



# 1<sup>st</sup> TNA CALL

## Deliverable 4.1



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<b>Abstract:</b>	This document is the first activity report on the IS_MIRRI21 TransNational Access programme – TNA, covering the first reporting period M1-12 (1 <sup>st</sup> February 2020 – 31 <sup>st</sup> January 2021). This document provides a detailed description of the conception and implementation of the TNA programme before the launch of the 1 <sup>st</sup> TNA call in January 2021 including: creation of the TNA guidelines and procedures, appointment of the access and liaison officers, User Selection Panel – USP members, creation of the TNA online platform and all the communication material and activities related to the dissemination of the programme.
<b>Keywords:</b>	Transnational access – TNA, access providers, IS_MIRRI21 partners, TNA users, applicants, TNA offers, access and liaison officers, USP, microbial resources, research visits.

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## Abstract

Scientists need effective and convenient access to the best research infrastructures in order to conduct research for the advancement of knowledge and technology. The **IS\_MIRRI21** project aims to bring together, integrate at the European and international scale, and open up key national and regional research infrastructures to worldwide researchers, from both academia and industry, ensuring their optimal use and joint development. The TransNational Access (TNA) programme aims to support financially and logistically the access (on-site and remote) of external users to carry out their research projects in 14 **IS\_MIRRI21** partners' facilities across Europe. This initiative offers access to a wide variety of microbial resources, laboratories and state-of-the-art facilities and technological platforms.

The IP and the UVEG-CECT co-lead the WP4 "Transnational access to **IS\_MIRRI21**". The WP4 main mission is to develop and coordinate a TNA pilot that promotes transnational cooperation among MIRRI's members and external users, as well as the mobility of researchers. The work developed in the WP4, and coordinated by the access officer, will allow to test the interest of users to apply for funded access to products, services and facilities proposed in the TNA catalogue, the relevance of integrating services into pipelines (called TNA workflows), the access platform anchored to the **IS\_MIRRI21**'s website and finally, the access procedure from the reception of request until the delivery of access.

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# 1. Principles of the TNA programme

## 1. Principles of the TNA programme

The TNA gives researchers financial and logistical support for access to microbial resource research institutions. Users from worldwide research organisations and companies (in the fields of biotechnology, agro-food, pharmaceuticals, environment, etc.) are invited to apply, by proposing a research project, for funded access to any of the 14 microbial facilities partners of the [IS\\_MIRRI21](#) project across Europe (Table 1). The TNA offers access to a wide variety of microbial resources, laboratories and state-of-the-art facilities and technological platforms. Applications for the 1<sup>st</sup> TNA call are open from 25<sup>th</sup> January to 16<sup>th</sup> April 2021.

The TNA offer includes:

- Technical and scientific support.
- Administrative and logistic support.
- Access to the products, services and facilities offered in the [IS\\_MIRRI21](#) TNA catalogue.
- Hands-on training needed to access the facilities.

The [IS\\_MIRRI21](#) TNA programme sponsors:

- Access to the partners' facilities including: biological material, platforms, laboratories, standard consumables, chemicals and disposables.
- Travel expenses (one round trip, economy class). Up to 800 EUR/project.
- Subsistence (meals and accommodation up to 30 days, weekends included).
- Shipping costs of project material from the [IS\\_MIRRI21](#) facility to the home institution up to 400 EUR.

The TNA programme provides two means of access:

**On-site access:** in this type of access, the users visit the infrastructure and carry out their research projects on-site. The facility provides scientific, technical and logistic support.

**Remote access:** this does not involve an *in-person* visit of users to the infrastructures. There are two types of remote access:

*Shipping of strains/biological material:* the user requests a specific “product” from the Access provider (e.g., samples, strains and their derivatives such as DNA).

*Remote Services:* a set of experiments are carried out at the access provider but the User is not physically present at the installations (e.g., sample analysis and processing).

Users can apply to one or several of the 14 TNA offers proposed by our partners or carry out their projects within the workflow strategy (Table 2). The later approach will allow users to refine and mature their research and innovation projects and to benefit from the experience and expertise of several access providers. **The access officer is the main contact person** to discuss the details about the TNA application. After the initial contact with the access officer, applications will be transferred to the liaison officer(s) from the research infrastructure(s) of interest for technical verification and feasibility of the proposals before application (Figure 1).

Table 1 - TNA offers for the 1st call 2021.

Access Provider	Infrastructure	TNA offer	Country
<b>PRODUCTS</b>			
Universitat de València – UVEG	Spanish Type Culture Collection - CECT	Delicate microorganisms	Spain
National and Kapodistrian University of Athens - NKUA	Culture collections of the National and Kapodistrian University of Athens - CCUoA	Bacteria and archaea from extreme Greek environments	Greece
Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences – IBPM - RAS	All Russian Collection of Microorganisms - VKM	Microbial strains from extreme Russian environments	Russia
<b>FACILITIES</b>			
Universidad de Las Palmas de Gran Canaria - ULPGC	Spanish Bank of Algae - BEA	Experimental plant for microalgae and cyanobacteria production	Spain
Netherlands Academy of Arts and Sciences-Centraalbureau voor Schimmelcultures - KNAW	Westerdijk fungal biodiversity institute - CBS	Heterologous expression of silent fungal gene clusters	Netherlands
Belgian Federal Science Policy Office/Belgian Co-ordinated Collection of Micro-organisms - BELSPO-BCCM	Agro-food & Environmental Fungal Collection - MUCL	<i>In vitro</i> culture of arbuscular mycorrhizal fungi	Belgium
BELSPO-BCCM	Fungi Collection: Human & Animal Health - IHEM	Dermatophytes: taxonomy, identification and medical importance	Belgium



BELSPO-BCCM	Cyanobacteria Collection - ULC	Cyanobacterial isolation, cultivation, preservation, taxonomy and molecular characterisation	Belgium
Institute of Agricultural and Food Biotechnology - IAFB	Culture Collection of Industrial Microorganisms - CCIM	Identification of <i>Alicyclobacillus</i> sp. by molecular biology techniques	Poland
<b>SERVICES</b>			
University of Minho - UMinho	Micoteca da Universidade do Minho - MUM	Food mycology	Portugal
Institut national de recherche pour l'agriculture, l'alimentation et l'environnement - INRAE	Centre International de Ressources Microbiennes - CIRM	<i>In vitro</i> screening of anti-infectious activities: antibacterial, antiviral and antiparasitic	France
Institut Pasteur - IP	Centre de Ressources Biologiques de l'Institut Pasteur - CRBIP	Analysis by BioNumerics of MALDI-TOF mass spectrometry profiles	France
University of Latvia - UL	Microbial Strain Collection of Latvia - MSCL	<i>In vitro</i> screening and testing of Minimal Inhibitory Concentration (MIC)	Latvia
Università degli Studi di Torino - UT	Mycoteca Universitatis Taurinensis - MUT	Metabarcoding of fungal communities	Italy

Table 2 - TNA Workflows.

Workflow	Access providers	Countries
<b>WF1.</b> From Field Collection to Metabolites Extraction.	BCCM-ULC and BEA	Belgium and Spain
<b>WF2.</b> Identification of taxonomically related <i>Streptomyces</i> strains from extreme Greek environments using mass spectrometry profiles.	CCUoA and IP	Greece and France
<b>WF3.</b> Coupling MALDI-TOF mass spectrometry protein and molecular biology techniques to identify taxonomically related <i>Alicyclobacillus</i> strains.	IAFB and IP	Poland and France

The selection of awarded proposals is based on peer review evaluation with scientific excellence as the main criterion. The TNA programme uses a panel-based evaluation system called **User Selection Panel (USP)**. This panel of independent, high-level scientists and scholars score the proposals for funding the access to the [IS\\_MIRRI21](#) partners.

During the TNA visits, users will have access to a laboratory, services, machines, products and assistance provided by the liaison officer or an appointed person in charge. In case of remote access, the liaison officer should ensure the delivery of the service required and to liaise between the user and the infrastructure staff.

After completion of the TNA access, the users are requested to provide a confirmation of access, a TNA activity report and a feedback survey. In this survey, users will express their challenges, outcomes and experiences of their

access at the visited infrastructures. These exchanges will give rise to improvements for the future TNA calls.

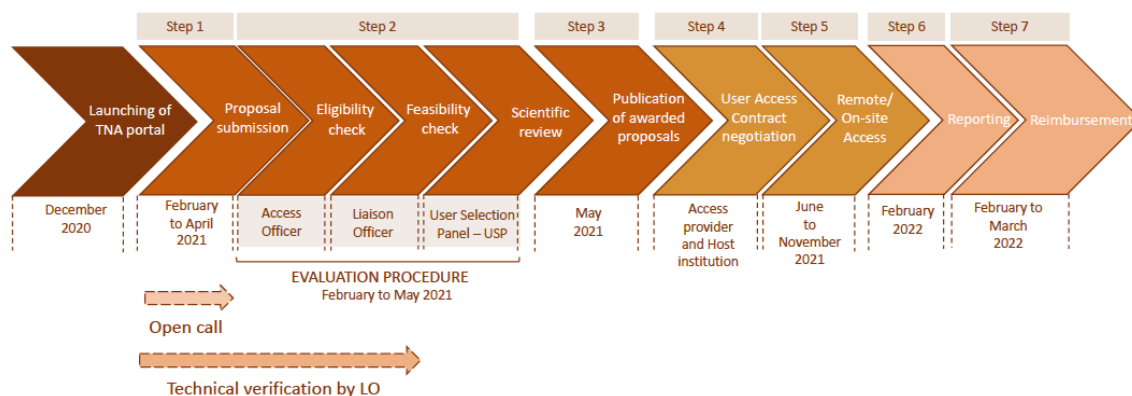


Figure 1 - 1<sup>st</sup> TNA call timeline.

IS\_MIRRI21 follows the **FAIR** (Findable, Accessible, Interoperable, Reusable) and **Open Access** principles<sup>1</sup>. All projects receiving Horizon 2020 funding are **required** to make sure that any peer-reviewed journal article they publish is openly accessible, free of charge (article 29.2. Model Grant Agreement).

Scientific research data, which is the data underlying publications and/or other data (such as curated but unpublished datasets or raw data) should be open access as long as there is no conflict of interests regarding distribution of the scientific information, Intellectual Property Rights (IPR), privacy concerns and security.

<sup>1</sup> Guidelines to rules on open access to scientific publications and open access to research data in Horizon 2020. European Commission – Directorate General for research and innovation. Version 3.2, 21 March 2017.



## **2. Conception and implementation of the TNA programme**

## 2. Conception and implementation of the TNA programme

Research Infrastructures (RI) are vital in the advancement of knowledge and technology, they help in structuring the scientific community and play a key role in the construction of an efficient research and innovation environment. RI offer high quality services to scientists from different countries and scientific disciplines, engage young people, attract new users and prepare the next generation of researchers. Therefore, it is a priority to support the construction and operation of programmes to facilitate international cooperation in science, as it is the TNA, because of its ability to assemble a mass of highly qualified researchers, knowledge and investment that will contribute to the European and global development<sup>2</sup>.

Big efforts in research and innovation are needed to address pressing global societal challenges, such as climate change, health, pathogens outbreaks, food security, sustainable agriculture and preservation of the biodiversity among others, and move towards a resource efficient society. However, it is essential to overcome the fragmented system of research facilities and technological platforms and to join forces to increase the access (of scientists from academia and industry) to expensive facilities and scarce resources in order to tackle those challenges, which due to their nature and complexity, require a global approach.

In order to implement the access to RI resources and related services, it is essential to set out principles and guidelines to be used as a reference. Not only to facilitate the innovative research carried out by the users but also to maximise the efficiency in terms of the use of state-of-the-art technology and unique resources provided by the research facilities. In this sense, the [IS\\_MIRRI21](#) WP4, develops a TransNational Access offer of services and resources as a pilot test

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<sup>2</sup> European charter for access to research infrastructures. Principles and guidelines for access and related services. Directorate-General for Research and Innovation. Directorate B–Open Innovation and Open Science. Unit B4 –Research Infrastructure. EUROPEAN COMMISSION – Brussels 2016.

of the organization and procedures to access future services and pipelines of services that MIRRI, as a RI, will carry out in the near future.

In compliance of this task, the WP4 lead by the access officer set out the principles and guidelines of the **IS\_MIRRI21** TNA programme and coordinated the development of different activities that contributed to stepwise build the programme previous to its launch in January 2021. This work was developed in close collaboration with WP6 for the development of the TNA portal in the CWE, WP2 for the creation and implementation of the TNA workflows, WP7 for the creation and implementation of the communication strategy and the liaison officers, representatives of all **IS\_MIRRI21** partners participating in the TNA (UVEG-CECT, BELSPO-BCCM/MUCL, BCCM/IHEM, BCCM/ULC, NKUA-CCUoA, ULPGC-BEA, KNAW-CBS, IAFB-CCIM, UMinho-MUM, INRAE-CIRM, IP-CRBIP, UL-MSCL, UNITO-MUT and IBPM-RAS/VKM), for the proper implementation of the TNA procedures and welcoming the users into their facilities.

The activities developed during the first year are described in detail as follows:

## 2.1 Creation of the guidelines

These documents will lead all people involved in the TNA programme (applicants, reviewers, liaison officers and CWE) and explain in detail the rules and procedures to participate in the TNA calls including eligibility criteria, the costs funded by the programme, the online application and evaluation process and all the steps before, during and after the TNA visits. These guidelines as well as other documents related to the TNA were generated considering the structure, information, policies and parameters established by former and current TNA programmes from 24 Research Infrastructures. These programmes are: ACTRIS, AQUAEXCEL2020, ARICE, ASSEMBLE, BIOMEDBRIDGES, CORBEL, DiSSCo, EMbaRC, EMBRC, ENVRIPLUS, EOSC-Life, EPPN2020, ERINHA, ESTEEM3, EUMarineRobots, EUROCHAMP-2020, EurOPDX, EUSAAR, EUSMI, FiXO3, IBISBA, MARINET2, NanoCommons and TERRINet. All guidelines can be found in the **Annex 1**.

### **2.1.1 Guideline for applicants**

It details the eligibility criteria, description of all access providers and the TNA workflows, explain the application process, evaluation and selection by the “User Selection Panel - USP”, describe key deadlines for each one of the processes, the support before, during and after the TNA visits, the reporting documents, the feedback activities and the engagement regarding the dissemination of results and acknowledgements.

### **2.1.2 Guideline for reviewers**

It describes the process for the appointment of the USP, the criteria for the scientific review of the applicant’s project proposal, explains the scores, evaluation report, ranking methodology and it details other aspects such as the expected outputs of the USP, conflict of interests and confidentiality.

### **2.1.3 Guideline for liaison officers**

It describes the concept of the TNA and details the procedures of the programme. Explains as well the commitments of the liaison officers with the users and the access officer during the two TNA calls.

### **2.1.4 ICT Guideline**

It illustrates the needs and desires for the permanent TNA online portal at the CWE, what would be needed for the management of the proposals and users’ requests, and proposes which would be the best way to design and to organise MIRRI’s virtual space to offer these services.

### **2.1.5 Additional documents**

These documents are the “User Access Contract”, Application form, evaluation form for reviewers and Feedback surveys for users, access providers and reviewers.

#### ***User Access Contract***

This is a legally binding document that specifies the rules, obligations, logistics and technical details of the TNA visit. This document also specifies the

administrative procedures for the reimbursement of travel and subsistence expenses. The “User Access Contract” should be approved and signed by the legal representatives of both parties involved in the TNA, the access provider and the user (represented by the home institution). The access officer has drafted a template with 15 articles and 4 appendixes containing globally all terms to be agreed before the TNA visit. Each partner is free to use this document as a model, to modify it or to use a different one provided by their local legal office.

### ***Application form***

This form lists a series of questions that must be answered by the applicants when they apply for access. It provides the information needed by the reviewers to evaluate the submitted research proposals and it was designed based on application forms templates from other European programmes (MASC and ERC) and other TNA calls. This form was reviewed and approved by the [IS\\_MIRRI21](#) partners involved in the TNA.

### ***Evaluation form for reviewers***

This form highlights different aspects of the proposals and the candidates’ qualities that will be evaluated and scored by the reviewers, including a section for comments to give feedback to applicants for future submissions. Proposals with the highest scores will be awarded with access.

### ***Feedback surveys***

These surveys were made to collect all the information regarding the experience of users, [IS\\_MIRRI21](#) partners and reviewers during the TNA calls. This information will be used to determine the strengths and weaknesses of the programme during this pilot and to implement changes in future calls.

## **2.2 Appointment of the liaison officers**

Each [IS\\_MIRRI21](#) Access Provider designated a “**liaison officer**” in July 2020. The liaison officer is the reference person for each access provider and will

estimate the technical feasibility of the projects submitted during the TNA call previous to the scientific evaluation made by the USP. This person will also liaise with the access officer, the applicants/users, the facilities' scientific/technical staff and the administrative, legal and financial office of their home institution to facilitate and implement the terms of the TNA in her/his facility.

The liaison officers also played an active role in the production of the TNA catalogue, the creation of the TNA application portal and the dissemination of the 1<sup>st</sup> TNA call.

Table 3 - IS\_MIRRI21 liaison officers list.

Country	Access Provider	Acronym	Liaison officer	Contact
Spain	Spanish Type Culture Collection	UVEG - CECT	Lidia Rodrigo	Lidia.Rodrigo@uv.es
Spain	Spanish Bank of Algae	ULPGC - BEA	Antera Martel	amartel@marinebiotechnology.org
Greece	Culture collections of the National and Kapodistrian University of Athens	NKUA - CCUoA	Paris Laskaris	plaskaris@biol.uoa.gr
Belgium	Agro-food & Environmental Fungal Collection	BELSPO - MUCL	Sylvie Cranenbrouck	sylvie.cranenbrouck@uclouvain.be
Belgium	Fungi Collection: Human & Animal Health	BELSPO - IHEM	Pierre Becker	pierre.becker@sciensano.be
Belgium	Cyanobacteria Collection	BELSPO - ULC	Anne-Catherine Ahn	acahn@uliege.be
Poland	Culture Collection of Industrial Microorganisms	IAFB - CCIM	Joanna Bucka-Kolendo	joanna.bucka@ibprs.pl
Netherlands	Westerdijk fungal biodiversity institute	KNAW - CBS	Gerard Verkleij	g.verkleij@wi.knaw.nl
Portugal	Micoteca da Universidade do Minho	UMinho - MUM	Nelson Lima and Célia Gonçalves Soares	nelson@ie.uminho.pt celia.soares@ceb.uminho.pt
France	Centre International de Ressources Microbiennes	INRAE - CIRM	Marwa Zaarour and Emmanuelle Helloin	marwa.zaarour@inrae.fr emmanuelle.helloin@inrae.fr
France	Centre de Ressources Biologiques de l'Institut Pasteur	IP - CRBIP	Liliana Avila Ospina	liliana.avila-ospina@pasteur.fr
Latvia	Microbial Strain Collection of Latvia	UL - MSCL	Vizma Nikolajeva	vizma.nikolajeva@lu.lv
Russia	All-Russian Collection of Microorganisms	RAS - VKM	Alexander Vasilenko	vanvkm@gmail.com
Italy	Mycoteca Universitatis Taurinensis	UT - MUT	Cristina Varese, Valeria Prigione and Anna Poli	cristina.varese@unito.it valeria.prigione@unito.it anna.poli@unito.it



### 2.3 Internal dissemination of the TNA programme and activities concerning IS\_MIRRI21 partners

The Institut Pasteur organised the online workshop “TNA: Guidelines and Procedures on 21<sup>st</sup> and 22<sup>nd</sup> September 2020 with the aim of communicating the mission, rules and policies of the IS\_MIRRI21 TNA programme and to explain the role of the liaison officers during the application process, the TNA visits (welcoming of external scientists to their facilities) and the follow-up of the projects after the access (Figure 2). Forty-five people were connected the first day and 36 people the second.

This event prepared the liaison officers for welcoming the users, to implement the TNA procedures in their facilities and gave them an idea of what to expect regarding the administrative and logistic procedures related to the TNA visit. The access officer, the WP4 leaders and collaborators from other TNA programmes in other research infrastructures such as CatRIS and EMBRC-ERIC shared their knowledge and experiences about their TNA programmes. This workshop helped liaison officers to understand the challenges that will be faced during the TNA pilot project.

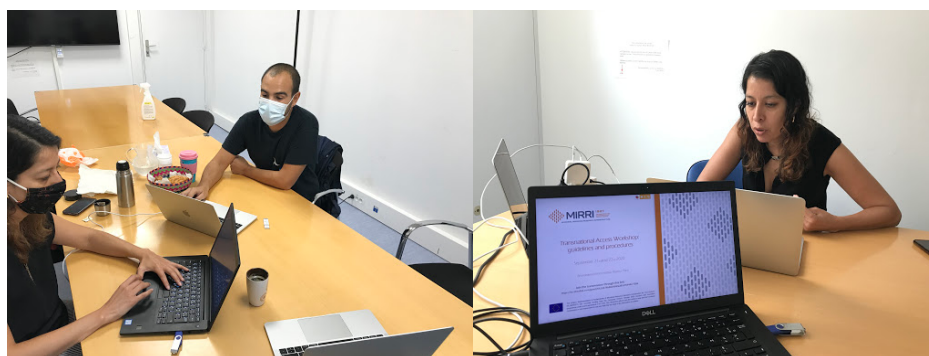


Figure 2 - Images of the workshop TNA: Guidelines and Procedures broadcasted from the Institut Pasteur in Paris.

### 2.4 Development of the TNA workflows (WFs)

With the purpose of promoting scientific international cooperation and to offer researchers the benefits of the technology, experience and knowledge of several access providers during their TNA visits, the TNA programme proposed an interconnected set of products, services and resources offered by clusters of

**IS\_MIRRI21** partners that will allow the users to refine and mature their research and innovation projects. This initiative, called **TNA Workflows**, was coordinated by the WP4 leaders IP and UVEG-CECT.

For the 1<sup>st</sup> TNA call, **IS\_MIRRI21** offers three TNA workflows developed by five access providers: BEA, BCCM-ULC, NKUA-CCUoA, IAFB and IP. WF1 called “*From field collection to metabolites extraction: exploring secondary metabolite production in cyanobacteria*” is offered by BEA and BCCM-ULC and focus on the isolation and characterisation of the strains and the search for new secondary metabolites in cyanobacteria; WF2 called “*Identification of taxonomically related Streptomyces strains from extreme Greek environments using mass spectrometry profiles*” offered by NKUA and IP, aims for the characterisation and identification of *Streptomyces* isolates using molecular biology and MALDI-TOF MS; WF3 called “*Coupling MALDI-TOF mass spectrometry protein and molecular biology techniques to identify taxonomically related Alicyclobacillus strains*” offered by IAFB and IP aims to identify taxonomically related *Alicyclobacillus* strains, a well-known food contaminant, by using genetic methods and MALDI-TOF MS. The TNA workflows and the 14 TNA offers are described in detail in the TNA catalogue (**Annex 2**).

## 2.5 Appointment of the User Selection Panel - USP

The selection of proposals for the TNA is based on peer review evaluation with scientific excellence as the main criterion. The TNA programme uses a panel-based evaluation system called User Selection Panel (USP). This panel of high-level scientist and scholars will score the proposals for funding the access to the facilities from partners of **IS\_MIRRI21**. The TNA programme is responsible for appointing independent experts for peer review evaluation of the research proposal during the TNA pilot. Applications that have passed the feasibility check are transmitted to the USP members for their evaluation remotely. Reviewers also commit to provide a final score and comments strictly related to the proposal for each applicant.

Twelve outstanding scientists from academia and industry, top experts in their respective fields in microbiology (including taxonomy, biobanking, innovation, research policy, health, environmental, food, marine resources and education) were appointed to be part of the **IS\_MIRRI21** USP. This panel of experts will review and select the proposals that will be awarded with funded access in the 1<sup>st</sup> TNA call 2021.

Table 4 - USP members appointed for the 1<sup>st</sup> TNA call 2021.

Name	Domain of expertise	Association	Position	Country
Vitor Vasconcelos	cyanobacterial taxonomy	University of Porto   UP · Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR)	Managing Director	Portugal
Paulo Sampaio	yeast taxonomy	Universidade NOVA de Lisboa	PI Yeast genome Lab	Portugal
Marc Stadler	fungal taxonomy	Helmholtz centre for infection research (HZI)	Head of Department Microbial Drugs (MWIS)	Germany
Manfred Ruthsatz	microbiomes and regulatory affairs	Nutrition Health Care - IS_MIRRI21 Advisory Board	Executive Director at Nutrition+HealthCARE	Switzerland
Angela Sessitsch	microbiomes	AIT Austrian Institute of Technology   ait · Center for Health & Bioresources	Head of Unit Bioresources	Austria
Susana Rodriguez-Couto	environmental microbiology	Ikerbasque - Basque Foundation for Science	Professor and consultant	Spain
Paola Battilani	Food mycology	Università Cattolica del Sacro Cuore, Italy, Piacenza - Institute of Entomology and Plant Pathology	Professor	Italy
David Smith	mBRC quality management and legal framework	CABI, Bakeham Lane, Egham, Surrey, TW209TY, United Kingdom	Director, Biological Resources	UK
Giovanna Felis	Lactobacilli and fermentation processes	Università de Verona - Agriculture microbiology	Associate Professor	Italy
Edoardo Puglisi	food and environmental microbiologists	Catholic University of the Sacred Heart   UNICATT	Associated professor	Italy
Paola Bonfante	mycorrhizal fungi and plant microbiome	Università degli Studi di Torino   UNITO · Dipartimento di Scienze della Vita e Biologia dei Sistemi	Emerit professor and research leader	Italy
Alfred Beran	microalgae	National Institute of Oceanography and Applied Geophysics - OGS · Section of Physical, Chemical and Biological Oceanography	Researcher	Italy



### 3. TNA platform in MIRRI

### 3. TNA platform in MIRRI

The WP4 provided the specifications for the creation of the future TNA portal in the CWE currently developed by the WP6. The access officer created a document called “the ICT guideline” illustrating the needs and desires for the permanent online TNA portal in the CWE, what would be needed for the management of the proposals and users’ requests, and proposes which would be the best way to design and to organise the virtual space to offer these services. Despite its great advances, the CWE is still under construction and it will take more time to go live as an online application platform. Therefore, it was decided to use the TNA application platform in ARIA (Figure 3) for the online management of research proposals and access to services for the IS\_MIRRI21 TNA pilot (1<sup>st</sup> and 2<sup>nd</sup> call in 2021 and 2022). This cloud service is provided by Instruct-ERIC to research infrastructures, facilities and user communities for the management of the submission/review of proposals and the management of physical and remote access to services/resources provided by research institutions.

The TNA application platform went live on 8<sup>th</sup> February 2021, almost simultaneously with the launch of the 1<sup>st</sup> TNA call.

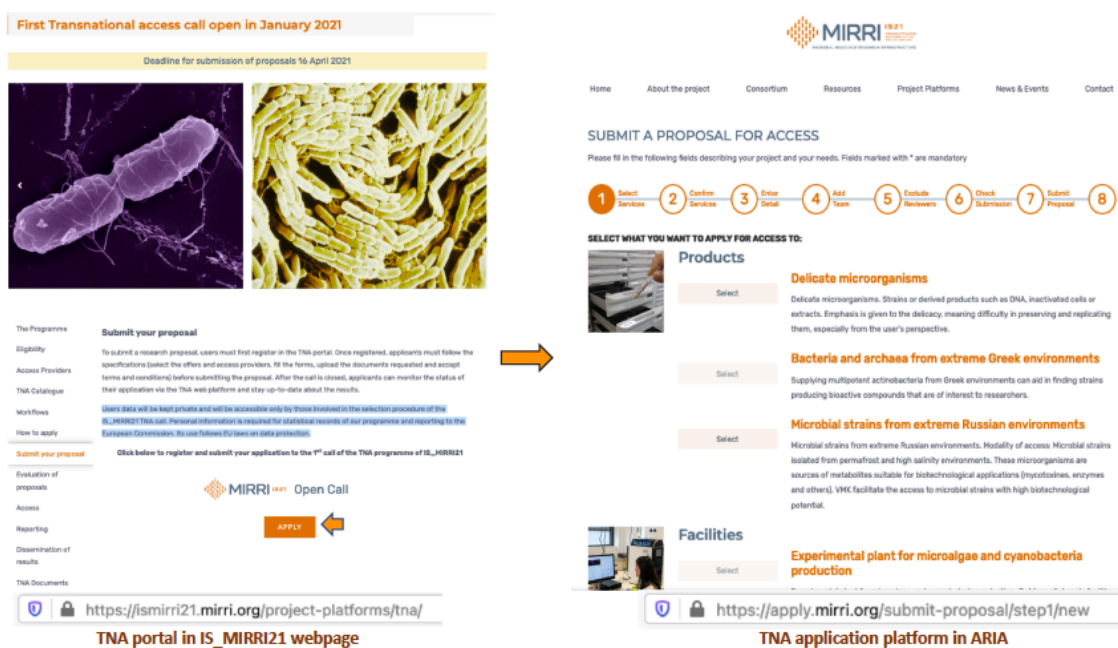


Figure 3 - TNA application platform accessible from IS\_MIRRI21 webpage.

At the end of each TNA call, the users, access providers and reviewers will be surveyed in order to evaluate their whole experience with the TNA (interaction with the access providers, online application, on-site and remote access, reporting, reimbursement, etc) and to measure the performance of the programme.

Based on the experience learned during the 1<sup>st</sup> TNA call using ARIA as online application platform, it will be possible to have a better understanding of what could be developed for the MIRRI CWE, which functionalities can be used and which ones must be created to have a friendly and efficient environment for the management of access in the CWE.



## 4. Dissemination and outreach

## 4. Dissemination and outreach

The TNA call was launched on January 25<sup>th</sup> 2021 and will be open until April 16<sup>th</sup> 2021. Potential applicants can find detailed information about the call including an illustrated TNA catalogue with the 17 offers divided in products, services, facilities and workflows.

Applicants should initially contact the access officer to obtain further information about the offers and partners' facilities before discussing the technical feasibility of their projects with the liaison officers based at each access provider of interest. Potential users can submit their research proposals online through the TNA application portal accessible through the **IS\_MIRRI21** webpage <https://ismirri21.mirri.org/project-platforms/tna/>.

The evaluation and selection of applications will be done online. Awarded proposals will be announced in May 2021 and the access is expected to take place between June and November 2021.

In order to assure the largest scope of the TNA call, the access officer and the WP7 have worked on the implementation of a communication strategy that started in September 2020 and will go on during the time the TNA call is open (deadline 16<sup>th</sup> April 2021). This strategy includes a webpage (<https://ismirri21.mirri.org/project-platforms/tna/>) with a detailed description of all policies and procedures to apply to the TNA calls and an illustrated TNA catalogue with all information about the TNA offers and access providers. Moreover, a continuous advertisement of the TNA call via social media (twitter and LinkedIn) and through internal scientific networks of **IS\_MIRRI21** partners and external collaborators was planned.

### 4.1 TNA webpage

This website (Figure 4) went live on November 2020 and contains all information about the programme and explains every step to apply for the 1<sup>st</sup> TNA call:

- Detailed description of the TNA programme.



- Eligibility criteria.
- Access providers: List of partners and liaison officers.
- TNA catalogue: List of Products/services/facilities.
- TNA workflows.
- How to apply: Application step by step and timeline.
- Submit your proposal: Link to access to the TNA application platform in ARIA (Figure 3).
- Evaluation of proposals: Score and evaluation, ranking methodology.
- Access: Support provided before, during and after the access, User access contract negotiation.
- Reporting: Confirmation of access, TNA activity report, User questionnaire and TNA feedback survey.
- Dissemination of results: EU policies about dissemination of results and acknowledgement.
- TNA documents: Links to download the guidelines for applicants, the TNA catalogue and the TNA flyer (Annexes 1 to 3).

## 4.2 TNA Flyer

The TNA flyer (Annex 3) was published online in December 2020 and contains information about the TNA partners, what is funded by the programme, contact, call opening dates, target audience. This flyer was advertised via social media and it is available for downloading in the **IS\_MIRRI21** webpage (<https://ismirri21.mirri.org/project-platforms/tna/>).

