



WORLD FEDERATION FOR CULTURE COLLECTIONS

Newsletter (No. 59)–DECEMBER 2023



NEWS FROM THE PRESIDENT

Dear Members,

Kind greetings to you All from Australia.

We would like to update you with news covering the last 12 months. As I mentioned in the earlier newsletters over the last few years, we have been facing significant challenges at the global scale and as you would remember the efforts of Prof. Gürlü (Türkiye) and Prof. Santos (Chile) gone wasted due to unprecedented events in those countries and the ICCC'15 had to be canceled twice. Finally, we have been able to organize the long overdue ICCC'15 in Braga, Portugal in June 2023. We thank Professors Santos and Lima for the opportunity to align the conference with a MIRRI project meeting and Prof. Gerard Verkleij, the President of the ECCO for the input. Members benefited immensely from a comprehensive program covering WFCC, ECCO and MIRRI. Conference was a hybrid one to accommodate members who may not be able to travel long distances with an excellent internet connection. The abstract book and the details of the conference can be found at <https://www.iccc15.com/> as well as in the related article in this newsletter.

As we informed you in Braga, we also made the move toward the formalization of the WFCC which was detailed to you in the WFCC General Assembly. We thank you for your support and approval. It is a lengthy process, and we are still working on it to ensure the best outcome for the WFCC and its members. Final structure will be submitted for your approval in 2024.

Apart from the ICCC'15, I attended 4 other conferences representing you. In early December 2022, I had the kind invitation to attend the 35th Malaysian Society for Microbiology Symposium in December 2022. It was co-organized by the Malaysian Microbiology Society and the University of Malaya.

1ST ANNOUNCEMENT

**MSM LIVE EVENT
REGISTER NOW!**

**35TH
MALAYSIAN
SOCIETY FOR
MICROBIOLOGY
SYMPOSIUM 2022
(MSM 2022)**

**Microbial Technologies:
Ensuring Biosecurity &
Sustaining the Future**

**1st & 2nd December 2022
Pullman Bangsar
KUALA LUMPUR**

REGISTRATION FEES

Category	Fees
MSM Members	RM 600
Students / Senior Citizen Members	RM 500
Non-Members	RM 700
International Participants	USD 400
International Students	USD 300

Key Dates:
Abstract Submission Deadline: 30th September
Registration Deadline: 31st October

Contact us for:

- Exhibition booths
- Sponsorship opportunities
- Pre and post workshops hosting
- Early career microbiologist networking session (3rd December)

Organised by:

Secretariat:
msmsymposium2022@gmail.com
<https://mymicro.org/>

HIGHLIGHTS:

- Keynotes
- Plenaries
- Exhibitions
- Poster sessions
- Networking
- Workshops

**MICROBIOLOGY
THEMATIC
SESSIONS**

- Food & Agricultural Security
- Energy & Industrial Security
- Environmental Security
- Medical & Health Security
- Fundamental Sciences & Novel Technologies

QR Code

I also had the opportunity to visit the culture collections of the Universities of Malaya,



Kebangsaan and Putra of Malaysia. I immensely thank the colleagues there for their wonderful hospitality and kindness. I also had the opportunity to discuss biotechnological aspects of the microbial culture collections with the colleagues of the Biomolecules Research Laboratory, Bioactivity Programme, Natural Products Division, Forest Research Institute Malaysia (FRIM), Malaysia. My special thanks to Assoc. Prof. Annie Geok Tan, Prof. Mohammad Annuar, Prof. Zulqarnain Mohamed of the University Malaya, Prof. Zunita Binti Zakaria (photo top left), Assoc. Prof. Tan Geok Hun, Dr Musliyana Masor (photo below left) of the University Putra Malaysia, Prof. Noraziah Mohamad Zin of the University Kebangsaan Malaysia, Dr Getha Krishasamy of the Forest Research Institute Malaysia. Traditional Malaysian lunch was much appreciated (photos in page 3).



UPM INSTITUT BIOSAINS
UNIVERSITI PUTRA MALAYSIA
اوپمستوت بيويساينس

SEMINAR ON
THE ROLE OF CULTURE COLLECTION IN ACHIEVING THE SUSTAINABLE DEVELOPMENT GOALS

DR. IPEK KURTBOKE
PRESIDENT
WORLD FEDERATION
FOR CULTURE COLLECTIONS
(WFCC)

REGISTER NOW.
ADMISSION IS
FREE!

**28 NOVEMBER 2022
(MONDAY)**

11:00 AM - 12:00 NOON

**KESIDANG UTAMA ROOM
(2nd FLOOR),
INSTITUT OF BIOSCIENCE**

**FACEBOOK LIVE:
INSTITUT BIOSAINS UPM**

For more info, contact us:
Microbial Culture Collection Unit (UNICC), Institute of Bioscience, UPM
✉: uniccibs@upm.edu.my | ☎: 03-9769 2178 atau 2189

