



WORLD FEDERATION FOR CULTURE COLLECTIONS Newsletter (No. 54)–DECEMBER 2017



GREETINGS FROM THE NEW PRESIDENT AND INTRODUCING THE NEW EXECUTIVE BOARD MEMBERS

Dear Members,

After a long gap, it is great to connect with you in this new issue of the WFCC Newsletter.

Firstly, I would like to thank all the members who elected me as the new WFCC President (2017-2020). I greatly value your trust and look forward to working with all of you in the next three years. I will ensure continuous communication and reach out to all our members at the four corners of the world.

I thank former President Dr Philip Desmeth for his service to the WFCC with full commitment, passion and dedication. I also would like to thank all the previous board members who served with full commitment. I also would like to congratulate the new board members and I am proud to be supported by such distinguished members. Please see their names at <http://www.wfcc.info/board/>. They will connect with the regional WFCC members in their continents and support us with cross cultural and lingual aspects relevant to each region. Please do not hesitate to be regularly in touch with the board member(s) in your area and invite them to participate in your meetings, in that way we can connect and be aware of your needs.

We will continue to be linked with the CBD, OECD, GBIF, WIPO and the ISO. Current WFCC Vice-President Prof. Kevin McCluskey will represent us at the CBD as one of the members of the *Ad Hoc Technical Expert Group on*

Digital Sequence Information on Genetic Resources. His views on the contributions of the WFCC toward sustainable global future can be listened to at <http://fgsc.net/pub/101816-mccluskey.MP3>.

Dr Marizeth Groenewald kindly continues to hold the secretary position. She has provided incredible support over the last 4 years and we look forward to working with her again in this new term. I also would like to highlight incredible support we were given by Dr Vera Bussas (c/o DSMZ) as the treasurer of the WFCC over the last 7 years and thank her.

We have also established a permanent Secretariat that is located within the Belgian Coordinated Collections of Microorganisms – BCCMc/o Belgian Science Policy Office, 231 Avenue Louise 1050 Brussels, Belgium. Ms Anne Depauw is our contact person and I thank her for her contributions in the planning and execution of the recent ICCC'14 Conference held in Singapore in July 2017.

As you know global terror events placed us in a difficult position for the organization of the last ICCC'14 and your safety being our priority we moved the conference to Singapore and jointly run it with the IUMS-2017. It was not an easy decision as Turkish colleagues placed significant effort into the preparatory work towards the original venue in Antalya, Turkey. I wholeheartedly thank them and wish the KUKENS President Prof. Bülent Gürler a happy retirement and we look forward to another conference opportunity with them in the near future.

Our next ICCC conference will be in Chile, chaired by Prof. Cledir Santos in 2019. There is information in this newsletter about the conference and we look forward to seeing you there.

At the WDCM front, Dr Juncai Ma and his team in China with an impressive speed have been compiling a *Global Catalogue of Microorganisms*. He welcomes information from different parts of the world and he can be contacted at ma@im.ac.cn. Please see his article in the newsletter providing update on the GCM.

We encourage you to be in touch with us regularly, send us your news, regional events taking place in your surroundings as well as event pictures. Also forward your nominations for the Skerman Award. The 2017 Skerman was awarded to Dr Moriyuki Hamada from Japan for his contributions to the Micrococcal systematics and an article on his achievements is included in this newsletter.



I have just returned from the International Microbial Sustainable Use Conference and the 14th Asian Consortium for the Conservation and Sustainable use of Microbial Resources <http://acm14.bcrc.firdi.org.tw/> that took place in Taipei, Taiwan, 4-6 December 2017. Asian Consortium has been in an impressive progress and I congratulate all their members for the successful organization of the Conference and their activities within the Consortium. Next Conference will be in Mongolia in autumn 2018 and they look forward to seeing WFCC members there.

Again, on behalf of the Executive Board and myself I wish you a very Happy Festive Season and a successful 2018. We look forward to hearing from all of you in the new year to be able to attend your needs.

With warm regards

Dr İpek Kurtböke
President

HOW THE CULTURE COLLECTIONS COMMUNITY IMPLEMENTS THE NAGOYA PROTOCOL

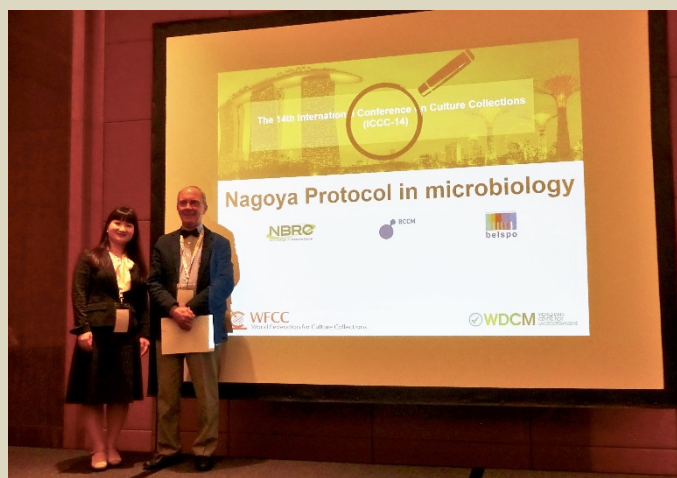
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During the 14th International Culture Collections Conference held with the IUMS conference, from 17 to 21 July, a session was dedicated to the implementation of

the Nagoya Protocol. This article is based on the presentations made by both authors during this session.

The Nagoya Protocol

The Convention on Biological Diversity (CBD) has three objectives: (1) the conservation of biological diversity, (2) the sustainable use of the components of biological diversity and (3) the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. The implementation of the third objective is ruled by the Nagoya Protocol (the Protocol) ⁽ⁱ⁾ on Access and Benefit Sharing (ABS) which entered into force on 12 October 2014. It seeks the effective implementation of the ABS *quid pro quo*: benefit sharing with providers in return for facilitated access for users.

Establishing "the sovereign rights of states over their natural resources" CBD article 15.1 ⁽ⁱⁱ⁾ says that each State decides on the regime of tangible ownership and access regulations applicable to its natural resources. Yet, CBD article 15.1 does not mean *per se* that a State owns genetic resources but it allows each and every State party to the CBD and the Protocol to control who is accessing, what is done and eventually to request for sharing the benefit that may arise from the utilization of the micro-biodiversity. Utilization being defined as "to conduct research and development (R&D) on the genetic and biochemical composition of genetic resources, including using biotechnology [...]".

To abide by the laws established in the frame of the Protocol all microbiologists, including Culture Collections (CCs), must adapt their *modus operandi* to the new paradigm where open access is replaced by controlled access exerted by a State upon its biological resources. Like the CBD, the Protocol set principles that have to be converted into feasible regulation at national and/or regional levels. Since 1999 culture collections develop codes of conduct and guidelines to tackle these new legal obligations.

Some issues of primary importance were neglected during the negotiations of the Protocol and must be dealt with afterwards, via pragmatic, applicable regulation at regional and national levels. For instance, the cost-benefit balance of an ABS system is overlooked, with the risk that the control measures may cost more than the benefits the system intends to redistribute. Also, key concepts such as commercialization, placing on the market, R&D are not defined clearly from the outset. That doesn't help reduce legal uncertainty which is essential to foster investment in R&D.

To build microbiology on solid ground microorganisms of fundamental scientific importance must be conserved and provided with the highest level of reliability to ensure cumulative research and sustainable exploitation of



microorganisms. Microbiologists must adapt their way of exploring the microbial realm and perform their activities according to the new Protocol paradigm. CCs must share their pragmatic, cost-effective solutions with the microbiologists to get a Protocol compliant scientific community. These sectors based rules adapted to the specificities of microbiology will mitigate the impact of the legal changes on the daily operations of microbiologists where cost effective and timely actions are crucial, for instance when facing epidemics.

MOSAICC, TRUST & NIEMA: solutions designed by WFCC members

Contrary to many general microbiologists, CCs are fully aware of the matters at stake regarding the ABS under the Protocol and its impact on daily operations in microbiology.

From the onset, it is important to recall Article 15(2) of the CBD as the key stake in the ABS process: facilitated access to genetic resources is the prerequisite for any advancement in life sciences.

The proactive contribution of CCs to the CBD and the Protocol dated back to September 1997 when the Belgian Coordinated Collections of Microorganisms (BCCM)⁽ⁱⁱⁱ⁾ launched MOSAICC with the support of the European Commission. MOSAICC stands for «Micro-Organisms Sustainable use and Access regulation International Code of Conduct ». First issued in spring 1999, it is a voluntary Code of Conduct focused on the implementation in microbiology of the CBD and other applicable rules of international and national laws.