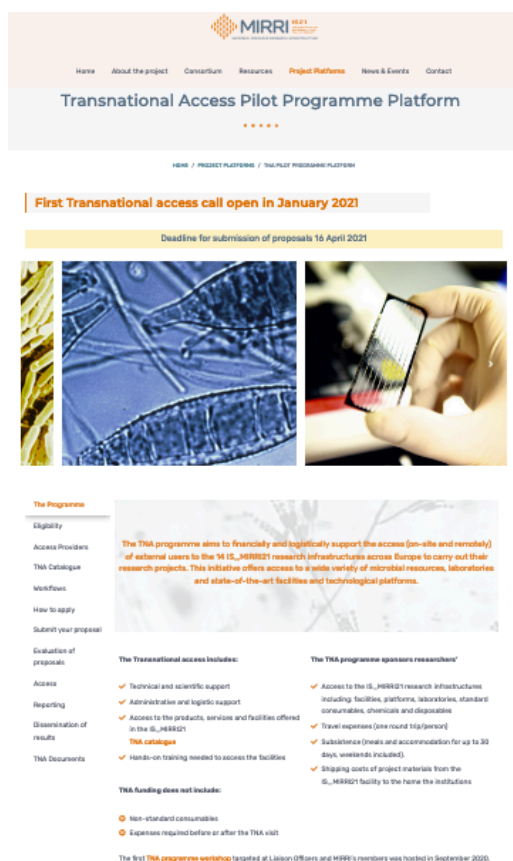


Figure 4 - TNA webpage at <https://ismirri21.mirri.org/project-platforms/tna/>.

### 4.3 TNA catalogue

The TNA catalogue (Annex 2) is an illustrated document that describes the TNA offers (composed by Products, Services and Facilities), the workflows and each of the access providers participating in the call. It gives a wide and detailed description of the programme to potential applicants. This document was assembled and entirely illustrated by the access officer, then reviewed and approved by all liaison officers, the CCU and the executive director of MIRRI. The TNA catalogue was published online in December 2020 on the IS\_MIRRI21 TNA webpage (<https://ismirri21.mirri.org/project-platforms/tna/>).

#### 4.4 Social media and internal research networks

The posts in social media and internal research networks to disseminate the TNA activities, offers and communication material have been published periodically since August 2020.

The social media accounts used to promote the TNA call are:

MIRRI/IS\_MIRRI21 Twitter: [https://twitter.com/MIRRI\\_live/status/1339913948087398405](https://twitter.com/MIRRI_live/status/1339913948087398405)

IS\_MIRRI21 LinkedIn: <https://www.linkedin.com/feed/update/urn:li:activity:6745680540843708416>

MIRRI Facebook: <https://www.facebook.com/mirri.esfri/>

IS\_MIRRI21 ResearchGate: <https://www.researchgate.net/project/IS-MIRRI21-Implementation-and-Sustainability-of-Microbial-Resource-Research-Infrastructure-for-21st-Century>

MIRRI-IT Twitter: <https://twitter.com/ItMirri>

MIRRI-IT Facebook: <https://www.facebook.com/mirri.it>

MIRRI-IT LinkedIn: <https://www.linkedin.com/company/18716555/>

BEA Twitter: [https://twitter.com/BEA\\_ULPGC/status/1358861264013963265/photo/1](https://twitter.com/BEA_ULPGC/status/1358861264013963265/photo/1)

FCPT Facebook: <https://www.facebook.com/fcpctulpgc/photos/1813495922160345>

FCPT LinkedIn: [https://www.linkedin.com/posts/parque-cient-fico-tecnol-gico-de-la-universidad-de-las-palmas-de-gran-canaria\\_abierta-la-primera-convocatoria-de-transnational-activity-6764936760964198400-brrG](https://www.linkedin.com/posts/parque-cient-fico-tecnol-gico-de-la-universidad-de-las-palmas-de-gran-canaria_abierta-la-primera-convocatoria-de-transnational-activity-6764936760964198400-brrG)

FCPT Twitter: <https://twitter.com/pctulpgc/status/1359171707832053765/photo/1>

IBPRS Facebook: <https://www.facebook.com/IBPRS/posts/1134248923758460>

This is part of a strategy to widen the scope of the call and keep the audience engaged.

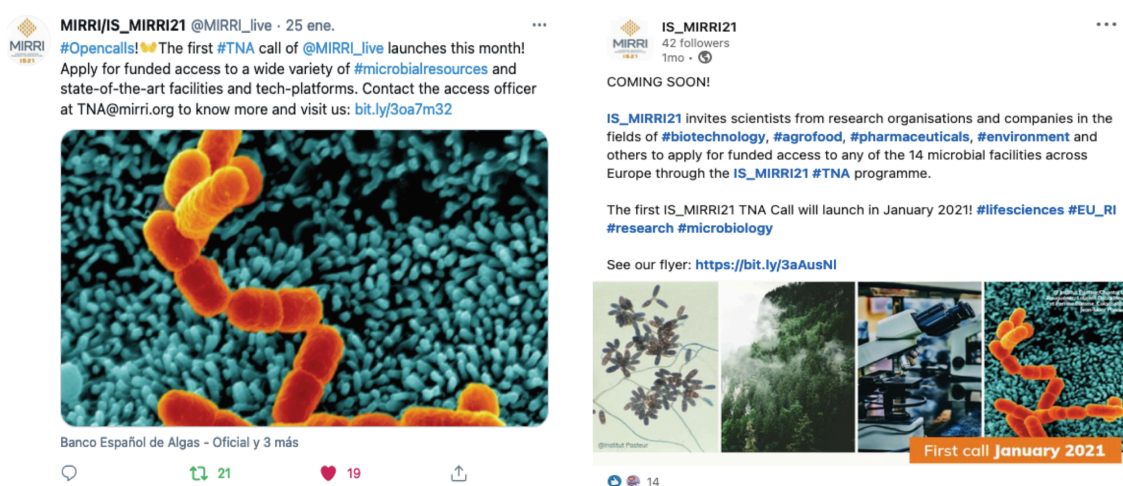


Figure 5 - Some social media posts advertising the 1<sup>st</sup> TNA call and its promotional material in Twitter and LinkedIn.

Some of the research networks used for the dissemination of the 1<sup>st</sup> TNA call include the internal e-mail lists of each MIRRI partner (universities [University of Valencia–Agro/Health/Environment], institutes [Sciensano, IBPRS], organisations [BELSPO, BCCM], research departments [Dipartimento di scienze della vita e biologia dei sistemi-UNITO], etc.), e-mail lists of other research infrastructures (Infravec2, EVAg, EMBRC) and universities (University of Montpellier - I-SITE MUSE), partners' webpages (Liège University, CECT, CRBIP, BCCM, UCLouvain, CNR-ISPA, UNITO, UVEG, ULPGC, BEA, UCLouvain, IAFB, CNR - ISPA and MIRRI-IT websites), the e-mail lists of Algae-L, the Portuguese Society of Microbiology (SPM), and the Association Française d'Ecologie Microbienne (AFEM), the European network Cost Ocean4biotech, the European Algae Biomass Association (EABA), the Sociedad Española de Ficología (SEF), the network of Italian Society of Botany, the Italian Society of Agro-Food and Environmental Microbiology (SIMTREA), the journal of La Sociedad Española de Microbiología (Noticias SEM), the Institut Pasteur journals (BIP newsletter and "Vie Scientifique") and over 30 science managers, liaison officers, start-ups, incubators and company executives.

The partners also spread information about the call through colleagues working in different research centres in Europe.



## 5. Challenges and preparedness

## 5. Challenges and preparedness

### 5.1 TNA application platform in ARIA

Due to third-party provider (Instruct-ERIC) technical difficulties, the proposal submission platform for the **IS\_MIRRI21**'s first TNA call was temporarily unavailable during the first two weeks after the launch of the call on 25<sup>th</sup> January. This problem was solved within two weeks and the application platform went live on 8<sup>th</sup> February 2021. In the meanwhile, we apologised to our users for any inconvenience by posting a message on the **IS\_MIRRI21** TNA webpage and suggested our prospective applicants to proceed with the first steps of the application process and to contact the access officer for questions about the call.

### 5.2 Global health issues

Due to the implementation of sanitary measurements to limit the COVID-19 outbreak in Europe, the concern of not being able to offer access to the TNA users has upraised in the last months, especially because many of the offers proposed by the **IS\_MIRRI21** partners were designed to be on-site. This in compliance with the philosophy of mobility, scientific exchange and networking of the TNA programmes.

In response to that, some of the partners have suggested the possibility of adapting their services to be offered remotely in order to assure the access even during the times of restricted mobility.

The services offered in the 1<sup>st</sup> TNA call of **IS\_MIRRI21** require the investment of a large amount of time, effort as well as the constant support and exchanges with the facilities' staff. In order to be able to offer these services remotely, the partners have considered two scenarios:

- In scenario 1, the partners will dedicate part of their staff to carry out the laboratory work that was initially going to be performed by the users;
- In scenario 2, for the access involving much support and guidance, e.g., the isolation, cultivation, molecular characterisation of strains, a personalised

distance monitoring of the users' work in their own laboratories could be performed with online tools, recorded demonstrations, etc.

Nevertheless, if allowed, all on-site access will be possible only in strict compliance with the rules and regulation of each access provider.



## 6. Annexes



## **6. Annexes**

**Annex 1 - Guidelines and other documents**

**Annex 2 - TNA catalogue**

**Annex 3 - TNA Flyer**

## **Annex 1 - Guidelines and other documents**

Guidelines for TNA applicants

Guidelines for reviewers – User Selection Panel

Guidelines for Access Providers – Liaison Officers

Guidelines for CWE – Gate2 module3 TNA access

User Access Contract

Application Proposal Form

Peer-review Form

Technical Evaluation Form

Access Feedback Form – Users

Access Feedback Form – Evaluators

Access Feedback Form – Facilities



**MIRRI** **IS21**  
IMPLEMENTATION AND  
SUSTAINABILITY FOR  
THE 21ST CENTURY  
MICROBIAL RESOURCE RESEARCH INFRASTRUCTURE

IS\_MIRRI21  
Transnational Access Programme

Guidelines for TNA Applicants

1st Call 2021

November 2020

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The application to the IS\_MIRRI21 Transnational Access programme should be made via the TNA portal available in <https://ismirri21.mirri.org/project-platforms/tna/>

### 1. IS\_MIRRI21 Transnational Access – TNA

The Transnational Access (TNA) programme aims to support financially and logistically the access (on-site and remote) of external users to carry out their research projects at the facilities of 14 partners of the IS\_MIRRI21 project across Europe. This initiative offers access to a wide variety of microbial resources, laboratories and state-of-the-art facilities and technological platforms.

The TNA offer includes:

- ✓ Technical and scientific support.
- ✓ Administrative and logistic support.
- ✓ Access to the products, services and facilities offered in the IS\_MIRRI TNA catalogue.
- ✓ Hands-on training needed to access the facilities.

The IS\_MIRRI21 TNA programme sponsors researchers'

- Access to the partners' facilities including: biological material, platforms, laboratories, standard consumables, chemicals and disposables.
- Travel expenses (one round trip, economy class). Up to 800 EUR/project
- Subsistence (meals and accommodation up to 30 days, weekends included).
- Shipping costs of project material from the IS\_MIRRI21 facility to the home institution (up to 400 EUR).

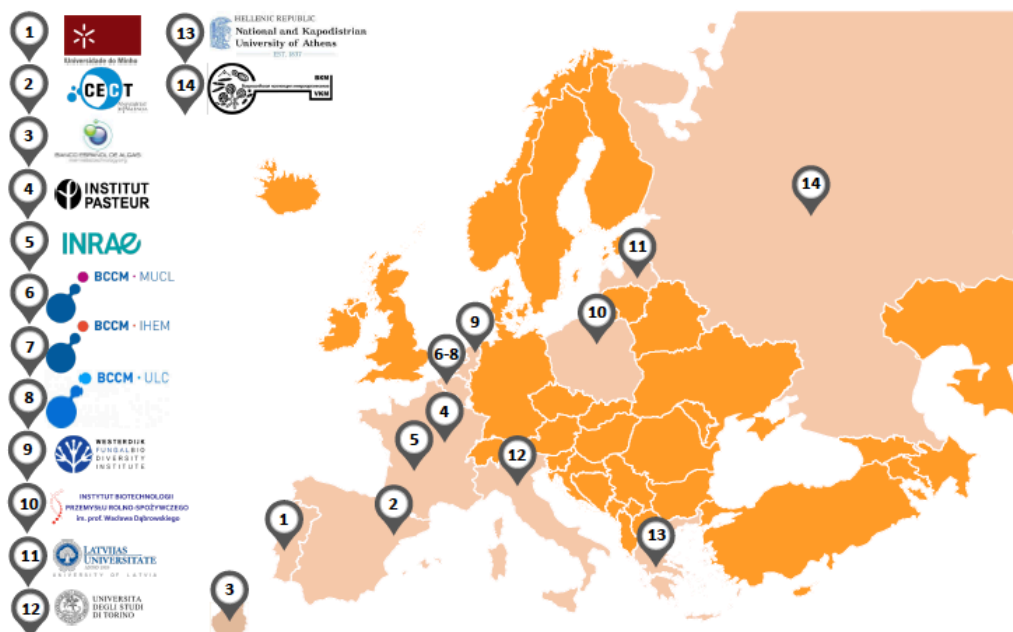


Figure 1. Microbial facilities participating in the IS\_MIRRI21 TNA call 2021.

TNA funding does not include:

- Non-standard consumables.
- Expenses required before or after the TNA visit (experiments, assay development, etc).

## 2. MODES OF ACCESS

The TNA programme provides two means of access: on-site and remote access.

**On-site access:** in this type of access, the users visit the infrastructure and carry out their research projects on-site. The facility provides scientific, technical and logistic support.

**Remote access:** this does not involve an in-person visit of users to the infrastructures. There are two types of remote access:

- *Shipping of strains/biological material:* The User request a specific “Product” from the Access provider (e.g. samples, strains and their derivatives such as DNA).
- *Remote Services:* A set of experiments are carried out at the Access Provider but the User is not physically present at the installations (e.g. sample analysis and processing).

All terms and conditions of the access should be stipulated in either a User Access Contract or a Material Transfer Agreement (MTA) signed by the access provider and the user home institution.

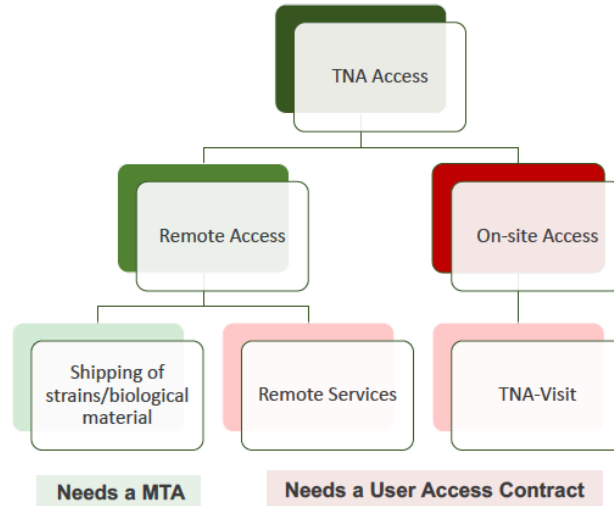


Figure 2. Modes of access in the TNA

## 3. WHO CAN APPLY FOR THE TNA?

### 3.1 Eligibility

The first call of the IS\_MIRRI21 TNA programme applies the following criteria:

- ✓ The access must be **transnational**, users should apply for access in a country other than the country of their home institution.
- ✓ The call is open to worldwide applications.
- ✓ The call is open to PhD students, postdocs, researchers or research engineers working/studying in recognised academic or research institutions, non-profit organisations or biotechnology companies.
- ✓ Master and bachelor students are not eligible.
- ✓ The TNA programme funds the access for a period no longer than 30 days (20 working days).
- ✓ Visits during the 1<sup>st</sup> call must be carried out within the time between the signature of the contract to November 2021.
- ✓ The applicants must have an active contract with their home institution by the period of the access.
- ✓ The applicants should have the complete support and validation of their home institution.
- ✓ All proposals should be completed and submitted by eligible researchers before the call deadline.

**Applicants should contact the Access Officer** for technical verification and feasibility of their proposals **before application**.

**Users coming from outside the EU will need to make their own visa and travel insurance arrangements.**

Other aspects regarding the application to the TNA programme:

- The applicant must be the principal investigator (main executor of the access project) in case the proposal is accepted.
- Collaborations with the access provider's staff is encouraged but not mandatory.
- All data obtained during the TNA should be Open Access (except in the case of the SMEs), and publications using this data should include the IS\_MIRRI21 acknowledgement text.
- Early career researchers, multidisciplinary proposals and applicants from non-microbiology fields are encouraged to apply.

### **3.2 Access Providers**

The TNA programme provides access to carry out a research project in any of the 14 IS\_MIRRI21 partners across Europe.

The offer of the **TNA catalogue** includes access to microbial resources, experimental facilities, technology platforms and the expertise and experience of their staff. The **TNA catalogue** is















available for downloading from the TNA portal on <https://ismirri21.mirri.org/project-platforms/tna/>.

Users can propose projects in single locations or taking advantage of the workflow strategy linking several Access Providers.

Each access provider has a **Liaison Officer**, who is the person to discuss the technical feasibility of the TNA proposal.

You will find below the list of access providers and their respective **Liaison Officers**.

**Table 1.** TNA Access Providers

Country	Access provider	Acronym	Liaison officer	Contact
	Spanish Type Culture Collection	UVEG - CECT	Lidia Rodrigo	Lidia.Rodrigo@uv.es
	Spanish Bank of Algae	ULPGC - BEA	Antera Martel	amartel@marinebiotechnology.org
	Culture collections of the National and Kapodistrian University of Athens	NKUA - CCUoA	Paris Laskaris	plaskaris@biol.uoa.gr
	Agro-food & Environmental Fungal Collection	BELSPO - MUCL	Sylvie Cranenbrouck	sylvie.cranenbrouck@uclouvain.be
	Fungi Collection: Human & Animal Health	BELSPO - IHEM	Pierre Becker	pierre.becker@sciensano.be
	Cyanobacteria Collection	BELSPO - ULC	Anne-Catherine Ahn	acahn@uliege.be
	Culture Collection of Industrial Microorganisms	IAFB - CCIM	Joanna Bucka-Kolendo	joanna.bucka@ibprs.pl
	Westerdijk fungal biodiversity institute	KNAW - CBS	Gerard Verkleij	g.verkleij@wi.knaw.nl
	Micoteca da Universidade do Minho	UMinho - MUM	Nelson Lima and Célia Gonçalves Soares	nelson@ie.uminho.pt celia.soares@ceb.uminho.pt
	Centre International de Ressources Microbiennes	INRAE - CIRM	Marwa Zaarour and Emmanuelle Helloin	marwa.zaarour@inrae.fr emmanuelle.helloin@inrae.fr
	Centre de Ressources Biologiques de l'Institut Pasteur	IP - CRBIP	Liliana Avila Ospina	liliana.avila-ospina@pasteur.fr
	Microbial Strain Collection of Latvia	UL - MSCL	Vizma Nikolajeva	vizma.nikolajeva@lu.lv
	All-Russian Collection of Microorganisms	RAS - VKM	Alexander Vasilenko	varvkm@gmail.com
	Mycotheca Universitatis Taurinensis	UT - MUT	Cristina Varese, Valeria Prigione and Anna Poli	cristina.varese@unito.it valeria.prigione@unito.it anna.poli@unito.it

### 3.3 IS\_MIRRI21 workflows

This initiative proposes an interconnected set of products, services and resources offered by clusters of IS\_MIRRI21 partners that will allow the users to refine and mature their research and innovation projects. Through this approach, users also benefit from the experience and expertise of several access providers. The TNA programme offers 3 workflows:

**WF1.** From field collection to metabolites extraction: exploring secondary metabolite production in cyanobacteria developed by BELSPO-BCCM/ULC and ULPGC/BEA.

**WF2.** Identification of taxonomically related *Streptomyces* strains from extreme Greek environments using mass spectrometry profiles developed by NKUA/CCUoA and CRBIP.

**WF3.** Coupling MALDI-TOF mass spectrometry protein and molecular biology techniques to identify taxonomically related *Alicyclobacillus* strains developed by IAFB/CCIM and CRBIP.

Find the detailed description of our TNA workflows in the **TNA catalogue**.



## 4. HOW TO APPLY

The 1st IS\_MIRRI21 TNA Call will open in January 2021.

### 4.1 Application and selection process timeline

The TNA call involves 7 steps outlined in Figure 3. Proposals must be submitted online through the TNA portal.

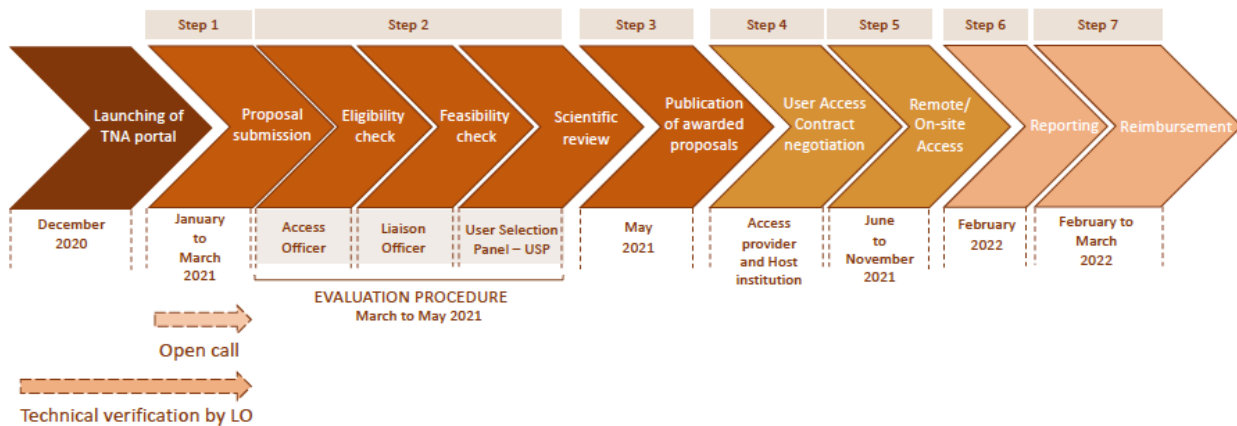


Figure 3. Timeline for the 1<sup>st</sup> TNA call 2021

**Step 1. Initial contact with the Access officer.** Applicants should review the TNA catalogue and identify the offer of interest. Afterwards, they should contact the **Access Officer** before the submission of the proposal. The **Access Officer** will guide the applicants throughout the process and will refer the proposal to the respective **Liaison Officer** to prepare a feasible project. Applicants who fail to check the technical feasibility of their project with the **Liaison Officer** before submission, run the risk that the project is not selected due to feasibility issues at the selected access provider.

**Step 2. Proposal submission.** After discussing the technical feasibility of the project with the **Liaison Officer(s)**, the applicants should draft a research proposal according to the parameters described in the application form. Applicants should complete the online application and upload the requested documents.

**Step 3. Evaluation procedure.** The evaluation of proposals will be based upon the information provided by the applicant which should be correct, sufficient and adequate, and it will be carried out taking into consideration the following steps:

- **Eligibility check:** The **Access Officer** will select only the proposals that fulfil all requirements enlisted in the eligibility section to continue in the evaluation process. Incomplete proposals will not be considered.

- *Feasibility check:* **Liaison Officers** determine the feasibility of the projects regarding technical/logistical aspects and their coherence with the TNA offer. This feasibility check is done prior the User Selection Panel (USP) scientific review.
- *Scientific review:* Selection of proposals is based on peer review evaluation with excellence as the main criterion. The scientific review uses a panel-based system called **User Selection Panel (USP)** to avoid conflicts of interest. This panel of external high-level scientist and scholars scores the research projects. The highest ranked proposals are selected to receive funded access to the research infrastructures.

**Step 4. Publication of awarded proposals.** Applicants will be notified of the final decision *via* Email and selected proposals will be announced through the web page of IS\_MIRRI21.

**Step 5. User Access Contract.** The access should be carried out under the terms of a contract signed by the access provider and the users' host institution. This is a legally binding document in which rights, obligations and technical and logistical details of the TNA visit/project are specified.

**Step 6. Reporting.** Within 3 weeks after the TNA access is finished, users from both on-site and remote access are required to sign a "Confirmation of Access" form, deliver an "Activity Report" and to answer a "User Group Questionnaire" and a survey about the TNA Access experience. **The reimbursement of expenses incurred by the Users during the TNA Access will take place only after these documents are delivered.** These forms and documents can be downloaded on <https://ismirri21.mirri.org/project-platforms/tna/>

**Step 7. Reimbursement.** The reimbursement of travel and subsistence costs will be done according to the access provider's national laws and procedures. It is expected to be completed within the first month after finishing the access. Failure to provide a report will result in the user being billed for the entire cost of the access.

## 5. PROPOSAL SUBMISSION

To submit a research proposal, users must register first in the TNA platform. Once registered, applicants must follow the specifications (select the offers and Access Providers, fill the forms, upload the documents requested and accept terms and conditions) before submitting the proposal. After the call is closed, applicants can monitor the status of their application via the TNA web platform and being notified about the results.

Applicants will be able to modify their proposals, if necessary, before submission.

The TNA web platform allows the **Access Officer** to manage and follow-up the application and evaluation process, the access and reporting from users. It also allows the applicants to be informed about their application status in fulfilment of our transparency principles.

Users data will be kept private and will be accessible only by those involved in the selection procedure of the IS\_MIRRI21 TNA call. Personal information is required for statistical records of our programme and reporting to the European Commission, its use follows EU laws on data protection.

### 5.1 Application step by step

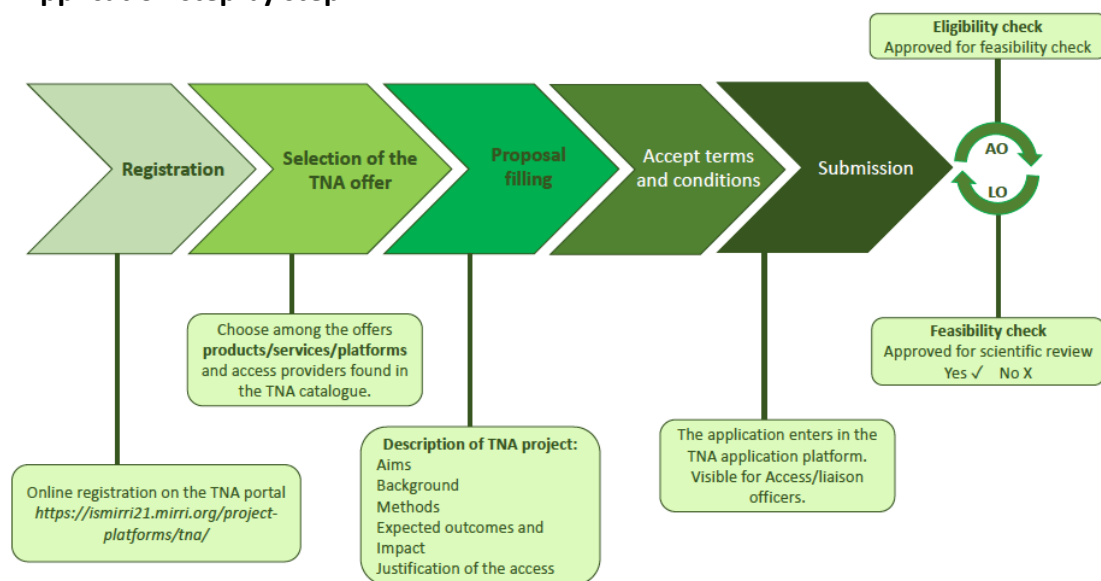


Figure 4. TNA online application workflow

#### **Registration**

Applicants can register in the TNA portal on <https://ismirri21.mirri.org/>

After registration users can log in to their TNA space to complete the application form before the call deadline.

#### **Selection of the TNA offer**

Applicants will find a list of TNA offers provided by the access providers. The 1<sup>st</sup> TNA call of IS\_MIRRI21 offers the access to 14 facilities located in 10 countries across Europe. Applicants should select the offer of their interest among the products, services and facilities described by each access provider and confirm the selection.

To select more than one offer click on “save and add another service/technology”, if not, continue with the next step of the application by clicking on “add and continue”.

#### **Proposal filling**

Research proposals must be drafted in English, clearly and with no jargon. Abbreviations should be explained. Applicants should fill the details of their research proposal. This proposal

can be saved and completed afterwards or submitted when it is completed by clicking “save and continue”.

The application proposal form asks a description of:

- the objectives of the project,
- relevant background,
- methods,
- expected outcomes and impact and
- the reason why the chosen research infrastructure is essential to carry out the project.

The length of the proposal should respect the maximum of characters specified in the application form.

Applicants should upload a CV and an **access planning form**. A **CV format** (which use is optional) and the **access planning form** are available for download in the TNA portal. A **support letter** from the applicant supervisor at the host institution should be also uploaded. In case the applicant is a group leader or head of facility, no support letter is required.

#### ***Accept terms and conditions***

Applicants should accept the terms and conditions in order to submit their proposal. This step is done only when the proposal is completed and all additional documents are uploaded.

#### ***Submission***

Applicant should submit the proposal. After the submission, the proposal can no longer be modified. The proposal status can be followed-up through the dashboard at the applicants' personal space on the TNA portal.

Applicants will be notified by Email about the results of the selection process over a period of 6 weeks.

## **6. EVALUATION PROCESS**

The selection of proposals for the IS\_MIRRI21 TNA is based on peer review evaluation with scientific excellence as the main criterion. The TNA programme uses a panel-based evaluation system called **User Selection Panel (USP)**. This panel of independent, high-level scientists and scholars score the proposals for funding the access to the IS\_MIRRI21 partners. A minimum of 2 evaluators will be assigned to each proposal. The entire USP should have at least 4 members.

Individual reviewing consists of:

- Awarding scores for the two main elements of the proposal: the research project and the applicant.

- Providing brief explanatory comments sustaining the score given to the research projects and the applicant. These comments will be summarised in a final statement called “evaluation report”.

The applications will be scored using the following values:

Score	Definition
5	<b>Excellent.</b> Proposal successfully address all relevant aspects of the criterion.
4	<b>Good.</b> Proposal addresses the criterion very well. Any shortcomings are minor.
3	<b>Fair.</b> Proposal addresses the criterion, but a number of shortcomings are present.
2	<b>Poor.</b> The criterion is inadequately addressed, or there are serious inherent weaknesses.
1	The proposal fails to address the criterion or cannot be assessed due to missing or incomplete information.

There are 9 evaluation criteria. The maximum grades for all selection criteria sum 45 points for each reviewer. The final score will be the sum of the individual scores given by the two reviewers.

The evaluation and selection of proposals will be carried out under the principles of **excellence, transparency, fairness and impartiality, confidentiality, efficiency, ethics and research integrity considerations** and according the following criteria:

***Ground-breaking nature and potential impact of the research project***

- How many of these challenges are addressed by the current proposal: (1) environmental, (2) food and feed, (3) biodiversity, (4) innovation, (5) health.
- Are the objectives ambitious and beyond the state of the art? Does it propose original concepts, approaches or development between or across disciplines?
- Is the proposed research high-risk/high-gain? There is a higher risk that the research project does not entirely fulfil its aims but if successful the payoffs will be very significant.

***Scientific Approach***

- Are the proposed research methodology and the access arrangements appropriate to achieve the goals of the project?
- Does the proposal involve the development of novel methodology or the use of technology non-commonly applied in the field?
- Are the use of the facility, the proposed access planning, resources and applicant’s commitment adequate and properly justified?

***Impact***

- Could the outputs of this research be envisaged to have an impact on: future research or technology?

***Intellectual capacity and creativity of the applicant***

- Does the applicant have the required scientific expertise and/or capacity to successfully execute the project?
- To what extent the new competences and skills that will be acquired during the access are relevant to the researcher's existing professional experience or will give a boost to her/his future career?

In case of having two applications for the same facility, a set of additional conditions for selection will be reflected in the call for proposals. The financing will be awarded in the following priority order:

- Has the highest score
- Is working in a country where no equivalent facility exists.
- Has not previously used the installation
- Is in an early stage of the scientific career.
- Does not have joint publications in the last 5 years. The access would be an opportunity of making collaborations outside his/her home institute.
- Comes from a non-microbiology discipline.

## **7. ACCESS**

### **7.1 Support provided before, during and after the access**

The **Access Officer** is the main contact for the applicants during the TNA call. She will assist the applicants during the application, evaluation and reporting process.