UniputraMalaysia @uputramalaysia uniputramalaysia Putra TV uniputramalaysia

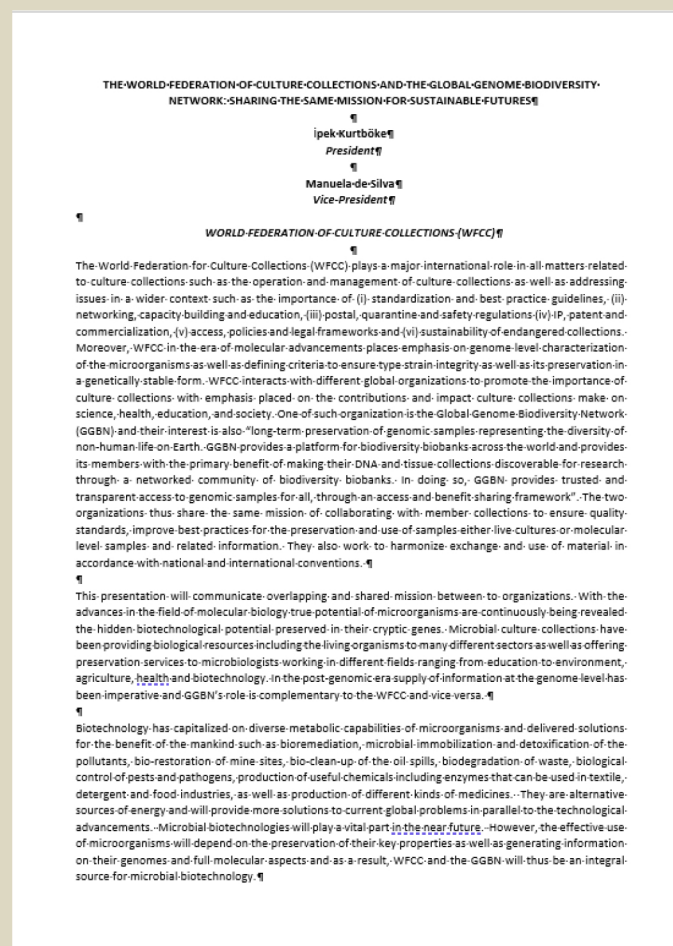
PERTANIAN • INOVASI • KEHIDUPAN
BERILMU BERBAKTI
WITH KNOWLEDGE WE SERVE





In 2023, I participated in three important conferences, one was the GGBN in Mexico, <https://naturalhistory.si.edu/research/global-genome-initiative/ggbn-2023-conference>.

In GGBN-2023, I participated virtually and although one deals with the molecular data and the other with the preservation of the biological entities, the two organizations have so much in common which was communicated in my talk presented jointly with Vice-President Manuela DaSilva. I encourage all our members to follow GGBN activities https://www.ggbn.org/ggbn_portal/ and benefit from advance molecular level information they produce which has great relevance to all BRCs.



The second event I participated in person was the GB30 <https://gb30.gbif.org/>. As you know after each election WFCC Presidents become the Head of Delegation representing WFCC at the GBIF and the Node Manager is the WFCC-



MIRCEN-WDCM's Director. Their kind invitation of the WFCC was appreciated. We interacted with the GBIF over the last year via zoom meetings in particular for data sharing, however, the Canberra meeting gave the face-to-face opportunity to interact with the GBIF delegates arrived from four corners of the world. The meeting was concluded with a special symposium at the CSIRO, Canberra, Australia with the theme: The changing face of biological collections, data, science, and applications. As you know, BRCs are the gateways to biotechnological and real-life applications of biological resources. They are also playing a key role in the timely delivery of the UN's Sustainable Development Goals by 2030. Pollution control, waste management, bio-restoration, bioremediation and many more biological methods will derive from the information stored in the BRCs and facilitate development of environmentally friendly biotechnologies. I thank immensely to GBIF members for their kind reception and the allocated desk to the WFCC during the meeting and considering our views and working toward a shared vision.

Another important conference was organized by BISMis, which was held in China <https://www.bismis2023.com/>.

I again participated virtually. WFCC fully supports BISMis activities as both organizations share the same mission on the importance of correct identification and validly publication of the reference and type strains. I encourage members to follow BISMis activities to apply sound systematic analysis to the cultures they preserve.

WDCM can also assist you (please refer to below):

The Global Catalogue of Microorganisms (GCM) 10K type strain sequencing project: providing services to taxonomists for standard genome sequencing and annotation, <https://www.microbiologyresearch.org/content/journal/ijsem/10.1099/ijsem.0.003276>



Snapshot from BISMis-2023

We have also introduced support grants for endangered culture collections to be awarded two of them per year. Please see the article in this newsletter from The Philippines. Please fill the questionnaire in the WFCC web site and submit to WFCC Secretary if you need assistance.

Online catalogue development can also be supported by the WFCC-MIRCEN-WDCM, please contact the Director Prof. Juncai Ma (ma@im.ac.cn) if you have the need.

WFCC elections for the new Executive Board will take place next year and we invite you to submit your nominations to the WFCC Secretary in the first half of the 2024.

On behalf of the WFCC-EB, I wish you a Merry Christmas or a Festive Season and a very happy 2024. Thank you again for your support, WFCC will continue to thrive and network the BRCs and be a catalyst for the implementation and development of globally harmonious regulations for all BRCs.

İpek Kurtböke
President



NEWS FROM CONFERENCES AND WORKSHOPS

15th International Conference on Culture Collections

*“Exploiting microbial resources to support
social wellbeing”*

Braga, Portugal, 12th to 16th June 2023

The ICC15 meant a unique opportunity to promote research and international collaboration in the field of microbiology, thus consolidating the position

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Over the past years, the Biotechnology and, more recently, the Fourth Industrial Revolution, Industry 4.0, have marked the technological convergence of the first quarter of the century. The production of food, pharmaceuticals, energy, etc., has been increasingly supported by the biotechnological industry using microorganisms, reusable materials, and greener energy as well as the digital transformation and artificial intelligence based on the big set of data. Microbial Culture

Collections play a crucial role in the development of an economy based on knowledge of bioprocesses, next-generation sequencing, other important omics, and digital transformation, including Internet of Things (IoT), cloud computing, analytics, etc.