The first version of MOSAICC was issued in 1999, three years before the 2002 Bonn Guidelines^(iv) that were the first achievement of the Parties of the CBD towards practical solutions for managing ABS. Although designed by different groups of protagonists and in different times, MOSAICC and the Bonn Guidelines are fully compatible because both are common sense driven.

MOSAICC is the forerunner of TRUST, the latest initiative of WFCC collections, a global system to implement ABS in microbiology. TRUST stands for «Transparent User-friendly System of Transfer, for Science & Technology».

TRUST is an example of sector specific ABS best practices. It is a cost-efficient, simple, and fast multiple user, multiple purposes system. It combines the Code of Conduct MOSAICC for the best practices with the Global Catalogue of Microorganisms (GCM) for the technical part of data and information management.

GCM was designed by WFCC World Data Centre for Microorganisms (WDCM) and constitutes the data management system facilitating access to and

conveyance of microbial genetic resources stored in culture collections. As of 2017 over 110 CCs from more than 40 countries were participating to GCM. GCM is a powerful scientific tool as well as a way to build safe, ethical and socio-economically balanced ABS processes at global level. Systems like GCM are automated and thus more cost effective. Yet non-negligible amount of investments is and will be necessary to manage the flow of data generated by ABS requirements.

The NIEMA system (Network of International Exchange of Microbes under the ACM) is a model of a best practice led by NITE Biological Resource Center in the Asian Consortium for the Conservation and Sustainable Use of Microbial Resources (ACM). NIEMA is a model of free circulation of strains for non-commercial use within the network. NIEMA structures a demarcated space where material and information are relatively freely accessible provided that the outputs are injected back into the open space, to be shared again.

NIEMA proposes a system in which streamlined exchange of strains for non-commercial use is carried out while observing the provisions of the CBD and the Protocol. While countries of origin have expressed their concerns about the apparent contradiction between easy access and efficient control, NIEMA may ensure the compatibility of both aspects. In this regard, it implements partly the microbial commons concept, to create an open access system, a zone of free circulation of key raw material, for users adhering to a strict code of conduct.

Example of regional implementation of the Nagoya Protocol: the EU Regulation

The European Union regulation implementing the Protocol is designed with well-defined distribution of competence between the member states and the EU level.

The EU regulation focuses on the compliance by the users of the law of the countries where the genetic materials originate. It leaves the access regulation in the hand of the EU member states who effectively exercise their sovereign rights (CBD Article 15.1) on their natural resources.

The corner stone of the EU legislation is regulation EU 511/2014^(v). It is complemented by the EU Commission implementing regulation EU 2015/1866^(vi). Next to these legal texts, a consultative body, the ABS consultative Forum has been put in place and several guidance documents, one horizontal Commission notice^(vii) has been published and nine other sectorial guidance documents are prepared in collaboration with all players of the civil society.



Example of national implementation of the Nagoya Protocol: the ABS Guidelines of Japan

Japan ratified the Protocol on May 22, 2017 and became a Party on August 20, 2017. Since the adoption of the Protocol in October 2010, Japan has been supporting its implementation through the Japan Biodiversity Fund and the Nagoya Protocol Implementation Fund.

Apart from its contribution to international community, with a view to effectively implementing the Protocol as a Party, Japan exerted efforts to lay down adequate domestic measures, which resulted in the “Guidelines on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization”^(viii) (the “ABS Guidelines”). The ABS Guidelines entered into force on August 20, 2017, the same day Japan became a Party to the Protocol.

The ABS Guidelines serve as measures governing compliance with the provisions of the Protocol as well as securing its steady and smooth implementation. The outline of the ABS Guidelines is provided below:

- Compliance Measures (corresponding to Art.15, 16, 17 of the Protocol)

To address compliance with ABS legislation/regulatory requirements of a provider country, the following *modi operandi* are set forth:

1. Report concerning the lawful access to genetic resources and associated traditional knowledge
2. Submission of relevant information related to the utilization of genetic resources
3. Provision of reported information (1 and 2 above) to the Access and Benefit-sharing Clearing-House and posting of the said information on the website of the Ministry of the Environment of Japan
4. Cooperation concerning alleged violation of ABS legislation/regulatory requirements of a provider country

- Access Measures (corresponding to Art.6 of the Protocol)

The ABS Guidelines clearly state that Japan decides not to take access measures as provided for in Article 6(1) of the Protocol, meaning that prior informed consent is not required for the access to genetic resources existing in Japan, therefore an internationally recognized certificate of compliance (IRCC) will not be generated for genetic resources accessed in Japan.

- Encouragement of ABS frameworks (corresponding to Art. 5, 9, 17, 19, 20 of the Protocol)

The ABS Guidelines also set forth the following *modi operandi* to promote the ABS frameworks:

1. Issuance of documents concerning the acquisition of genetic resources in Japan
2. Encouragement of concluding contracts which contain provisions on the fair and equitable sharing of benefits

3. Allocation of benefits arising from the utilization of genetic resources/associated traditional knowledge to the conservation and sustainable use of biological diversity
4. Encouragement of information-sharing concerning the implementation of a concluded contract
5. Development of model contractual clauses, voluntary codes of conduct, guidelines, best practices, and standards concerning ABS

Now as a Party to the Protocol, Japan endeavours to continue its contribution towards attainment of the objectives of the Protocol and the CBD and their effective implementation.

Next developments

For 20 years MOSAICC and now TRUST reconcile the expectations of all protagonists and incorporates their business model into one system completed with *ad hoc* solutions such as NIEMA. Fortunately, that is also what the Directorate General Environment of the European Commission is doing through the optimizing of the implementation of EU Regulation 511/2014 and what Japan is looking for with its national Guideline for ABS.

Responsible stakeholders like the protagonists working in the WFCC community are convinced of the relevance of the Protocol objectives. But many fear that big guns are used to kill flies, in other words that significant amounts allocated to the actual research may be diverted from their goal and used only to set up a new bureaucracy, where marginal costs exceed profit it may generate.

A good system doesn't need to be complex or coercive; it must facilitate the daily work of all protagonists in such way that using the system is more profitable than bypassing it. The Protocol is meant to be set at national level. At the source, the countries that will organize an attractive web connected system will yield better socio-economic profits when R&D will be conducted in cooperation with their nationals. On the other end of the R&D chain, for the users, securing legitimate access to biodiversity and securing their investments is as strategic as securing access to energy for prospering states.

In short, the Protocol is an evolution in the framework of the CBD aiming at regulating the exploitation of the world's biodiversity, it's not a revolution. The rules set by the Protocol need to be implemented cost-effectively to enable profit-making and subsequent benefit sharing. Such goal may be difficult to reach when the implementation is a burden, not a help for economic agents and costs more than the profits actually reaped.

The latest developments in the negotiation for the interpretation of the Protocol go towards regulating the sequencing of genomes and the use of these data. When looking at the explosive increase of sequencing data and



the ensuing struggle to process and manage such overwhelming data amount, the obsessive will to regulate some basic activities in life sciences seems a heresy in terms of cost/benefit ratio as well as in direct contradiction with the two first objectives of the CBD.

Should the Parties to the Protocol jeopardize the conservation and the sustainable use of the earth biome for short term economic misperception? Scientist must remain alert and advocate sound integrated management of the raw material and related data for R&D.

WFCC has a key role to play by dialoguing with the parties to the Protocol, with regional political entities such as the European Union authorities as well as with other stakeholders. CCs underpin R&D in microbiology, microorganisms are everywhere and form the very basic raw material for biotechnology, and therefore WFCC is a major interlocutor in the implementation of the CBD and the Protocol worldwide.

On behalf of all WFCC members, the WFCC Executive Board advocates a pragmatic approach with benefit for all, in a cooperative way and a collaborative spirit.