The **Liaison Officer** will provide support to the users during the access. This assistance is provided to fulfil the terms and conditions agreed upon by the user and the access provider.

#### ***Logistical support***

The **Liaison Officers** together with the facilities' local staff will advise and assist users with logistics including bookings, travel itineraries, on-site accommodation, local transportation...

### ***Technical support***

For the on-site access, users will have access to a laboratory, services, machines, products and assistance during the TNA. The **Liaison Officer** or an appointed person in charge, takes care of the day-to-day needs and challenges of the user within reasonable expectations.

The **Liaison Officer** should guarantee the access to core facilities, machines, resources and data necessary to carry out the TNA project. If needed, training will be provided for the proper and safe use of the facility.

In case of remote access, the **Liaison Officer** should guarantee the implementation of the user access programme (previously agreed in the User Access Contract) and to liaise between the user and the infrastructure staff. The “user access programme” is the planning of all activities that will be carried out by the user during the TNA visit (research activities, logistics, ....) and it is described in detail in the TNA proposal. This programme should be reviewed and approved by the **Liaison Officer** before the access.

When shipping of material is required for the project execution at the access provider, the user should take charge of the shipping, covers the costs and inform the **Liaison Officer** about the details of the shipment schedule. If shipping of material produced during the TNA visit is required, then the Access Provider handles the shipping (and its costs up to 400 EUR) to the users’ home institution.

### ***Scientific support***

The facilities provide basic equipment to the users who request on-site access. Experimental support includes the supply of standard disposables and the use of standard laboratory equipment (all should be specified/listed in the research proposal and the user access contract). The applicants should list in the project proposal the equipment and disposables needed for executing their work. During the initial contact with the access providers and during the feasibility check, the **Liaison Officer** specifies which items in this list are considered as “standard” and which are not. Items outside the aforesaid definition of “standard”, such as unusual and/expensive consumables are not included in the access and either must be supplied by the user or ordered by the access provider and then charged to the user.

Research staff from the access provider might collaborate with the users. In that case, users and collaborators at the facility share all foreground knowledge developed during the TNA visit. Both should specify, in a signed agreement, which relevant background knowledge will be excluded from such collaboration.

The provision and transfer of biological material (living resources and their derivatives, such as DNA, proteins,...) should be ruled in an MTA or their use should be specified in the user access contract. Field material is provided under the terms of the user access contract and its

use by the user shall be subjected to the European and international legislation. Cultured material is provided under the rules and regulations established by the access provider.

In case the TNA proposal is accepted, the user and access provider will directly negotiate the final details of the access implementation. The terms of the access will be established in a document called “**user access contract**”. To enable this step, the applicant should contact both the **liaison officer** and the host institution about the further procedure for organizing and implementing the access to the infrastructure including dates of visit, travel and accommodation.

## 7.2 User Access Contract and MTA.

An **MTA** (shipping of strains/biological material) or a “**User Access Contract**” (on-site access and remote services) should be agreed between the user and the access provider specifying the terms and conditions of the access.

The **User Access Contract** is a legal document that specifies the rules, obligations, logistics and technical details of the TNA visit.

This document should also specify the administrative procedures for the reimbursement of travel and subsistence expenses. The user can accept or negotiate details with the **Liaison Officer** or the **legal office** from the access provider.

Users are encouraged to check in advance with the **Liaison Officer** the provisions and the administrative procedures of the access providers for the reimbursement of the expenses planned for the TNA visit.

As the user access contract is a legally binding document, both parties must be advised by their legal officers in the negotiation procedure. If the document is approved by both parties, the contract is signed by:

- The legal representative of the access provider.
- The legal representative of the user’s home institution.
- The user

The parties should agree on how to conduct the signing and exchange of signed documents, since it depends of legal and administrative requirements of local organisms (some require originals whereas others are satisfied with PDF copies of the signed documents).

As soon as the parties have signed the user access contract, the project can officially start according to the dates and conditions specified in the document.

A copy of the signed user access contract must be also provided to the **Access Officer**.

Users should finalise the details regarding the access logistics with the **Liaison Officer** before the visit, such as the detailed timeline of the proposed work, previous arrangements for the start of the experiments or other actions as specified in the contract.



## 8. REPORTING

After completion of the project, the users are requested to provide a confirmation of access and a TNA activity report (only for on-site access and remote services) within 3 weeks after the access is finished via Email. Additionally, a User group questionnaire and a feedback survey must be filled by the users to evaluate and improve the quality of access. These questionnaires should be completed within 2 weeks after the end of the TNA visit through the on-line reporting portal.

### 8.1 Confirmation of access

A confirmation of access form should be downloaded from the TNA portal on <https://ismirri21.mirri.org/>

Users and access providers should complete and sign this document for each access provider visited during the TNA. The document (in PDF format) should be delivered to the **Access Officer** via Email within 2 weeks after the end of the TNA visit. The confirmation of access is mandatory for the on-site and remote access.

Failure to provide this document will result in no-reimbursement of the entire access costs.

### 8.2 TNA activity report

A form of the TNA activity report form should be downloaded from the TNA portal on <https://ismirri21.mirri.org/>

Users should describe in this document the objectives, methods, and preliminary results of the research project carried out during the TNA visit and deliver it to the access officer (and cc the liaison officer) via Email. This report is mandatory only for the on-site access and the remote services.

One document for each access provider visited during the access should be filled and signed by the user within 3 weeks after the end of the TNA visit.

Failure to provide this document will result in no-reimbursement of the entire access costs.

### 8.3 User group questionnaire and TNA Feedback survey

Each user from a project funded by an EU Research Infrastructure is requested to complete the "User Group Questionnaire". The questionnaire enables the Commission to evaluate the Research Infrastructures Action, to monitor the individual grant agreements, and to improve the services provided to the scientific community.

Please complete the User group questionnaire found in the link: <https://ec.europa.eu/eusurvey/runner/RIsurveyUSERS> within 2 weeks after the end of the TNA visit.

Answer the questions and create a PDF file by clicking the option “download the PDF version” on the webpage before submitting. Users should send this PDF file to the **access officer**.

Users should write in the Question 1, Number and Acronym of the Project: "871129 IS\_MIRRI21"

Failure to provide this document will result in no-reimbursement of the entire access costs.

For the TNA feedback survey, the user will receive a link to answer a questionnaire within 2 weeks after the end of the TNA visit.

Through this user feedback, the users will share their outcomes and experiences of their access at the visited infrastructures. These exchanges will give rise to improvements for the future TNA calls of the IS\_MIRRI21 project.

## 9. DISSEMINATION OF RESULTS AND ACKNOWLEDGEMENTS

IS\_MIRRI21 follows the **FAIR** (Findable, Accessible, Interoperable, Reusable) and **Open Access** principles<sup>1</sup>. All projects receiving Horizon 2020 funding are **required** to make sure that any peer-reviewed journal article they publish is openly accessible, free of charge (article 29.2. Model Grant Agreement).

Scientific research data, which is the data underlying publications and/or other data (such as curated but unpublished datasets or raw data) should be **Open Access** when there is no case of conflicts of interests regarding commercialisation of the scientific information, Intellectual Property Rights (IPR), privacy concerns and security. SMEs are excluded from this rule.

### ***Acknowledgements***

Any subsequent publication resulting from the work carried out in the framework of the IS\_MIRRI21 TNA programme must acknowledge the support of the IS\_MIRRI21 project and the funding from the European Union’s Horizon 2020 Research and innovation programme under the grant agreement N° 871129.

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<sup>1</sup> Guidelines to rules on open access to scientific publications and open access to research data in Horizon 2020. European Commission – Directorate General for research and innovation. Version 3.2, 21 March 2017.



**MIRRI** **IS21**  
IMPLEMENTATION AND  
SUSTAINABILITY FOR  
THE 21ST CENTURY  
MICROBIAL RESOURCE RESEARCH INFRASTRUCTURE

IS\_MIRRI21  
Transnational Access Programme - TNA

Guidelines for Reviewers – User Selection Panel (USP)

1st Call 2021

February 2021

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## IS\_MIRRI21 Transnational Access (TNA)

The IS\_MIRRI21 TNA calls aim to promote transnational scientific cooperation and incentive the mobility of researchers. The programme gives the opportunity to researchers of carrying out their research projects at any of the over 14 access providers across Europe.

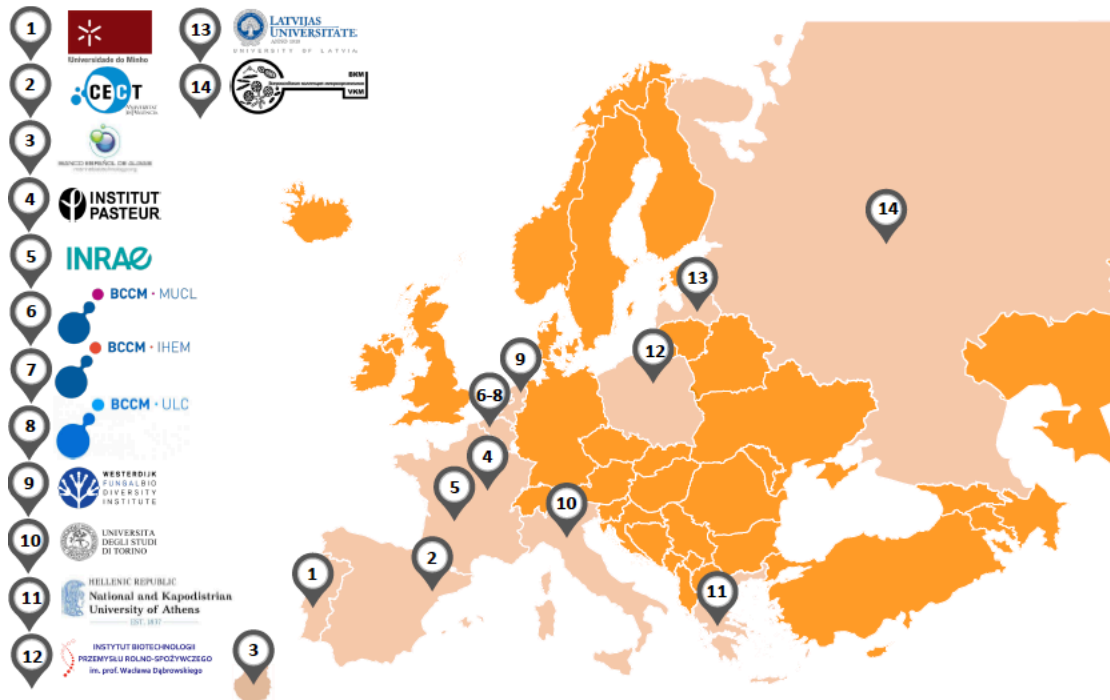


Figure 1. Microbial collections participating in the IS\_MIRRI21 TNA call 2021.

IS\_MIRRI21 funds transnational access to laboratories, state-of-the-art experimental facilities, services and a wide variety of microbial resources.

IS\_MIRRI21 will offer access to culture collections, laboratory facilities including specialised equipment, biochemical and molecular analysis, *in vitro* assays, microscopy and bioinformatics, as well as experimental guidance, training and technical support.

The users (PhD students, postdocs, researchers or research engineers) studying or working in academic institutions, non-profit organisations and companies worldwide are invited to submit a research proposal describing the project they wish to carry out and which facility they would like to access. The applicants will find a group of offers proposed by the partners participating in the programme (**Tables. 1 and 2**) and their detailed description will be available in the TNA on-line catalogue which can be downloaded on <https://ismirri21.mirri.org/>.

**Table 1.** List of offers of the TNA catalogue.

Access Provider	Offer proposed in the catalogue
UVEG - CECT	Delicate microorganisms
BELSPO – BCCM/MUCL	Arbuscular mycorrhizal fungi strains
NKUA – CCUoA	Bacteria and archaea from extreme Greek environments
ULPGC – BEA	Experimental plant for microalgae and cyanobacteria production
KNAW – CBS	Heterologous expression of silent fungal gene clusters
BELSPO – BCCM/IHEM	Dermatophytes: taxonomy, identification and medical importance
BELSPO – BCCM/ULC	Cyanobacterial isolation, cultivation and preservation
IAFB – CCIM	Identification of <i>Alicyclobacillus</i> sp. by molecular biology techniques
UMinho – MUM	Food mycology
INRA – CIRM	<i>In vitro</i> screening of anti-infectious activities: antibacterial, antiviral and antiparasitic
IP - CRBIP	Analysis by BioNumerics of MALDI-TOF mass spectrometry profiles
UL – MSCL	<i>In vitro</i> screening and testing of Minimal Inhibitory Concentration (MIC)
UT – MUT	Metabarcoding of fungal communities
IBPM – RAS/VKM	Microbial strains from extreme Russian environments

### TNA Workflows

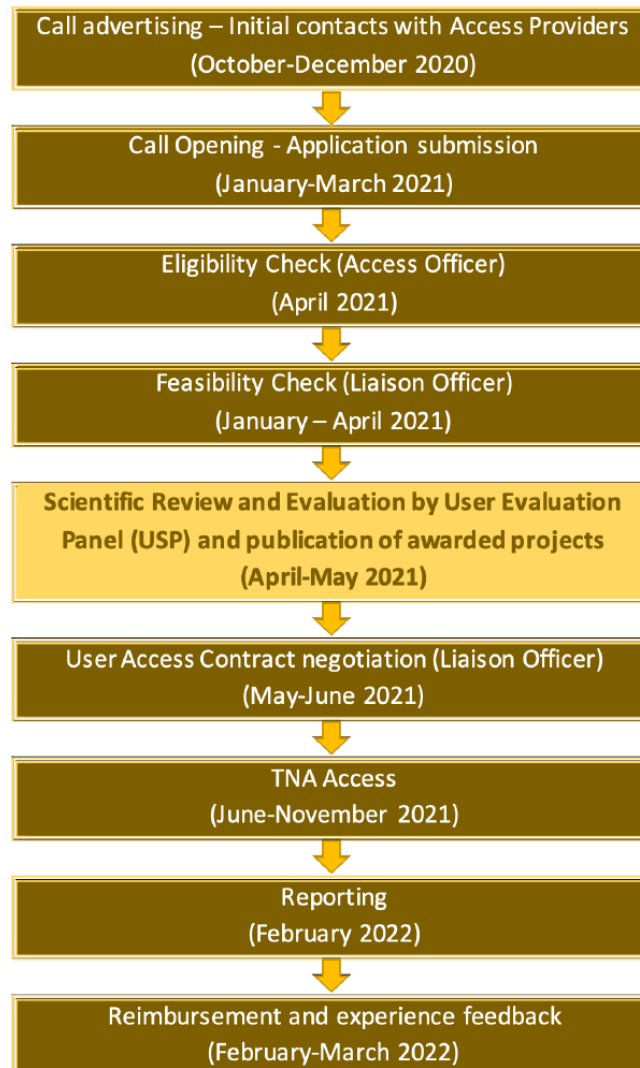
This initiative proposes an interconnected set of products, services and resources offered by clusters of IS\_MIRRI21 partners that will allow the users to refine and mature their research and innovation projects. Through this approach, the users also benefit from the experience and knowledge of several access providers. For its 1<sup>st</sup> call, the IS\_MIRRI21TNA programme offers 3 workflows:

**Table 2.** List of TNA workflows.

Workflow	Access providers	Countries
<b>WF1.</b> From field collection to metabolites extraction: exploring secondary metabolite production in cyanobacteria	BCCM-ULC and BEA	Belgium and Spain
<b>WF2.</b> Identification of taxonomically related <i>Streptomyces</i> strains from extreme Greek environments using mass spectrometry profiles.	CCUoA and IP	Greece and France
<b>WF3.</b> Coupling MALDI-TOF mass spectrometry protein and molecular biology techniques to identify taxonomically related <i>Alicyclobacillus</i> strains.	IAFB and IP	Poland and France

The 1<sup>st</sup> TNA call will be opened in January 2021 and the accesses are scheduled to start between June and November 2021. The TNA workflow for 2021 is depicted in Figure 2.

The selection of proposals for the TNA of the IS\_MIRRI21 project is based on peer review evaluation with scientific excellence as the main criterion. The TNA programme uses a panel-based evaluation system called User Selection Panel (USP). This panel of high-level scientists and scholars score the proposals for funding the access to the facilities from partners of IS\_MIRRI21.



**Figure 2.** IS\_MIRRI21 TNA workflow for the 1<sup>st</sup> call 2021.

## 1. Selection and appointment of the User Selection Panel (USP) members

The IS\_MIRRI21 TNA programme is responsible for proposing independent experts for peer review evaluation of the TNA projects. The **Access Officer** distributes the applications that have passed the feasibility check to the USP members for their evaluation remotely. Reviewers

must also commit to provide a final score and comments strictly related to the proposal for each applicant.

Independent experts must have:

- Appropriate skills and knowledge relevant to the areas of activity in which they are asked to assist.
- High level of professional experience in scientific research, scholarship, mentoring and education of young scientist, project evaluation and management, international cooperation in science and technology or technology transfer and innovation.

To avoid conflict of interest, USP members must be external to the MIRRI-ERIC and with wide expertise in the research fields concerning the projects submitted to the IS\_MIRRI21 TNA call. 2 evaluators will be assigned to each proposal. The entire USP should have at least 4 members.

## 2. Scientific Review

The evaluation and selection of proposals are based in the following criteria:

- **Excellence:** Projects selected for the TNA programme must demonstrate a high scientific and/or technical quality.
- **Transparency:** Award decisions must be based on clearly described rules and procedures, and the applicants (and their legal entities) should receive adequate feedback on the outcome from the peer review evaluation of their proposals.
- **Fairness and impartiality:** All proposals shall be treated equally. They must be evaluated impartially on their merits, irrespective of their origin, the identity of the submitting entity, the applicant or any of his/her team members.
- **Confidentiality:** All proposals and related data, knowledge and documents communicated to the IS\_MIRRI21 project through the application process must be treated in confidence.
- **Efficiency and speed:** Peer review evaluation, preparation and award of access should be within the established deadlines, while maintaining the quality of the peer review evaluation.
- **Ethics considerations:** Any proposal which contravenes ethical principles may be excluded from the peer review evaluation, selection and award procedures at any time.
- **Research integrity considerations:** The infringement of research integrity rules may result in the rejection of a proposal at any time.



In case of having two applications for the same facility, the IS\_MIRRI21 TNA programme has set out additional conditions for selection which will be reflected in the call for proposals. The financing will be awarded in the following priority order:

- Has the highest score
- Is working in a country where no equivalent facility exists.
- Has not previously used the installation
- Is in an early stage of the scientific career.
- Does not have joint publications in the last 5 years. The access would be an opportunity of making collaborations outside his/her home institute.
- Comes from a non-microbiology discipline.

### 3. Scores and evaluation report

Individual reviewing consists of:

- Awarding scores for the two main elements of the proposal: the research project and the applicant.
- Providing brief explanatory comments sustaining the score given to the research projects and the applicants. These comments are referred here as evaluation report.

The evaluation report is a clear feedback for the applicant on the proposal's strengths and weaknesses in a manner **consistent with the score**, with no contradiction or lack of clarity. This report should be of an adequate length (200 words maximum) and being written in an appropriate tone.

Reviewers are obliged to observe the following guidelines for the final evaluation report:

- Use dispassionate, analytical and unambiguous language.
- Use grammatically correct, complete, clear sentences with no jargon.
- Critical comments should be constructive.
- Avoid self-declaration of insufficient expertise (personal or panel) or non-confidence in the proposal.
- Avoid reference to the applicant age, nationality, gender, or personal matters.
- Avoid any direct comparison with any other proposals.
- Avoid any reference or comparison with previous assessments.
- Avoid comments that merely give a description or a summary of the proposal.
- Avoid dismissive statements about the PI, the proposed science, or the scientific field concerned.

- Make sure that your scores are in line with your comments.
- Avoid referring to scores in the comments.

#### 4. Ranking methodology

The applications will be scored using the following values:

Score	Criteria
5	<b>Excellent.</b> Proposal successfully address all relevant aspects of the criterion.
4	<b>Good.</b> Proposal addresses the criterion very well. Any shortcomings are minor.
3	<b>Fair.</b> Proposal addresses the criterion, but a number of shortcomings are present.
2	<b>Poor.</b> The criterion is inadequately addressed, or there are serious inherent weaknesses.
1	The proposal fails to address the criterion or cannot be assessed due to missing or incomplete information.

Each TNA application should be evaluated and scored by the USP according to the following criteria:

##### ***Ground-breaking nature of the research project***

- How many of these challenges are addressed by the current proposal: (1) environmental, (2) food and feed, (3) biodiversity, (4) innovation, (5) health.
- Are the objectives ambitious and beyond the state of the art? Does it propose original concepts, approaches or development between or across disciplines?
- Is the proposed research high-risk/high-gain? There is a higher risk that the research project does not entirely fulfil its aims but if successful the payoffs will be very significant.

##### ***Scientific Approach***

- Are the proposed research methodology and the access arrangements appropriate to achieve the goals of the project?
- Does the proposal involve the development of novel methodology or the use of technology non-commonly applied in the field?
- Are the use of the facility, the proposed access planning, resources and the applicant's commitment properly justified?

### ***Potential impact***

- Could the outputs of this research be envisaged to have an impact on: future research or technology?

### ***Intellectual capacity and creativity of the applicant***

- Does the applicant have the required scientific expertise and/or capacity to successfully execute the project?
- To what extent the new competences and skills that will be acquired during the access will be relevant to the researcher's existing professional experience or will give a boost to her/his future career?

**If necessary, the USP members may complement the score given to each evaluation criteria with comments. These comments will be summarised in a final statement called evaluation report.**

There are 9 evaluation criteria. The maximum grades for all selection criteria sum 45 points for each reviewer. The final score will be the sum of the individual scores given by the two reviewers.

It is highly encouraged to give a short feedback to the applicants whether the proposal is accepted or rejected. This could contribute to either improve their research approach or their proposal in case the project is rejected and they want to re-apply to future TNA calls.

## **5. Outputs of the User Selection Panel – USP**

The output of USP, to be provided at the end of the reviewing process, consists of the following elements:

- The ranked list of proposals.
- The feedback to applicants (brief evaluation report).

## **6. Conflict of interests**

The USP should perform his/her work impartially and take all measures to prevent any situation where the impartial and objective implementation of the work is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest.

The following situations will automatically be considered as conflict of interest:

The USP member requested to evaluate a proposal,

- was involved in the preparation of the proposal(s);
- is a director, trustee or partner or is in any way involved in the management of an applicant;
- is employed or contracted by one of the applicants or applicant's supervisors;
- has close family ties with the applicant of the proposal or her/his supervisor;
- has (or has had during the last two years) a scientific collaboration with the applicant or her/his supervisor;
- has (or has had) a relationship of scientific rivalry or professional hostility with the applicant or her/his supervisor;
- has (or has had), a mentor/mentee relationship with the applicant.

In this case, the expert should inform the access officer of the situation and he/she must be excluded from evaluation of the concerned proposal.

## **7. Confidentiality**

USP members must keep confidential all data, documents or other material (in any form) that is disclosed (in writing or orally) and that concerns to proposals or applicants of the TNA call.

The reviewers must not discuss proposals with others that are not directly involved in the evaluation of the proposals and in particular must not disclose:

- details on the evaluation process or its outcome, without prior written approval by IS\_MIRRI21 TNA programme;
- details on his/her position/advice;
- the names of other experts participating in the evaluation.

Evaluators must not communicate with applicants nor with the supervisors or potential team members or persons linked to them during the evaluation or afterwards.

The USP members are responsible for ensuring adequate protection of documents or information available electronically for remote work and for returning, erasing or destroying all confidential information after the end of the evaluation.

**The USP members will be asked to sign a non-disclosure agreement (NDA).**



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WP4

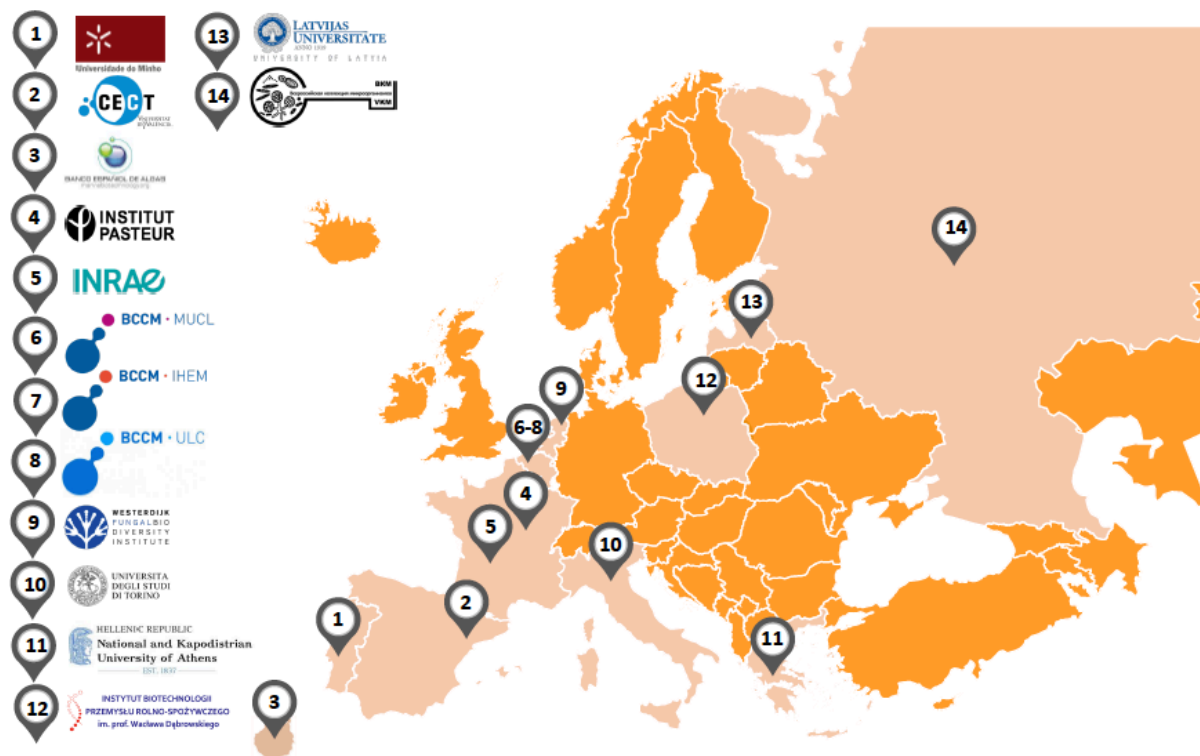
Guidelines for Access providers – Liaison Officers

1st Call 2021

February 2021

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**Figure 1.** Microbial collections participating in the IS\_MIRRI21 TNA programme 2021.

IS\_MIRRI21 funds transnational access to laboratories, state-of-the-art experimental facilities, services and a wide variety of microbial resources.

IS\_MIRRI21 will offer access to culture collections, laboratory facilities including specialised equipment, biochemical and molecular analysis, *in vitro* assays, microscopy and bioinformatics, as well as experimental guidance, training and technical support.

The users (PhD students, postdocs, researchers or research engineers) studying or working in academic institutions, non-profit organisations and biotechnology companies worldwide must submit a research proposal describing the project they wish to carry out and which infrastructures they want to access. The applicants will find a group of offers proposed by the Research Infrastructures participating in the programme (**Table. 1**) including the TNA workflows (**Table. 2**).

**Table 1.** List of offers of the TNA catalogue.

Access Provider	Offer proposed in the catalogue
UVEG - CECT	Delicate microorganisms
BELSP0 – BCCM/MUCL	Arbuscular mycorrhizal fungi strains
NKUA – CCUoA	Bacteria and archaea from extreme Greek environments
ULPGC – BEA	Experimental plant for microalgae and cyanobacteria production
KNAW – CBS	Heterologous expression of silent fungal gene clusters
BELSP0 – BCCM/IHEM	Dermatophytes: taxonomy, identification and medical importance
BELSP0 – BCCM/ULC	Cyanobacterial isolation, cultivation and preservation
IAFB – CCIM	Identification of <i>Alicyclobacillus</i> sp. by molecular biology techniques
UMinho – MUM	Food mycology
INRA – CIRM	<i>In vitro</i> screening of anti-infectious activities: antibacterial, antiviral and antiparasitic
IP - CRBIP	Analysis by BioNumerics of MALDI-TOF mass spectrometry profiles
UL – MSCL	<i>In vitro</i> screening and testing of Minimal Inhibitory Concentration (MIC)
UT – MUT	Metabarcoding of fungal communities
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### TNA Workflows

This initiative proposes an interconnected set of products, services and resources offered by clusters of IS\_MIRRI21 partners that will allow the users to refine and mature their research and innovation projects. Through this approach, the users also benefit from the experience and knowledge of several access providers. For its 1<sup>st</sup> call, the IS\_MIRRI21TNA programme offers 3 workflows:

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<b>WF3.</b> Coupling MALDI-TOF mass spectrometry protein and molecular biology techniques to identify taxonomically related <i>Alicyclobacillus</i> strains.	IAFB and IP	Poland and France



The **Access Officer** will be will be **the main contact for discussing details of the TNA offer**. Each Access Provider in IS\_MIRRI21 will have a "**Liaison Officer**", who will be the local reference person to discuss technical details and the feasibility of the research proposals. The LO will liaise with the Access Officer, the applicants/Users, RI scientific/technical staff and the administrative, legal and financial office of his/her home institution on how to facilitate and to implement the terms of the TNA.

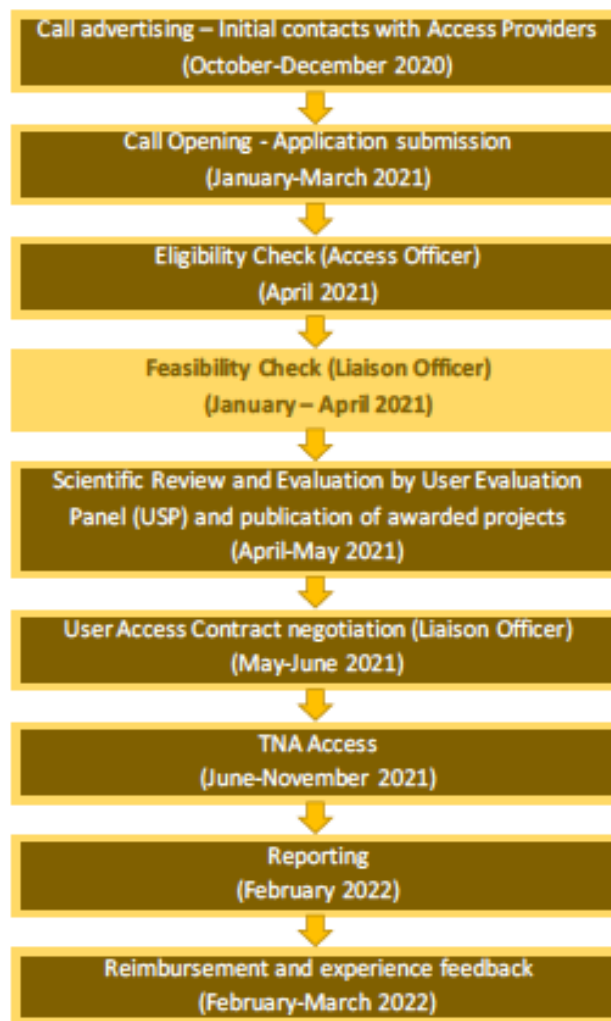


Figure 2. Transnational access workflow for the 1<sup>st</sup> call 2021

## 1. ROLE OF THE LIAISON OFFICER (LO)

- The **Liaison Officer (LO)** will be the local contact for the TNA applicants. The applicants should contact first the **Access Officer** to request additional information about the facility and the offer proposed in the **TNA catalogue** before contacting the **LO** for the technical feasibility check of their proposal. The **LO** will help the applicant to shape their proposal in order to fit the services offered.

- In case of on-site access, the LO will support the user during the time of the TNA visit to the facility, providing technical, logistic and scientific support. If the designed **LO** is not a scientist or part of the administrative/legal staff, the **LO** should establish the contact between the user and the appropriate person.

*Technical support*

- Guide the access to the equipment, data and material.
- Assist or provide training for the proper use of the equipment and resources of the facility.

**All access to material and services should be agreed with the User and described upon the “User Access Contract”.**

*Logistic support*

- Assist/advice the users in finding on-site accommodation, means of arrival and local transportation, procedures for reimbursement, insurance, etc.