The Micoteca da Universidade do Minho is a filamentous fungi Culture Collection founded in 1996 with the mission of "being a resource centre for the preservation and information of fungal biodiversity and creating solutions for sustainable development and human well-being." The Micoteca da Universidade do Minho coordinates the National Node of the Microbial Resource Research Infrastructure (MIRRI-PT) and was responsible for establishing the European headquarters of the non-for-profit international legal entity MIRRI-ERIC at the Gualtar Campus of the University of Minho. Among the current 24 research infrastructures recognized as legal entities by the European Commission, MIRRI-ERIC is the only one headquartered in Portugal.

To continuously valorise the microbial resources preserved in culture collections and with the motivation to expand their services to new users and accelerate innovation and the bioeconomy, the Micoteca da Universidade do Minho organised, in collaboration with the Universidad de La Frontera (UFRO, Chile), the 15th International Conference on Culture Collections – ICC15, in Braga, Portugal, from June 12 to 16.

This ICC15 takes place every 3 years under the auspices of the World Federation for Culture Collections (WFCC), which brings together over 3.3 million isolated, characterised microorganisms available for exploration, belonging to more than 830 collections from 78 countries and economies.

From 12th to 16th June, the ICC15 hosted 7 plenary conferences, including on the last day the “Skerman Award Lecture” entitled “Advanced systematics of Actinobacteria: a key to exploiting their biotechnological potential”



given by Imen Nouioui, from DSMZ (Germany), 10 sessions with 46 oral presentations, a roundtable on state-of-the-art technologies to serve microbial culture collections, a special session by the European Culture Collections Organization (ECCO), a workshop on quality management systems in culture collections organised by the IS_MIRRI21 EU Horizon2020 project, and a post-conference course by the World Data Centre for Microorganisms (WFCC-MIRCEN-WDCM) in conjunction with MIRRI-ERIC for training on "Big Data" in microbiology.

In addition, 61 panel presentations were given. The best poster prize was given to poster P21 entitled "Using artificial intelligence and a novel media database to predict cultivation conditions for bacteria" by Julia Koblitz *et al.* from DSMZ, Germany. Taking advantage of existing synergies during the event week, the General Assembly of the EU project IS_MIRRI21 also took place. The ICC15 was organized as a hybrid format that had a registration of 33 countries from the 5 continents with a total number of registrations of over 200. From this, the majority participated in face-to-face mode and 22% participated remotely. Finally, 10 sponsors supported the event and were presented in the exhibition space.



With the *motto* "Exploiting Microbial Resources to Support Social Wellbeing" the ICC15 emphasised the role that microorganisms play in sustainable development and how historically humanity has used them for its benefit. For example, in food preservation processes, the production of medicines, including vaccines and antibiotics, and more recently in therapies using bacterial viruses (bacteriophages), as well as in food and beverages, bio-fertilisers and biopesticides, biofuels, or even in the treatment and valorisation of waste, including wastewater treatment.



Photos: Snapshots from the ICC15

The ICC15 inaugural session on 12th June was attended by:

1. Prof Nelson Lima, President of the ICC15 Local Organizing Committee,
2. Dr Manuela da Silva, Vice-President of the WFCC,



3. Prof Rino Rappuoli, President of the International Union of Microbiology Societies/IUMS,
4. Dr Andreas Holtel, Member of the European Commission, Executive Agency for Research-REA,
5. Dr Francesco Gatto, Member of the European Commission, Executive Agency for Research-REA,
5. Mr. Luciano Rivas, Governor of the Region of La Araucanía, Chile,
6. Prof Eduardo Hebel Rector of the Universidad de La Frontera, Chile,
7. Prof Rui Vieira de Castro Rector of the University of Minho.

microorganisms are important for social wellbeing.

Finally, the digital ICC15 Abstracts Book (ISBN: 978-972-97916-6-6) edited by Micoteca da Universidade do Minho (MUM), with the financial support of IS_MIRRI21 EU Horizon2020 project (grant agreement nº 871129), is now available free access to download at the ICC15 webpage, <https://www.iccc15.com/>. Organizers thank to all participants making the event a success and look forward to seeing them again in ICC16.

WFCC-MIRCEN-WDCM Annual Meeting held in Shenzhen, China

On November 2-3, 2023, World Data Centre for Microorganisms (WDCM) 2023 Annual Meeting opened in Shenzhen. Nearly 120 microbiologists and data scientists from the world's leading culture collections and microbial research institutions gathered to deliver speeches on the theme of "Promoting Sustainable Utilization of Microbial Resources in the Era of BT/IT".

WDCM has long been committed to facilitating the application of cutting-edge information technology to improve the interoperability of microbial data, promote the access and use of data and information, and coordinate international open science and cooperation between culture collections, scientists, and other user communities.