References

- (i) 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, adopted on the 10th meeting of the Conference of the Parties on 29 October 2010, in Nagoya, Japan.
<http://www.cbd.int/abs/text/>
- (ii) CBD Art 15.1 Recognizing the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation.
<https://www.cbd.int/convention/articles/default.shtml?a=cbd-15>
- (iii) BCCM is a public support programme of the Belgian Science Policy Office that funds and coordinates a consortium of microbial collections since 1983. BCCM is ranked in the world top ten centres providing for microbiological material, information and services.
<http://bccm.belspo.be/>
- (iv) Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization. Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization.
<https://www.cbd.int/doc/publications/cbd-bonn-gdls-en.pdf>
- (v) Regulation (EU) No 511/2014 of the European Parliament and of the Council of 16 April 2014 on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and

the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union.

http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.150.01.0059.01.ENG& toc=OJ:L:2014:150:TOC

- (vi) Commission implementing regulation EU 2015/1866 of 13 October 2015 laying down detailed rules for the implementation of Regulation EU 511/2014 of the European Parliament and of the Council as regards the register of collections, monitoring user compliance and best practices
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015R1866>
- (vii) Commission notice - guidance document on the scope of application and core obligations of Regulation (EU) N° 511/2014 of the European Parliament and of the Council on the compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union.
<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016XC0827%2801%29>
- (viii) Guidelines on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization
<https://absch.cbd.int/database/record/ABSCH-MSR-JP-238074>

UPDATE FROM THE WDCM

Dr Juncai Ma

Director

WDCM takes the responsibility to develop an effective information environment that promotes and sustains microbial research data activities, sharing and use to help advance progress and bridge the gaps within and outside the microbiology communities. WDCM has also developed a series of databases for international culture collections and important organizations, which provide support to more culture collections on the way to modern BRC. Until now, 114 international culture collections from 45 countries have joined GCM to share their more than 400,000 microbial strains, and help them to develop online catalogue as well as homepage to share their strains data all over the world.

The year 2016 is the 50th anniversary of WDCM, and a memorial ceremony was held for celebration on 6th-8th September 2016 in Beijing, China. During this conference WDCM and Center for Microbial Resources and Big Data



of the Institute of Microbiology of CAS (IMCAS) jointly released the “2016 Microbial Resource Development Report for China”. 6. It is the first report on China’s microbial resource development. The report describes and evaluates the development of microbial research in China and provides a reference for formulating research plans and the direction of development. In the report, scientists analysed papers and patents related to microbial research based on microbial resource collections in China.



Releasing the “2016 Microbial Resource Development Report for China”.

THE ISO DIS 20387 STANDARD DISCLOSED

Anabela Martins, Paulo Sampaio, Nelson Lima

It is December 2014. While snow is falling in Berlin, biotechnology experts from around the world are gathered at the *Deutsches Institut für Normung* (DIN) to bring to light the first International Organisation for Standardisation Technical Committee (ISO TC) 276 meeting. Cooperation between the Biological Resource Centres’ (BRCs) four domains – plant, animal, human and microbial - to unify standardisation has finally happened.

The discussion is centred on the development of a new standard (ISO 20387) that would help BRCs - all now gathered under the umbrella designation “biobank” - to manage the quality of their operations.

Several documents, developed through the years by biobanks, are now on the table providing the requirements to be assembled in the new standard. Among these we can find the OECD Best Practice Guidelines, the NF S 96-900 standard and, also, the ISO standards 9001 and 17025.

Three years passed and we have now the ISO DIS 20387 standard disclosed, eager for scrutiny by biobanks. The standard’s public consultation stage is ongoing and all the interested parties (IP) are invited to comment whether they are ISO members or not.

The standard is structured by eight clauses. The requirements initiate within the 4th clause which conveys, among others, requirements for the mBb impartiality and confidentiality. The 5th clause includes general provisions and requirements for personnel and limits for externally provided activities. Clause 6 provides requirements for resources: personnel, infrastructure, externally provided processes, products and services, principles of access and equipment. The operational requirements come with the clause 7. Even though the ISO 20387 is not a quality management system (QMS) standard, it conveys requirements to implement one of those systems. So, the organisations complying with ISO 9001:2015 will easily comply with this clause. Requirements for documentation are provided by the annex A. Annex B provides guidance and examples to implement Annex A.

To achieve a high-quality standard (useful, consistent, aligned with the other ISO standards and providing accurate, relevant and easily understandable provisions) the standard-setting activities must be carefully planned. Understanding these steps would facilitate the standard analysis. In general, the standard setting projects encompass the following stages:

- (1) The establishment of the scope.
The scope is based on the standard’s objectives (the outcomes the standard seeks to achieve) and the boundaries for the applicability of the standard. It must be clearly established and described as it will underpin the standard’s provisions and though dictate the adequacy to users.
- (2) The type of standard and the recognition scheme.
The decision about the type of standard to develop must be preceded by decisions about the recognition scheme to adopt as each scheme has its specificities for the standard content and format.
If the goal is an accredited **certification**, the developers must decide between management



system standards (type A or B), a standard designed to personnel certification or a standard aiming to certify services, products and processes. If the goal is an **accreditation** scheme the standard must be approved/adopted by an accreditation organisation. The standard must be designed focusing on the biobanks' competence to provide a specific service (clearly identified) in a credible manner. The standard must be drafted in order to ensure that objective and reproducible audit/assessment scheme is in place. Only in this case the standard may be adopted by accreditation organisations such as IAF and ILAC.

(3) The structure of the standard.

The structure depends on the type of standard to be developed. The ISO 20387 standard was developed to fit an accreditation scheme; its structure is very similar to that of ISO/IEC FDIS 17025 standard.

(4) The standard content.

The standard conveys two main categories of provisions: recommendations - recognised by the word "should" - which implementation is not mandatory, and the requirements - recognised by the word "shall" - which implementation is mandatory. The requirements must be drafted in order to be clear, objective and verifiable: they must convey criteria and the method to evaluate the fulfilment of the criteria.

Requirements on the standard must not block innovation and flexibility in biobanks. They should be expressed in terms of process management and performance criteria.

Terms and definitions must be used consistently within the document and be as much as possible aligned with ISO terms and definitions namely with the "ISO TR 20386 - Biotechnology — Inventory of biotechnology-related terms", which is under development by the TC276's working group (WG) 1.

(5) Public consultation (commenting period).

Interested parties (heads of culture collections, curators, quality managers, bio-industry, microbiologists, governmental officers, auditors, among others) are invited to participate in the standard's development by providing the ISO TC 276 with comments and suggestions on the standard. Microbial biobanks (mBb) might provide a valuable contribution to the standard's appropriateness and relevance, as participation of experts from this domain is lacking. Comments received by the TC276 will be discussed seeking consensus. For each comment, the decision will be "approved" – and the standard will be changed in accordance – or "not approved". Justification for all decisions will be recorded and made available under request.

Two internal comment periods (inside the TC276) have already taken place. Hundreds of comments were received, discussed and added to the standard.

Two public consultation periods have been planned before the publication is made. The next (and last) period is planned for the middle of 2018.

(6) Publication.

The publication of the final draft of the ISO 20387 standard (FDIS version) is planned for the end of 2018.

Commenting stage demands from CCs deep thought about what their management goals are and a deep evaluation about appropriateness of the standard to achieve those goals. A risk assessment in the implementation could be a helpful tool to prepare the commenting. Nevertheless, several aspects might be considered, such as:

- Does the standard cover all the relevant mBbs' issues?
- Are all the requirements easily understandable and feasible?
- Are all the requirements relevant for mBb?
- Are there not applicable requirements (for mBb)?

To provide their opinions, interested parties need to ask their national standard bodies (NSB) for the ISO DIS 20387 standard and the proper commenting template. Comments must be sent to the NSB that, in turn, must send them to ISO before the October 11th. NSB's information and contacts can be found in the ISO website [<https://www.iso.org/members.html>, accessed 2017-08-30].

Currently, the ISO TC 276 deliverables go far beyond the ISO 20387. Five working groups were established to deal with all biotechnology challenges and sixteen standards are under development, including a guide to help the implementation of ISO 20387, the "ISO TR 22758". Interested parties might also comment on those standards; they only need to be aware of the public consultation periods identified in the standard's lifecycle (<https://www.iso.org/committee/4514241/x/catalogue/p/0/u/1/w/0/d/0>, accessed 2017-08-30).

The mBb are called to share their knowledge and expertise with ISO TC 276 in order to ensure the appropriateness of the ISO 20387 standard to the microbial domain. Their comments and suggestions will certainly be valuable to raise the quality of the standard that will probably be used in a near future.



BUDAPEST - THE INTERNATIONAL MICROORGANISM DEPOSIT SYSTEM

Ewald Glantschnig

Head

*Budapest Treaty Section
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The Budapest System provides a practical business solution when pursuing patents involving biological material in 80-member countries through the recognition of one international recognized deposit with an international depositary authority (IDA). Apart from Contracting states, three regional patent offices participate in the BT: The European Patent Office (EPO), the Eurasian Patent Organization (EAPO) and the African Regional Intellectual Property Organization (ARIPO).