*Scientific support (optional)*

- The possibility of scientific collaborations between researchers at the local infrastructure and the users might arise during the TNA visits. In that case, both parts will share credit for the knowledge obtained during the TNA visit, therefore they need to specify the terms of this collaboration in a separate agreement, including which results will be part of such collaboration and which will be excluded. In case of collaboration, the researcher at the access provider will be not reimbursed for the access costs incurred by the laboratory.
- In the case of remote access, the **LO** should manage the delivery of biological material (in case for example of strains requests) or assistance with the reception and/or shipment of samples for analysis (in case of remote services).

**DURING THE TNA EVALUATION PROCESS**

- During the TNA selection process, the **LO** will determine the feasibility of the projects regarding technical/logistical aspects and coherence with the TNA offer. This feasibility check is done prior to the scientific review by the User Selection Panel (USP).

It is recommended to check as well the financial feasibility of the projects in order to assure (in case of selection) the funding of proposals according with the available TNA budget for each facility.

After the scientific evaluation, the **Access Officer** will send to the **LOs** the list of applications that were selected by the USP. In case of a high number of proposals, there is the possibility that positively reviewed applications may not be funded. For some proposals, a reduction of the budget can be agreed during the contract negotiation in order to get the project funded. Applications selected by the USP and accepted by the access provider will receive a letter of acceptance that gives green light to the negotiation of the “User Access Contract”.

- Negotiation of the “User Access Contract”

The **Access Officer** will provide a template **User Access Contract** to the **LOs** to manage the approved applications. This is a legally binding document for the users and Access Providers in which rights, obligations and technical details of the TNA visit/project are specified. The **LO** can modify this template to fit the specificities of each Project as well as the Access Provider’s institutional and national regulations, and can delete the parts considered irrelevant. This document also specifies how and within what limits the user’s costs of travel, accommodation, subsistence and other expenses will be covered.

The User Access Contract should be used in the case of on-site access and remote services. The shipment of samples or strains from the access provider does not need of a user access contract. Users will be bound by the terms and conditions of a MTA (Material Transfer Agreement) respecting national, European and international legislation.

The **LO** will send a draft of the contract to the user. The User can accept it or negotiate details with the **LO**. Both the **LO** and the user are advised to present the **User Access Contract** to their respective legal offices at their home institutions for review. The implementation of the user access contract template provided by the **Access Officer** is highly encouraged but not mandatory.

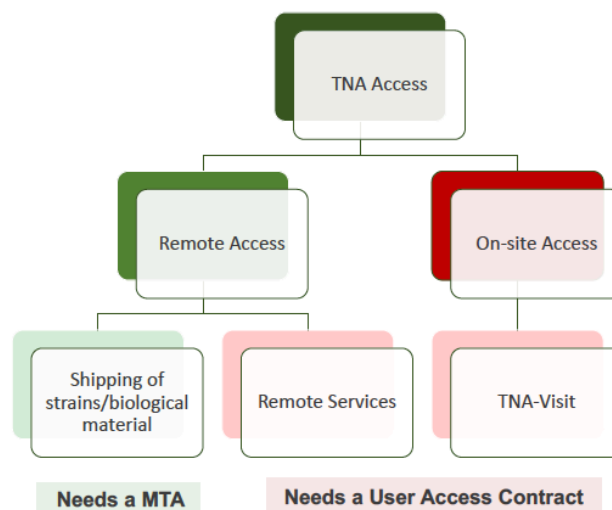


Figure 3. Modes of access in the TNA

Once the **user access contract** is approved by all parties involved, the contract should be signed by the following parties: the user, the user’s home institution legal representative and the access provider’s legal representative. The signatory parties should agree on how to

conduct the signing and on how to exchange the signed documents, as some require originals whereas others may be satisfied with PDF copies of the signed documents. If all parties can produce digitally certified signatures the process can be speedier and paperless. The **LO** should provide a copy of the signed document to the **Access Officer**.

If the TNA projects include multiple access providers, or the users of a facility are from different home institutions, each of these users require a separate contract.

The user should also specify in the user access contract if the project will include the shipment of material gathered or generated during the TNA Access. Shipment costs should not exceed 400 EUR per project.

As soon as the parties have signed the **User Access Contract**, the TNA access becomes official and the access can start according to conditions and dates specified in the contract, and the user can arrange the practicalities of the access with the **LO** or a delegate from the access provider. For the 1<sup>st</sup> TNA call, the TNA visit should be carried out within the time between the signing of the contract and November 2021. A copy of the signed user access contract should be also provided to the **Access Officer**.

## 2. ACCESS

The TNA visits cannot be longer than 30 days including weekends (20 working days). For the 1<sup>st</sup> call of IS\_MIRRI21 the visits will take place within June and November 2021, the dates will be agreed upon by the user and the access provider.

The users will have access to what was agreed in the user access contract. The **LO** will him/herself or through an appointed person, take care of the user's day-by-day needs as well as the assistance in case of difficulties. The users are expected to be familiar with safety standards and proper use of the equipment and facilities they use by themselves. Users will receive guidance and advice but they will keep the freedom to carry out their research independently.

In order to promote the scientific exchange and networking, the users will be requested to give a short presentation about their projects (or related research) to the staff members of the access provider.

## 3. REPORTING

Once the TNA Access is finished, the user is required to sign a "Confirmation of Access" form, deliver an "Activity Report" and to answer a User Group Questionnaire and a survey about the

TNA Access experience. **The reimbursement of expenses incurred by the users during the TNA Access will take place only after these documents are delivered.**

The “Confirmation of Access” should be sent to the **Access Officer** within two weeks after the end of the Access. This document will be signed by the user (project leader) as well as the person in charge of the user at the access provider (usually the **LO**). A template form of the Confirmation of Access will be drafted and provided by the **Access Officer** to the **LOs**.

**the “Confirmation of Access” is required for all types of access, on-site and remote. The “Activity Report” is required only for on-site access and remote services.**

The “**Activity Report**” should be submitted to the **Access Officer** via Email within three weeks after the end of the TNA visit. Users should describe in this document the objectives, methods, and preliminary results of the research project carried out during the TNA visit.

The specifications for the “Activity Report” will be established by the **Access Officer** and communicated to the **LO**.

Each user from a project funded by an EU Research Infrastructure is requested to complete the “**User Group Questionnaire**”. The questionnaire enables the Commission to evaluate the Research Infrastructures Action, to monitor the individual grant agreements, and to improve the services provided to the scientific community. The feedback survey is a questionnaire designed by the IS\_MIRRI21 project to evaluate the TNA pilot and to improve future services. **The user group questionnaire and the feedback survey are required for all types of access, on-site and remote.** Failure to provide these documents will result in no-reimbursement of the entire access costs.



**MIRRI** **IS21**  
IMPLEMENTATION AND  
SUSTAINABILITY FOR  
THE 21ST CENTURY

MICROBIAL RESOURCE RESEARCH INFRASTRUCTURE

IS\_MIRRI21  
Access Programme

Guidelines for CWE - Gate2 module3 TNA access

July 2020

## IS\_MIRRI21 Transnational Access (TNA)

IS\_MIRRI21 TNA calls aim to promote transnational cooperation between members and incentive the mobility of researchers. The programme gives the opportunity to researchers of carrying out their research project at any of the over 14 access providers.



**Figure 1.** Microbial collections participants in the IS\_MIRRI21 TNA programme 2021.

IS\_MIRRI21 funds transnational access to laboratories, state-of-the-art experimental facilities, services and a wide variety of microbial resources.

The users (PhD student, postdoc, researcher or engineer) studying or working in academic institutions, non-profit organisations and biotechnological companies must submit a research proposal describing the project they wish to carry out, which infrastructure(s) they want to access and personal data such as names, nationalities, information about the supervisor and home institutions. The users will find a group of offers proposed by the collections participating in the programme (**Table 1**). This catalogue will be displayed in the information page and it is named “**informative catalogue**”.

**Table 1.** List of offers from the TNA catalogue.

Access Provider	Infrastructure	Offer proposed in the catalogue	Country
<b>PRODUCTS</b>			
Universitat de València – UVEG	Spanish Type Culture Collection - CECT	Delicate microorganisms	Spain
Service Public Federal de Programmation Politique scientifique/Belgian Co-	Agro-food & Environmental Fungal Collection - MUCL	Arbuscular mycorrhizal fungi strains	Belgium

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ordinated Collection of Microorganisms - BELSPO-BCCM			
National and Kapodistrian University of Athens - NKUA	Culture collections of the National and Kapodistrian University of Athens - CCUoA	Bacteria and archaea from extreme Greek environments	Greece
All-Russian Collection of Microorganisms, Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences – IBPM - RAS	All Russian Collection of Microorganisms - VKM	Microbial strains from extreme Russian environments	Russia
<b>FACILITIES</b>			
Universidad de Las Palmas de Gran Canaria - ULPGC	Spanish Bank of Algae - BEA	Experimental plant for microalgae and cyanobacteria production	Spain
Netherlands Academy of Arts and Sciences-Centraalbureau voor Schimmelcultures - KNAW	Westerdijk fungal biodiversity institute - CBS	Heterologous expression of silent fungal gene clusters	Netherlands
Service Public Federal de Programmation Politique scientifique/Belgian Co-ordinated Collection of Microorganisms - BELSPO-BCCM	Fungi Collection: Human & Animal Health - IHEM	Dermatophytes: taxonomy, identification and medical importance	Belgium
Service Public Federal de Programmation Politique scientifique/Belgian Co-ordinated Collection of Microorganisms - BELSPO-BCCM	Cyanobacteria Collection - ULC	Cyanobacterial isolation, cultivation, preservation, taxonomy and molecular characterisation	Belgium
Institute of Agricultural and Food Biotechnology - IAFB	Culture Collection of Industrial Microorganisms - CCIM	Identification of <i>Alicyclobacillus</i> sp. by molecular biology techniques	Poland
<b>SERVICES</b>			
University of Minho - UMinho	Micoteca da Universidade do Minho - MUM	Food mycology	Portugal
Institut national de recherche pour l'agriculture, l'alimentation et l'environnement - INRAE	Centre International de Ressources Microbiennes - CIRM	<i>In vitro</i> screening of anti-infectious activities: antibacterial, antiviral and antiparasitic	France
Institut Pasteur - IP	Centre de Ressources Biologiques de l'Institut Pasteur - CRBIP	Analysis by BioNumerics of MALDI-TOF mass spectrometry profiles	France
University of Latvia - UL	MicrobialStrainCollectionof Latvia - MSCL	<i>In vitro</i> screening and testing of Minimal Inhibitory Concentration (MIC)	Latvia
Università degli Studi di Torino - UT	Mycotheca Universitatis Taurinensis - MUT	Metabarcoding of fungal communities	Italy

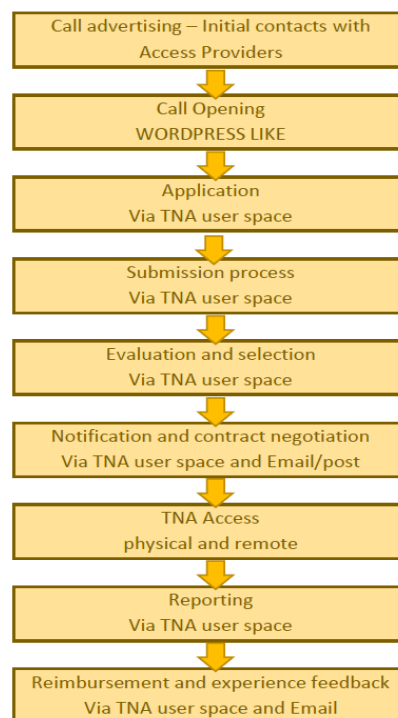
The 1<sup>st</sup> TNA call must be opened in January 2021 and the access are scheduled to start between June and November 2021. Below are the 1<sup>st</sup> TNA workflow and the way the online access to the registration, application and evaluation procedures should be provided by the TNA portal.



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**Figure 2.** Workflow for the IS\_MIRRI21 TNA call 2021



**Figure 3.** IS\_MIRRI21 TNA application process and access for the call 2021

### **Advertising of the 1<sup>st</sup> TNA call in January 2021**

These communication activities should be done at least 2 months before the call opening (we are going to start in October 2020 for the 1<sup>st</sup> call opening in January 2021). They will be through IS\_MIRRI21 web page, social media such as twitter and LinkedIn and internal networks of institutes and universities.

The aim is to have the widest diffusion in order to receive as many applications as possible.

### **Opening of the 1<sup>st</sup> TNA call – applications through the TNA portal**

The user should be able to find all the information about the TNA call in the web page of IS\_MIRRI21: Description of the programme (what is funded by the TNA, eligibility criteria), partners involved, detailed information about the nature of each infrastructure, TNA offers proposed by the facilities (TNA catalogue and workflows), contact person in the facility (Liaison officers), key dates (application deadline, periods of access), overview of the application and selection process, type of access (in place and remote, in some cases might be virtual), general terms and conditions of the EU (Access policy, Open access policy, confidentiality, transparency). This space should be a WORDPRESS-like tool.

#### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR49**

**Access to TNA information page (WORDPRESS-LIKE TOOL):** This page is the first information the user gets about the TNA. This will be like a WordPress tool.

Page describe in brief all important information about the TNA calls including:

- Brief description of the IS\_MIRRI21TNA programme,
- Deadline for proposal submission of the first call (there must be a link to communication tools such as the flyer for the 1st call),
- Description of the remote access, Description of covered expenses (travel, accommodation, maximum of days of the access, shipping costs),
- Application process described in form of a graph or flow chart (for evaluation criteria must be a link to the applicant guide where it is explained in detail),
- Table listing all the access providers, location, liaison officer contact and links to the official web pages for each access provider (ex. Universities, institute, etc),
- How to apply in brief description with a link to the guideline of the applicant and other link for registration.
- General information contact (a link to contact the access officer).

To describe the access providers, I suggest both an illustrative map for esthetical reasons and a list of the infrastructures to give more information:

*Example from the TNA call for European Marine Biological Laboratories*

## IS\_MIRRI21 Access Programme General guidelines for the CWE – Gate 2 Module 3

Access providers and their contacts				
Country	Access Provider (AP)	Acronym (+link)	Liaison officer	E-mail
	Flanders Marine Institute	<a href="#">VLIZ</a>	Andre Cattrijsse	<a href="mailto:embrc@vliz.be">embrc@vliz.be</a>
	University of Gent	<a href="#">UGENT</a>	Shanna Vanblaere	<a href="mailto:assembleplus@ugent.be">assembleplus@ugent.be</a>
	Tväärminne Zoological Station	<a href="#">TZS</a>	Joanna Norkko	<a href="mailto:joanna.norkko@helsinki.fi">joanna.norkko@helsinki.fi</a>
	Archipelago Research Institute	<a href="#">ARI</a>	Jari Hänninen	<a href="mailto:jari.hanninen@utu.fi">jari.hanninen@utu.fi</a>
	Husö biological station	<a href="#">HBS</a>	Martin Snickars	<a href="mailto:martin.snickars@abo.fi">martin.snickars@abo.fi</a>
	Institut de la Mer de Villefranche	<a href="#">IMEV</a>	Frédéric Bonino	<a href="mailto:bonino@obs-vlfr.fr">bonino@obs-vlfr.fr</a>
	Observatoire Océanologique de Banyuls-sur-mer	<a href="#">OOB</a>	Julie Boeuf	<a href="mailto:julie.boeuf@obs-banyuls.fr">julie.boeuf@obs-banyuls.fr</a>

Here you can find a link to go to the web page of each infrastructure and the contact information person for each one.

This information is very important since the IS\_MIRRI21 TNA programme strongly recommends to the applicants to contact the Liaison officers (LO) from the infrastructures they are interested in before the application process. The aim is to ask for additional information and advice regarding the elaboration of the research proposal. The LO also evaluate the technical feasibility of the projects before going to the scientific review.

### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR32**

**Information page about requirements and conditions** to be eligible to get access to TNA services/facilities (Included in access to TNA information page)

### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR35**

Interactive map pointing countries that offer TNA to services/facilities (Included in access to TNA information page)

### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR33**

Display the catalogue of TNA services/facilities with link to an information sheet about the provider (based on Access Providers Catalogue -WP4-) (The information catalogue is included in access to TNA information page and the selection catalogue is included in the application form)

### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR45**

Display of workflows about research lines (in connection with WP2 and WP4) (Included in access to TNA information page)

## **Application process**

The application will be online through the TNA portal. In addition to the information about the call, the users should be able to find a space (via link) to apply by submitting their research proposals and personal information.

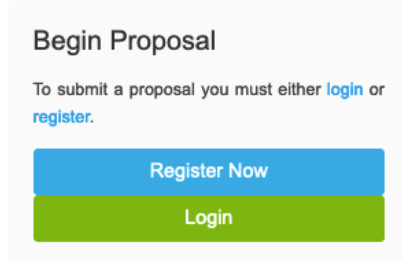
*Example from the TNA call for European Marine Biological Laboratories*



## IS\_MIRRI21 Access Programme General guidelines for the CWE – Gate 2 Module 3

Each user should register and then submit his/her application in their own personal space. They can access to this space using a username and password to follow up the status of the application.

*Example from the TNA call for European Marine Biological Laboratories*



To open this personal space the users should accept some terms and conditions. In this step concerning the use of the information they disclose in the registration form.

### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR30**

**login and registration forms:** There must be a registration link and login link.

For the first time users, the registration will lead them to a form to create an account accessed by a username and a password.

The registration forms should request mandatory personal and professional information of the applicant such as:

- **PERSONAL DETAILS**

First name, Last name, Email, Gender, Nationality, Country of residence.

- **EMPLOYING ORGANISATION**

Organisation, Position

Once they are registered, applicants could login to access to their personal TNA space

### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR31**

**Acceptance of terms and conditions related to the access to the TNA portal:** The user might be able to accept the Terms & Conditions established in order to be able to open an account in the TNA portal.

This terms and conditions will contain the rights and obligations of both the users and the web page regarding private policy and data management.

After the registration, the submission of the proposal or the final decision about the evaluation, the users should receive an Email of confirmation/notification to their contact Email address.

### **Submission of the proposal**

When the user starts the proposal submission in the personal space, he/she should follow several steps.

1. **Select service/technology:** Here the user selects from a group of options the type of access desired (in our catalogue is divided into products, services or facilities)

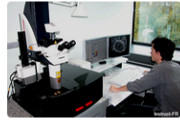
*Example from ARIA*

Select what you want to apply for



**3D Structural Analysis**

- Electron Microscopy
- Magnetic Resonance Techniques
- X-Ray Techniques



**Biomolecular Analysis**

- Imaging
- Mass Spectrometry
- Molecular Biophysics



**Sample Preparation**

- Crystallisation
- Nanobody Discovery
- Protein Production

2. When the users select their preference, they will have access to the offers regarding this selection. This catalogue contains the same offers showed in the “informative TNA catalogue” from the information page. This catalogue is called “**selection catalogue**”.

*Example from ARIA*

*This example is not exactly the way we really want to show our catalogue in terms of aesthetic we would like to show nice representative picture of the infrastructure or service/product, the name of the facility, the country and city, and the offer (machine, facility, service).*

Please select your preferred service/technology type from the list below. Reviewers may highlight services/technologies which will cater to your specific needs after your proposal has been accepted.

The screenshot shows a selection interface with three rows of options. Each row includes a small map icon, a title, a dropdown menu for 'Optional: Choose a machine/method from the list', and a section for 'Choose from the available access routes' with the 'instruct ERIC' logo. The first row is 'Cell Imaging, Grenoble, France' with options for Multi-Channel Flow cytometer, Spinning-Disk Microscope, and Time-Lapse video Microscope. The second row is 'Cell Imaging, Strasbourg, France'. The third row is 'Nanobiotechnology, Brno, Czech Republic'.

After selection, the user confirms the selected option and continue with the application. At the end of each step should be the option of **save proposal** and **safe and continue**.

3. Proposal details: here the users should fill a form with personal information and the description of their research proposal. They must answer questions and follow specifications such as maximum number of characters for the free text options. There must be the option to “save the proposal” and to “save and continue”.

*Example from the TNA call for European Marine Biological Laboratories*

## IS\_MIRRI21 Access Programme General guidelines for the CWE – Gate 2 Module 3

### Proposal Details

Research Project Title:\*

Position (\*):

Activity Domain (\*):

ERC category (\*) ⓘ:

Home Institute type (\*):

Home Institute Country (\*) ⓘ:

Research Infrastructure affiliation (\*) ⓘ:

Applicant - short profile (\*) ⓘ:

### Your Proposal Progress

Your draft proposal has been assigned a PID: 2262

- 1 Select Service/Technology
- 2 Confirm Service/Technology Selection
- 3 Proposal Details**  
Complete the fields with details of the desired research.
- 4 Your Research Team
- 5 Exclude Reviewers
- 6 Confirm Proposal
- 7 Accept Terms & Conditions
- 8 Proposal Submitted


#### Selected Service/Technology

- Biological resources at AWI-BAH (Germany) x
- ASSEMBLE Plus

The users should also have the option to upload documents such as an access planning in a form of a gantt chart, the CV and the letter of support.

*Example from the TNA call for European Marine Biological Laboratories*

Curriculum vitae & Letter of support (\*) ⓘ:

Choose File 

Maximum file size: 100 MB

### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR36**

**TNA application form (user):** Personal data, institution, description of the project, personal background of the scientist/s, persons accessing the facility/service, reasons for accessing that service,...

The TNA user should fill a form that request the following information:

- Personal information
- Project description
- Access providers
- Planning (in form of a Gantt chart)
- Applicant profile and CV
- Ethical issues
- Data management
- Letter of commitment (document to be uploaded)
- Selection catalogue to choose the access providers described in the proposal

The applicant should also agree the terms and conditions of the TNA programme application

### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR53**

CV form: A standard template to fill with the CV information of the applicants

After filling the forms and uploading the documents, press the options **save** or **save and continue** to go to the next step.

4. Confirmation of submission: once the proposal is complete, the proposal can be saved. At this point the proposal is saved and open to modifications until the deadline. If the user is satisfied with the proposal he/she can click on **save and continue**.
5. Accept terms and conditions: if the user is satisfied with the proposal, he/she can accept the terms and conditions and **submit**. Once this step is performed the user will not be able to modify any aspect of the proposal. By submitting this proposal the user signifies that he/she has both read and has agreed to all of the terms of submission of IS\_MIRRI21.

**CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR50**

**Acceptance of terms and conditions related to the TNA access:** At the end of the application form, the user might be able to accept the Terms & Conditions established in order to be able to submit a proposal to the TNA programme. This terms and conditions will contain the rights and obligations of both the users and the access providers regarding to use of the facilities, reimbursements, process transparency, private policy and data management.

After the submission of a proposal, an identification number must be generated for this application. The user must be able to follow up all the steps of its own application from submission to approval/rejection.

**After submission**

After proposals submission, the system must generate an identification number (ID) for the proposal.

**CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR47**

Each proposal should have an ID to better identification and follow-up (Included in the Application Dashboard)

The user should be able to follow up the status of the proposal through the personal space. For this an “**application dashboard**” should be displayed showing information such as: ID number, Acronym of the proposal, date of submission, status (under scientific review, accepted, rejected) and actions (send to technical review, assign reviewer).

*Example from ARIA*

ID	Title	Submitted	Actions

Copy   PDF   Excel   Print   previews   next

*Example from ARIA*

ID ↕	Title ↕	Applicant ↕	Status ↕	Access ↕	Submitted ↕	Actioned ↕	Actions
1827	Searching of lactane-like macrolids in bacteria from the genus <i>Pseudomona</i>	Maria Felix	Moderator Assigned	MIRRI	02-Jan-2020	-	Select Reviewers
1003	Used of bacteria of the genus <i>Trichococcus</i> for depuration of water polluted with organophosphorates compounds	François Hollande	Rejected	MIRRI	21-Jan-2020	14-Apr-2020	View Proposal

Copy	PDF	Excel	Print
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previews	next
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This dashboard must have also the options of: copy the information contained in the table, export this information in PDF format, export this information in Excel format (if possible), print.  
 This information must be showed in the user, evaluator, Liaison Officer and Access Officer spaces.

**CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR48**

TNA access process overview "**Application Dashboard**" to follow up the status of the application, showing on each step the description of the action and links or tools to facilitate the action, and notification to each stakeholder (user, moderator, reviewer)

The user must be able to follow up its application process though this dashboard.

In here the user will have:

- Title: Name of Acronym of the proposal
- Date of submission
- Status (this space will indicate if the application is under technical review, scientific review, approved, rejected)
- Action

This dashboard must have also the options of:

- Copy the information contained in the table
- Export this information in PDF format
- Export this information in Excel format (if possible)
- Print

This information is to be showed in the user, evaluator, Liaison officer and Access officer spaces

**Evaluation and selection**

Proposals will be evaluated in several steps:

**Eligibility check:** made by the access officer

**Feasibility check:** made by the liaison officers

**Scientific review:** made by the User Selection Panel – USP (group of external reviewers, experts in their field)

**Financial check:** made by the access officer and the liaison officers

After this process, the proposals will be accepted or rejected based on stablished selection criteria.



The users will be notified of the decision by Email and via the message box of the users' personal space.

### **Access**

For accepted proposals, the access officer and the liaison officers will draft an "access contract" to make official the access to the facilities. The terms of this contract must be agreed and signed by the research infrastructure and the users' host institution.

### **TNA SPACES**

**The user space** should contain all information regarding the applicant. That includes:

- The application dashboard, a message box to receive notifications from the access officer and the liaison officers if it is the case.
- A feedback space where the user will be able to communicate the experience with the TNA programme through the feedback survey.
- A reporting space where they should have access to the forms for the confirmation of access, reimbursements and upload the activity report.
- The Access Officer should be able to have access to the user space of all candidates.
- The Liaison Officer should be able to have access to the users' space of the candidates applying just to their own facilities.
- The evaluators should be able to get access to the proposals of the candidates they are reviewing.

#### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR37**

**Personal area for users (TNA personal space):** messaging (A message box where the applicant will receive notifications. An alert of this notifications must be sent to the Email address of the users to inform them. This message box must have the option of:

- download documents in case a document is delivered to the applicant, e.g. the letter of proposal acceptance),

An application timeline overview of the evaluation process in form of a Dashboard where the user can see the status of:

- the application, calendar, email notifications (user submission confirmation, reviewer/moderator request, reviewer/moderator comment, result from evaluation, scheduled dates, request for action), etc

The user must have access to a personal space after registration in the TNA portal. This space will contain a menu showing:

- A personal profile showing personal information that the applicant filled in the registration form. The user must be able to edit this profile,

#### **CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR43**

**"Feedback space":** surveys, comments, suggestions, graphical qualifications ... (to give feedback about the TNA service/facility or about the user)

The Liaison officer must be able to access to the feedback results of the users they welcomed into their facilities and to obtain statistic data from this survey in order to implement changes in the second call.

The access officer should have access to all users.

**CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR52**

**Reporting space:** The Access officer and the Liaison officers must be able to collect the reports from the users and to obtain statistic data

about number of applications, which countries, subjects of research, gender of researchers, career status, etc. In this space must be the following:

- Activity report
- Confirmation of access
- This information is only showed in the liaison officer, Access officer and administrator space

**The reviewer space** should contain the evaluation forms they should fill for each proposal including the score they assign to the projects and a space for comments. They should also have access to a guideline describing the evaluation process.

The access officer should be able to access to the space of all reviewers for all projects.

**CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR38**

**Personal area for reviewers** (*TNA Evaluation Panel*) (same items as for users and specific)

Evaluators must be able to access to the dashboard to follow up the application process and to get a space to score the proposals and to insert comments

This space will contain the following:

- Evaluation form including a section of comments
- A message box to communicate with the AO
- Only showed in the access officer space

**The liaison officer space** should contain the forms for the technical evaluation of proposals from the candidates applying to their facility as well as full access to the space of such users. They will evaluate technical aspects of the proposals and to approve them or not before the scientific review.

**The access officer** should have full access to all spaces of: users, reviewers, liaison officers.... The access officer space should also contain an option of statistical analysis of data obtained in the reporting space and the feedback space such as: number of applicants, nationalities, number of applications for each facility, number of positives reviews of the users, etc.

**INFORMATION FOR THE 2<sup>nd</sup> TNA CALL**

After the 1<sup>st</sup> call, it should be included a space for the “**success stories**” of TNA users. This will be a very nice way to show the success of the programme and to advertise better future calls.

**CRITERIA ADDED IN THE EXCEL FILE IN SYNOLOGY gate2 module 3 UR54**

**Success stories:** This will show a selected group of projects in which the TNA programme gave a boost to their scientific research as well to other aspects such as career development, networking... etc.

***All documents described here such as: evaluation forms, application forms, CV format, Planning format and guidelines will be provided by the access officer.***

# User Access Contract

Contract number: \_\_\_\_\_

BETWEEN

[ACCESS PROVIDER LEGAL NAME], whose registered office is at [ADDRESS OF INSTITUTION], represented by [FULL NAME OF THE LEGAL REPRESENTATIVE OF THE INSTITUTION], duly authorised for the purposed hereof

[INSTITUTION NAME] acting on the name and on behalf of the [ACCESS PROVIDER], [ACCESS PROVIDER ADDRESS].

Hereinafter referred to as “[ACCESS PROVIDER ACRONYM]”, or “**Access Provider**”.

AND

[USER HOST INSTITUTION], [ADDRESS OF USER HOST INSTITUTION], represented by [FULL NAME OF THE LEGAL REPRESENTATIVE OF THE USER HOST INSTITUTION], who is duly authorised to sign this Contract.

[USER HOST INSTITUTION] acting in the name and on behalf of [RESEARCHER NAME], hereinafter referred to as the “**The User**”.

The work contracted will be carried out at the Access Provider.

The Access Provider and The User will be copied on this contract.

[ACCESS PROVIDER LEGAL NAME], [INSTITUTION NAME], [USER HOST INSTITUTION] and the User are hereafter jointly or individually referred to as the “**Parties**” or the “**Party**”.

## **Preface**

The project entitled “Microbial Resource Research infrastructure, Implementation and Sustainability for the 21<sup>st</sup> Century”, in short IS\_MIRRI21 is funded by the Europeans Union’s Horizon 2020 research and innovation programme under the grant agreement No 871129. Is\_MIRRI21 is running a pilot of a Transnational Access Programme (hereinafter referred to as TNA) designed to support financially and logistically the on-site and remote access of external users to 13 research infrastructures across Europe to carry out their research projects. IS\_MIRRI21 is coordinated by the Universidade do Minho (UMINHO), Largo do Paço 4704-553 Braga, represented by Rui Manuel Costa Vieira Castro, rector.

[ACCESS PROVIDER LEGAL NAME] possesses the background knowledge (know-how, title to intellectual and/or industrial property) and proven experience in the area that is the subject of this research (hereinafter, Background Knowledge of the Project).

[USER'S FULL NAME] is interested in conducting research activity in the framework of the Transnational Access programme of the IS\_MIRRI21 project. This research will be carried out at the Access Provider's facilities selected by the User in the project proposal.

And in view of the foregoing, the Parties hereby agree to the following

## Definitions

Words beginning with a capital letter shall have the meaning defined herein including its Appendices without the need to replicate said terms herein.

- **Access Provider:** shall mean the organisation visited by the User and where the TNA Project is carried out. An Access Provider can be a microbial resource collection, a research centre or a university department where the research activities are performed.
- **Access Officer:** shall mean the responsible person for the Transnational Access programme in the IS\_MIRRI21 project.
- **Application:** shall mean the dossier describing the Project proposed to apply to the IS\_MIRRI21 TNA call. These documents are submitted through the TNA application system and include the research proposal, letter of support from host institution, CV, access planning.
- **Background Knowledge:** shall mean property and the legal right therein of either or both parties developed before or independent of this Contract including inventions, patent applications, patents, copyrights, trademarks, mask works, trade secrets and any information embodying proprietary data such as technical data and computer software. Both parties agree to provide the Background Knowledge necessary to complete the objectives of the project. Both parties shall retain all rights to their respective Background Knowledge provided for this purpose. Neither party shall assume any rights in the other party's Background Knowledge provided for this project other than the right to use said Background Knowledge to achieve the objectives of this project.
- **Confidential Information:** means any information disclosed by either party to the other party (called "disclosing party" and receiving party"), either directly or indirectly, in writing, orally or by inspection of tangible objects (including, without limitation, documents, prototypes, samples, plant and equipment), which is designated as "Confidential" under and for the undertaking of the User Access Contract and during the TNA visit. A "Non-Disclosure Agreement" shall be signed prior to any disclosure of Confidential Information by the Parties sharing such Information. This procedure is only relevant in case of scientific collaboration between the two parties. Confidential Information shall not include any information which (i) was publicly known and made generally available in the public domain prior to the time of disclosure; (ii) becomes publicly known and made generally available after disclosure through no action or inaction of the receiving party; (iii) is already in the possession of the receiving party at the time of disclosure (iv) is obtained by the receiving party from a third party without a breach of such third party's obligations of confidentiality; (v) is independently developed by the receiving party without use of or reference to the disclosing party's Confidential Information; or (vi) is required by law to be disclosed by the receiving party. In that case the disclosing party needs prompt written notice of such requirement prior to such disclosure. To demonstrate (iii) and (v), files, records and other competent evidence must be shown to be in the receiving party's possession.