At present, there are 843 international culture collections from 79 countries made the registration in WDCM's CCINFO database. WDCM has also initiated Global Catalogue of Microorganisms (GCM) international cooperation program and Global Microbial Type Strain Genome and Microbiome Sequencing Project (GCM 2.0), and GCM 3.0 Culturing the uncultured majority of microorganisms through global cooperation network project was officially announced at this meeting, which are all important to effectively promote the sharing and



ICC15 – Example of a Local Newspaper with the caption “Conference in the UMinho highlight the role of microbes for the social wellbeing”

A social and cultural program was also organised to allow the participants to visit the charming city of Braga.

Six ICC15 Newsletters were produced with 2,744 visualisations on the ICC15 website (www.iccc15.com). The ICC15 homepage visitor numbers were 5,444 (43%), followed by the Scientific Program with 3,092 visitors (24%), the social media made a strong connection with the ICC15 event with the local and national communities and lay citizens publishing several news and interviews about the event and how



utilization of global microbial resources, to form global cooperation network. The opening ceremony of the conference was hosted by Dr. Ma Juncai, Director of the WDCM. Dr. Yaping Zhang, Vice President of the Chinese Academy of Sciences, delivered a congratulatory speech, Dr. Ruidan Wang, Deputy Director of the National Science and Technology Infrastructure Center, Ministry of Science and Technology and Prof. Ipek Kurtböke, President of the World Federation for Culture Collections (WFCC), sent a congratulatory message to the conference, wishing the successful implementation of Culturing the Uncultured Majority through Global Cooperation Network Project.



Prof. Ipek Kurtböke, President of the World Federation for Culture Collections (WFCC), sent a congratulatory message.



Dr. Yaping Zhang, Vice President of the Chinese Academy of Sciences delivered a congratulatory speech.

Prof. Jianguo Xu, Academician of Chinese Academy of Sciences, Prof. Yongyuth Yuthavong, Former Deputy Prime Minister of Thailand, Prof. Ye Yin, CEO of BGI Group, Prof. Ma Juncai, Director of the WDCM, Prof. Philippe Desmeth, Former President of the WFCC gave keynote speeches respectively. At the same time, more than 30 microbiologists and data scientists gave lectures focusing on the topic of promoting the sustainable use of microbial resources in the BT/IT era.



Dr. Ruidan Wang, Deputy Director of the National Science and Technology Infrastructure Center, Ministry of Science and Technology.



Launching Ceremony of the *Culturing the Uncultured Majority through Global Cooperation Network Project*.



The WFCC-MIRCEN-WDCM global training course: ASEAN satellite training course, held onsite and online during 28-29 November 2022 in Bangkok, Thailand.

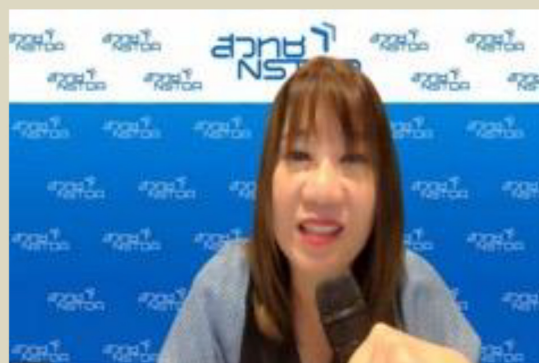


It was hosted by Thailand Bioresource Research Center (TBRC) under National Center for Genetic Engineering and Biotechnology, National Science and Technology Development Agency, in collaboration with the WFCC-MIRCEN-World Data Center for Microorganisms (WDCM) and the Networking, Capacity Building and Education Committee under the WFCC. The training was also supported by various organizations including the Lancang-Mekong Cooperation Special Fund, Alliance of International Science Organizations (ANSO) and the Biodiversity Information Fund for Asia (BIFA). The 2-day training consisted of 2 major topics: 1) eDNA for Biomonitoring in Environments (Day 1, conducted in Thai) and 2) Mycobiome: Importance and its Applications (Day 2, conducted in English). The training also included 2 sessions of hands-on practice on eDNA analysis.

There were 72 participants registering the onsite training and 40 participants registering for the online session. The participants were from Thailand and other 13 countries (Belgium, Brunei, Cambodia, China, Indonesia, Italy, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Russia, and Uzbekistan) and represented academia, industry, and environmental management agencies.

The majority of participants (50%) have a Ph.D. background and were somewhat familiar with eDNA principles and tools. Most of the audiences (55%) are professors, teachers, and students from various universities. Thirty-six percent were from governmental agencies and 8% were from private sectors.

The online session (Day 2) which focused on Mycobiome: Importance and its applications, was moderated by Dr. Lily Eurwilaichitr, a member of WFCC Executive board and Vice Executive Director of National Energy Technology Center (ENTEC), NSTDA.



Invited speakers of this session were as follows: Dr. Lihuan Wu, giving a talk on the WDCM's Type Strain sequencing project for meta genomic data analysis.