Currently 46 institutions in 25 countries are holding the status of IDA. 27 (16 countries) in Europe, 13 (5 countries) in Asia/Pacific, 5 (3 countries) in North America and one in South America. The youngest IDA established is the Culture Collection of Switzerland AG (CCOS) which achieved IDA status on January 16 of this year.

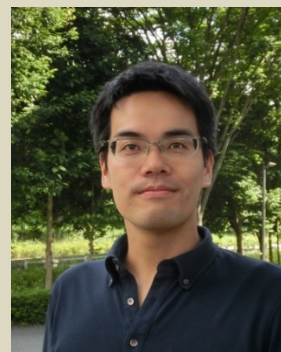
Since the Budapest Treaty became operational in February 1981, until December 2016 there were some 102,000 overall deposits made. Overall deposits in 2016 (5,110) were on a record level and some 4.5 % higher compared to 2015 (4,893), and samples furnished totalled 4,510.

The Treaty makes the patent system of the contracting State more attractive and is primarily advantageous to the depositor if he is an applicant for patents in several contracting States; the deposit of a microorganism under the procedures provided for in the Treaty will save him money and increase his security. It will save him money because, instead of depositing the microorganism in each and every contracting State in which he files a patent application referring to that microorganism, he will deposit it only once, with one depositary authority. The Treaty increases the security of the depositor because it establishes a uniform system of deposit, recognition and furnishing of samples of microorganisms.

The Budapest Treaty was concluded in 1977.

2017 SKERMAN AWARD WINNER

Dr MORIYUKI HAMADA



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Dr Hamada since 2006 is employed at the Biological Resource Center, National Institute of Technology and Evaluation (NBRC) and currently holds the Curator position at the Institute. He completed his BSc at the Department of Applied Biology, Faculty of Textile Science and Technology, Shinshu University and obtained his Ph.D. in Medical Engineering at the Integrated School of Medicine and Engineering, University of Yamanashi in Japan. His outstanding taxonomic research at the NBRC led to the Young Scientist Award, Society for Actinomycetes Japan in 2015.

He proposed 9 new genera and 33 new species as the first author and the examples include *Arenivirga* gen. nov. Hamada *et al.* 2017, *Austwickia* gen. nov. Hamada *et al.* 2011, *Luteimicrobium* gen. nov. Hamada *et al.* 2010, *Lysinimicrobium* gen. nov. Hamada *et al.* 2012, *Mobilicoccus* gen. nov. Hamada *et al.* 2011, *Piscicoccus* gen. nov. Hamada *et al.* 2011, *Sediminihabitans* gen. nov. Hamada *et al.* 2012, *Serinibacter* gen. nov. Hamada *et al.* 2009 and *Tropicihabitans* gen. nov. Hamada *et al.* 2015.

Such meticulous and quality research led his recognition and appointment as the Secretary, Subcommittee on the Taxonomy of the Suborder *Micrococccineae*, International Committee on Systematics of Prokaryotes in July 2014 as well as serving as the Committee member, Subcommittee on the Taxonomy of the Suborder *Micrococccineae*, International Committee on Systematics of Prokaryotes from November 2011 to July 2014. He has published extensively and examples of his peer review papers include



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and the examples of his book chapters include

Hamada, M. (2017). *Diaminobutyricimonas*. In *Bergey's Manual of Systematic of Archaea and Bacteria*. (edited by Whitman). John Wiley, Chichester, DOI: 10.1002/9781118960608.gbm01302.

Hamada, M. (2017). *Galbitalea*. In *Bergey's Manual of Systematic of Archaea and Bacteria*. (edited by Whitman). John Wiley, Chichester, DOI: 10.1002/9781118960608.gbm01303.

Hamada, M. (2014). The family *Beutenbergiaceae*. In *The Prokaryotes. Actinobacteria*. 4th edn. (edited by Rosenberg, DeLong, Lory, Stackebrandt and Thompson). Springer, New York, pp. 133-140.

Suzuki, K. and Hamada, M. (2012). Genus *I. Microbacterium*. In *Bergey's Manual of Systematic Bacteriology*. 2nd edn. vol. 5 (edited by Goodfellow, Kämpfer, Busse, Trujillo, Suzuki, Ludwig and Whitman). Springer, New York, pp. 812-848.

His current research area includes isolation, taxonomy and ecology of non-filamentous actinobacteria and mainly the order *Micrococcales*. He designed selective isolation protocols for this order which resulted in the detection of previously unknown members of the order. WFCC members were delighted to present the 2017 Skerman

Award to Dr Hamada and wish him every success in the future years to come.



NEWS FROM THE MEMBERS

Update from the US Culture Collection Network



Figure 1. USCCN Sponsored Participants at ICC14. L-R, S. Kang (Penn State), S. Sung (ATCC), K. McCluskey (FGSC), S. Baker (PNNL EMSL), K. Boundy-Mills (UCD Phaff), D. Nobles (UTEX Algae), H. Manzour. (Not shown, I. Sitepu, P. Uhlir)

After over five years of successful activities, the US Culture Collection Network enters into an extension year to allow participation of US Scientists in the ICC14 (see above).

The USCCN network has successfully met goals originally identified in its proposal in 2011. Among these, the establishment of off-site backups has benefitted from USDA efforts in the same capacity. Now many US



collections are formally backed up at the USDA National Laboratory for Genetic Resources Preservation at Ft. Collins, Colorado (the site of our 2015 meeting). Additional goals of promoting engagement of curators in the US and international communities are demonstrated by the participation of many leading US collections at the ICC14. The USCCN has also supported student internships at three different collections and participation in formal training activities. Broader impacts by the USCCN are highlighted by outreach to student and community groups, through the engagement of partner societies and collections in USCCN activities, and through leadership by USCCN scientists in issues surrounding the Nagoya Protocol to the CBD.

While future activities of the USCCN depend on identification of funding, the community developed by the USCCN activities is stronger and more resilient because of the USCCN.

UPM COLLECTION UNICC – ESTABLISHMENT OF CERTIFIED MICROBIAL CULTURE COLLECTION, MALAYSIA

Tan Geok Hun^{1,2}, Musliyana Mansor² and Nor Umaira Abu Asan²

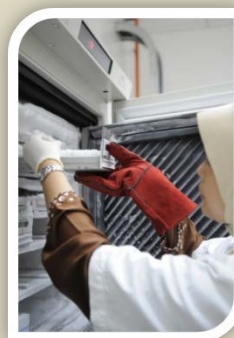
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Microbial Culture Collection Unit (UNICC) was established in 2008 as the main culture collection in UPM research and teaching by focusing on microbes isolated from food, agriculture and the environment. It is providing services and expertise in isolation, identification, preservation and quality checks of microorganisms. It has expanded the service, such as antimicrobial assay and NGS bioinformatics facility. It also serves as safe-keeping for recombinant microbes that had been developed by the university researchers. To date, a total of 1187 microbial strains have been deposited.

UNICC was certified with ISO 9001:2015 for the scope of Management and Implementation of Research, and the system operation was developed according to (1) Procedure of Receiving Cultures (Material Acquisition Agreement, MAA); (2) Procedure of Microorganisms Supply (Material Transfer Agreement, MTA), and (3) Procedure for Quality Checking of the Cultures (QC). The facilities in the laboratory were distributed according to

two different laboratories: (1) bacteria laboratory and (2) fungi laboratory. The laboratories were equipped with freeze dryer, freezer -80 °C, chillers, basic microbiology equipment and cryopreservation tank -196 °C which allocated at different building as a back-up system. UNICC also planning for ISO 17025 in Antimicrobial Susceptibility Test (AST) and Identification of bacteria using molecular methods.





In 2011 UNiCC registered with the World Data Centre for Microorganisms (WDCM) with registration number 988 and using the acronym UPMC as part of the accession number. In 2013, WDCM invited UNiCC as the first culture collection entity in Malaysia to participate in the World Federation of Culture Collection's Global Catalogue of Microorganisms (GCM). This collaboration was further commemorated by the signing of MoU between UPM and WDCM on the day. With this collaboration, UNiCC will be more visible as a culture collection center within the scientific community in Malaysia and globally. This is a good platform for National Network of Culture Collection in Malaysia by leading the effort for conserving Malaysian microbial biodiversity.