- **Confirmation of Access:** shall mean the document prepared by the Liaison Officer at the end of the access, specifying the amount of access units given by the Access Provider to the User(s). This document should be signed by the User and the Person in Charge at the access provider.
- **Equipment:** means any platform, device, instrument, machine or tool that the Access Provider offers access to.
- **Employer:** means the legal representative of the User(s).
- **Eligibility Check:** means the checking of a submitted Project proposal by the Access Officer for compliance with the EU regulations and IS\_MIRRI21 TNA eligibility rules.
- **Facility:** shall mean any virtual or physical installations operated by the Access Provider which the User is given access to for the conduct of his/her project.
- **Feasibility Check:** shall mean the checking of a submitted Project proposal by the Liaison Officer for on-site technical feasibility including but not limited to: timing, availability of biological resources, capacity and capability of the research infrastructure, logistics.
- **Feedback Survey:** means a survey designed by the Access Officer and addressed to the TNA Users. Through this survey, Users will express their outcomes and experiences of their access at the visited infrastructures. These exchanges will give rise to improvements for the future TNA calls of the IS\_MIRRI21 project.
- **Home Institution:** means the institute of affiliation of the User; the legal entity responsible for the User with which he/she has a contract in effect.
- **Intellectual Property Rights:** means the rights given to persons over the creations of their minds. Creators usually have an exclusive right over the use of his/her creation for a certain period of time. Means, but is not limited to, all copyrights, patents, trademarks, (whether registered or not and all applications for any of them), trade secrets, know-how, datasets or prototypes<sup>1</sup>.
- **IS\_MIRRI21 Coordinator:** shall designate the organization coordinating the IS\_MIRRI21 project, the Universidade do Minho (UMINHO) established at Largo do Paço 4704-553 Braga.
- **Joint Results:** shall mean the results obtained by the user and local staff in a collaborative project in which both have provided intellectual input. The user is the sole owner of the results (a.k.a. foreground knowledge) produced by the Access Provider using Standard Operational Procedures. However, if the user requests a collaboration with local staff and both provide constructive intellectual input, then both parties share the obtained results, or part thereof. In the case of any proposed exploitation of such shared results, a separate agreement needs to be further negotiated to set up the modalities for protection, use and exploitation of these Joint Results<sup>2</sup>.
- **Liaison Officer:** means the person authorised by the Access Provider to be the main contact point for the User(s) during the TNA calls and the responsible to liaise between the User(s) and the Access Provider for the coordination of the IS\_MIRRI21 TNA visits.
- **Material:** shall mean Original Material, their Progeny, any kind of Derivatives including Unmodified Derivatives and Modifications.
- **Modifications:** shall mean genetic, molecular and chemical modifications created by the Recipient which contain/incorporate the Material.
- **On-site Access:** means type of access for which the User(s) visits the Access Provider for carrying out the Project.
- **Open Access (OA):** open access can be defined as the practice of providing on-line access to scientific information that is free of charge to the user and that is re-usable. In the context of R&D, open access to 'scientific information' refers to two main categories:
  - Peer-reviewed scientific publications (primarily research articles published in academic journals)

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<sup>1</sup> <https://www.wipo.int/about-ip/en/> and valorisation policies - making research results work for society. European Commission, Directorate-General for Research and Innovation. 2020.

<sup>2</sup> Commission recommendations on the management of intellectual property in knowledge transfer activities and code of practice for universities and other public research organisations. Official Journal of the European Union. 10 April 2008.

- Scientific research data: data underlying publications and/or other data (such as curated but unpublished datasets or raw data)<sup>3</sup>.
- **Other Derivatives:** shall mean any and all material, substances and/or molecules, other than Unmodified Derivatives, Modifications, or their Progeny, that are made, developed and/or otherwise created by Recipient through the use of the Original Material, Unmodified Derivatives, Modifications, or their Progeny.
- **Parties:** shall mean the signatories of the User Access Contract.
- **Person in Charge:** means the person at the Access Provider responsible for organising and overseeing the day-to-day scientific/technical support for the fulfilment of the Project. This role might be fulfilled by the Liaison officer or by another designated person.
- **Progeny:** shall mean unmodified descendants from the Original Material, including but not limited to virus from virus, cell from cell, vector from vector, or organism from organism.
- **Service:** shall mean the work and services performed at the Access Provider. These services will be used by the User to achieve the scientific objectives of the TNA Project.
- **Project Leader:** means the person responsible for the TNA Project and the main user of the Access Provider's Installation.
- **Project Report:** shall designate the User's report about his/her TNA project after the TNA visit. This report should be written in accordance with the template provided by the Access Officer.
- **Remote Access:** means type of access for which an on-site access by the User is not required; including but not restricted to: procurement and dispatching of field samples, organisms and their derivatives or culture strains and their derivatives.
- **Research Infrastructure:** shall mean Facilities, resources and related services that are used by the scientific community to conduct top-level research and foster innovation in their respective fields. These infrastructures cover major scientific equipment or sets of instruments as well as knowledge-based resources such as collections, archives or structures for scientific information<sup>4</sup>.
- **Resource:** shall mean but is not limited to biological and chemical substances, molecules and/or microorganisms such as microbial strains, plant, animal, any field collected material containing the above (soil, water), any human or animal biological material (somatic cells, tissues, cell lines) containing copies of the original and modified genetic samples, and data derived from these samples.
- **Results:** shall mean all data and information which are generated in the performance of the Research funded by the IS\_MIRRI21 TNA programme during the term of this Agreement. These Results include all data, test results, laboratory notes, know-how, methods, techniques, formulae, methodologies, biological and chemical molecules and materials, substances, whether patentable or copyrightable, that are first conceived, discovered, developed or reduced to practice.
- **Scientific Review:** means the evaluation and selection of a TNA Project Proposal by the User Selection Panel based on scientific quality and other criteria.
- **Standard Operational Procedures:** means the set of step-by-step instructions compiled by an organisation to help researchers/technicians to carry out research work in a facility.
- **Transnational Access (TNA):** means the provision of access (at an Access Provider) to User(s) whose Home Institution is located in a country other than the country where the Access Provider is located.
- **TNA Activity Report:** Shall means a short scientific report which describes the objectives, methods, and preliminary results of the research project carried out during the TNA visit.

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<sup>3</sup> Guidelines to the Rules on Open Access to Scientific Publications and Open Access to Research Data in Horizon 2020. European Commission, Directorate-General for Research and Innovation. Version 3.2, 21 March 2017.

<sup>4</sup>[https://ec.europa.eu/info/research-and-innovation/partners-networking/access-research-infrastructure/european-research-infrastructures\\_en](https://ec.europa.eu/info/research-and-innovation/partners-networking/access-research-infrastructure/european-research-infrastructures_en)

- **TNA Catalogue:** means the list of offers proposed by the Access Providers during the TNA call. These offers contain a group of Products, Services and Facilities that Users can access in order to develop Research projects.
- **Transnational Access Visit (TNA Visit):** shall mean the specific period of time at the Access Provider's facility defined in the User Access Contract to achieve the scientific objectives of the TNA Project.
- **TNA Offer:** means the Products, Services or Facilities offered by an access provider and advertised in the TNA catalogue.
- **TNA Project:** means the Research and/or Development work undertaken by the User(s) at the Access Provider which is detailed in Appendix 1.
- **Unmodified Derivatives:** shall mean substances created by the Recipient which constitute an unmodified functional sub-unit or product expressed by the Original Material. Some examples include subclones of unmodified cell lines, purified or fractionated subsets of the Original Material, proteins expressed by DNA/RNA supplied by the Provider or monoclonal antibodies secreted by a hybridoma cell line.
- **User:** means the researcher participating in the TNA programme and awarded with funded access by the IS\_MIRRI21 User Selection Panel. This person is the principal investigator of the TNA project and the person who will visit the Access provider's Facility to carry out a research project.
- **User Access Contract:** shall mean the legal agreement between the Home Institution of the User and the institution of the Access Provider in which the terms and the conditions for the access/TNA visit are specified.
- **User Access Programme:** means all the planning of activities carried out by the Users during their visit to the Access provider. That includes a detailed description of research experiments and the logistics proposed for the access. This programme is previously reviewed and approved by the Liaison officer from the facility chosen by the User. The User Access Programme is detailed in the Appendix 1.
- **User Group:** shall mean a research team (group of 2 or more people) to which the TNA is funding the access to the Access Provider under the Project. A User Group is led by the Project Leader.
- **User Group Questionnaire:** means a survey designed by the European Commission (EC) to evaluate the Research Infrastructures Action, to monitor the individual grant agreements, and to improve the services provided to the scientific community. This questionnaire is compulsory for all funded Users participating in the programmes of the Research Infrastructure Action.
- **User Selection Panel (USP):** shall mean the group of independent experts in charge of the Scientific Review of the research Project Proposals received within a call. The User Selection Panel is composed of External members to IS\_MIRRI21 project.

## ARTICLE 1. PURPOSE

For the implementation of the present contract, the User will be hosted by the Access Provider from DD/MM/2021 to DD/MM/2021 hereinafter referred to as the "TNA visit".

During this TNA Visit, the User will benefit from all of the scientific, technological, technical and logistical assistance furnished by the Access Provider which are strictly needed for carrying out the Project under this Contract. The Material and Equipment provided by the Access Provider in the frame of this Contract are strictly those described in Annex 2.

Therefore, the purpose of this contract is to define the terms and conditions whereby the Access Provider will put its Facility at disposal of the User to carry out the TNA project.



## **ARTICLE 2. LIABILITY TOWARDS EACH OTHER**

As the TNA Project concerns operation within an Infrastructure, the Parties agree upon the following provisions:

### **2.1 Insurance and visa issues**

The Employer remains responsible for the User on issues concerning accidents, health and occupational illness insurances and continues to exercise all of the administrative and management prerogatives as an employer and to comply with all of the related social and fiscal obligations.

In case the User comes from a non-EU country, a travel insurance will be required by the Access Provider to cover any expenses which might arise in connection with repatriation for medical reasons, urgent medical attention and/or emergency hospital treatment during the TNA Visit. This insurance should include the days of arrival and return from the Access Provider's installation. Such costs are borne solely by the Employer.

Legal issues related to travel documents, visas or residence permits necessary for the TNA Visit of the User shall be managed by the User or, if relevant, by the Employer, prior to arrival at the Access Provider's installation and prior to the start date of the TNA Visit.

### **2.2 Damages**

Except in case of Access Provider's gross negligence or intentions, the Employer is responsible for any damage caused by the User to the Material, Equipment, platforms and employees at the Access Provider.

The Access Provider shall not be responsible for any losses or damages as results or delay in the planned research activities, caused by the User.

### **2.3 Safety**

The Access Provider shall provide the User with all the information and the assistance in terms of health and safety at work, according to local praxis and rules, and current valid legislation on health and safety in the workplace.

The Access Provider shall be responsible for all operational decisions, especially for safety or technical reasons, and can postpone or cancel operations for the same reasons.

### **2.4 Force majeure**

Each of the Parties shall inform the other Party of the occurrence of any event which constitutes a "force majeure", preventing it from executing its obligations set out in this agreement. Any event which is unforeseeable, and the effects of which are uncontrollable, which prevents one of the Parties from executing its obligations agreed within the scope of this Agreement shall be considered a case of "force majeure". The obligations of the Party impeded shall be suspended for as long as the "force majeure" subsists.

If the work is interrupted by such events, the Parties shall consult with no delay to each other, in order to study the postponement or possible termination of the TNA Project or the adaptation of the terms of this Agreement.

## **ARTICLE 3. HOST MODALITIES**

The User will benefit during the TNA visit from all the Resources and Services described in Appendix 2.

The above-mentioned resources and services shall not be used by the User for any other purpose than that detailed in Appendix 1.

The User will benefit from the support from the Access Provider's staff concerning technical aspects related to the development of the TNA project, described in the Appendix 1 et 2, and logistics such as assistance to find lodging, travel arrangements, local public transport and other aspects of the day-to-day life. The Access Provider's support will operate under the confidentiality rules stated in Article 7. Confidentiality.

The User commits to comply with the Access Provider's working conditions and rules of procedure, especially with regard to health and safety regulations, confidentiality provisions, as well as to Information technology (IT) regulations.

The User will remain subject to the statutory provisions of the Employer with whom he retains subordination.

The User will access the Access Provider installation during regular working days and regular working hours, except if otherwise agreed upon with the Liaison Officer.

## **ARTICLE 4. REIMBURSEMENT OF COSTS**

### **4.1 Travel costs**

The User is responsible for reserving and purchasing economy class travel tickets and obtaining an original or valid internet receipt and boarding passes in case of flights. These receipts must be passed on to the Liaison Officer. Upon User's request, the Liaison Officer should provide travel advice and guidance to the User before booking the travel tickets.

Travel costs up to a maximum of 800€/person per round trip will be reimbursed to the User or the Employer only after the submission by the User of the Confirmation of Access, the TNA Activity Report and after complete the User Group Questionnaire. Additional travel costs generated due to changes of travel dates because of non-justified reasons (any reason different to Force Majeure, Article 2.4) will not be refunded.

#### **4.1.2 Modality of reimbursement of travel costs by the Access Provider**

For flight tickets, official receipts or invoices certifying purchase of tickets from a travel agency, airline company, or e-ticket provider as well as boarding passes are needed and any other travel-related receipts (e.g. bus and train tickets, taxi invoices) in original (not -copies). The receipts/invoices should have the name of the User(s), travel destination, and total price paid on it.

For administrative and financial aspects of the Project please refer to:

[Full name of the administrative contact]

[Address]

[Country]

[Tel. ]

[Email]

Reimbursement procedures are different in each Access Provider. The Liaison Officer should check with the administrative staff of the institution about these procedures and specify them in this document.

#### **4.2 Daily subsistence costs**

IS\_MIRRI21 Programme will reimburse accommodation and meals with an upper limit of 120 EUR/day/person, for a maximum of 30 days (20 working days).

##### **4.2.1 Modality of reimbursement of daily subsistence costs by the Access Provider**

#### **4.3 Shipping**

Reimbursement of shipping costs from the Access Providers to User's home institution will be eligible up to a sum of 400€. Shipping from the Home Institution to the Access Provider will be borne by the User.

##### **4.3.1 Modality of reimbursement of daily subsistence costs by the Access Provider**

### **ARTICLE 5. MATERIAL**

The User agree that the Material furnished by the Access Provider will be used according to the rules and regulations stipulated in the Appendix 1 and/or Appendix 3.

The User and/or Employer are responsible for having the necessary permits and facilities for the manipulation of the requested material and the fulfilment of the Project (described in the Appendix 1, 2 and 3).

The User and/or Employer are responsible for complying with international and EU regulations about the use of genetic resources, notably the rules governing the Nagoya Protocol<sup>5</sup> implementation.

In the case of transfer of Material and/or Equipment by the Access Provider for the benefit of the User which is needed for the implementation of this Contract, the transfer will be granted under a Material Transfer Agreement attached in Appendix 3.

In the case of transfer of Material and/or Equipment by the User for the implementation of this Contract at the Access Provider, the transfer will be granted under an Incoming Material Transfer Agreement attached in Appendix 3.

### **ARTICLE 6. INTELLECTUAL PROPERTY RIGHTS**

#### **6.1 Prior Knowledge**

All of the knowledge (including information, know-how, patent or any other Intellectual Property Rights (IPR) owned by a Party prior to the entry into force of this Contract (hereinafter referred to as "Prior Knowledge") and then made available by the Giving Party to

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<sup>5</sup>The *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity* is an international agreement which aims at sharing the benefits arising from the utilization of genetic resources in a fair and equitable way. A user (researcher, firm, etc.) that seeks access to a genetic resource or traditional knowledge associated to the resource needs to receive express acceptance or permission from the country providing genetic resources. Please visit the website <https://absch.cbd.int> and engage with the relevant [National Focal Point](#).

the Recipient Party during the duration of the Contract, shall remain the exclusive property of the Giving Party.

For the avoidance of doubt, no provision in this Contract shall establish an assignment by the Giving Party of any right over the Prior Knowledge provided for the benefit of the Recipient Party.

## **6.2 Results**

The Results (including information, know-how, patent or any other IPR) generated by a Party is owned by the Party that generates it under and for the performance of this Contract without contribution of the other Party.

When the Parties have jointly carried out the work generating Results under and for the performance of this Contract, they shall jointly own such Results (including information, know-how, patent or any other IPR (hereinafter referred to as "Joint Results").

The Joint Results shall be jointly owned by both Parties and shared according to a *pro rata* of their respective intellectual, material, human and financial contributions.

In the case of any proposed exploitation of the Joint Results, a separate agreement will be further negotiated to set up the modalities for protection, use and exploitation of these Joint Results.

## **ARTICLE 7. CONFIDENTIALITY**

The Parties agree that all information, in whatever form or mode of transmission, which is disclosed by a Party (the "Disclosing Party") to the other Party (the "Receiving Party") under and for the undertaking of this Contract and during the TNA Visit, is "Confidential Information".

The provisions on Confidentiality of the present Contract shall apply retroactively to the period during contractual negotiations or scientific discussions between the Parties and notably between the researchers.

- a) The Receiving Party hereby undertakes for a period of 1 years after the end of this Contract:
- not to use Confidential Information otherwise than for the purpose of the Contract as defined in the Article 1 (Purpose) and the Appendix 1;
  - not to disclose Confidential Information to any third party without the prior written consent of the Disclosing Party;
  - to ensure that internal distribution of Confidential Information by a Receiving Party shall take place on a strict need-to-know basis according to the Article 1 (Purpose) and the Appendix 1;
  - on written demand, to return to the Disclosing Party all Confidential Information which has been supplied to or acquired by the Recipient Party including all copies thereof and to delete all information stored in a machine-readable form. If needed for the recording of on-going obligations or due to statutory requirement, the Recipient Party may however request to keep a copy for archival purposes only;
  - both Parties further undertake to ensure that their staffs, as referred to hereinabove, comply with the provisions of article of the Contract regarding Confidential Information.

- b) The above shall not apply for disclosure or use of Confidential Information, if and in so far as the Recipient Party can show that:
- the Confidential Information becomes publicly available by means other than a breach of the Recipient Party's confidentiality obligations;
  - the Disclosing Party subsequently informs the Recipient Party that the Confidential Information is no longer confidential;
  - it was legally received from a third party;
  - it was developed completely independently, and in good faith, by staff who did not have access to the Confidential Information;
  - it was already in the Recipient Party's possession prior to the execution of the Contract;
- or
- the Confidential Information has and/or had to be communicated according to law or a court order.
- c) The Recipient Party shall apply the same degree of care with regard to the Confidential Information disclosed within the scope of this Contract as with its own confidential and/or proprietary information.
- d) Each Party shall promptly advise the other Party in writing of any unauthorised disclosure, misappropriation or misuse of Confidential Information after it becomes aware of such unauthorised disclosure, misappropriation or misuse.
- e) If any Party becomes aware that it will be required, or is likely to be required, to disclose Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order, it shall, to the extent it is lawfully able to do so, prior to any such disclosure notify the Disclosing Party, and comply with the Disclosing Party's reasonable instructions to protect the confidentiality of the information.

Information given by a Party to the other Party in connection with the present Contract is provided as is, without warranty of any kind. Consequently, the Party who receives the provided information will be solely liable for the subsequent use of this information and shall bear all the related risks and costs.

## **ARTICLE 8. PUBLICATION**

- Both Parties undertake to ensure that all personnel participating in the Project are aware of and abide by the obligations of confidentiality set forth in this clause.
- For the avoidance of doubt, Background Knowledge and Results constitute Confidential Information. Consequently, a Party shall not publish the Background Knowledge or Results of another Party, including Joint Results, even if the Background Knowledge or Results are amalgamated with the other Party's Results, without the other Party's prior written approval.
- In the event that either Party wishes to publish or communicate Confidential Information under this Contract, it shall obtain the prior written agreement of the other Party who can require specific obligations to be respected by the Recipient prior to the communication/publication of the Confidential Information.

The other Party shall respond through a reliable means of communication within a maximum of 30 days, granting its permission, expressing its reservations, or refusing permission to disclose the information. If a response is not received within that term, it will be considered as constructive permission authorizing the disclosure.

To the extent permitted in the assignment of the rights, the User may publish or otherwise disclose all or part of the partial or final Results, provided that this does not prejudice their possible subsequent protection as industrial property.

In order to comply with this obligation, the Disclosing Party is entitled:

- to delete or modify certain specifications whose divulgation would affect optimum industrial and commercial exploitation of the Confidential Information. Such deletions or modifications shall not affect the scientific value of the publication;

OR

- to delay the publication or communication with a maximum period of eighteen months from the date of the request, if the information contained in the publication or in the communication is to be protected by a patent application.

Notwithstanding the foregoing, the use of IS\_MIRRI21 and/or the Access Provider's name and logo for advertising purposes shall require the prior express written consent of the competent IS\_MIRRI21 and/or Access Provider directives.

The Parties undertake to make suitable reference in any publications to the support provided by IS\_MIRRI21 TNA Programme and the other Parties involved. The acknowledgement shall mention: "the research leading to these results has received funding of the European Union's Horizon 2020 Research and innovation programme under the grant agreement N° 871129".

Express mention shall always be made of the authors of the work, both in publications and in patents. In the latter they shall be listed as the inventors. This clause shall survive the termination of this Contract.

## **ARTICLE 9. DUE DILIGENCE**

Both Parties shall exercise due caution and reasonable diligence to preclude conflicts that may affect the application of this Contract.

Each Party is aware of the laws and regulations relating to its activity within the framework of the performance of the Project. In the field of health, safety and environment, in particular, each Party acknowledges that it is aware of the applicable rules, the observance of which is an essential part of its obligations.

## **ARTICLE 10. AMENDMENT OF THE CONTRACT**

No changes, alterations or modifications to this Contract will be effective unless by mutual agreement in writing and signatures by the authorised representative of the Parties.

## **ARTICLE 11. NETWORKING ACTIVITIES**

During the TNA Visit, the User agrees to give a presentation about the TNA Project, his/her own work and/or the work developed by the Home Institution. This presentation shall reach a wide audience at the Access Provider (students, researchers, technicians) in order to stimulate scientific discussions and networking during the TNA visit. When the Home Institutions of the User is a SME (Small and Medium Enterprise), the presentation shall not include elements that interfere with the Intellectual Property Rights (IPR) of Background Knowledge or prejudice their possible subsequent protection as industrial property.

## **ARTICLE 12. REPORTING**

Before departure from Access Provider's installations or within a period of 2 weeks after the end of the TNA Visit, the User must:

- sign the "Confirmation of Access" document, confirming the TNA Visit at the Access Provider. A template can be downloaded at the IS\_MIRRI21 website in the "TNA Policies and forms" section.
- fill and send a questionnaire for the evaluation of the Transnational Access, available at the webpage <https://ec.europa.eu/eusurvey/runner/RIsurveyUSERS>. or via the IS\_MIRRI21 website. A copy of this questionnaire must be sent also to the Access Officer, with subject "IS\_MIRRI21 TNA – user feedback questionnaire", indicating the 4-digit Project code (reported in the Appendix 1).
- The User must submit a short, popular scientific report describing the objectives, method, and preliminary results of the Project. The purpose of the report is to highlight the scientific output of the access received. A template can be downloaded at the website <https://ismirri21.mirri.org/>, in the "TNA Policies and forms" under the name of "TNA Activity Report". This document must be returned as pdf by email to the Access Officer, with a copy to the Liaison Officer within 3 weeks after the end of the TNA visit.
- Outcomes (publications, presentations, patents, etc.) resulting from work carried out under the IS\_MIRRI21 programme must acknowledge the IS\_MIRRI21 project as follows: "*The research leading to these results has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 871129.*". Subsequent publications or patents by the User and/or the Employer, where the support of IS\_MIRRI21 and the Access Provider has been acknowledged, must be communicated to IS\_MIRRI21 and the Access Provider by E-mail.
- The User commits him/her-self to attend a "User Feedback workshop" to present outcomes and experiences of the TNA Visit in a date and place that will be communicated by the Access Officer.

## **ARTICLE 13. MISCELLANEOUS**

This Contract consists of this core text and the Appendixes, which are part of the Contract.

This Contract supersedes all previous statements made by either Party and all previous agreements, understandings and arrangements between the Parties in respect of the Project. In the event any portion of this Contract is deemed to be invalid or unenforceable, such portion shall be deemed severed and the Parties agree that the remaining portions of this Contract shall remain in full force and effect.

Neither Party is authorised to represent the respective other Party or to execute or accept any declaration on behalf of the respective other Party.

Each Party hereto retains the right to conduct its own business, operations or activities as it sees fit. Nothing contained herein shall be interpreted or construed as precluding Parties from carrying out independent research directed in the same field than the Project.

#### **ARTICLE 14. TERMINATION**

However, the provisions of Confidentiality clause and Intellectual property rights clause shall remain in force during 1 year following the term or termination of this Contract.

Either of the Parties shall be duly entitled to terminate the Contract for the following reasons:

- **By mutual consent of the Parties**

The User(s) shall notify to IS\_MIRRI21 in writing of that intention, to enable it to proceed to terminate the Contract.

- **Due to material breach of obligations**

In the event of any material default by either Party in performance of any of its obligations under the Contract, the non-defaulting Party may, when such default is capable of remedy, give the defaulting Party a written notice to rectify such default within the time specified therein, or by default, within 1 month after receiving from the non-defaulting Party such written notice. If the defaulting Party fails to comply with the requirements of the said notice, or in the event that the defaulting Party's default be incapable of remedy, the non-defaulting Party shall be entitled to terminate the Contract by serving notice in writing on the defaulting Party to such effect, with no compensation and without prejudice to any rights under the Contract or otherwise.

- **Due to force majeure**

If for any reason the Parties are forced to terminate this Contract, a notice of termination shall be sent to the other Party through a reliable means of communication.

#### **ARTICLE 15. LANGUAGE, APPLICABLE LAW AND SETTLEMENT OF DISPUTE**

The document is in English.

Belgian law shall be the applicable law of this Contract.

In the event that a difficulty arises concerning the validity, the interpretation or the execution of the Contract, the Parties shall seek to settle their differences amicably and out of court.



In the event of persistent disagreement, the Contract shall be governed by the laws of Belgium and the competent courts shall have sole jurisdiction.

**SIGNATURES**

**For the Access Providers' Institution**

**for the Access Provider**

Name of the Legal Representative

Name of the Legal Representative

---

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Title

Title

---

---

Signature

Signature

---

---

Date and Place

Date and Place

---

---

**STAMP OF THE INSTITUTION**

**STAMP OF THE INSTITUTION**

**For the Employer**

Name of the legal Representative

---

Title

---

Signature

---

Date and Place

---

**STAMP OF THE INSTITUTION**

**The User,**

**“I confirm that I intend to execute the project applied for and agree to the terms and conditions outlined in this Contract”.**

Name of the User

---

Signature

---

Date and Place

---

## **LIST OF APPENDIXES**

**APPENDIX 1. DESCRIPTION OF THE PROJECT**

**APPENDIX 2. DESCRIPTION OF THE RESOURCES AND RESEARCH SERVICES**

**APPENDIX 3. MATERIAL TRANSFER AGREEMENT**

**APPENDIX 4. BACKGROUND/PRIOR KNOWLEDGE INCLUDED**

## APPENDIX 1. Description of the Project

<b>Project Acronym</b>		<b>Project Code</b>	
<b>Project Title</b>			
<b>User Name</b>		<b>Country</b>	
<b>Home Institution</b>			

<b>Access Provider</b>				
<b>Duration TNA Visit</b>	<b>Start date</b>	DD/MM/YYYY	<b>End date</b>	DD/MM/YYYY
<b>Duration Travel</b>	<b>Arrival date</b>	DD/MM/YYYY	<b>Departure date</b>	DD/MM/YYYY
<b>Person in Charge</b>				
<b>Email of Person in Charge</b>				

<b>Scientific background, significance and objectives</b>
<b>Scientific description of the project</b>
<b>Expected results</b>

## APPENDIX 2. Description of Resources and Research Services

<b>Technical description of the project</b>

### TNA Visit at [Acronym of Access Provider]

<b>Laboratory and Facilities</b>
<i>Specify which resources<sup>6</sup>, reagents, equipment, instruments, technology and/or laboratory/office space will be used during the TNA Visit.</i>
<i>Specify briefly the methods and activities that will be carried out during the TNA Visit.</i>
<i>Specify the number of times/sessions planned to carry out the methods and activities above mentioned. How many times the experiments were performed.</i>

<b>Scientific services</b>
<i>State which resource/service/facility is offered by the Access Provider and specify the time and/or quantity of access offered for any of them.</i>

<b>Chemicals and consumables</b>
<i>List the chemicals and consumables foreseen for the project. Include the approximative quantities to be used e.g. grams, Kg, mL, Litres, boxes, plates or other kind of unit as appropriate. Specify which ones are provided by the User and which ones by the Access provider<sup>7</sup>.</i>

<b>Shipping</b>
<i>Indicate if shipping of material (strains, samples, other material) is required for the project. Specify the type of material, relative quantity/amount and expected costs.</i>

<sup>6</sup> shall mean but is not limited to biological and chemical substances, molecules and/or microorganisms such as microbial strains, plant, animal, any field collected material containing the above (soil, water), any human or animal biological material (somatic cells, tissues, cell lines) containing copies of the original and modified genetic samples, and data derived from these samples.

<sup>7</sup> IS\_MIRRI21 TNA programme do not cover neither the use of non-basic/non-routine chemical and consumables or the use of quantities above the ones needed to carry out the activities described in the TNA offer.

## **Safety concerns**

None

## **Ethical concerns**

None

## **Ethics compliance**

None

## **Access offer**

During the TNA Visit, the User will have access to:

- Laboratories: bench fee at the Access Provider's Facilities will be covered by IS\_MIRRI21 during the TNA Visit. This includes the use of laboratory and equipment, basic/routine lab chemicals/consumables, computer room, etc. Non-basic/non-routine chemicals/consumables will be at the expense of the User/Employer. The User shall contact the Liaison Officer at the selected Access Provider to identify which chemicals/consumables will be needed to carry out the TNA project. The User must provide a detailed list of chemicals, consumables, and lab equipment requirements foreseen for the Project, including the approximate quantities (i.e. grams, kg, mL, litre, boxes, plates etc. as appropriate) in order to ensure that the Access Provider have the items in stock and in time for the TNA Visit. The IS\_MIRRI21 TNA programme does not cover neither non-basic/non-routine items or the use of quantities above the ones needed to carry out the activities described in the TNA offer. In case any chemical/consumable/reagent amount requested contained in this table belong to this category, the Liaison Officer will notify the User.
- Special instruments: If requested by the User, special instruments will be made available in addition to standard ones available in the laboratory, upon detailed request to the Liaison Officer, who will check the feasibility of the request.

## **General use of Material**

The User agrees that the Material is to be used solely for teaching and fundamental research purposes (except for SMEs). Material from the Access Provider should only be handled by appropriately trained persons in suitable laboratory conditions. When the Material is used for teaching purposes, the User agrees to dispose of the Material after use. The User is responsible for maintaining, using and disposing of the Material and, where relevant, its packaging with appropriate precautions to minimize any risk of harm to persons, property and the environment, and in compliance with domestic and foreign laws, regulations, and guidelines.

Material provided by the Access Provider is not for alimentary purposes or other uses in humans or any animals. The User agrees to provide written notice to the Access Provider when the purpose for which the Material is used has changed considerably from the purpose stated at the time of supply.



The supply of the Access Provider Material does not grant or imply any transfer or concession of Intellectual property rights to the User and/or the Employer. In particular, this supply does not include the right for the User and/or the Employer to sell, rent or transfer the Material to third parties.