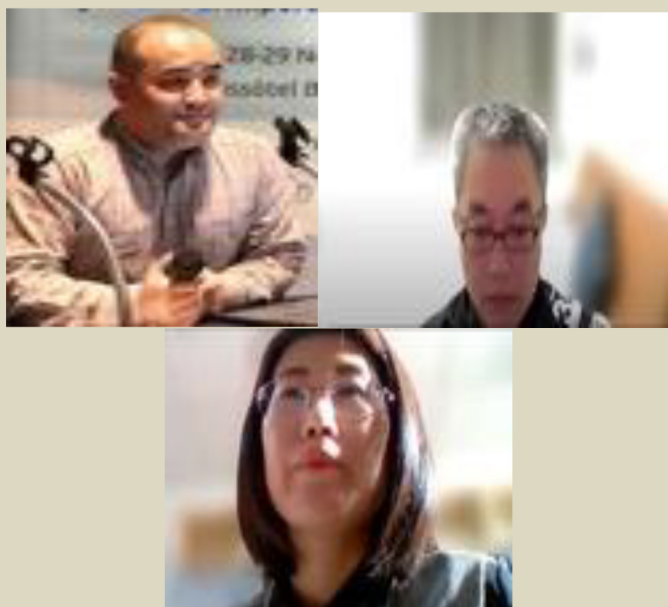


Prof. Lei Cai, Institute of Microbiology (IMCAS), Chinese Academy of Sciences, sharing his research work on Plant-microbiome interaction under invasion of *Fusarium* disease, Dr. Junmin



Liang, IMCAS, giving a talk on Variation monitoring of *Puccinia polysora*, a fungal pathogen from crop field, Dr. Yusufjon Gafforov,

Academy of Sciences of Uzbekistan, sharing his work on Biodiversity of Uzbekistan, fungi in the forest ecosystems,



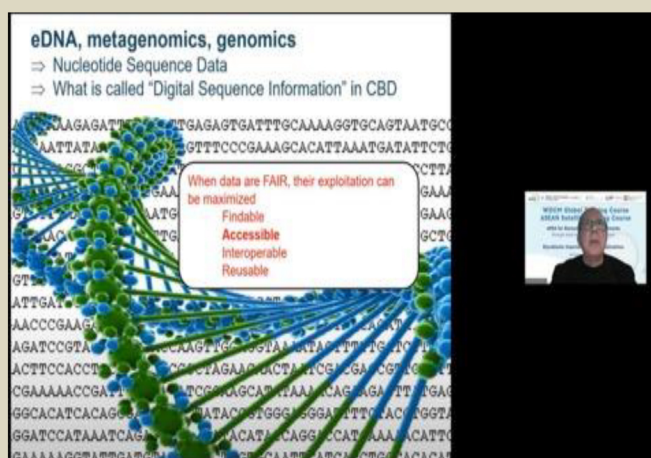
and Dr. Philippe Desmeth, Belspo, Belgium, former WFCC President, and a chair of the Networking, Capacity building and Education Committee under the WFCC, sharing his thought on holobiont concept to explore metagenomics and e-DNA.

The course was intentionally broad with an aim of providing a general overview of the current state-of-the-art in eDNA research as well as the relationship between fungi and the ecosystem.

Partnerships on eDNA data application and mobilization with WFCC-MIRCEN-WDCM and other organizations have been valuable for microbiological research and biodiversity conservation. The eDNA data mobilization has also supported open science and open access of information to interested parties.



WFCC-MIRCEN-WDCM Global Training Course: Brazil Satellite Training Course for Open Science in Microbiology Held at the Federal University of Parana, Curitiba, Brazil, 9th December 2022



This international satellite symposium promoted by the WFCC-MIRCEN-World Data Center for Microorganisms (<https://www.WDCM.org/>) was support from the Bureau of International Affairs, Chinese Academy of Sciences. The WDCM has successfully held 10 training courses since 2010. Given the current situation of the global COVID-19 epidemic, in 2022 it has established good cooperation with many international research institutions. The training course has been a WDCM Global Training Course with a main course in Beijing and satellite courses in 4



countries: Belgium; Chile; Thailand and Brazil. The current course theme was “open science” directed to routine activities and services of microbiological collections. which brought a discussion and upgrade on open data, showing challenges of improving research practices, scientific publications, and data repositories. Likewise, discussions took place on the microbial culture collections generating continuous data with years of organizing their catalogues of available holdings and information associated that have significantly contributed to open science. In addition, it was noted that the culture collections have been generating some collaborations and alignment actions bringing as e.g., networks with common catalogue in collaborative work inside the open science concept.

In Brazil, the course was organized at the Federal University of Paraná (UFPR) by the Microbiological Collections of Paraná Network (CMRP/Taxonline-<https://www.cmrp-taxonline.com/>) with administrative support of the Brazilian Society of Zoology (<http://www.sbzoologia.org.br/>).

The course was organized covering 3 topics. The **Part I** was opening ceremony occurred the day before of the event that was held in the local language, but it was very important to seal institutional commitment and zeal with projects associated with Microbial Collections at the UFPR and with the state institutions. During the opening, administrative representatives of the UFPR and of the State development institution affirmed their willingness to cooperate for the advancement of collaborations and, consequently, the consolidation of institutional projects, such as, projects developed in Network, focusing the future international collaboration. The main day of the event (**Part II**) began with a brief online opening by Prof. Dr. Vania Aparecida Vicente, followed by an open lecture by Dr. Juncai MA on WFCC-MIRCEN-WDCM activities. The program consisted of 6 sessions, starting with session 1, by Professor Nelson Lima from the Minho University Portugal entitled “Open Science in Microbiology:

Research, Publishing and Culture Collection data”. In addition, lectures were given on Open Science in Management of Microbiological Resource Centers (MRCs), followed by Open Science in protocols and Methods for short- and long-term preservation and Authentication and taxonomic update of the collection. Moreover, we had talks about “Open Science in Biosecurity and Best Practice on MRCs”, followed by the session entitled “Nagoya Protocol and the Open Science: Access and Benefit Sharing”. These lectures were taught by curator researchers from the main collections of microbial cultures in Brazil, Chile and Portugal.