Besides that, UNiCC also very active organizing different type of workshops every year and public lectures, such as:

- (a) Microbial Preservation Workshop (2008)
- (b) Training for Basic Aseptic Technique & Handling of Fungi (2010)
- (c) Microbial Preservation Workshop Series 1 & 2 (2012)
- (d) Biosafety Training Workshop (2013)
- (e) Management of Culture Collection Seminar and Workshop (2013)
- (f) Microbial Preservation Workshop Series 1 & 2 (2015)
- (g) Seminar and Workshop on Utilization of Microbial Resources and Phylogenetic Tree Analysis (2016)
- (h) Workshop on Antimicrobial Susceptibility Testing (2017)
- (i) Public Lecture on Utilisation of Microbial Resources & Workshop on Identification of Mitosporic Fungi (2017)



REMEMBERING AUGUSTO CHAVES BATISTA (1916-1967): CONTRIBUTIONS OF A BRILLIANT AND DETERMINED MYCOLOGIST FROM BRAZIL

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The organization of centers for fungal taxonomy was essential to increase research expertise on mycological diversity worldwide. In Brazil, the brilliance and determinism of Augusto Chaves Batista innovated with the creation, in 1954, of the Institute of Mycology of the University of Recife, currently Department of Mycology Prof. Augusto Chaves Batista - Federal University of



Pernambuco (UFPE), which harbor the culture collection - Micoteca URM Profa. Maria Auxiliadora Cavalcanti (www.ufpe.br/micoteca) and Herbário URM Pe. Camille Torrend (<http://inct.florabrasil.net/participantes/herbarios-curadores/ufp/>). Micoteca URM includes about 8,000 records of fungi (approximately 25,000 strains), being considered one of the largest collections of fungal cultures in Brazil, and since January 2014 is certified under ISO 9001:2008 for Preservation, Identification and Fungal Cultures Supply. Herbário URM harbor more than 85,000 records of fungi and 52,000 herbarium specimens, being the largest collection of fungi of Latin America. The dedication of Chaves Batista and his collaborators resulted in the publication of nearly a thousand scientific texts, of which around 600 are available online at <http://batista.fungibrasil.net/index>, including the description of new genera, new species, new combinations and new varieties. Type cultures and exsiccates are deposited in URM Culture Collection and Herbarium. The studies of Prof. Chaves Batista and collaborators resulted in the description of approximately 4,600 different fungal names (3,340 binomials and trinomials; 1,160 different genera; more than 160 families) most of them belonging to ascomycetes. Similarly, to other mycologists, Prof. Chaves Batista loved the study of fungi and contributed to the training of several researchers that nowadays continue to work on Mycology. In 2016 was celebrated the 100th anniversary of Augusto Chaves Batista (1916-1967), and on November 30, 2017 was the memory of 50 years of his death.

LATIN AMERICA FEDERATION FOR CULTURE COLLECTIONS (FELACC)

Graciela Davel, Roberto Suárez-Alvarez, Gladys I. Martos

Latin American Federation for Culture Collections (FELACC) is a nonprofit academic organization devoted to promoting actions for development of culture collections in Latin American and the Caribbean countries. The main objective is to provide a framework to ensure regional activities on preservation of microorganisms and to supply services and advices to the scientific community, industry, agriculture, medicine, veterinary, education and conservation of natural environment. Their activities aim to promote studies on procedures for isolation, characterization, preservation and distribution of cultures, training courses and exchange of information on microorganisms.

Joint research between affiliated collections, universities and research institutes of the region is also promoted. Currently, 63 Collections (Institutional Members) from Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Mexico, Peru, Uruguay and Venezuela, with 65 Ordinary Members and 2 Cooperative Members are associated (Table 1, Figure 1).

Institutional members (Collections)		Ordinary members	Cooperative members	TOTAL
ARGENTINA	20	15	1	36
BRAZIL	10	5	1	16
CHILE	1	1		2
COLOMBIA	1	7		8
CUBA	12	7		19
ECUADOR	4	2		6
MEXICO	8	6		14
PARAGUAY		1		1
PERU	1	1		2
URUGUAY	2	5		7
VENEZUELA	4	15		19
TOTAL	63	65	2	130

Table 1. List of Institutional, Ordinary and Cooperative members that make up the FELACC, updated to 2017

The collections arose because of research projects in public universities or official centers, with specific interest in different areas such as agriculture, health, environment, industry and food. FELACC's members participate with other organizations in programs for *ex situ* microbial preservation worldwide. Affiliate collections kept together over 53,500 cultures representatives of different taxonomic groups of Bacteria, Fungi, animal viruses, mammalian cell cultures, as well as bacteriophages, plasmids and vectors for cloning. A database on cultures preserved in the region is being structured.

Up today information is available at: <http://felacc.cinvestav.mx/colecciones.html>

Since its founding in 2004, FELACC has propitiated the participation of its members in national and international



scientific events such as the Congress of Latin American Association for Microbiology (ALAM) from 2004 at date; Symposiums for Genetics Resources for Latin American and The Caribbean (SIRGEALC), ICCC meetings, and other from scientific events from the region. The mechanisms used for the formation and operation of FELACC, like any other organisms without profit, is the voluntary association of their members, with no fee, and without any another commitment that the necessity of joint efforts to contribute to the rational uses of microbial biodiversity for the community's benefit.

promoting the writing and publication of original scientific papers; technical notes on topics of interest to the organization. It also publishes the reviews of events, congresses, courses and diverse information on topics of interest for the Collections of the region.

WEB page

As of 2016, the Subcommittee WEB page has tried to provide the best conditions of connectivity, maintenance and physical space for the server, in order to ensure its operation without interruptions. Likewise, it has been in charge of carrying out a more detailed review of the information put online and verifying that the data shown maintains a standard in its structure. His work is constantly evolving and can be seen in the URL: <http://felacc.cinvestav.mx/index.html>

Training

This Subcommittee is one of the main motors of the Federation, since it is in charge of the continuous training of human resources; organization and management of workshops on culture collections; consultancies on microorganisms conservation, quality management, taxonomy and topics of interest about collections and interaction with international organizations.

Quality Management

It is responsible for gathering information and writing manuals on culture distribution, Quality Management System, income, deposits and patents, preservation and storage, conservation methods and storage conditions, among others.

Press, Diffusion and Scientific Meetings

It is responsible for informing the Federation of the latest reports related to the Culture Collections in the country and in the world, coming from the WFCC, among others. Likewise, it organizes and manages the communications that the Federation makes to all its institutional, ordinary and cooperative members; the internal scientific meetings and their participation in scientific events to which the FELACC is invited. It also participates in the translation and adaptation to the region language, of highly relevant documents such as: "Recommendations for the Establishment and Operation of Culture Collections of Microorganisms"; which is on the website of the WFCC and the "Guidelines for Good Practices in Biological Resource Centers (OECD)" published by the Organization for Economic Cooperation and Development.

Biosecurity and Biological Material Transportation

This Subcommittee is responsible for the implementation of Good Practices in Laboratories, following the guidelines of the OECD. Likewise, it carries out the review of the status of the FELACC's member



Institutional members (affiliate Collections) (RED)
Ordinary members (WHITE)
Cooperative members (YELLOW)

Figure 1. Map of the Culture Collections affiliated to FELACC

The activities of FELACC are aimed at promoting the establishment and management of regional collections under international guidelines. To fulfill this purpose, the Federation is organized into the following subcommittees that allow the development of a cooperative action:

Newsletter

An electronic newsletter with general information and articles contributed by the members is published every four months. This Subcommittee participates in



collections regarding Biosecurity and Biological Material Transportation and transfer agreements.

So far, the number of Culture Collections affiliated to FELACC is considered small in relation to the total number existing in the region, but this organization represents a significant effort in maintaining a network among regional institutions, in order to make the *ex situ* microbial conservation diversity more efficient.

ECUADOR DRAFTS NATIONAL LEGISLATION ON GERmplasm BANKS

by **Monica Ribadeneira Sarmiento**, PARG Project consultant

The Ecuadorian Ministry of Environment aims to provide the integrated approach needed to conserve genetic resources in general and amphibian diversity in particular because of its outstanding global and national significance. Therefore, Ecuador executes the UNDP GEF Project “Conservation of Ecuadorian Amphibian Diversity and Sustainable Use of its Genetic Resources” (PARG Project) which includes integrated emergency actions to conserve the diversity of amphibians and use its genetic resources in a sustainable way.

This project has 3 components: (i) emergency actions to ensure the survival of highly endangered amphibian species of Ecuador for conservation and bio-prospecting purposes; (ii) discovery of active compounds derived from the skin secretion of Ecuadorian amphibians with potential applications in biomedicine; and (iii) institutional strengthening for the implementation of biodiversity conservation measures and sustainable use of its genetic resources in Ecuador, using amphibians as a pilot case study. Through these interconnected components, one of the 17 biodiverse richest countries in the world is facing with its limited capacity to deliver measures for the conservation of amphibians, its insufficient technology and local capacity for research and genetic resources conservation and its institutional and regulatory capacity for conservation and sustainable use of genetic resources.