The User agrees that the commercial use of Material provided by the Access Provider is strictly prohibited. Commercial distribution or resale of the Material to third parties is not permitted. Furthermore, genetic manipulation or any other modification of the Access Provider Material for Commercial Purposes or the Commercial production of a metabolite or other compound derived from either an original Access Provider Material or from a genetically manipulated or otherwise modified version of Access Provider Material is not permitted.

### **Taxonomic Identification**

The Access Provider makes big efforts to guarantee the correct taxonomic identity of microorganisms as experts in the field. However, the Access Provider cannot guarantee that an organism is correctly identified at the species, genus or class levels, particularly in the case of collected organisms. The User should always independently verify taxonomic identity. However, in the case of any misidentification of strains, the Access Provider is requested to inform the User and vice versa.

### **Warranty-liability**

As the Material is of experimental nature, neither the Home Institution or the Access Provider provide any and all warranty as regards its condition, activity, usefulness, efficiency, purity, harmlessness, nontoxicity, safety, or as regards its use, market value or suitability in respect of any and all objective.

The access provider commits to deliver all known and relevant information related to the Material and Resources (e.g. strains, cells, viruses and their derivatives such as DNA, proteins, metabolites) provided to the User including its condition, activity, usefulness, efficiency, purity, pathogenicity, harmlessness, nontoxicity, safety, or as regards its use, market value or suitability according to European and international regulations.

The Access Provider cannot guarantee purity or the absence of any contamination of field collected samples. The User shall be solely liable for any and all risks associated in particular to events of material damage, injury or any and all other incidents that may be occasioned by the use, testing or manipulation of the Material. Even if the Material is not labelled as toxic, pathogen or dangerous, the User hereby acknowledges and accepts the potential risks of the Material.

### **Toxic metabolites producing strains**

Microorganisms, cultured cells, viruses or Materials derived from a toxic culture strain must be treated as toxic organic chemicals and the User agrees to use and dispose of cells and cellular materials properly and in a safe manner that meets all domestic and foreign governmental laws, requirements and guidelines for the disposal of toxic organic chemicals.

### **Supply of cryopreserved strains**

The User acknowledges that the request of any Resource and Material that must be thawed from cryopreservation may delay shipment of the sample for up to 4 weeks. The User also acknowledges that, due to the inherent unpredictability of biological materials, revival of cryopreserved strains is not always successful.

Revival of cryopreserved strains shall be carried out according strict specifications indicated by the Access Provider.

### **Customs regulations for international shipment of biological samples**

Material supplied by the Home Institution and the Access Provider is subject to national export laws, rules, treaties, regulations and international agreements. The User shall assume the responsibility of abiding by national export laws, rules, treaties, regulations and international agreements along with applicable foreign laws when importing, exporting, or otherwise disposing of such Resources and Material. For international shipments, the User agrees to assume the responsibility for ensuring that all required paperwork is provided for passage through Customs in the country of destination. The Home Institution and the Access Provider will not take responsibility for any delay in delivery occasioned by third-party administrative issues.

### **Feedback**

If the Material arrives in an unsatisfactory condition, it will normally be replaced free of charge if the Access Provider is notified within 14 days of dispatch. However, the Access Provider must charge for the costs of postage and packaging of resupplied items.

## **APPENDIX 3. Material Transfer Agreement**

### **3.1 Incoming Material Transfer Agreement**

**3.2 Outgoing Material Transfer Agreement**

## **APPENDIX 4. Background/Prior Knowledge Included**

**For the Access Provider**

**For the User/Employer**

**APPLICANTS PROPOSAL FORM**

Field Name	Field Type	Help Text (Optional)	Required?	Setting 1 - Max Length (Characters)	Setting 2
Research project title	Short Text	Full name of your research project	Yes	200	Setting 2
Acronym	Short Text	Acronym describing your project	Yes	50	
Project domain in life sciences	Drop-Down List	Select an option from the ones from the list	Yes	150	(1)Molecular and structural biology and biochem environment, biology, microbiology, biochemistry, genetic?
Home institution type	Drop-Down List	Select an option from the ones from the list	Yes	300	(1)UNI-University and other higher education organisations; (2)INS-Public research institutes; (3)NPO-Non-profit organisations; (4)OTR-Other
Research infrastructure affiliation, if yes, which one:	Yes (Long Text)/No (Null)	Please indicate if your home institution is affiliated	Yes	150	Select one option, if the answer is YES, please develop the answer.
Supervisor in your home institute	Short Text	Write the name and position of your supervisor at work	Yes	100	
Position of your supervisor	Short Text	Write the position of your supervisor in your host inst	Yes	100	
Contact Email of supervisor	Short Text	Write the Email address of your supervisor	Yes	4000	
Project description	Long Text	Please describe the objectives of your research and	Yes	100	
Key words	Short Text	Write key words that describe your project	Yes	3000	
Methods and expected results	Long Text	Describe the methods you will perform at the rank	Yes	3000	
Expected outcomes and impact	Long Text	Please detail what outputs are envisaged from the	Yes	2000	
Why is important for your project	Long Text	Explain why the access to these RI are essential for	Yes	500	
Financial support of your project	Drop-Down List	Select an option from the sources of funding of your project. E.g. Yes	Yes	150	(1)Human samples/patients data/human cell lines; (2)GWO; (3)Toxic-metabolites producing microorganisms; (4)Pathogens to human or other species; (5)None of the above.
Does your project involves the following	Yes (Long Text)/No (Null)	If it is the case, indicate the name of the TNA calls	Yes	200	Select one option, if the answer is YES, please develop the answer.
Have you participated in a TNA call to access a RI before? If yes, indicate w	Short Text	Write the name of the first access provider you have	Yes	200	Name and country of the access provider
Access provider 1	Short Text	Write the name of the second access provider	Yes	200	Name and country of the access provider
Access required	Drop-Down List	Please select your current expertise level in the real	Yes	200	(1)Fundamental aware/basic knowledge; (2)Novice/limited experience; (3)Intermediate/Practical application; (4)Advanced/applied theory; (5)Expert/recognise authority.
Expertise	Short Text	Write the name of the product/enved/facility offered by the	Yes	200	Name and country of the access provider
Access provider 2 (if needed)	Short Text	Please select your current expertise level in the real	Yes	200	(1)Fundamental aware/basic knowledge; (2)Novice/limited experience; (3)Intermediate/Practical application; (4)Advanced/applied theory; (5)Expert/recognise authority.
Expertise	Short Text	Write the name of the product/enved/facility offered by the	Yes	200	Name and country of the access provider
Access required	Drop-Down List	Please select your current expertise level in the real	Yes	200	(1)Fundamental aware/basic knowledge; (2)Novice/limited experience; (3)Intermediate/Practical application; (4)Advanced/applied theory; (5)Expert/recognise authority.
Expertise	Short Text	Write the name of the second access provider you h	Yes	200	Name and country of the access provider
Access provider 3 (if needed)	Short Text	Please select your current expertise level in the real	Yes	200	(1)Fundamental aware/basic knowledge; (2)Novice/limited experience; (3)Intermediate/Practical application; (4)Advanced/applied theory; (5)Expert/recognise authority.
Expertise	Short Text	Write the name of the product/enved/facility offered by the	Yes	200	Name and country of the access provider
Can your project be performed at a different access provider(s)?	Yes (Long Text)/No (Null)	Write another option of access provider only if it is su	No	500	In PDF format, max 150 MB
If Yes, list them here.	Yes/No	Describe your briefly your background and scientific	Yes	500	
Will the data collected during the IS_MIRRI21 TNA be made open access?	Long Text	Upload CV (optional format), letter of support and access planning (templ	Yes	500	
Briefly describe your scientific profile	Long Text	Upload CV (optional format), letter of support and access planning (templ	Yes	500	
Upload CV (optional format), letter of support and access planning (templ	Long Text	Upload CV (optional format), letter of support and access planning (templ	Yes	500	
<b>TERMS AND CONDITIONS</b>					
I declare under my own responsibility that I have a working contract with a	Checking box				

Field Name	Field Type	Help text (optional)	Required?	Setting 1	Setting 2
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**Ground-breaking nature and potential impact of the research project**

How many of these challenges are addressed by the current proposal: environmental, food & feed, biodiversity, innovation/ health	Score	Comments/If necessary justify your score	Yes	Minimum	1 Maximum	5
Are the objectives ambitious and beyond the state of the art? It proposes novel concepts, approaches or development between or across disciplines?	Score	Comments/If necessary justify your score	Yes	Minimum	1 Maximum	5
Is the proposed research high-risk/high-gain? There is a higher-than-normal risk that the research project does not entirely/fulfll its aims but if successful the payoffs will be very significant.	Score	Comments/If necessary justify your score	Yes	Minimum	1 Maximum	5

**Scientific Approach**

Are the proposed research methodology and the access arrangements appropriate to achieve the goals of the project?	Score	Comments/If necessary justify your score	Yes	Minimum	1 Maximum	5
Does the proposal involve the development of novel methodology or the use of technology non-commonly applied in the field?	Score	Comments/If necessary justify your score	Yes	Minimum	1 Maximum	5
Are the use of the facility, proposed access planning, resources and PI commitment adequate and properly justified?	Score	Comments/If necessary justify your score	Yes	Minimum	1 Maximum	5

**Impact**

Could the outputs of this research be envisaged to have an impact on: future research or technology?	Score	Comments/If necessary justify your score	Yes	Minimum	1 Maximum	5
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**Intellectual capacity and creativity of the applicant**

Does the PI have the required scientific expertise and/or capacity to successfully execute the project?	Score	Comments/If necessary justify your score	Yes	Minimum	1 Maximum	5
To what extent the new competences and skills that will be acquired during the access will be relevant to the researcher's existing professional experience or will give a boost her/his future career?	Score	Comments/If necessary justify your score	Yes	Minimum	1 Maximum	5

Total Score	Sum		Yes	Minimum		45
USP evaluation report	Long Text	This will be the official answer (justification or even Yes	Yes	Minimum	9 Maximum	45

**TECHNICAL EVALUATION FORM**

Field Name	Field Type	Help text (optional)	Required?	Setting 1	
Does the proposal suit the offer proposed by your facility? If not, explain why	Yes/No Long Text	Additional Information	Yes No	Max length (characters)	500
Do you think that the specific product/service/facility chosen by the applicant are essential or will greatly contribute to fulfil the aims of the project? If not, explain why	Yes/No Long Text	Additional Information	Yes No	Max length (characters)	500
Is the TNA planning feasible concerning the methodology proposed? If not, explain why	Yes/No Long Text	Additional Information	Yes No	Max length (characters)	500
Is the applicant (or home institution) a frequent user of the services of your infrastructure?	Yes/No		Yes		
Are there other identified services offered by your institution which could be complementary to the proposal? If yes, explain why	Yes/No Long Text	Additional Information	Yes No	Max length (characters)	500
Do you agree that this application move on to the scientific review step?	Yes/No		Yes		



## ACCESS FEEDBACK FORM USERS

Field Name	Field Type	Help text (optional)	Required?	Setting 1	Setting 2
Name			Yes		
Surname			Yes		
Project acronym			Yes		
Before the TNA visit, where have you first heard about the TNA call of IS_MIRRI212? If other, please specify	Drop-Down List Short Text	Select one or several of the following	Yes	(1) MIRRI-ERIC / IS_MIRRI212 website; (2) Other websites: CARIS, RICH, etc; (3) Partner institution website Multiple selection allowed (Yes/No)	200
Do you know if the product/service/facility offered by the TNA facility you visited is provided by another entity in your home institution country? If yes, explain in which one How will you rate the following:	Yes/No Long Text	Additional Information	Yes No	Max Length (characters)	300
<b>Application process</b>					
Publicity concerning the access offer	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
The online application process (convenience, suitability)	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
Practical information provided in the webpage and by the facilities regarding the application process	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
Scientific and technical discussions to select the most appropriate product/service/facility	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
<b>In case of remote access to products and services</b>					
Scientific and technical support to select the most appropriate product or service	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
Quality of the delivered product or service	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
Timely delivery of the product or service	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
<b>In case of physical access to the facilities</b>					
Preparedness of the facility to welcome visiting scientists	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
Scientific and technical support to set up your experiments and interpret the results	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
Logistic support at the facility (office space, computing, libraries, accommodation)	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
Administrative support (including the reimbursement of travel & subsistence expenses)	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
Overall appreciation of the services provided	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very good; (5) Excellent	
<b>After the TNA</b>					
Were the "TNA post-access" requirements clear? (confirmation of access, activity/report, feedback survey)	Number	Rating them from unclear to clear	Yes	(1) Unclear; (2); (3); (4); (5) Clear	Maximum
Without the support of IS_MIRRI21 would you still have been able to obtain the similar data for your project?	Yes/No Drop-Down List	Choose one or several of the following	Yes	(1) Not eligible for other type of funding; (2) Direct application implies considerable waiting time; (3) Ur- Multiple selection allowed (Yes/No)	Yes
If no, please indicate the reason (You may indicate more than one choice) If other specify	Long Text		No	Max Length (characters)	300
Do you think the evaluation and selection of proposals were fair and transparent?	Yes/No		Yes		
Please indicate any further comments or suggestions you would like to make regarding to:					
The application process	Long Text		Yes	Max Length (characters)	400
The products or services provided	Long Text		Yes	Max Length (characters)	400
The access/visit	Long Text		Yes	Max Length (characters)	400
In which way this experience has enriched your skills or has given a boost to your project? Besides the experimental activities, please list the career aspects this visit helped you to develop or reinforce (networking, collaborations...)	Long Text		Yes	Max Length (characters)	400
Would you agree to share your TNA experience in our website?	Long Text		Yes	Max Length (characters)	400
Are you interested in similar TNA offers in the future?	Yes/No		Yes		

ACCESS FEEDBACK EVALUATORS

Field Name	Field Type	Help text (optional)	Required?	Setting 1
Was the TNA offer clear?	Yes/No		yes	
Was the evaluation procedure clear?	Yes/No		yes	
Were the evaluation criteria appropriate?	Yes/No		yes	
If not, what other criteria would you suggest?	Long Text			Max Length (characters)
Would you be willing to evaluate proposals in the frame of future similar TNA calls?	Yes/No		yes	

ACCESS FEEDBACK FACILITIES

Facility Name	Field Type	Help text (optional)	Required?	Setting 1	Setting 2
Country	Short Text				
Based on the publicity made to the TNA programme, how do you assess the response of the users to your facility?	Drop-Down List		Yes	Max length (characters)	100
How would you assess the online application process?	Drop-Down List	Rating them from very poor to excellent	Yes	Max length (characters)	50
How do you think was the organisation of the TNA at the level of the Access Officers?	Number	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very Good; (5) Excellent	Multiple selection allowed (Yes/No) No
Would you like to update your facility webpage in the IS_MARRIZ1 website to better describe the services and expertise of your facility?	Yes/No	Rating them from very poor to excellent	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very Good; (5) Excellent	Multiple selection allowed (Yes/No) No
If yes, explain why	Long Text	Select one	No	Max length (characters)	500
How did you find the feasibility check process performed by your facility on the TNA proposals?	Drop-Down List	Free comments	Yes	(1) Difficult; (2); (3); (4); (5) Easy	Multiple selection allowed (Yes/No) No
If difficult, explain why	Long Text	Rating them from Difficult to Easy	No	Max length (characters)	400
In your perspective, how would you assess the logistic and administrative work related to the access (contract negotiation, reporting, reimbursement) of the TNA?	Drop-Down List	Free comments	Yes	(1) Poor; (2) Fair; (3) Good; (4) Very Good; (5) Excellent	Multiple selection allowed (Yes/No) No
How could your home institution improve the administrative process related to the TNA management?	Drop-Down List	Rating them from very poor to excellent	No	Max length (characters)	400
Which was the most common profile of the users you had in your facility?	Long Text	Free comments	Yes	(1) PhD Student; (2) Postdoc; (3) Engineers; (4) Senior researchers; (5) employees from other collection	Multiple selection allowed (Yes/No) Yes
Other, please specify	Drop-Down List	Select one or several of the following	No	Max length (characters)	200
Please estimate how many people from your facility (including administrative staff) were involved or interacted with the users during the access?	Drop-Down List	Free comments	Yes	(1) 1-2; (2) 3-5; (3) 6-8; (4) 9-10; (5) More	Multiple selection allowed (Yes/No) No
Has your organisation participated in other TNA offices?	Long Text	Select one of the following	Yes	Max length (characters)	500
If yes, what was different compared to the IS_MARRIZ1 TNA experience?	Long Text	Free comments	Yes	Max length (characters)	500
If yes, what was the same?	Long Text	Free comments	Yes	Max length (characters)	500
Please indicate any suggestion or what would you consider as an improvement to the TNA programme	Long Text	Free comments	Yes	Max length (characters)	500

## **Annex 2 - TNA catalogue**

IS\_MIRRI21

**Implementation and Sustainability of Microbial  
Resource Research Infrastructure for the 21<sup>st</sup> Century**

@Institut Pasteur

## **TransNational Access programme (TNA) catalogue**

### **Financial and logistical support for access to microbial resource research institutions**

14 facilities across Europe offer funded access to microbial resources, experimental facilities, technology platforms and the expertise and experience of their staff to conduct scientific studies.

Applications for the 1<sup>st</sup> TNA call are open from 25<sup>th</sup> January to 16<sup>th</sup> April 2021.



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## Transnational Access

Users from research organisations and companies (in the fields of biotechnology, agro-food, pharmaceuticals, environment, etc.) are invited to apply for funded access to any of the 14 microbial facilities partners of the IS\_MIRRI21 project across Europe. The TNA offers access to a wide variety of microbial resources, laboratories and state-of-the-art facilities and technological platforms.

### The TNA offer includes:

- ✓ Technical and scientific support.
- ✓ Administrative and logistic support.
- ✓ Access to the products, services and facilities offered in the IS\_MIRRI TNA catalogue.
- ✓ Hands-on training needed to access the facilities.

The IS\_MIRRI21 TNA programme sponsors:

- Access to the partners' facilities including: platforms, laboratories, standard consumables, chemicals and disposables.
- Travel expenses (one round trip, economy class). Up to 800 EUR/project
- Subsistence (meals and accommodation up to 30 days, weekends included).
- Shipping costs of project material from the IS\_MIRRI21 facility to the home institution up to 400 EUR.

The TNA programme provides two means of access:

**On-site access:** in this type of access, the users visit the infrastructure and carry out their research projects on-site. The facility provides scientific, technical and logistic support.

**Remote access:** this does not involve an in-person visit of users to the infrastructures. There are two types of remote access:

- *Shipping of strains/biological material:* The User requests a specific "Product" from the Access provider (e.g. samples, strains and their derivatives such as DNA).
- *Remote Services:* A set of experiments are carried out at the Access Provider but the User is not physically present at the installations (e.g. sample analysis and processing).



Figure 1. Examples of the microbial resources, services and facilities offered by IS\_MIRRI21 partners.

Users can apply to one or several of the 14 TNA offers proposed by our partners or carry out their projects within the workflow strategy. The latter approach will allow users to refine and mature their research and innovation projects and to benefit from the experience and expertise of several access providers.

The **Access Officer** is the main contact person to discuss the details about the TNA application. **After the initial contact with the Access officer, applications will be transferred to the liaison officer(s)** from the research infrastructure(s) of interest for technical verification and feasibility of the proposals **before application**.

The 1<sup>st</sup> TNA call will be launched the 25<sup>th</sup> January 2021. Submit your project online through our TNA portal.

Access Officer: **Liliana Avila Ospina**  
[TNA@mirri.org](mailto:TNA@mirri.org)

Find out more about IS\_MIRRI21 TNA programme on:  
<https://ismirri21.mirri.org/project-platforms/tna/>

- 1 MICOTECA DA UNIVERSIDADE DO MINHO
- 2 COLLECCION ESPAÑOLA DE CULTIVOS TIPO
- 3 BANCO ESPAÑOL DE ALGAS
- 4 INSTITUT PASTEUR
- 5 INRAE
- 6 BELSPO/BCCM - MUCL
- 7 BELSPO/BCCM - IHEM
- 8 BELSPO/BCCM - ULC
- 9 WESTERDIJK FUNGAL BIODIVERSITY INSTITUTE
- 10 MYCOTHECA UNIVERSITATIS TAURINENSIS
- 11 NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS
- 12 CULTURE COLLECTION OF INDUSTRIAL MICROORGANISMS
- 13 UNIVERSITY OF LATVIA
- 14 ALL RUSSIAN COLLECTION OF MICROORGANISMS



Find out more about IS\_MIRRI21 project on: [ismirri.mirri.org](http://ismirri.mirri.org)

For more information about the TNA programme please contact: [TNA@mirri.org](mailto:TNA@mirri.org)

Our social media



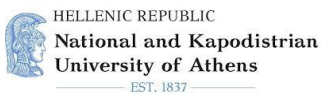
@MIRRI\_live



@mirri.esfri



MIRRI/IS\_MIRRI21





## Access Providers

IS\_MIRRI21 partners offer funded access to products, services and facilities in the TNA programme.

Table 1 – IS\_MIRRI21 Access Providers

Access Provider	Infrastructure	TNA offer	Country
<b>PRODUCTS</b>			
Universitat de València – UVEG	Spanish Type Culture Collection - CECT	Delicate microorganisms	Spain
National and Kapodistrian University of Athens - NKUA	Culture collections of the National and Kapodistrian University of Athens - CCUoA	Bacteria and archaea from extreme Greek environments	Greece
Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences – IBPM - RAS	All Russian Collection of Microorganisms - VKM	Microbial strains from extreme Russian environments	Russia
<b>FACILITIES</b>			
Universidad de Las Palmas de Gran Canaria - ULPGC	Spanish Bank of Algae - BEA	Experimental plant for microalgae and cyanobacteria production	Spain
Netherlands Academy of Arts and Sciences-Centraalbureau voor Schimmelcultures - KNAW	Westerdijk fungal biodiversity institute - CBS	Heterologous expression of silent fungal gene clusters	Netherlands
Belgian Federal Science Policy Office/Belgian Co-ordinated Collection of Micro-organisms - BELSPO-BCCM	Agro-food & Environmental Fungal Collection - MUCL	<i>In vitro</i> culture of arbuscular mycorrhizal fungi	Belgium
BELSPO-BCCM	Fungi Collection: Human & Animal Health - IHEM	Dermatophytes: taxonomy, identification and medical importance	Belgium
BELSPO-BCCM	Cyanobacteria Collection - ULC	Cyanobacterial isolation, cultivation, preservation, taxonomy and molecular characterisation	Belgium
Institute of Agricultural and Food Biotechnology - IAFB	Culture Collection of Industrial Microorganisms - CCIM	Identification of <i>Alicyclobacillus</i> sp. by molecular biology techniques	Poland
<b>SERVICES</b>			
University of Minho - UMinho	Micoteca da Universidade do Minho - MUM	Food mycology	Portugal
Institut national de recherche pour l'agriculture, l'alimentation et l'environnement - INRAE	Centre International de Ressources Microbiennes - CIRM	<i>In vitro</i> screening of anti-infectious activities: antibacterial, antiviral and antiparasitic	France
Institut Pasteur - IP	Centre de Ressources Biologiques de l'Institut Pasteur - CRBIP	Analysis by BioNumerics of MALDI-TOF mass spectrometry profiles	France
University of Latvia - UL	Microbial Strain Collection of Latvia - MSCL	<i>In vitro</i> screening and testing of Minimal Inhibitory Concentration (MIC)	Latvia
Università degli Studi di Torino - UT	Mycoteca Universitatis Taurinensis - MUT	Metabarcoding of fungal communities	Italy

## TNA Workflows

This initiative proposes an interconnected set of products, services and resources offered by clusters of IS\_MIRRI21 partners that will allow the users to refine and mature their research and innovation projects. Through this approach, the users also benefit from the experience and knowledge of several access providers. For its 1<sup>st</sup> call, the IS\_MIRRI21TNA programme offers 3 workflows:

Table 2 – TNA Workflows

Workflow	Access providers	Countries
<b>WF1.</b> From Field Collection to Metabolites Extraction	BCCM-ULC and BEA	Belgium and Spain
<b>WF2.</b> Identification of taxonomically related <i>Streptomyces</i> strains from extreme Greek environments using mass spectrometry profiles.	CCUoA and IP	Greece and France
<b>WF3.</b> Coupling MALDI-TOF mass spectrometry protein and molecular biology techniques to identify taxonomically related <i>Alicyclobacillus</i> strains.	IAFB and IP	Poland and France

A combined set of research activities will lead to the characterisation of microorganism-derived resources by exploiting the state-of-the-art facilities and expertise of IS\_MIRRI21 Research Infrastructures.

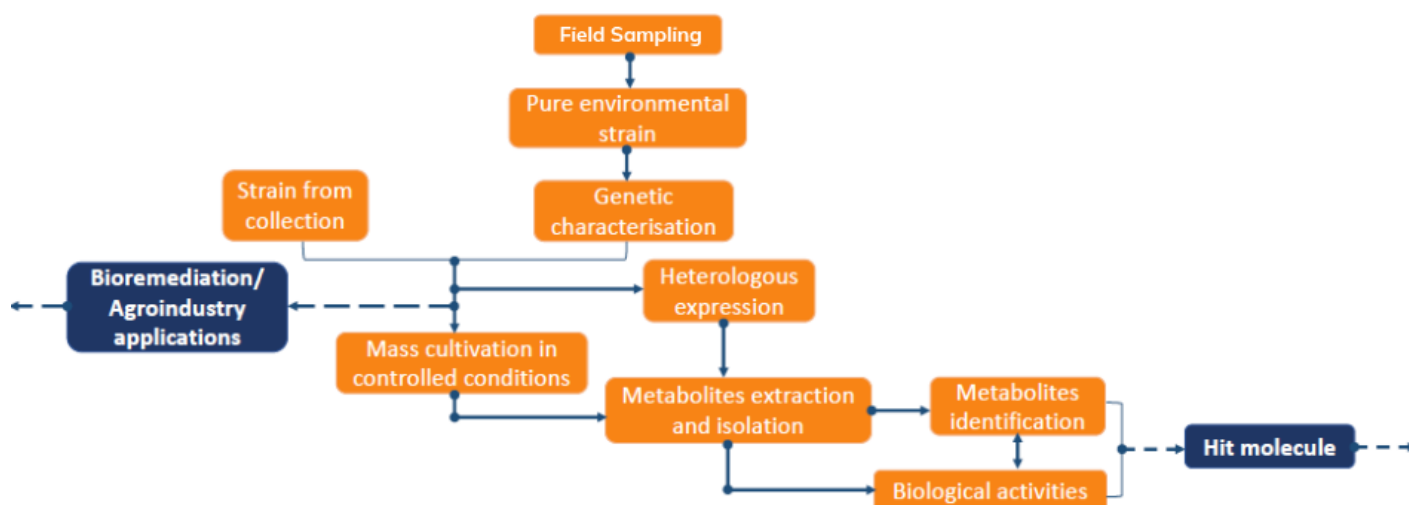
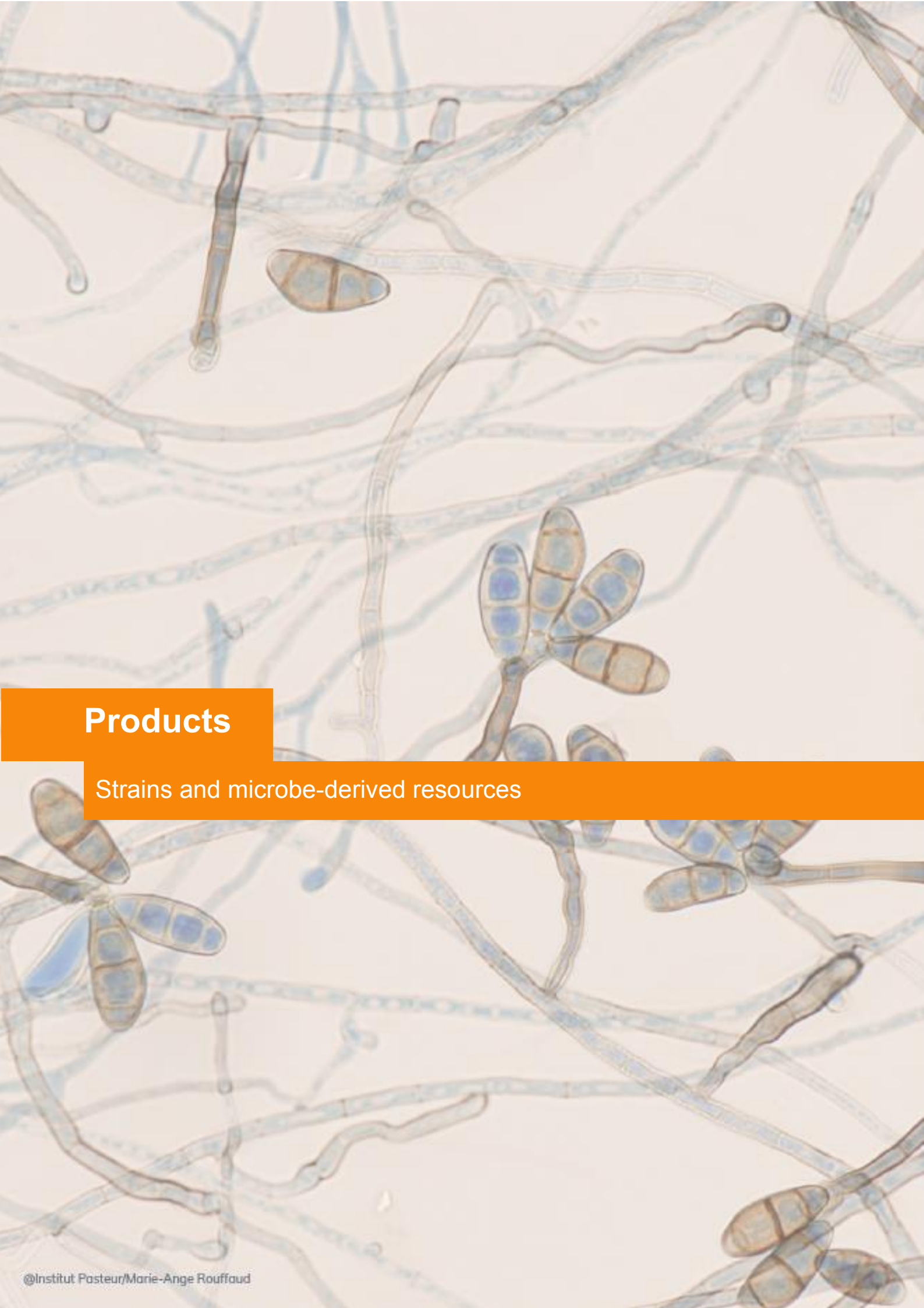


Figure 2 – Research expertise from IS\_MIRRI21 partners assembled to create the TNA workflows.

To apply to the TNA workflows, applicants should **contact the Access Officer** to coordinate technical details and pre-check the eligibility and feasibility of the proposals before submission.



## Products

Strains and microbe-derived resources



## DELICATE MICROORGANISMS

Universitat de València Estudi General – UVEG  
Colección Española de Cultivos Tipo – CECT

The University of Valencia (UEG) is a leading academic organisation at national level, with a remarkable international dimension. The Spanish Type Culture Collection (CECT) is a central service of the UVEG and it is located within the University of Valencia Science Park (PCUV), an initiative to link university research and its scientific potential with the production system, promoting innovation as well as the creation and consolidation of technology-based companies.

The CECT is a broad scope collection and the only public Microbial Biological Resource Centre (mBRC) in Spain serving as a repository and provider of bacteria, archaea, yeast and filamentous fungi. With more than 10,000 holdings (most of them prokaryotes, followed by yeasts and filamentous fungi), the collection has long experience in handling delicate microorganisms, and continuously works on new procedures for improving their culture and preservation.

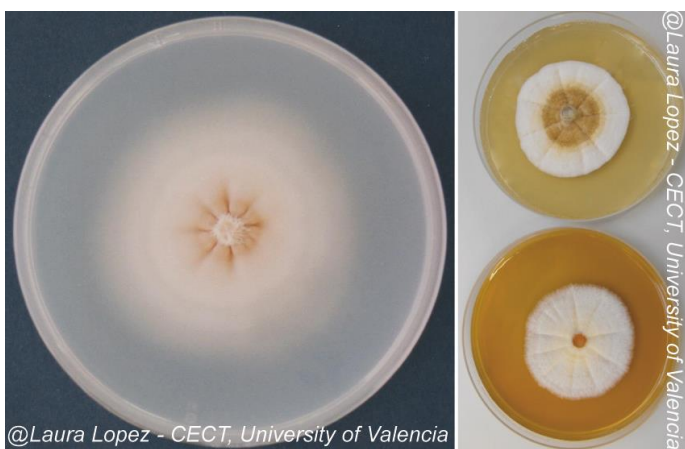


Figure 3. *Hebeloma sinapizans* grown in PDA media and *Ciniophora olivacea* grown in SDA and MEA media.