The Part II was entirely taught in English and broadcasted to several countries and ended with two sessions, one presenting the modern analytical techniques and the Microbial Culture Collections entitled “Ways to develop the bioeconomy based on scientific knowledge” followed by the ending sessions characterized by training about “Experimental and Computational Tools Applied to access and analysis genomics sequencing” followed by the closing ceremony for the online phase of the Satellite Training Course. In Figure 1, it was presented some registers of the course.

After the online broadcast sessions, a local event with two sessions began (**Part III**). The first session entitled “Making data available does not necessarily make it open: Brazilian Legislation and Exchange of Microbiological Material”, followed by a round table entitled “Open Science in protocols and networking among Brazilian culture collections” where several local authorities discussed the topics addressed in the course. The course was attended by more than 100 professionals involved from the culture’s collections of 12 Brazilian states. Moreover, during the online transmission of the course, a significant audience was reached and at some times with up to two hundred people online. Furthermore, using this collaboration between the World Data Center for Microorganisms (WFCC-MIRCEN-WDCM), the Chinese Academy of Sciences and the Taxonline Network, an opportunity has been



established to strengthen a future cooperation between the Brazilian Network Culture Collection and the Microbiological Collections of Taxonline Paraná Network that has been supporting by our state agency Araucaria Foundation (<https://www.fappr.pr.gov.br/>).

ASEAN-EU Research Infrastructure on Microbes: Unveiling Collaborative Frontiers in Bangkok

November 13-15, 2023 - Bangkok, Thailand

In an event hosted in Bangkok, the ASEAN-EU Research Infrastructure on Microbes witnessed a convergence of scientific minds, fostering collaboration between AnMicro, BBMRI-ERIC, and MIRRI-ERIC. Dr. Lily Eurwilaichitr (WFCC Executive Board member) from ENTEC and an Executive Board member of the World Federation of Culture Collection (WFCC), led discussions that aimed at establishing robust mechanisms for ASEAN-EU collaboration.

The event held from November 13 to 15, 2023, Bangkok, brought together leading organizations in the field, namely AnMicro, BBMRI, and MIRRI, in a concerted effort to structure the collaboration within ASEAN countries and drive forward microbial research on an international scale.



Figure 1. Overview of the Brazilian edition of the World Data Centre for Microorganisms' *Global Training Course* for Open Science in Microbiology: records of lectures and participants, which was broadcasted in real time to several countries.



Keynote speakers from EU, including Dr. Philippe Desmeth (former WFCC President) from BELSPO, Belgium and the Chair of the Assembly of Members of BBMRI-ERIC, and Dr. Michael J. O'Donohue, Acting Director of European Industrial Biotechnology Innovation and Synthetic Biology Accelerator (EU-IBISBA) presented EU sharing mechanisms for microbial research infrastructures.



A key focus was placed on formulating strategies, including transnational access, to facilitate seamless cooperation between the involved entities.



The discussions, chaired by Dr. Lily Eurwilaichitr, delved into the intricacies of fostering collaborative research initiatives, with a keen focus on transnational access.



AnMicro members from several ASEAN member countries including Cambodia, Indonesia, Malaysia, Myanmar, Thailand, and Vietnam, participated in this discussion. One of the pivotal points of discussion revolved around future projects dedicated to enhancing the ASEAN culture collections. The proposed initiatives aim to elevate the quality and scope of the culture collections, emphasizing the collective commitment to advancing microbiological research.

The event not only served as a platform for knowledge exchange but also highlighted the importance of fostering international partnerships to tackle global challenges in microbiology. The participants welcomed the possibility of having pilot actions to crystallize cooperation, hoping that the competent authorities will provide the necessary means.





WFCC Helps Preserve the Endangered Microbial Accessions of the Philippine National Collection of Microorganisms (PNCM) and the UST Collection of Microbial Strains

Armi R. Creencia¹, Reuel M. Bennett²

¹Philippine National Collection of Microorganisms, ²UST Collection of Microbial Strains

The Philippine National Collection of Microorganisms (PNCM) and the University of Santo Tomas Collection of Microbial Strains (USTCMS) currently receive financial aid from the Endangered Collections Committee of the World Federation of Culture Collections (WFCC). These two research institutions are prime drivers of the culture collections in the Philippines, where the former is the only national repository of microorganisms for the Philippines. In contrast, the latter transforms itself into an institution bringing light to the least known organisms.

Further, these two institutions are active members of WFCC and the Philippine Network for Microbial Culture Collection (PNMCC) through the active leadership of Prof. Dr. Rosario G. Monsalud and Prof. Dr. Gina R. Dedeles.



The Philippine National Collection of Microorganisms was established in 1981 mainly

to preserve microorganisms with industrial and/or agricultural significance. Over the years, the culture collection has maintained several other species from different samples and habitats. Some of the unique habitats explored were the mangroves, forest reserves, aquatic environments, as well as fruits and flowers. The PNCM has conducted studies to isolate microbial strains with promising enzyme and anti-microbial properties. The laboratory has recently acquired locally isolated microorganisms with potential biofertilizer and biocontrol activities.