Ecuador has its National Regulatory Regime on access to genetic resources and benefit-sharing (ABS) including Common Regime on Access to Genetic Resources of the Andean Community of Countries (1996) and Nagoya Protocol (2010) and national instruments devoted to R+D, environment conservation and agrobiodiversity. Nevertheless, some problems and limitations have

prevented to put in place a consolidated national ABS framework that ensure legal certainty for researchers and other users, and to provide an effective protection framework for traditional knowledge holders as for Ecuador as sovereign country of origin.

Lately, a legal instrument is being drafted to establish regulations on germplasm banks. As Ecuador is considered a pioneer and amongst the global leaders in conservation and management based research on captive breeding research as a conservation tool. Germplasm banks place an important role for the project and for other national conservation strategies.

3 thematic workshops (focused on plant genetic resources, zoo genetic resources and microorganisms) have been convened to join national researchers and to collect their comments, concerns and lessons learned in order to achieve an objective and bounded regulation. Ecuadorian national authorities demonstrate through this methodology the link between scientists and decision makers; ideally, this scheme will serve as a model for other countries that seek to build a bio-knowledge society for sustainable human development.

The achievements of the workshops and specialized interviews will be shortly presented at the national workshop, whose goal will be to end the national regulation on germplasm banks in order to ensure Ecuador will have a legal instrument to protect national highly significant natural heritage and for safeguarding sustainable development options for the future.



Quito, November 10, 2017: Assistants to Microorganism Workshop



BRAZILIAN LAW ON ACCESS AND BENEFIT SHARING

Manuela da Silva

Advisor of Vice-presidency of Research and Biological Collections (VPPCB), Oswaldo Cruz Foundation (Fiocruz); Coordinator of the Sectoral Board of the Academia of the Genetic Heritage Management Council (CGen).

On November 17, 2015, new Brazilian legislation on Access and Benefit Sharing (Law 13,123 of May 20, 2015) came into force. To enable compliance, decree No. 8,772 of May 11, 2016 established formal guidelines. More recently, November 6, 2017, the National System of Genetic Heritage Management and Associated Traditional Knowledge (SisGen) has been made available by the Brazilian ABS National Competent Authority, the Genetic Heritage Management Council (CGen), as a platform for the operationalization of the legislation.

The scope of Law 13,123 is more comprehensive than the previous legislation (Provisional Act 2,186/2001), and it involves research, technological development, and economic exploitation of any finished product or reproductive material (Figure 1). Due to the genetic heritage (genetic resource) definition by the Law - information of genetic nature from plants, animals, microorganisms, or other organisms, as well as substances derived from the metabolism of these living organisms- basic research such as taxonomy, phylogeny, epidemiology, ecology, etc., as well as the use of information from public genetic sequence databases (e.g. GenBank), are governed by the new Law.

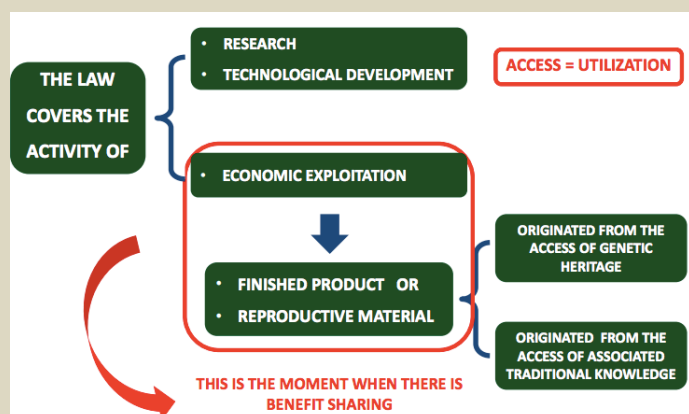


Figure 1. Scheme on the scope of the new Brazilian ABS legislation.

To comply with the legislation the researcher must register the project in the online system SisGen.

Registration can be carried out during the phase of research and technological development with the Brazilian genetic heritage and/or Associated Traditional Knowledge. However, there are some situations that a prior registration is required, such as international shipment of genetic heritage; application for intellectual property rights; marketing of an intermediate product; dissemination of results (final or partial); or even notification of a finished product or reproductive material developed from an access. Upon completing the SisGen electronic forms, the registration receipt will automatically be issued. This document demonstrates that the user has provided the required information. In addition, the user may request a Certificate of Access Regulatory from the CGen.

There are two possibilities for transportation of genetic heritage abroad, which are shipment and sending. "Shipment" involves transferring a sample of genetic resource to an institution located outside Brazil for the purpose of access. In this case, it is necessary to sign a Material Transfer Agreement (MTA) between sender and recipient of the shipment abroad. "Sending" consists of transporting a sample from genetic resource to provide services abroad, as part of research or technological development, in which the responsibility for the sample remains with whoever performs the access in Brazil. In place of MTA, a legal instrument signed between the national institution responsible for the access and the partner or contracted institution will be required. In case of sample submitted for genetic sequencing, a legal instrument will not be mandatory, only the formal communication to the partner institution or contractor about obligations and prohibitions defined in the Law.

Another novelty of this legislation is the single paragraph of the article referring to the definitions used in the Law, which ensures that any microorganism isolated in Brazil is part of the Brazilian genetic heritage. Regarding the shipment of microorganisms, the Law authorizes the transfer of the sample to third parties, with the condition that the MTA that accompanies the sample contains the same provisions as the original MTA, which should occur for all subsequent transfers. This has been an improvement for the deposit of Brazilian microorganisms into international microbiological collections, considering that in the past the user/purchaser of these microorganisms would have to sign a new MTA with the original depositor if he/she wanted to use it for research.

Foreign researchers will be able to access Brazilian biodiversity only if they are associated with public or private Brazilian scientific and technological research institutions, which must take responsibility for registering the activity in the SisGen, whose use is restricted to



people in Brazil. This requirement also applies to access samples of Brazilian genetic heritage deposited in *ex situ* collections or to genetic sequences obtained from samples of Brazilian genetic heritage deposited in public databases.

Since the Brazilian legislation considers access the use of the organism for research and technological development, whenever a researcher uses Brazilian organisms deposited in a biological collection (in Brazil or abroad), even if it was deposited before Nagoya Protocol came into force (2014), the Law 13,123 has to be complied. Regarding economic exploitation, the benefit sharing can be monetary that has to be deposited in the National Fund of Benefit Sharing (FNRB), which is set at 1% of the annual net revenue obtained from the exploitation of the product. In addition to the monetary benefit sharing, the legislation also provides for non-monetary benefit sharing, which can be done by implementing projects related to biodiversity conservation and other issues regarding associated traditional knowledge.

The Law also establishes that when monetary resources deposited in the FNRB are derived from the economic exploitation of finished product and reproductive material obtained from access to genetic resource coming from the *ex situ* collections that are accredited in SisGen, this monetary resource will be shared with them. The Decree defined that these resources will be partially (between 60 and 80%) destined for the benefit of these collections.

The new law, although containing several advances, still needs adjustments and clarifications that can be addressed in the Sectoral Boards of the Genetic Heritage Management Council – Cgen. In early 2017 the Sectoral Board of Academia was installed, which is composed by specialists representing the Brazilian Society of Microbiology (SBM), the Brazilian Botanical Society (SBB), the Brazilian Society of Zoology (SBZ) and Brazilian Association of Anthropology (ABA), as well as specialists in biotechnology. At the moment, the Sectoral Board of the Academia is dedicated, among others, to propose an easier and a more straightforward way for foreigners to access the Brazilian biodiversity, including organisms deposited in biological collections, as well as genetic information available through public databases.

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7. SisGen Link: <https://sisgen.gov.br/>

WORKSHOP ON MANAGEMENT OF CULTURE COLLECTIONS ORGANIZED BY CBMAI/UNICAMP BRAZIL

Derlene Attili de Angelis

Brazilian Collection of Microorganisms from the Environment and Industry, CBMAI/UNICAMP, Brazil

Understanding that the growth of biotechnology and bioenergy products will only happen when the professionals involved have access to quality microbial strains, the **Brazilian Collection of Environmental and Industrial Microorganisms CBMAI WDCM 823** (University of Campinas, Brazil) organized its first workshop on the “Management of Culture Collections”, which was held at the CBMAI/UNICAMP (Campinas, Brazil), from 06 to 10 November 2017.

