p>Country: Belgium</p> <p>More Information: https://bccm.belspo.be/training/fungi-health</p>			

Figure 9 Improved T&E catalogue showing the detailed course information



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