To date, about 4000 microbial accessions are currently being maintained. However, due to budget constraints and increasing prices of laboratory supplies, replenishing L-dried stocks for all the microorganisms in the collection is a struggle. Through generous support from the WFCC via its Endangered Collections Committee, 700 borosilicate ampoules have been procured to L-dry the most important PNCM microbial accessions. This will help secure the long-term viability of these strains to be used for future studies.

The UST Collection of Microbial Strains, an emerging culture collection in the Philippines, is gradually transforming into an institution aiming to preserve the least known microorganisms. The USTCMS is one of the research arms of the Research Center for the Natural and Applied Sciences, University of Santo Tomas, catering



to undergraduate and graduate students needing microbial services (e.g., identification and microbial assays). From 2015-2019, the USTCMS had the highest number of identified oomycetes and thraustochytrids. Most isolates were reported as either new species or new records in the scientific literature and the Philippines, and some were explored for their fatty acid potential. This became the starting point with which USTCMS aimed to isolate other microorganisms in the Philippines further. However, this was halted due to the recent global pandemic. Most of the isolates were lost due to restrictions and longer community lockdowns. USTCMS is gradually lifting itself from the loss of isolates and is ready to move forward. Through the financial aid given by the WFCC, the purchase of DNA extraction kits for identifying the isolates is underway. Curators are hopeful of returning on track to targeting the least known microorganisms in the Philippines.

News from Chandigarh Tricity from Dr. Swaranjit Singh, Director SAS Polyclinic & President MBSI Chandigarh Tricity

Dr. Swaranjit Singh, FAMI, FNESA, FNABS,
FSAB, Loyola Award National Chairman
Biodiversity

President Microbiologists' Society, India, Nagaland, Chandigarh Tricity, Manipur and Ladakh. Ex Professor Acsir, CSIR-IMTECH, MTCC, IDA, Head Env. Biotechnol & Microbial Biochem Lifetime Achievement Award SXC Ranchi Uni. Lifetime Excellence Award, Shilooni Uni. HP Director SAS Free Polyclinic Perch, Mohali, 506, Sector 15A, Chandigarh- 160015, swaranjitsingh@yahoo.com, ssapplepie69@gmail.com, Cell 8360626857

Scientific colourful Rangoli Competition was organised in many schools, universities and colleges. The Institutes participated actively with enthusiasm. The theme for schools was Microbial Diseases and Viral Diseases for Colleges. The 1st, 2nd and 3rd Certificates were given to all Institutes that participated and all the

Participants were given Participation Certificates.



MISSION SAVE GHAGGAR RIVER

Dr. Swaranjit Singh will advise the Government to clean and save the river Ghaggar using microbiological techniques. This was a great honour bestowed on him. He goes to many schools and colleges to deliver lectures to create an awareness of Microbiology. Dr. Singh has formed groups of Microbiology in Nagaland, Ladakh and Manipur where activities are done, and Microbiology talks on Zoom reach the remotest corners of the country.



The mission involves the cleaning the Ghaggar River scientifically that passes through the Tricity in the vicinity of Nada Sahib Gurudwara in Panchkula. There are many devotees who maintain the river and clean it manually and remove logs and plastic periodically. One of Prof. Singh's suggestions is to put nets on both sides of the bridge so that the plastic that people through into the river can be trapped in the net and removed by the MC Panchkula and recycled.

<https://www.sciencedirect.com/science/article/abs/pii/S0006291X12021936>



THE INTERNATIONAL MICROORGANISMS' DAY (IMD) CELEBRATIONS IN INDIA

Dr. Swaranjit Singh, FAMI, FNESA, FNABS,
FSAB, Loyola Award National Chairman
Biodiversity

The International Microorganisms Day (IMD) was celebrated all over India in Schools, Colleges, Universities, and Institutes. Even the primary school children are aware of the tiny bugs that are predominantly beneficial to us and only a small fraction of microorganisms is harmful. We have to invent new antibiotics or

modify the existing antibiotics to be effective against drug resistant bugs. This has to be done very fast otherwise many lives will be lost by the 2050. We cannot afford to lose precious lives due to shortage of effective antibiotics.

To celebrate the IMD Institutes have arranged talks by eminent Scientists, arranged many competitions like essay, painting, quiz and microbial working model making.

The masses are now aware of the boons of the microbial world. They clean our environment, give us probiotics, biosurfactants, polysaccharides, antibiotics etc. People have also learnt to prevent microbial infections by wearing masks, avoiding crowds, maintaining hygiene. IMD has spread the message and made the people aware.

As we commemorated International Microorganisms' Day, it's imperative to delve into the profound medical applications and implications of these remarkable microbes. While we often associate microorganisms with diseases, it's worth noting that they have also been instrumental in advancing medicine.

Moreover, microorganisms are the key role players in vaccine development, helping us safeguard ourselves against deadly diseases. From the polio vaccine to the latest advancements in mRNA vaccine technology, microbes have been integral in these groundbreaking medical achievements.

In a world increasingly aware of the symbiotic relationship we share with microorganisms, we must recognize their crucial role in medicine. They are both the cause of ailments and the source of remedies. As we celebrate IMD, let us reflect not only on the challenges but also on the incredible potential these tiny wonders hold for the future of healthcare and medical innovation.



**PROFESSOR KOMAGATA MODERNIZED
AND MADE WORLD DATA CENTRE FOR
MICROORGANISMS SUSTAINABLE**

**IN MEMORY OF PROF. KAZUO
KOMAGATA, AN HONORARY MEMBER OF
THE WFCC
(1923 – 2022)**



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In the 1960s, Japan Federation for Culture Collection (JFCC) tried to organize a meeting of eminent microbiologists, especially curators of microbial culture collections (MCC), to promote MCCs driven by a sense of crisis. In 1966, the United Scientific and Cultural Organization (UNESCO) agreed with the need and supported the meeting in Paris.