The workshop was organized by the CBMAI’s team in collaboration with of Professor Nelson Lima (Director of the Portuguese Filamentous Fungal Culture Collection, Micoteca da Universidade do Minho-MUM), who joined the event as international adviser and coach.

The workshop was based on 5 days’ lectures and practical classes oriented to technicians and professionals from the medical, agribusiness and industrial areas, as well as postgraduate students.



According to the organization of the workshop, the event was a good opportunity to exchange valuable experiences and contribute to the improvement of Brazilian human resources involved directly, or potentially, with biotechnology and microbiological collections. Moreover, according to Dr. Derlene Attili de Angelis, Curator of CBMAI/UNICAMP, the workshop was a good opportunity to understand the needs of national clients of CBMAI's services.

Overall, the participants of the workshop evaluated positively the initiative of CBMAI/UNICAMP. Due to both the need of the national clients of CBMAI and the enormous success of this first workshop, the CBMAI's team has now planned to organize it every two years ahead.



Organizers, professors and participants of the workshop during the event at CBMAI/UNICAMP, Campinas, Brazil

CBMAI team's efforts are encouraged by their belief that:

"Microbial resources can be used in countless research activities and industrial processes, offering enormous opportunities to highly develop the technology of a country. The knowledge of biodiversity and the bioprospecting of new microorganisms have become main focuses of the biotechnological era. The demand for biological material in recognized collections has grown, mainly due to their specialized services with routine procedures, such as quality control tests and the supply of authenticated strains. Collections that provide professional services play an important role in the "ex situ" conservation, distribution and identification of genetic resources, as well as in the organization and availability of information associated with their collections. It is a laborious activity, of great responsibility and demands competence".

The workshop was supported by the CPQBA/DRM and the Post-Graduation Program in Genetics and Molecular Biology of UNICAMP.

CBMAI/UNICAMP

<http://www.cpqba.unicamp.br/colecoes/cbmai.html>

Webpage:

UPDATES FROM THE CONFERENCES AND UPCOMING CONFERENCES

HIGHLIGHTS FROM THE ICCC'14, 17-22 JULY 2017, SINGAPORE

ICCC'14 run as a parallel conference to the IUMS, 2017. This opportunity increased chances of interaction between the IUMS and the WFCC members. During the event, the General Assembly of the WFCC was also held and new board has taken over the governance from the previous board. We farewelled the old board members and we again thank them once more for their service and contributions.



Farewelling the Executive Board Members served from 2013 to 2017



New and the past presidents of the WFCC (Dr Philip Desmeth (left) and Dr Ipek Kurtböke (right))



SANDIA NATIONAL LABORATORY HOSTS LABORATORY BIOSECURITY WORKSHOP AT THE ICCC-14

On July 20th, 2017, Dr Lisa Astuto Gribble and Laura Jones from Sandia National Laboratories hosted a four-hour workshop entitled *Introduction to Laboratory Biosecurity* at the ICCC-14 in Singapore. The goal of the workshop was to bring awareness about laboratory biosecurity and bio-risk management to the members of the WFCC.

A total of 21 participants attended the workshop. Participants were from the following countries: Australia, Bangladesh, Brazil, Chile, Denmark, India, Indonesia, Korea, Netherlands, the Philippines, Portugal, Taiwan, the United States, and Vietnam.

The interactive workshop began with an introduction of bio-risk management. The introduction was followed by a historical discussion of bio-crimes and bioterrorism events with an emphasis on culture collection acquisitions. The remainder of the workshop included an interactive discussion of the five pillars of biosecurity: physical security, personnel security, information security, material control and accountability, and transport security. Each pillar was described in detail including how each can mitigate risk in a culture collection laboratory.

WFCC participants were engaged throughout the workshop asking numerous questions regarding how to best and most effectively implement biosecurity at their institution.



Workshop participants

REPORT OF THE 14TH MEETING OF THE ASIAN CONSORTIUM FOR THE CONSERVATION AND SUSTAINABLE USE OF MICROBIAL RESOURCES (ACM14)

Reported by: Lily Eurwilaichitr¹, Honglada Thoetkiattikul¹, Supawadee Ingsriswang¹, Rie Funabiki² and Sung-Yuan Hsieh³

¹TBRC, BIOTEC, Thailand, ²NBRC, NITE, Japan, ³BCRC, FIRDI, Taiwan

The 14th meeting of the **Asian Consortium for the Conservation and Sustainable Use of Microbial Resources (ACM14)** and an **International Microbial Sustainable Use Conference** was organized by Bioresource Collection and Research Center (BCRC) of Food Industry and Development Institute (FIRDI), Taiwan (Chinese Taipei) at the National Taiwan University Hospital (NTUH) International Convention Center, Taipei, December 4-6, 2017.

ACM14 is the annual meeting for the **Asian Consortium for the Conservation and Sustainable Use of Microbial Resources (ACM)** which has been established since 2004 by representatives from 12 EAST-ASIAN countries (Cambodia, China, Indonesia, Japan, Korea, Lao, Malaysia, Mongolia, Myanmar, Philippines, Thailand and Vietnam) during the 10th International Congress on Culture Collections (ICCC-10) in Japan. The ACM aims to promote collaboration among ASIAN culture collections and strengthen research and development of microbial resources and biotechnology for sustainable industrial applications. As of December 8, 2017, 27 organizations are the members of ACM. Through the ACM activities including the ACM annual meeting, ACM training programs and research collaboration among the members, the awareness of microbial diversity has been increased in the ASIAN region.

More info: please visit <http://www.acm-mrc.asia> and <http://acm14.bcrc.firdi.org.tw>

On day one, the conference was on “The international Microbial Sustainable Use” and was attended by more than 100 participants from ACM members, life scientists and microbiologists from around the world. The event included special talks from international and national experts, including Dr. Ipek Kurtböke, the president of WFCC, Dr. Shung-Chang Jong, International Affair Specialist of ATCC, Dr. Wen-Hsiung Li and Dr. Chiu-



Chung Young from Academia Sinica, Dr. Chii-Cherng Liao, Director-General of FIRDI, Dr. Lily Eurwilaichitr, Director of TBRC, BIOTEC and the board member of the WFCC, Dr. Moriyuki Hamada, NBRC, NITE, Ms. Rie Funabiki, NBRC, NITE and Dr. Chin-Chu Chen, VP of Grape King Bio Ltd, Taiwan.

On the second day, the main topic of the conference was on the International Standard, i.e. ISO/TC276 and ISO17025, for culture collection. This has created awareness and allowed the discussion among the ACM members. In addition, progress reports of ACM members and an observer from 16 institutes from 11 countries and region in Asia were presented.

On December 6th, ACM Taskforce and General Assembly was held at Hsin-Chu BCRC/FIRDI. The 4 Taskforces: Human Resource Development (HRD-TF), Management of Material Transfer (MMT-TF), Asian BRC Network (ABRCN-TF) and the Mutual Aid Association for mBRC (MAA-TF), presented their annual report, and proposed their future plan. This day, the Iranian Biological Resource Center (IBRC) and Microbial Culture Collection (MCC), National Centre for Cell Science (NCCS) were accepted as new members.

The 15th ACM annual meeting will be held in Ulaanbaatar, Mongolia in September 2018 hosting by Institute of General and Experimental Biology, Mongolian Academy of Sciences (IGEB-MAS).



Opening ceremony of the ACM'14



Opening ceremony of the ACM'14



Representative of the WFCC, Dr. Ipek Kurtböke, the president of WFCC and Dr. Lily Eurwilaichitr, the



Executive Board member of the WFCC, joined the ACM'14 as invited speakers



Dr. Ipek Kurtböke gave a special lecture on “The World Federation of Culture Collections from 1947 onwards serving for sustainable futures”



The Chair of 2017 ACM Annual Meeting, Dr. Gwo-Fang Yuan gave a welcome remark on the opening ceremony of the ACM'14.