### Modality of access

Strains or derived products such as DNA, inactivated cells or extracts. Emphasis is given to the delicacy, meaning difficulty in preserving and replicating them, especially from the users' perspective. Good examples are halophilic archaea and bacteria, acidobacteria, *Frankia* spp., *Pisolithus* spp., *Hebeloma* spp., among others, many of which are in addition underrepresented in public culture collections.

### Unit of access

One strain

### Support offered

Facilitated access to delicate resources, making a short-cut to derivatives and desired forms of presentation.

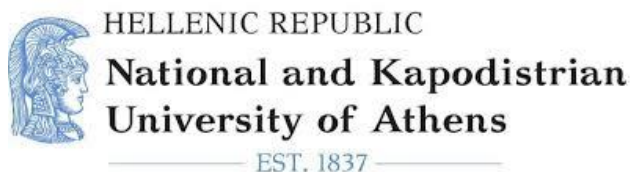
Besides, the CECT offers a wide portfolio of services: deposit of strains (public, safe and for patents), supply of strains for research, teaching, quality control, biotechnological applications, etc.; identification and characterization of strains by gene sequencing, MALDI-TOF MS protein profiles, cellular fatty acid composition (MIDI) or genome analysis (assembly and annotation); training and counselling on conservation and taxonomy. In the last 3 years, the CECT served users from 43 different countries (about 50% in Europe).

Founded in 1960, it is a member of the World Federation on Culture Collections (WFCC) since 1977 and of the European Culture Collections' Organization (ECCO) since 1983. In 1992 it was recognized as International Depositary Authority (IDA) for storing microorganisms for patent purposes under the Budapest treaty and it is ISO 9001 certified.

Campus de Burjassot-Paterna  
Calle Catedrático Agustín Escardino, 9 46980 Paterna. Valencia, Spain  
<http://www.cect.org>

### Liaison officer

**David Ruiz Arahál**



## BACTERIA AND ARCHAEA FROM EXTREME GREEK ENVIRONMENTS

National and Kapodistrian University of Athens  
– NKUA Culture Collections of the University of Athens - CCUoA

The National and Kapodistrian University of Athens (NKUA) is the oldest University in Greece and the first Higher Education Institution in the Balkan and Eastern Mediterranean area. In an effort to organize and facilitate the study of the Greek microbial diversity and evaluate its biotechnological and biomedical potential, the NKUA has established the Culture Collections of the University of Athens (CCUoA), a unified network of laboratory preserved culture collections that belong to three different labs of the National and Kapodistrian University of Athens. It comprises of 5 individual units distinguished by the type of microorganism they are specialized. These units are: i) ATHUM for fungi, ii) ATHUCY for cyanobacteria, iii) ATHUAL for algae, iv) ATHUBA for bacteria and archaea and v) UOA/HCPF for pathogenic fungi.

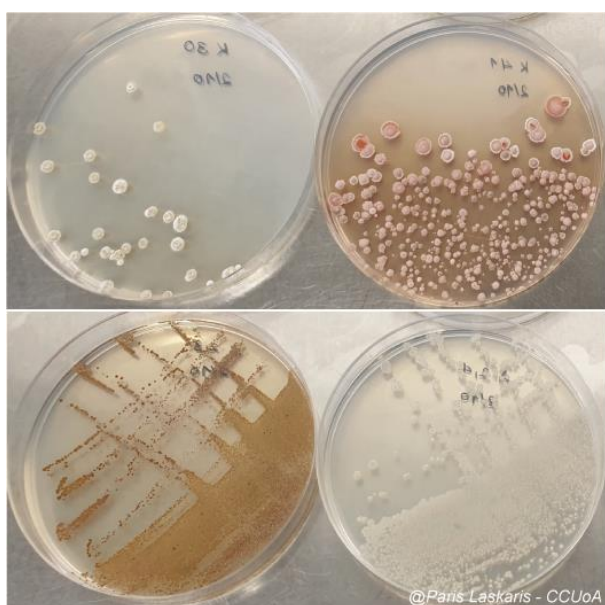


Figure 4. Streptomyces isolates

### Modality of access

Bacterial and archaea strains isolated from volcanic, thermal spring and high salinity environments. These microorganisms are sources of thermostable enzymes suitable for biotechnological applications (detergents, biorefineries).

### Unit of access

One type of biological material (living strain or DNA).

### Support offered

Facilitated access to microbial strains with high biotechnological potential.

The majority of the strains are isolated only from Greek specific habitats with special climatic characteristics. The isolates are originated either from food products, soil, marine environment or airborne; others are clinical strains, lignicolous, fungicolous or/and pathogenic strains.

The unique geo-climatic characteristics of Greece result in soil and marine reservoirs of high taxonomic and functional diversity compared to other European countries. It has been proved that Greek ecosystems (like thermal springs, volcanoes, caverns, mountain highs, etc.) host multi active microbial strains which are producing bioactive compounds useful to pharmaceutical companies (mainly strain members of the Actinobacteria family), to agriculture as biocontrol agents, to food industry (enzymes, growth promoters....), or industry for dermo-cosmeceuticals etc. CCUoA analyses and study the physiology, survival and activities of each isolate, by employing state-of-the-art cultivation, biochemical and molecular techniques.

Among the services offered are the deposit, identification/characterization and supply of strains for both industry and academia. Phenotypic and molecular characterisation. Screening for enzymatic activities and bioactive compounds.

Faculty of Biology, section of botany.  
Panepistimiopolis, 15781 Athens, Greece

<https://en.uoa.gr/>

Liaison officer  
**Paris Laskaris**



## MICROBIAL STRAINS FROM EXTREME RUSSIAN ENVIRONMENTS

Institute of Biochemistry and Physiology of Microorganisms, Russian Academy of Sciences – IBPM – RAS - All Russian Collection of Microorganisms - VKM

VKM is a department of the Skryabin's Institute of Biochemistry and Physiology of Microorganisms (IBPM) inside the "Pushchino Scientific Centre for Biological Research of the Russian Academy of Sciences" (PSCBR-RAS). VKM is the largest non-medical microbe collection in Russia including over 20,000 strains of archaea, bacteria, fungi and yeasts from various sources, both identified and not-yet-identified. Nearly 7,500 strains are presented in the on-line catalogue.

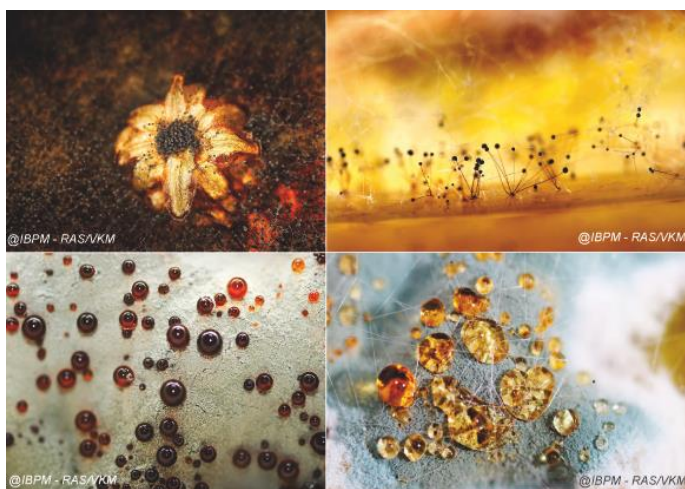


Figure 5. Strains isolated at the IBPM-RAS/VKM

The VKM activities are focused on: (i) collection, maintenance and supply of microorganisms; (ii) research in the field of microbial biodiversity and systematic; (iii) use of microorganisms in biotechnology and ecology-related area, (iv) molecular and genomics approaches and (v) taxonomy.

### Modality of access

Microbial strains isolated from permafrost and high salinity environments. These microorganisms are sources of metabolites suitable for biotechnological applications (mycotoxins, enzymes and others).

### Unit of access

Five living strains.

### Support offered

Facilitated access to microbial strains with high biotechnological potential.

Since 1987, VKM has the International Depository Authority (IDA) status from the World Intellectual Property Organisation, in the framework of international patent legislation (Budapest Treaty).

VKM led the creation of a joint catalogue for the 31 microbial culture collections of USSR, Eastern Germany, Vietnam, Bulgaria, Czechoslovakia and Mongolia from 1988-1990, the on-line catalogue of non-medical Russian collections from 1999-2002 and nowadays is working in the VKM catalogue. VKM is a member of ECCO and WFCC, was been involved in European projects GBRCN (2011-2012), BRIO (2011-2014) and MIRRI (2012-2015), participates in EOSC-Life project and conducts genomic research with WDCM GCM2.0.

All VKM microbial collections and microbiology laboratories are equipped for the isolation, identification and characterization of microbial strains. VKM data are integrated in the WDCM/GCM and contain information from five separate information systems for VKM cultures: preservation, publications, nutrient media, metabolites and catalogue.

Russia, 142290, Moscow Region, Pushchino, pr. Nauki, 5, IBPM  
<https://www.vkm.ru/>

Liaison officer  
**Alexander Vasilenko**



## Facilities

State-of-the-art technology platforms



## EXPERIMENTAL PLANT FOR MICROALGAE AND CYANOBACTERIA PRODUCTION

Universidad de Las Palmas de Gran Canaria –  
ULPGC - Banco Español de Algas – BEA

On the east coast of Canary Islands, BEA is situated into the infrastructures that the ULPGC has recognized as the Marine Pole of Taliarte (Telde), which have been declared as an International Campus of Excellence.

BEA is recognized by the World Intellectual Property Organization (WIPO), as an authorized culture collection for tropical, subtropical and extremophiles microalgae and cyanobacteria, particularly from the Macaronesian region. The collection is accredited, since October 2005, as an International Authority for the Deposit of Microorganisms, for the deposit of algae with the purposes of recognition of industrial property, in accordance with the Budapest Treaty by the WIPO. Nowadays, BEA holds more than 1840 living microalgae and cyanobacteria strains, as clonal or single cell isolates.



Figure 6. Wet-transfer cultures; Biotechnology laboratory; open-air cultures; BEA facilities.

### Modality of access

Outdoor pilot scale facility for testing mass culture production and processing of microalgae (cyanobacteria) for different purposes (i.e. biomass production, bioremediation, strain biotech evaluation, etc.). Users can access to different PBRs (up to 100L) at indoor or outdoor conditions, cultivation tanks (90-1500L) and all dry laboratory facilities.

### Unit of access

9 culture systems/8weeks.

### Support offered

ULPGC- BEA will give advice on experimental design and methodology, documentation of results for all experiments conducted and technical support for the production of extracts for screening and determination of metabolites of interest.

BEA facilities and staff members are specialised in the cultivation of microalgae (including cyanobacteria) and macroalgae at different laboratory and pilot-scale photobioreactors, tanks or raceways. Facilities include several laboratories, a greenhouse for experimental assay and demonstration of algae cultivation technologies. BEA holds light, photoperiod and temperature-controlled growth rooms, separated incubators for housing back up stocks, a culture transfer area with laminar flow hoods and inverted microscopes; control rate -150°C freezer, ultrasound sensor, centrifuge, fluorescence microscope and stereomicroscopes; glass wash and autoclave separate facility. BEA's main goal is to develop under the frame of the "Marine Agronomy" and "Blue Biotechnology" concepts, an important agro-industrial sector based upon Algal Biotechnology (algae cultivation and application developments). Research thematic include physiology, biochemistry, biomass transformation and industrial applications of algal biomass under intensive cultivation, and the development of biofiltration systems using algae.

Muelle de Taliarte, s/n 35214 - Telde Gran Canaria -España  
[www.bea.marinebiotechnology.org](http://www.bea.marinebiotechnology.org)

Liaison officer  
**Antera Martel**





## Belgian Federal Science Policy Office – BELSPO/ Belgian Coordinated Collections of Micro-organisms – BCCM

BCCM is a consortium of 7 microbial Biological Resource Centres (mBRCs) organised around a coordinating cell at BELSPO. The mBRCs preserve and supply microbial and genetic resources, provide scientific services and perform research activities.

The coordination cell supports the mBRCs for quality management, information management, regulatory affairs, marketing, external communication and international cooperation. The management system of the BCCM consortium is multi-site ISO 9001 certified.

The mBRCs participating in the TNA programme are: BCCM/IHEM Fungi Collection for Human & Animal Health (located in Sciensano, Brussels), BCCM/MUCL Agro-food & Environmental Fungal Collection (located in Université catholique de Louvain, Louvain-la-Neuve) and BCCM/ULC Cyanobacteria collection (located in University of Liège).

The 3 collections use a common Quality Management System. They are ISO9001 certified for all aspects of accessioning, preservation, quality controls, storage and supply of the biological materials and associated information of their public and safe deposit collections, and for BCCM/IHEM and BCCM/MUCL for their patent deposit collection.



## IN VITRO CULTURE OF ARBUSCULAR MYCORRHIZAL FUNGI

### Agro-food & Environmental Fungal Collection – BCCM/MUCL

BCCM/MUCL is a fungi collection (~ 25 000 strains in public) dedicated to agro-food and environment, embedded in the laboratory of mycology of the Université catholique de Louvain.

BCCM/MUCL offers public, safe and patent deposit and supplies strains and genomic DNA. It has expertise in identification of fungal strains (via morphology, molecular biology and physiology), detection, enumeration, isolation, bio-prospecting and screening of fungi from various substrates, testing material resistance testing and antifungal agents.

#### Modality of access

Experiments to set up and perform *in vitro* cultures of the obligate arbuscular mycorrhizal fungi (AMF) roots symbionts, going through each phase of the establishment of *in vitro* culture from the sampling of the AMF in pot cultures to their maintenance and sub-subculture under *in vitro* conditions. During this experiment, both *in vitro* cultivation of AMF on root organs (ROC-system) and on autotrophic plants (Medicago, potato and others) will be tested as well as the more recent systems developed (e.g. mycelium donor plant system). The genetic, cell biology, biodiversity and physiological investigation of AM fungi and their hosts. Additionally, non-destructive microscopic observations, reliable cell, root and plant physiology studies, clean biochemical and molecular analyses, highly controlled interaction studies with other micro-organisms and mass production at an industrial scale, are amongst other applications permitted with *in vitro* cultivation techniques.

#### Unit of access

5 days in BCCM/MUCL.

#### Support offered

Guidance of experienced scientists and technical personnel.

It offers consultancy and research contract, general and personalized trainings in mycology (morphology, molecular methods) and *in vitro* cultivation of arbuscular mycorrhizal fungi.

BCCM/MUCL research is mainly focused on (i) fungal diversity in natural and man-made ecosystems, (ii) agro-food (food and feed transformation and spoilage) and (iii) fungal-plant interactions.

The activities carried out at BCCM/MUCL include the identification, taxonomy and classification, phylogenetic sequence analyses, detection, cultivation and preservation of different fungal groups (lignocellulolytic fungi, fungi involved in food processing and spoilage, fermentative yeasts, arbuscular mycorrhizal fungi, fungal pathogens in tropical environments).



Figure 7. International training course in the *in vitro* arbuscular mycorrhizal fungi (2015) at BCCM/MUCL Facilities.

Croix du Sud 2, box L7.05.06  
B-1348 Louvain-la-Neuve  
(Postal address)  
<http://bccm.belspo.be/>  
<https://bccm.belspo.be/about-us/bccm-mucl>

Liaison officer  
**SylvieCranenbrouck**



## DERMATOPHYTES: TAXONOMY, IDENTIFICATION & MEDICAL IMPORTANCE

Fungi Collection: Human & Animal Health - BCCM/IHEM

BCCM/IHEM is a fungi collection (more than 15,000 strains) dedicated to human and veterinary health, embedded in the Mycology & Aerobiology service of Sciensano, the scientific institute for public health in Belgium. It is equipped with a biosafety level 3 laboratory. Certifications: ISO 14001, ISO 9001 and ISO 17025. Research interests in taxonomy, phylogeny, dermatophytes, MALDI-TOF MS identification of fungal strains, antifungal resistance and metabarcoding.

BCCM/IHEM offers public, safe and patent deposits and supplies both strains and genomic DNA. Scientific services at BCCM/IHEM include identification of fungal strains (using DNA sequencing, MALDI-TOF MS and morphology), genotyping, antifungal susceptibility testing, microbial counting and various trainings. More than 40 international users request IHEM strains or services each year. Over the last 5 years, about 650 publications cited BCCM/IHEM strains.

### Modality of access

Dermatophytes fungi are the most common fungal infections causing skin diseases and other superficial mycoses. Their identification is reputedly difficult due to often subtle or atypical characters. The BCCM/IHEM Fungi collection (Sciensano, Brussels, Belgium) offers a 2-days' workshop on dermatophytes fungi (taxonomy, identification and medical importance) and welcomes attendees in its facilities. The training includes theoretical/practical sessions and specialised guidance for identification and taxonomy as well as access to specialised equipment. Methods of identification that will be emphasized are microscopy and MALDI-TOF mass spectrometry.

### Unit of access

2 days' workshop

### Support offered

BCCM/IHEM has the expertise, the staff and the equipment to work with and identify dermatophytes.



Figure 8. BCCM/IHEM Sciensano Facilities, Brussels.

Sciensano - Section Mycology and Aerobiology  
Rue J. Wytsmanstraat 14  
B-1050 Brussels  
<http://bccm.belspo.be/>  
<https://bccm.belspo.be/about-us/bccm-ihem>

Liaison officer  
**Pierre Becker**



## CYANOBACTERIAL ISOLATION, CULTIVATION & PRESERVATION

Cyanobacteria Collection – BCCM/ULC

BCCM/ULC is a recent (2011) public collection of cyanobacteria in a growth phase (246 strains) that aims to gather a representative portion of terrestrial, freshwater and marine cyanobacterial strains with a focus on (sub)Polar Regions (Antarctica, Svalbard, Canada,...). BCCM/ULC is hosted by InBios-Centre for Protein Engineering of the University of Liège (Belgium). BCCM/ULC possesses equipment for microbiological and molecular work including, amongst others, sterile cabinets, light microscopy, incubators with light at different temperatures and PCR machines. Furthermore, BCCM/ULC is experienced in the research in polyphasic taxonomy and molecular identification. 'Hands on' trainings on handling, isolation, preservation, taxonomy and molecular characterization, adapted to the users' needs.

### Modality of access

'Hands on' training going from sampling, cultivation, and isolation procedures to unicyanobacterial and axenic strains, maintenance of living strains and cryopreservation using a Quality Management System for each step and tailored to the users' material. Cyanobacterial taxonomy and molecular characterisation are also covered. The new biological material and its characterization will enable future research and novel screenings for secondary metabolites, pigments, etc.

### Unit of access

Three days in BCCM/ULC.

### Support offered

Sharing of expertise, practice under the guidance of experienced scientists and personnel, and usage of the needed equipment.



Figure 9. Tubes of cyanobacterial cultures; isolated Cyanobacteria from a cyanobacterial bloom sample on Petri dish and under the binocular.

BCCM/ULC offers deposit (public and safe) and supply of strains and genomic DNA, microscopic and molecular characterization and identification, molecular detection of cyanotoxin producing genes, as well as "hands-on" training on handling, isolation, preservation, taxonomy and molecular characterization adapted to the users' needs.

InBios - Centre for Protein Engineering  
Allée du 6 Août, 11 - University of Liège  
B-4000 Liège

<https://bccm.belspo.be/about-us/bccm-ulc>

Liaison officer  
**Anne-Catherine Ahn**



## HETEROLOGOUS EXPRESSION OF SILENT FUNGAL GENE CLUSTERS

Koninklijke Nederlandse Akademie van Wetenschappen – KNAW  
Westerdijk Institute - WI

KNAW acts as a management body for 15 national research institutes in the Netherlands, and advises the Dutch Government on matters related to scientific pursuit. KNAW-WI (formerly Centraalbureau voor Schimmelcultures, KNAW-CBS) performs mycological research that contributes to the discovery and understanding of the biodiversity of fungi, their biology and potential solutions to societal challenges. The institute maintains one of the oldest and largest public collections of living fungi (yeasts and filamentous fungi) in the world. The collection comprises a total of 100.000 strains, representing 6000 genera, 19.000 species, and 12 600 type strains. Data associated with these strains (including DNA barcode sequences of all strains) are maintained in databases and available online. These resources are utilised by public and private parties in over 60 countries annually. The institute also maintains the Netherlands Culture Collection of Bacteria (NCCB), including 10.000 strains of bacteria and over 500 plasmids and phages.

The six research groups of the institute focus on the taxonomy and evolution of fungi, as well as on functional aspects of fungal biology such as ecology, fungal physiology and novel products. Among services currently offered are the deposit of strains (public, safe and patent deposits) including biological agents up to risk group 3 and plant quarantine organisms, supply of living strains (or DNA extracts) to users globally, identification service and

### Modality of access

Analysis of fungal genomes revealed that most secondary metabolite biosynthetic pathways are cryptic under regular laboratory conditions. Activating the underlying biosynthetic gene clusters is a challenge that can be tackled using heterologous expression in *Aspergillus oryzae*. This TNA provides access for the expression of a single gene cluster of four genes maximum. Genomic DNA of the species of interest and PCR primers should be provided for cloning purposes. The output is *A. oryzae* transformants expressing the core gene from the gene cluster of interest or expressing the complete predicted gene cluster. Only transformants that produce new compounds according to profiling of organic extracts will be selected.

### Unit of access

One-day stay and minimal amount of access is 10 units.

### Support offered

Access to the fully equipped laboratory and scientific staff.

contract research for industrial partners. The institute provides an annual course of fungal biodiversity, and special courses in the fields of clinical fungi and food- and indoor mycology.



Figure 10. KNAW-W facilities.

University campus area « Uithof », Uppsalalaan 8, 3584CT  
Utrecht, The Netherlands.  
<https://wi.knaw.nl/>

Liaison officer  
**Gerard Verkleij**



## IDENTIFICATION OF *Alicyclobacillus* sp. BY MOLECULAR BIOLOGY TECHNIQUES

Prof. Waław Dąbrowski Institute of Agriculture and Food Biotechnology – IAFB  
Kolekcja Kultur Drobnoustrojów Przemysłowych – KKP

IAFB is one of the main institutions in Poland that provides agriculture, food industry and universities with pure cultures of microorganisms. Identified and characterized bacteria, yeast and filamentous fungi from the KKP collection are available for research at universities throughout the country. The IAFB has the status of a national and international microbial deposit authority, which is the subject of patent applications. The collection is registered in the World Federation for Culture Collections and since 1992 belongs to the European Culture Collections' Organization (ECCO). Research work at IAFB covers: technical microbiology and food microbiology, cellular and process engineering, chemistry and biochemistry, food technology, human nutrition and dietetics. The Institute's fields of activity also include many sectors of the agri-food industry: yeast industry, distillery, viticulture, acid production, brewing, fruit, vegetable and cereal processing and storage, potato and starch processing, bakery and confectionery, food concentrates industry, frozen and chilled food, sugar, meat and fat, and the production of microbiological preparations (enzymatic, probiotic, starter cultures and others).

KKP collection comprises over 3.000 strains of yeasts, fungi and bacteria. Yeasts (baker's, brewer's, wine and other types) are the largest and most important group among microorganisms preserved in the Collection.

Classical (microscopic analysis, selective media) and molecular biology methods are employed for the identification of microorganisms.

### Modality of access

The IAFB has developed an efficient methodology of sample preparation for detection and identification of *Alicyclobacillus* sp., with particular emphasis on guaiacol-producing *Alicyclobacillus* strains. The presence of some *Alicyclobacillus* strains poses a serious problem for the processing industry, causing spoilage in contaminated fruit juices. Users will be welcomed to bring their material for isolation, identification and characterization of the above-mentioned bacteria. They will perform *Alicyclobacillus* sp. and guaiacol-producing *Alicyclobacillus* identification by PCR-RFLP and sequencing, using genus and species-specific primers. Strain identification will be carried out by standard PCR reactions (followed by RFLP and sequencing of the products) using primers designed for the housekeeping genes: *rpoB* and *gyrB*, as well as a fragment of the guaiacol synthesis involved *vdc* operon.

### Unit of access

Access to the equipment for 4 days.

### Support offered

Equipped laboratory and expertise in molecular biology techniques like microbial DNA isolation, PCR, electrophoresis and RFLP pattern analysis.

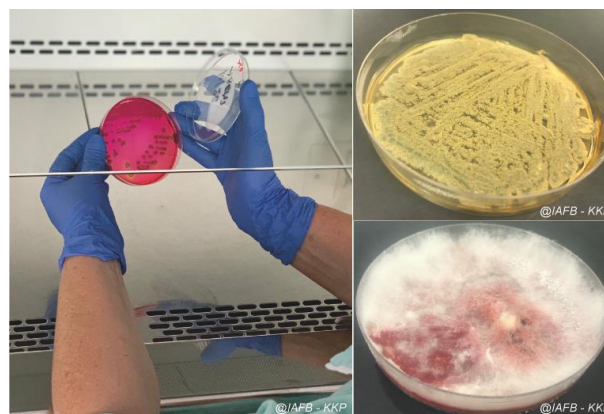


Figure 11. Strains cultivated at IAFB-KKP. *Aspergillus restrictus*; *Byssosclamyces nivea*.

ul. Rakowiecka 36, 02-532 Warsaw, Poland  
[www.ibprs.pl](http://www.ibprs.pl)

Liaison officer

**Joanna Bucka-Kolendo**



## Services

Experience and expertise from IS\_MIRRI21 access providers



## FOOD MYCOLOGY

University of Minho – UMINHO

Micoteca da Universidade do Minho – MUM

UMinho is a research University, engaged in the valorisation of the chain Knowledge-Research, Development and Innovation. MUM is a filamentous fungi culture collection established in 1996 and it is hosted by the Centre of Biological Engineering (CEB). CEB's research activities are focused on 4 interdisciplinary thrust areas covering: Industrial, Environmental, Health and Food Biotechnology and Bioengineering.



Figure 12. Strains cultivated at MUM. *A. flavus*; *A. aculeatus*; *P. brevicompactum*.

The Applied Mycology Group (AMG) is one of 9 the working groups of CEB. AMG has a long experience in applied mycology studies, namely in food and drink mycology and, in recent years efforts have also focused on mycotoxins and others secondary metabolites as well as in molecular mycology. Furthermore, the AMG and their laboratories host the MUM culture collection. The mission of MUM is to

be a resource centre for fungal biodiversity preservation and information creating solutions for sustainable development and human well-being with the wide vision of “A world in which fungal biodiversity is preserved and available for all”. In order to keep its high standards, since 2011, MUM has implemented a quality management system based on the normative reference ISO 9001.

### Modality of access

UMinho-MUM provides a polyphasic approach to identification of fungal contaminants including: classical taxonomy based on macro- and micro-morphologies (access to optical, fluorescent, confocal and SEM microscopes); biochemical characterisation, including enzymatic and secondary metabolites/mycotoxins profiles; spectral analyses using SARAFIS software for MALDI-TOF ICMS and Bionumerics for FT-NIR; genotypic analysis based on housekeeping genes for phylogenetic studies. RFPL, RAPD and other approaches for strain typing, and specific primer analysis of genes involved in the mycotoxins metabolic pathways can be also used. The occurrence and quantification of fungal contaminants in different food matrices (e.g., nuts, cereals, wines, juices, bottled and tap waters) and in fungal biofilms in water distribution systems are provided for risk assessment.

### Unit of access

1 strain characterized.

### Support offered

Scientific support and experienced staff.

MUM maintains fungal collection with main focus on *Aspergillus* and *Penicillium* as well other relevant strains for reference providing expertise and information associated to well-characterised strains. MUM offers services mainly for food industry (identification and consultancy). Fungal identification based on a polyphasic approach is one of the main services provided.

Centro de Engenharia Biológica - Campus de Gualtar  
4710-057 Braga, Portugal  
[www.micoteca.deb.uminho.pt/](http://www.micoteca.deb.uminho.pt/)  
[www.ceb.uminho.pt](http://www.ceb.uminho.pt)

Liaison officers

**Nelson Lima & Célia Soares**





## IN VITRO SCREENING OF ANTI-INFECTIOUS ACTIVITIES: ANTIBACTERIAL, ANTIVIRAL AND ANTIPARASITIC

Institut National de la Recherche Pour l'Agriculture, l'Alimentation et l'environnement – INRAE

Centre International de Ressources Microbiennes – CIRM

INRAE is Europe's top agricultural research institute and the world's number two centre for the agricultural sciences, it has 17 research centres in France specialised on food, nutrition, agriculture and the environment.

The CIRM is a unique ISO 9001 certified network of 5 BRCs that holds over 22,000 strains and its research areas cover agro-food, white and green technologies, plant and animal pathogens, biocontrol etc.

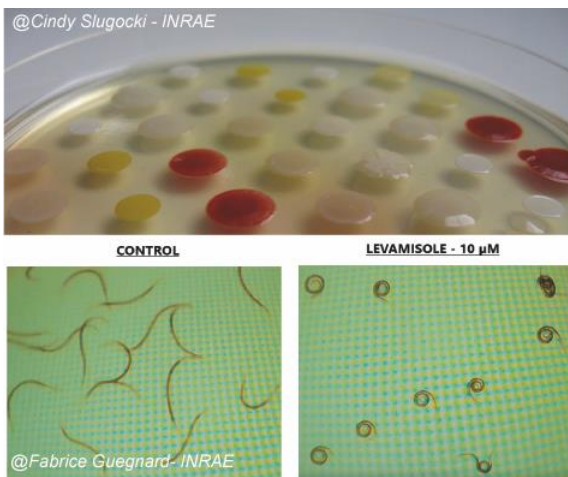


Figure 13. (upper) antibacterial activity testing; (lower) Larval migration assay

The CIRM offers a wide range of services: deposit, identification/characterization and supply of strains; high throughput phenotypic characterisation; molecular typing of isolates or ecosystems; characterisation of properties of

food isolates; high throughput screening of enzymatic activities; determination of strain virulence gene repertoire; antibiotic sensitivity testing; characterization of the antimicrobial potential of molecules of interest; MALDI-TOF-based identification; taxonomic characterization.

The CIRM-BP is located within INRAE centre of Val de Loire and benefits from a rich scientific environment with expertise in the domains of knowledge of pathogenic agents and infection mechanisms knowledge.

### Modality of access

Remote access to CIRM-BP in Tours. The antibacterial activity will be tested by determining the Minimal Inhibitory Concentration on a panel of 36 pathogenic bacterial strains selected for their relevance in current veterinary pathologies. Antiviral activity will be tested in an avian influenza virus infection system using a unique chicken lung epithelial cell line (CLEC213). Specifically, the putative antiviral and cytotoxic activities of a serially diluted compound will be tested on CLEC213 infected with 1-2 low pathogenic avian influenza virus strains. The antiparasitic activities will be studied by (1) testing of the «anthelmintic» activity of each compound on the L3 larval stage 2 of *Haemonchus contortus* and (2) by evaluating their efficacy in vitro on epithelial cell culture with the parasite *Eimeria tenella*.

### Unit of access

The unit of access comprises the *in vitro* testing of antibacterial, antiviral and antiparasitic (antihelmintic and anticoccidian) activities of 3 molecules or extracts.

### Support offered

Users will access to the technical and scientific expertise of the CIRM- BP and 3 other research teams of the ISP unit: "Avian Immune Response and Pathogenesis"; "Apicomplexa and Mucosal Immunity"; "Multi-resistances and Pathogeny factors of Nematodes".

CIRM-BP, UMR Infectiologie et Santé Publique  
INRAE Centre Val de Loire - Site de Tours  
37380 Nouzilly – France  
<https://www6.inrae.fr/cirm/>

Liaison officers

Marwa Zaarour & Emmanuelle Helloin



## ANALYSIS BY BIONUMERICS OF MALDI-TOF MASS SPECTROMETRY PROFILES

### Institut Pasteur – IP Centre de Ressources Biologiques de l'Institut Pasteur – CRBIP

The Institut Pasteur (IP) is dedicated to the prevention and treatment of diseases through biomedical research, education, and public health activities. The IP is recognized as a leader in infectious diseases research, and ranked as a top-level institution for publication impact in the field of microbiology.