However, the participants immediately recognized that they did not have enough data on the existing MCCs, where, who, what and how. The World Federation of Culture Collections (WFCC), at that time under the Section on Culture Collections (SCC), of the International Association of Microbiological Societies began an ambitious three-phase program: (1) a survey of collections maintaining cultures of microorganisms; (2) a listing of the names of species held in these collections; and (3) a catalogue of the information recorded in each collection on the species listed.

The initial survey was undertaken by Dr. S. M. Martin of the National Research Council of Canada sponsored by the Council and UNESCO, and Prof. V.B.D. Skerman of University of Queensland followed up the survey sponsored by UNESCO, the World Health Organization (WHO), the Commonwealth Scientific and Industrial Research Organization (CSIRO), and the University of Queensland in Australia. In 1973, Dr. S.M. Martin and Prof. V.B.D Skerman published the first edition of the World Directory of Collections of Cultures of Microorganisms [*1] that fulfilled the phases (1) and (2) and covered 329 MCCs in 52 countries. After the publication of the first edition of the World Directory, financial support for the survey ceased until 1978.

It is to be noted here that Professor Kazuo Komagata was the chairperson for the Committee on Data Coding, WFCC from 1976 to 1981.

It was 1982 when Professor V.B.D Skerman, Dr. Jo. E. Staines and Dr. Vicki F. McGowan could issue the second edition of the World Directory by World Data Centre (WDC) in the University of Queensland [*2] with the support of UNEP, UNESCO, Australian Development Assistance Bureau and the University of Queensland; endorsed by the WFCC, the International Union of Biological Societies (IUBS), the International Union of Microbiological Societies (IUMS), the Committee on Data for Science and Technology (CODATA) and the International Cell Research Organisation (ICRO). The 2nd edition covered 566 collections in 52 countries.

In the late 1980's, when Professor V.B.D. Skerman was going to retire from the University of Queensland, the WFCC chose to transfer the WDC, which depended on his personal efforts, to an institution that could operate WDC stably over a long term and called for application worldwide.

What was the relevant situation in Japan during those years? In 1971, the Japanese



Government planned a Life Science Research Promotion Centre and resulted in a new department, Life Science Promotion Department (LSPD), in RIKEN (formerly the Institute of Physical and Chemical Research) in 1974, one year after the publication of the first edition of the World Directory. LSPD was primarily a funding agency for national projects in life sciences [*3]. Nevertheless, it was equipped with the Life Science Research Information Section (LSRIS) that started developing a National Information System of Laboratory Organisms (NISLO) [*4]. In 1978, the Science and Technology Agency (STA) of the Japanese Government and RIKEN decided to start in-house projects in the framework of life sciences from a new MCC in addition to LSRIS.

In 1981, Prof. Kazuo Komagata of University of Tokyo was appointed Director of the newly established MCC, Japan Collection of Microorganisms (JCM) in RIKEN and served concurrently as a professor for the Institute of Applied Microbiology (IAM), at the University of Tokyo. He was also appointed the head of LSRIS, which was an independent section from the JCM.

When WFCC invited a new institute to host WDC in the late 1980's, Professor Komagata firstly evaluated if LSRIS/RIKEN was capable of hosting the WDC. Then he steadfastly explained to RIKEN and related research communities in Japan, including Japan Federation for Culture Collections (JFCC), the significance of Japan playing the role of an international data centre, and finally reached the point where RIKEN was nominated as a host institution of WDC. In 1986, WFCC chose RIKEN as the new host institution of WDC and the WDC steering committee met in 1987 (see the photo on the right).

In the meantime, Prof. Komagata succeeded in obtaining extra funding from STA through RIKEN to operate WDC in LSRIS. Since then, Professor Komagata modernized the WDC and laid the groundwork for its stable operation over the ensuing years.



The first WDC Steering Committee Meeting in 1987.
(Left to right; Dr. MYODA Toshio, Dr. L. R. Hill, Dr. B. E. Kirsop, MSc. B.-O. Fabricius, Prof. KOMAGATA Kazuo, Prof. V. B. D. Skerman, Dr. IJIMA Teiji, Dr. TATENO Yoshio)

Under Professor Komagata's leadership, LSRIS converted data files inherited from WDC in Australia into an integrated database for the data cleansing and then made the database online [*5]. The database was composed of CCINFO (Culture Collection INFORMATION) and STRAIN (collection of accession numbers by species name) and searchable by keyword(s) of where, what, and how. As the INTERNET did not show up yet in those days the online database served via a Packet Switching System at first and then via the Internet using a Gopher system. A World Wide Web did not exist then.

In hindsight, it is obvious why WFCC highly evaluated the proposal from RIKEN. Professor Komagata was a prominent microbiologist with long experience and deep insight into MCC [6*] and chaired the WFCC Committee on Data Coding as well. Professor Komagata proved that the WFCC made the right choice, until his retirement from the University of Tokyo and RIKEN in 1989.

Professor Komagata rekindled afresh WDC, "a torch", and safely passed the torch to the next generation. WDC became WDCM (<https://www.wdcm.org>) in 1994.



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