Dr. Lily Eurwilaichitr presented a talk on “TBRC: Infrastructure for Bioeconomy Development in Thailand”



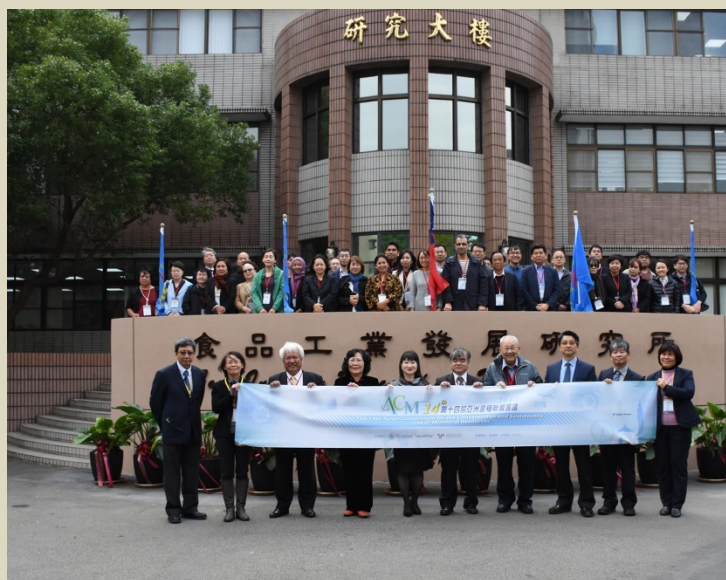
The Director-General of FIRDI, Dr. Chii-Cherng Liao gave a special lecture on “Lactic Acid Bacteria: From Culture Collection to Industry Development in Taiwan”.



Dr Ipek Kurtböke with ACM Malaysian (Dr Tan Geok Hun from Universiti Putra Malaysia) and Indonesian (Dr. Atit Kanti from InaCC) ACM delegates



The group photo of ACM members and invited speakers



The ACM members arrived at FIRDI

NEXT ICCC'15 IN CHILE

25-29 November 2019, Temuco, La Araucanía-Chile

Building Knowledge Based Societies

WFCC President and Executive Board together with the Chilean Organizers (Chairs: Dr. Cledir Santos, Dr. Paula Cartes and Prof. Dr. María Luz Mora, from the Universidad de La Frontera, Chile) invite all WFCC members to actively participate in the conference planning and program

Cledir Santos*, Paula Cartes and María de la Luz Mora
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Background

During the ICCC-14 in Singapore, the proposal of the Chilean Culture Collection of Type Strains (CCCT/UFRO WDCM 1111) was approved and the 15th International Conference on Culture Collections (ICCC-15) will be held in the *Universidad de La Frontera*, in the city of Temuco, Chile in November 25-29 November, 2019. According to the organisers, “once the effort spent in research must return to society through the formal scientific knowledge transfer from the Academy to the Society”, the motto of the ICCC-15 is “Building Knowledge-based Societies”.

It is the third time the ICCC is organised in Latin-America. Both previous ICCC that took place in Latin-America were organised in Brazil: ICCC-2 in 1973 and ICCC-13 in 2010. Organising the ICCC-15 in Chile means an important achievement for the whole Spanish speaking Latin-American Countries.

In this short note, some preliminary information about the ICCC-15 in Chile is presented.

Chile, the City of Temuco and the Chilean Region of La Araucanía

According to the Global Competitiveness Report of the World Economic Forum, Chile is the most competitive economy in Latin America. It has a strong institutional set-up, low levels of corruption and an efficient government. It also boasts solid macroeconomic stability with a small public deficit and low public debt. Moreover, Chile is the only South American country full member of the Organisation for Economic Cooperation Development (OECD). In addition, it is most security country of Latin America.

In the central-southern part of Chile is located the City of Temuco. This city was the last bastion of the *Mapuche* people upon the arrival of the European colonizers. Mapuche is an Amerindian Ethnicity with its communities mainly living in the central-south Chile and some communities living in the south-western Argentina. Temuco was established in 1881 during the occupation of *La Araucanía* and grew quickly into one of Chile's main cities. Nowadays, Temuco is the capital of the Chilean Region of *La Araucanía*. It has expanded because of the livestock, crop and forestry boom in its surrounding countryside since the 1890s.

According to the Chilean Institute of Statistics the population of Temuco is currently above 280.000 hab. which makes it the second largest city of southern Chile and the fourth largest in the country. Moreover, the population of the *La Araucanía* Region is nowadays above 1 million hab. Both Nobel Poets Gabriela Mistral and Pablo Neruda lived in Temuco for some time.



Universidad de La Frontera

The *Universidad de La Frontera*-UFRO (www.ufro.cl) was established at March 10th, 1981 as a consequence of the merger of the *Universidad de Chile* and the *Universidad Técnica del Estado*, which were public Chilean universities located in Temuco. Nowadays, UFRO is a public University which belongs to the Chilean Council of Rectors and is ranked in the Top 10 Chilean Universities. According to the Times Higher Education (THE, 2017) UFRO is ranked in the Top 30 among the best Latin American Universities.

UFRO is an institution which ensures quality and excellence in high education in Chile. It has presented an outstanding evolution relation to its selectivity standards during the latest years, placing itself as the best ranked public educational institution in the central-south Chile.

Scientific and Technological Bioresource Nucleus BIOREN-UFRO

The Scientific and Technological Bioresource Nucleus BIOREN-UFRO (www.bioren.cl) is the most prominent scientific platform of southern Chile. BIOREN-UFRO is a multidisciplinary infrastructure composed of 10 Research Centres, where work more than 200 researchers.

The Nucleus has cutting edge technological equipment. Its integrated way of working has made national and foreign research partners have a space with ample opportunities for development and scientific production at the highest level. BIOREN-UFRO hosts in its infrastructure the Chilean Culture Collection of Type Strains (CCCT/UFRO WDCM 1111) as a public service culture collection.

Chilean Culture Collection of Type Strains (CCCT/UFRO WDCM 1111)

The Chilean Culture Collection of Type Strains-CCCT/UFRO (<http://ccct.ufro.cl>) is a public service culture collection hosted at BIOREN-UFRO. It preserves and distributes microbial strains, mainly those related with the Chilean biomes, that includes the Andean, Atacama Desert, Chilean Antarctic Territory, Pascua Island, and South American and Austral Pacific Ocean.

The CCCT/UFRO is member of the WFCC; it is registered at the WDCM under the number 1111 and is an active Collection operating at national and international level.

ICCC-15: Meeting details

Date: ICCC-15 Conference: 25-29 November, 2019

Local: The **ICCC15 Conference** will be held at the University Campus of the *Universidad de La Frontera*, Temuco, Chile.

Facilities

In its main Campus, UFRO has a Convention Centre with a theatre with place for 700 people and satellite rooms of different capacities with place for about 600 people, in total.



Main entrance of the UFRO's Campus

Conference Programme

The scientific programme will be devoted to provide the latest developments in the different domains of Culture Collections as well as in the related scientific fields of the Microbiology and Biotechnology, taking into consideration the main demands of the motto of the ICCC-15 Conference: "Building Knowledge Societies".

The scientific programme of the ICCC-15 Conference will be developed over 4.5 working days. The event will be aligned in balance with plenary lectures, symposia, social events and Training Course.

Travel to Temuco, Chile

In order to come to Chile, participants should take flights to Airport of the *La Araucanía* (ZCO): <http://aeropuertoaraucaia.cl/>. Daily flights are available to and from *Santiago de Chile* and other Chileans cities.

Participants can travel by taxi from the airport to Temuco. The taxi fare is 25 Euros and takes 20 min. Alternatively, participants can use the Airport Transfer, which costs about 7 Euros: <http://www.transfertemuco.cl/>

There are also buses services from Santiago de Chile to Temuco, and vice versa: <https://www.recorrido.cl/en>



General Touristic Overview of:

Chile:

<https://www.youtube.com/watch?v=Wkz2Y1iBMWw>

Region of La Araucanía:

<https://www.youtube.com/watch?v=YmF1FKHyggU>

Temuco city:

<https://www.youtube.com/watch?v=ZpnNAUMWVAg>

On behalf of the National Organisers we warmly invite all members of WFCC to support this proposal. We expect to see you in Temuco in 2020.

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From the left to the right: Dr. Paula Cartes, Dr. Cledir Santos and Prof. Dr. María Luz Mora, in the first work meeting of organisation of the ICC-15 in Chile.

OTHER CONFERENCES

1] GLOBAL GENOME BIODIVERSITY NETWORK
2018 CONFERENCE, Vienna, Austria May 22-25

<https://meetings.ggbn.org/conference/ggbn/2018/>

2] ISBER will host the Biospecimen Research regional meeting in Luxembourg on February 27-28, 2018 in collaboration with IBBL. Entitled "Biospecimen Research Symposium: Quality matters", the meeting will consist of three plenary sessions, covering all major types of specimens please see <https://isber.site-ym.com/page/LuxeProgramme>

3]

Write these important dates down in your agenda

ECCO XXXVII



Culture Collections for Better Living and Environment

37th ECCO Annual General Meeting
13–14 September 2018

Moscow, Russian Academy of Sciences, Russia