Figure 14. MALDI-TOF experiments at the CRBIP. Sampling from *Shigella* colonies; preparation plate for MALDI-TOF analysis.

The CRBIP encompasses the five public collections hosted by the IP: Collection de l'institut Pasteur – CIP, Collection Nationale de Cultures des Micro-organismes – CNCM, Collection de Virus de l'institut Pasteur – CVIP, Pasteur Culture Collection of cyanobacteria – PCC and Investigation Clinique et Access aux Ressources Biologiques – ICAReB, making it one of the five richest culture collections in the world and providing access to more than 16,000 bacterial strains, 750 cyanobacterial strains and 500 viruses (including viruses of risk group 3).

The CRBIP activities are focused on: collection, maintenance and supply of microorganisms and research in the field of microbial biodiversity and systematic. The CRBIP is a member of the European Culture Collections' Organisation (ECCO) and of the World Federation for Culture Collections (WFCC).

#### Modality of access

The profiling of a set of 10 strains taxonomically related using a Brucker equipment and further analysis of the raw data by the BioNumerics software to study and compare profiles of the strains tested. The objective will be the detection of peaks allowing the differentiation between close species, which are difficult to distinguish by the Biotyper software of Brucker.

#### Unit of access

MALDI-TOF MS analysis of 10 strains taxonomically related.

#### Support offered

Expertise gained from the daily use of MALDI-TOF MS at the CRBIP.

Among the services offered by the CRBIP are the deposit, characterization/identification, supply of microbial resources, training in microbiology and culture collection related topics. The CRBIP has whole-genome sequencing, MALDI-TOF facilities and benefits from all technological facilities offered on the IP campus (ultrastructural bioimaging, cytometry, crystallography, biomaterials and microfluidics and an animal facility including a centre for gnotobiology) along with its support services (human resources department, financial department, patent office, etc.).

25-28 Rue du Docteur Roux 75015, Paris France

<https://research.pasteur.fr/fr/team/crbip/>

[https://catalogue-crbip.pasteur.fr/recherche\\_catalogue.xhtml](https://catalogue-crbip.pasteur.fr/recherche_catalogue.xhtml)

Liaison officer  
**Liliana Avila-Ospina**



## IN VITRO SCREENING AND TESTING OF MIC (Minimal Inhibitory Concentration)

University of Latvia – UL

Microbial Strain Collection of Latvia – MSCL

UL is one of the largest comprehensive and leading research universities in the Baltic State and offers more than 130 state-accredited academic and professional study programs. The MSCL was founded in 1993 and during the last decade it has become the leading microbial service collection in Latvia. MSCL holds more than 1600 strains of bacteria, filamentous fungi and yeasts which are of present and future interest for the Life Sciences, biotechnology and industry in Latvia.

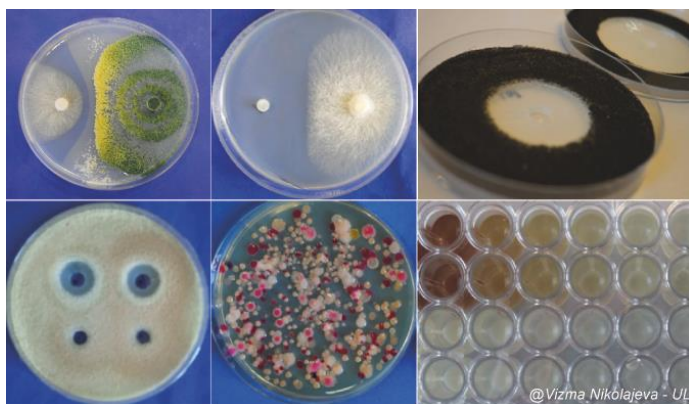


Figure 15. Testing of antibacterial and antifungal activity for compounds, extracts and other formulations using different methods.

The MSCL is recognized as International Depository Authority (IDA). The Collection is a member of the World Federation for Culture Collections (WFCC) and of the European Culture Collection's Organization (ECCO). The MSCL is also registered in the WFCC-MIRCEN World Data Centre for Microorganisms (WDCM). All deposited cultures are preserved in liquid nitrogen (exceptionally – under mineral oil) thus providing their genetic stability, purity and

authenticity. The MSCL services comprise deposition of strains for public access, for safe deposit (with all property rights retained by the depositor) and for patent purposes. Apart from the standard service functions, the MSCL carries out research in collaboration with scientific institutions and academia in the prior scientific areas approved by the Cabinet of Ministers Republic of Latvia.

### Modality of access

Agar and Broth-dilution method for in vitro testing of MIC of antibacterial /antifungal agents and compositions of biological origin, provided by users (private companies, research institutes, academia, etc.) will be used.

### Unit of access

In vitro screening and testing of antimicrobial activity comprise 1 activity against 1 microbial strain (bacterium, fungus).

### Support offered

Test cultures preserved at MSCL and experienced staff.

Through the partnerships and collaborations, MSCL has been involved in several joint projects funded by both the European Regional Development Fund (ERDF) and the National Research programme (strain identification, isolation, antagonisms tests, antimicrobial activity, etc.). Safe and secured maintenance of microbial cultures has encouraged several private companies to store their commercially important strains at MSCL. Upon request the viability tests of their microbial cultures are carried out. Improved techniques for microbial strain storage as well as new methods for the identification will be developed.

University of Latvia, Faculty of Biology  
Microbial Strain Collection of Latvia  
Jelgavas str., 1, Riga, LV-1004, Latvia  
<http://mikro.daba.lv/EN/>  
<http://www.lu.lv>

Liaison officer  
**Vizma Nikolajeva**



UNIVERSITA  
DEGLI STUDI  
DI TORINO



## METABARCODING OF FUNGAL COMMUNITIES

### Università degli Studi di Torino – UNITO Mycotheca Universitatis Taurinensis – MUT

UNITO is one of the most ancient and prestigious Italian universities open to international research and training, and a remarkable tradition of science and innovation. MUT is the fungal collection of the Department of Life Sciences and Systems Biology and belongs to the Turin University Culture Collections (TUCC). It operates according to the standards of ISO 9001 and currently preserves about 7,000 strains belonging to almost all classes of filamentous fungi ascribable to more than 1,100 species, coming from marine environments, polluted soils and wastewaters, or food. Many have been characterized for their ecological and physiological properties and include mycorrhizal strains, biocontrol and bioindicator agents as well as antimicrobial and enzyme producers to be used in industrial and bioremediation applications.



Figure 16. Fungi isolates cultivated in MUT.

The aims of the TUCC are the acquisition, identification, characterization, preservation and distribution of microorganisms to support research and bio-based economy.

#### Modality of access

Culture-independent analysis of fungal communities assisted by high-throughput sequencing is crucial in research studies ranging from the human microbiota to field bioremediation. This method requires awareness of specific fungal features (e.g. anamorph-teleomorph connections), methodological biases and limitations of markers and entails bioinformatic challenges and large-scale sequencing risks, which may yield artificial results and misleading conclusions. DNA metabarcoding is the targeted sequencing of taxonomically informative genetic markers; it allows biodiversity to be measured rapidly, cheaply, and comprehensively. This technology can be used for different applications e.g. in biodiversity, conservation, environmental management, the study of trophic interactions, food safety, etc.

#### Unit of access

Metabarcoding of 1 environmental sample including bioinformatics analysis (i.e. read quality check, filtering, OUT clustering, taxonomic assignment, data normalization).

#### Support offered

Longstanding experience in metabarcoding (mass-amplification of DNA barcodes from environmental DNA/RNA) of fungal assemblages in a range of habitats.

Among the services offered by UNITO-MUT are the deposit (either public or restricted), identification, characterization and supply of fungi, training and consultancy, especially about biotechnological application of fungi. In the last 5 years UNITO provided more than 600 strains to industrial and academic users (25% outside Italy), accepted in deposit more than 700 strains (33% outside Italy, often from African countries where no public mBRC exist). Most services are provided to companies.

Dipartimento di Scienze della Vita e Biologia dei Sistemi  
Viale Mattioli, 25 - 10125 Torino  
<https://www.unito.it/>  
<https://www.mut.unito.it>

Liaison officers

**Giovanna Cristina Varese & Valeria Prigione**



## Workflows

Combined set of research activities to develop research & innovation projects

## WF1. From Field Collection to Metabolites Extraction: Exploring Secondary metabolites production in Cyanobacteria

*Banco Español de Algas – BEA & BELSPO-BCCM/ULC*

Nowadays, the search for new secondary metabolites needs to widen its scope by turning to yet unexplored microorganisms. Cyanobacteria are essential and resilient primary producers in aquatic, marine and terrestrial ecosystems. Furthermore, they harbour a yet undiscovered and diverse reservoir of secondary metabolites, which waits to be unravelled. The culture collections, BCCM/ULC and BEA, propose this TNA on the characterization of Cyanobacteria. In the first part of this TNA, BCCM/ULC proposes to train the grant recipient to isolate and purify cyanobacterial strains from one or several environmental samples. The strains will be identified by a polyphasic approach, based on their morphology (light microscopy) and molecular characteristics (16S rRNA and ITS sequencing) and preserved by cryopreservation techniques. Alternatively, the user can also learn these techniques based on strains from the BCCM/ULC if wished.

The biotechnological characterization of the isolated or selected cyanobacteria strains will be performed at BEA facilities, addressing aspects such as how much biomass and fine biochemicals yields can be obtained under indoor controlled parameters (temperature, quality/quantity of irradiation, photoperiod, culture media, CO<sub>2</sub> addition,...) and outdoor conditions using different intensive cultivation units (photobioreactors, tanks and raceways).



Figure 17. Facilities offered at BCCM/ULC and BEA.

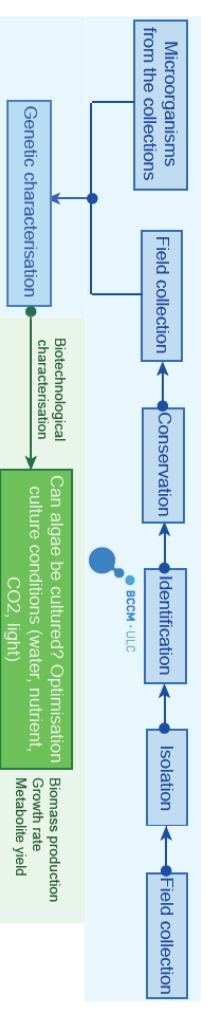


Figure 18. WF1-From field collection to metabolites extraction: exploring secondary metabolites production in Cyanobacteria.

Cultured cells will be harvested by centrifugation or filtration and freeze-dried biomass will be analysed to quantify carbohydrates, lipids, protein,  $\beta$ -glucan and polyphenol content, fatty acid and pigment profiles. The antioxidant, antimicrobial and plant bio-stimulant activity of crude extracts will be also assessed. Under this approach, growth characteristics and biomass composition data will be characterized to prepare a yield improvement strategy and potential applications.

BCCM/ULC possesses more than 250 strains from terrestrial, freshwater and marine environments with a focus on polar ecosystems and BEA-ULPGC offers 404 cyanobacteria from different habitats mainly from the Macaronesia Region.

## WF2. Identification of taxonomically related *Streptomyces* strains from extreme Greek environments using mass spectrometry profiles.

National and Kapodistrian University of Athens – NKUA & Institut Pasteur – IP

*Streptomyces* are widely recognised as industrially important microorganisms since they are a major source of bioactive secondary metabolites, notably antibiotics. They are also an important part of the soil microbiota and aquatic environments such as lakes, seas and oceans.

Standard techniques used in the characterization and identification of *Streptomyces* isolates such as morphological methods or 16S rRNA gene sequencing lack sufficient phylogenetic resolution for precise classification. They also are relatively time consuming, comparatively expensive and require additional experimental work, which render them unsuitable for a rapid screening and identification.

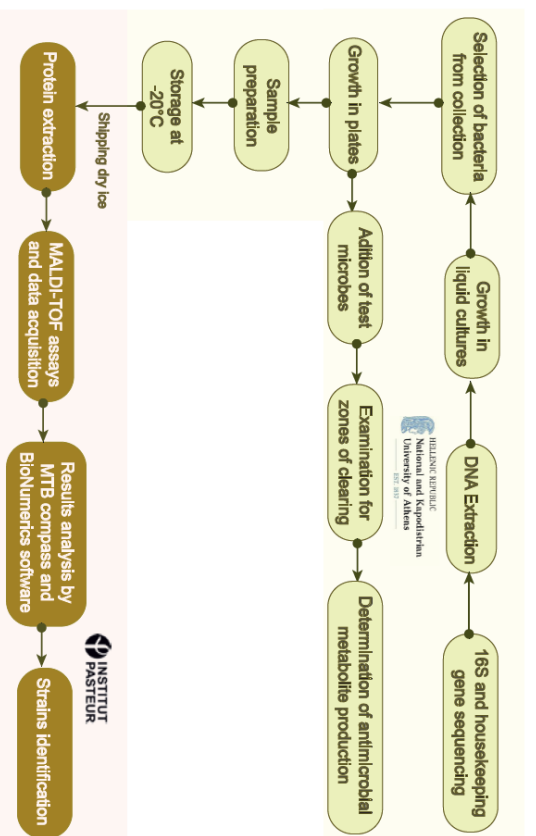


Figure 19. WF2- Identification of taxonomically related *Streptomyces* strains from extreme Greek environments using mass spectrometry profiles.

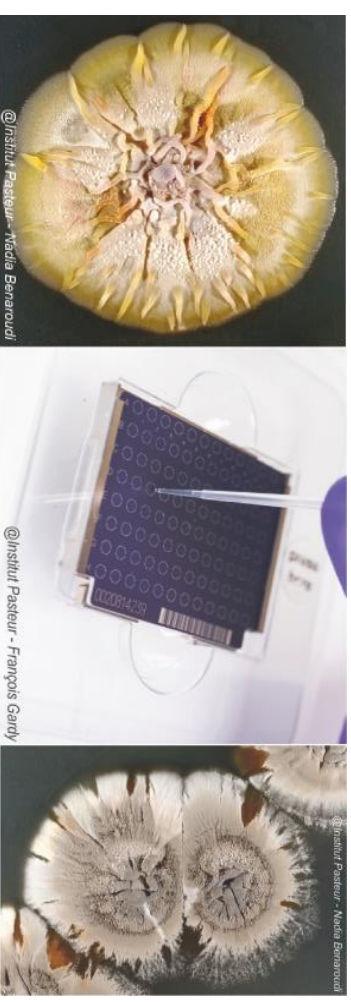


Figure 20. *Streptomyces* strains and facilities at the IP.

The Matrix-Assisted Laser Desorption Ionization Time Of Flight Mass Spectrometry (MALDI-TOF MS) has emerged as a powerful, accurate, rapid and cost-effective tool for the identification of microorganisms. This technique has been recently used for the routine clinical diagnosis of human pathogens, the identification of environmental organisms and also for the identification of fastidious, difficult-to-culture and slow-growing organisms.

CCUoA and the IP offer this TNA workflow for the identification of *Streptomyces* species isolated from extreme Greek habitats. CCUoA offers over 300 strains from a wide variety of species belonging to the genus *Streptomyces* and a wide expertise in the culture and molecular analysis and taxonomy of these species. On the other hand, the IP offers wide its expertise in the identification of bacteria species using MALDI-TOF MS through the analysis of protein profiles using MTB Compass and BioNumerics software.

## WF3. Coupling MALDI-TOF mass spectrometry protein and molecular biology techniques to identify taxonomically related *Alicyclobacillus* strains.

*Institute of Agriculture and Food Biotechnology – IAFB & Institut Pasteur – IP*

The contamination of fruit juices by *Alicyclobacillus* has recently become one of the most important issues in the juice and beverage industry. These acidophilic, thermophilic, and spore-forming bacteria are very hard to eliminate from contaminated drinks. *Alicyclobacillus* spores survive under typical pasteurization conditions and are able to germinate and grow in an acidic environment. Thermal treatment may even impel germination of the spores. Certain species of *Alicyclobacillus* produce guaiacol (2-methoxyphenol), a taint compound causing a phenolic, medicinal, or disinfectant-like flavour and/or odour in juice products.

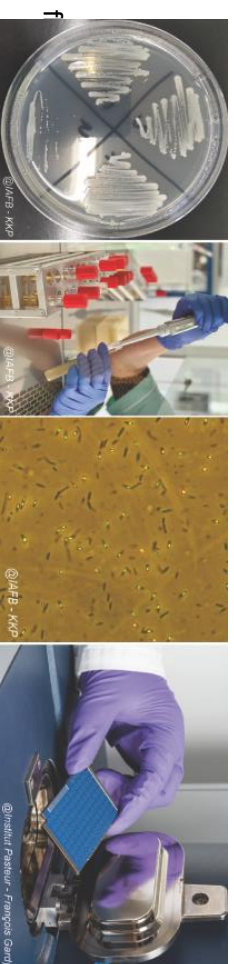


Figure 21. Strains, methods and facilities offered at IAFB and IP

The classic method for isolating and characterizing *Alicyclobacillus* in the juice and beverage industry takes about 15 days and includes the detection of guaiacol by the peroxidase method, HPLC and GC. Therefore, alternative approaches have been adopted (flow cytometry, IR spectroscopy, and genetic methods targeting the rDNA operon). MALDI-TOF MS has emerged as a powerful, accurate, rapid and cost-effective tool for the identification of microorganisms. It has been used for routine clinical diagnosis of human pathogens, identification of environmental organisms, difficult-to-culture/slow-growing strains and recently introduced to food and beverage manufacturing companies.

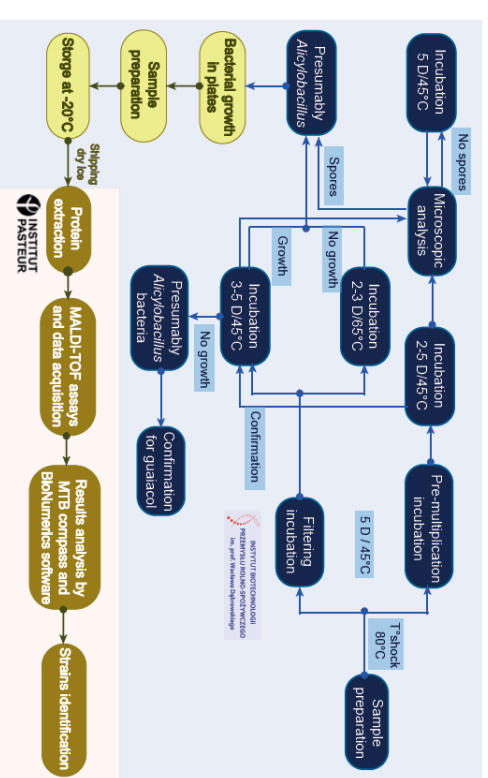
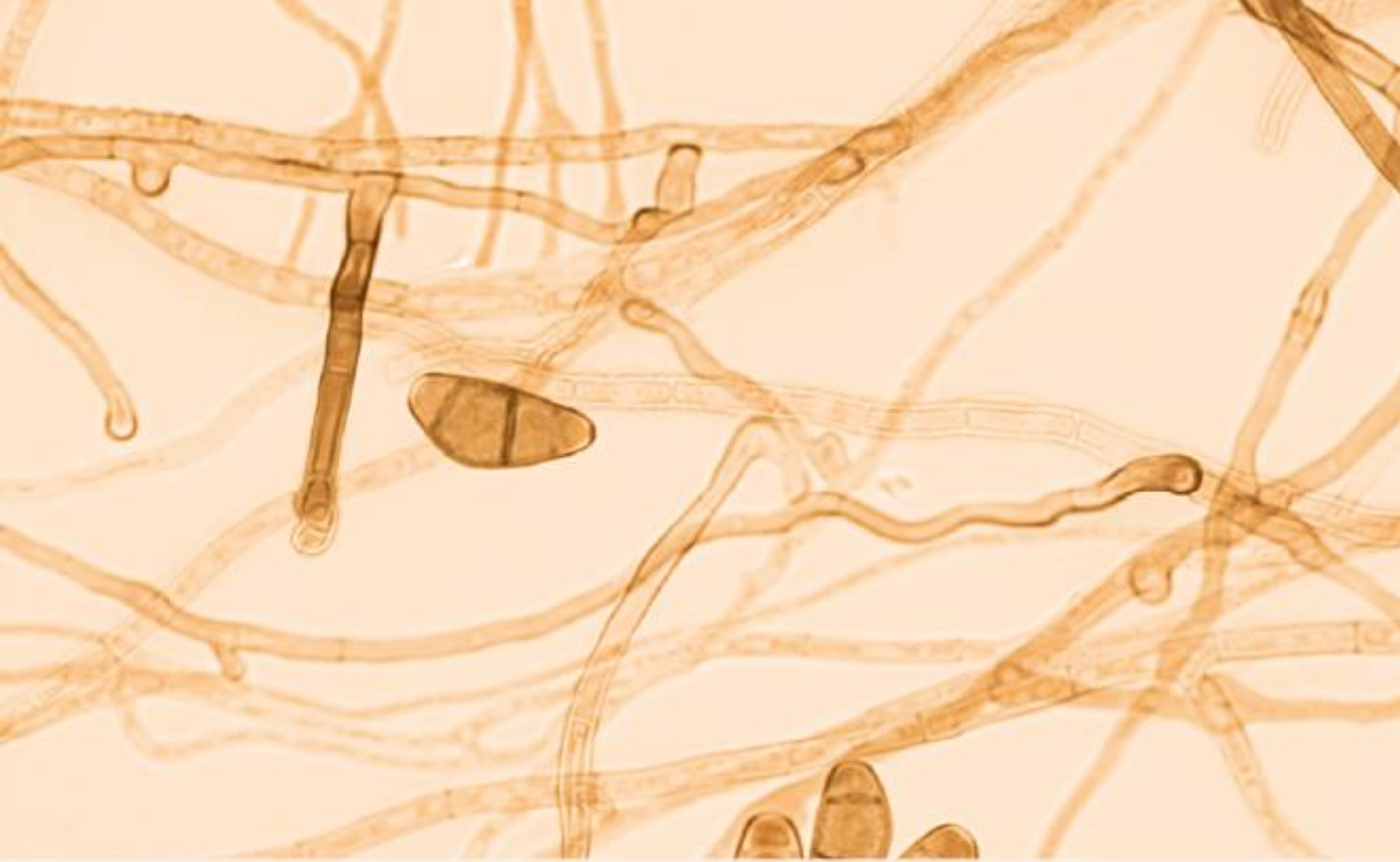


Figure 22. WF3-Coupling MALDI-TOF mass spectrometry protein and molecular biology techniques to identify taxonomically related *Alicyclobacillus* strains.

The IAFB and the IP offer this TNA workflow for the coupling of MALDI-TOF MS and molecular biology techniques to identify taxonomically related *Alicyclobacillus* strains. The IAFB has developed an efficient methodology of sample preparation for detection and identification of guaiacol-producing *Alicyclobacillus* strains using PCR-RFLP and sequencing, focusing on the use of *ropB* and *gyrB* genes and the *vdC* operon as molecular markers. The ability to produce guaiacol is associated with the presence of *vdC* gene cluster, consisting of three genes, *vdCB*, *vdCC*, and *vdCD*. *RpoB* gene, encoding the  $\beta$  subunit of bacterial RNA polymerase, is one of the single-copy housekeeping genes and is widely used in studies on bacterial taxonomy. On the other hand, the IP offers its wide expertise in the identification of bacteria species using MALDI-TOF MS through the analysis of protein profiles using MTB Compass and BioNumerics software.





**MIRRI** IS21

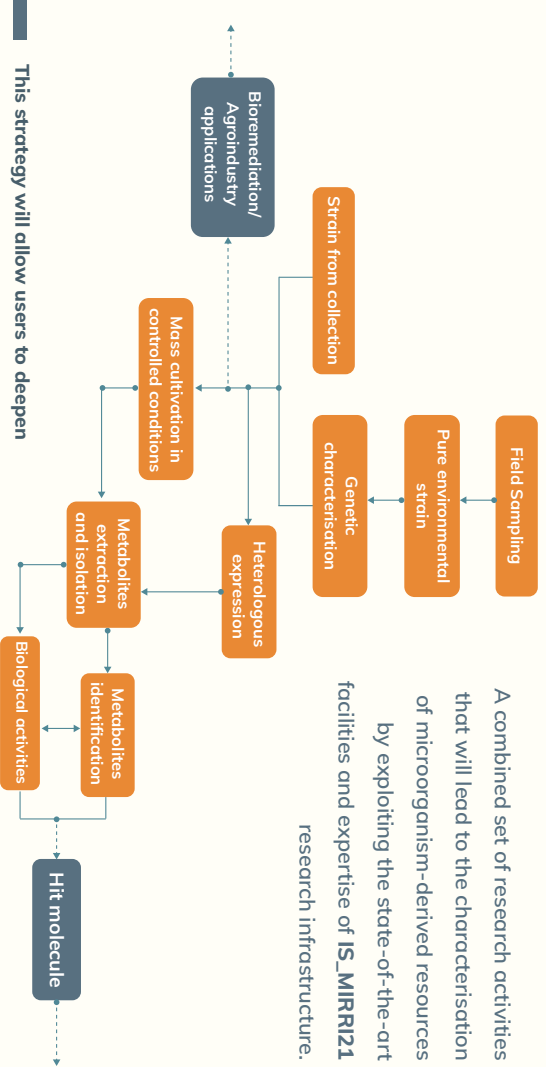
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MICROBIAL RESOURCE RESEARCH INFRASTRUCTURE



**Annex 3 - TNA Flyer**

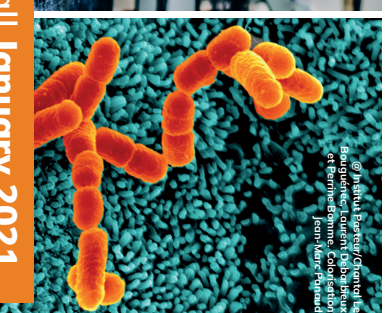
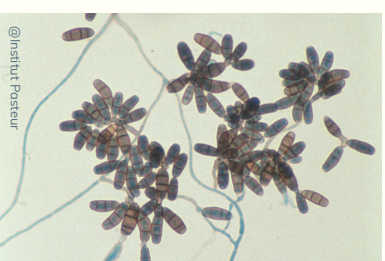
## IS\_MIRRI21 WORKFLOWS



For more information about IS\_MIRRI21 workflows, check our TNA catalogue available on: <https://ismirri21.mirri.org>



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme, under the Grant Agreement n° 871129. This document reflects only the author's view and the Commission is not responsible for any use that may be made of the information it contains.



First call January 2021

**Transnational access**  
Logistical and financial support to access microbial resource research institutions

Are you a researcher interested in top-class microbiology facilities?

### For more information

Our website

[ismirri21.mirri.org](https://ismirri21.mirri.org)

Contact us through

[tna@mirri.org](mailto:tna@mirri.org)

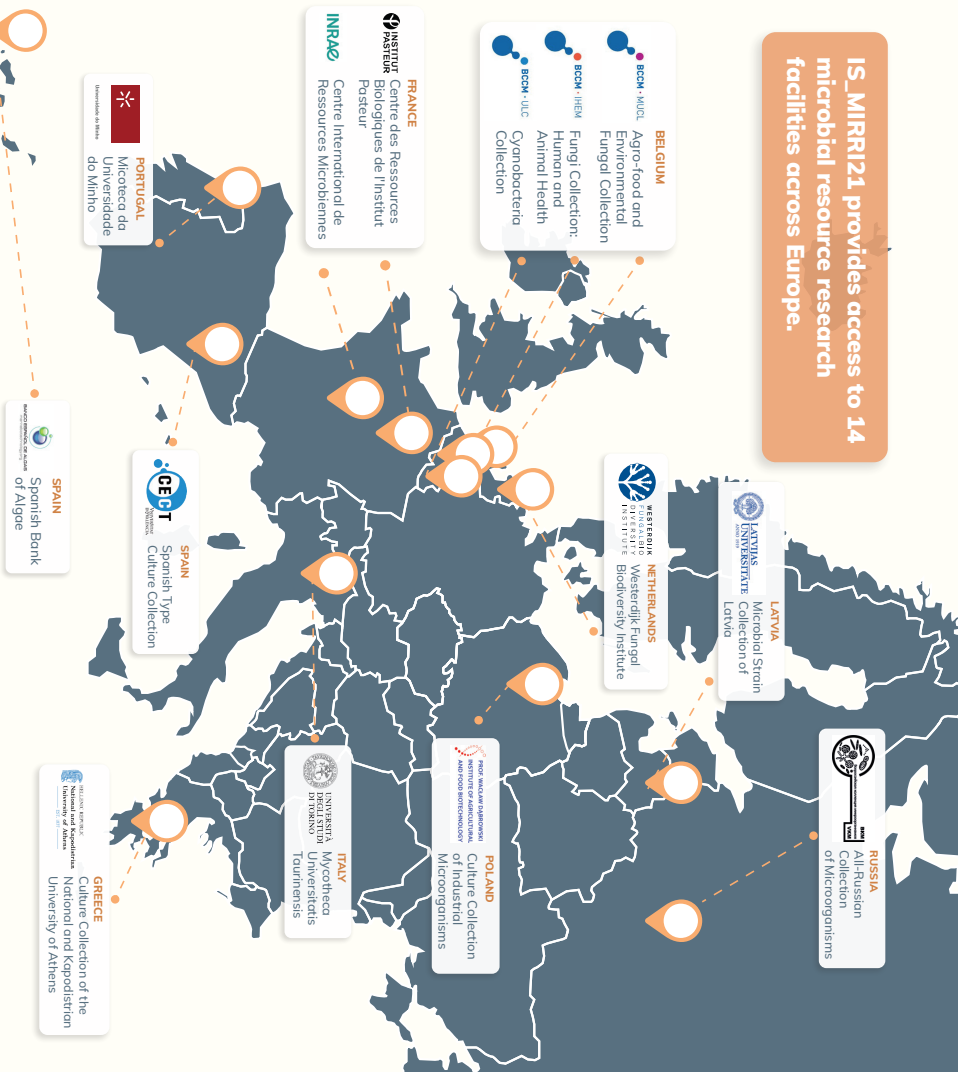
Our social media

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## IS\_MIRRI21 provides access to 14 microbial resource research facilities across Europe.



Users will benefit from high-quality facilities and expertise to conduct their scientific studies.

## IS\_MIRRI21 launches the first Transnational access (TNA) call on 25<sup>th</sup> January 2021

Having the aim of promoting transnational scientific cooperation and innovation, IS\_MIRRI21 opens the first TNA call in 2021.

Scientists from research organisations and companies (in the fields of biotechnology, agro-food, pharmaceuticals, environment, etc.) can apply for funded access to one or several of the 14 IS\_MIRRI21 partner's facilities to carry out their research projects. Applicants must submit a research proposal which will be assessed by a panel of experts in microbiology based on scientific merit.

Applicants must contact the access officer for pre-feasibility evaluation of the project prior to the submission of the proposal.

Please contact the access officer at [tna@mirri.org](mailto:tna@mirri.org)

### The Transnational access includes:

- Technical and scientific support
- Administrative and logistic support
- Use of the services and platforms offered in the IS\_MIRRI21 catalogue
- Hands-on training needed to access the facilities

### The TNA programme sponsors:

- Access to the IS\_MIRRI21 research infrastructures
- Travel expenses (one round trip/person)
- Subsistence (meals and accommodation for up to 30 days)
- Shipping costs of project materials from the IS\_MIRRI21 facility to the home institution

## Available research infrastructures cover:

<p><b>Microbial resources</b></p> <p>Bacteria and archaea from extreme environments, yeast, filamentous fungi, viruses, cyanobacteria and virology.</p>	<p><b>Experimental facilities</b></p> <p>Growth rooms, microscopes, greenhouses, freeze dryers and ultra cyo-freezers.</p>	<p><b>Expertise</b></p> <p>Taxonomy, study and culture of microorganisms from diverse environments, human and animal pathogens and agro-industrial microorganisms.</p>	<p><b>Technology platforms</b></p> <p>Chromatography, flow cytometry, molecular biology, natural products analysis, mass spectrometry, whole genome sequencing and data analysis.</p>	<p><b>Antimicrobial screening</b></p> <p>Anti-bacterial, anti-viral, anti-parasitic and anti-fungal activities against animal pathogens.</p>
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# MIRRI IS21

IMPLEMENTATION AND  
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MICROBIAL RESOURCE RESEARCH INFRASTRUCTURE