



Minutes of the 15th Meeting of the Asian Consortium for the Conservation and Sustainable Use of Microbial Resources (ACM15)

The 15th Asian Consortium for the Conservation and Sustainable Use of Microbial Resources (ACM15) and the International conference “Microbial diversity: research, conservation and sustainable use” was organized by one of the ACM members, Institute of General and Experimental Biology (IGEB) of Mongolian Academy of Sciences (MAS), at The Blue Sky Hotel & Tower, Ulaanbaatar on 4th October and at Red Rock Resort Hotel on 5th and 6th October 2018.

Date: October 4 (Thursday) - 6 (Saturday), 2018

Venue of the Meeting:

- The Blue Sky Hotel & Tower, Peace Avenue 17, Sukhbaatar District, 1 khoroo Ulaanbaatar 14240, Mongolia
- Red Rock Resort Hotel, Gorkhi-Terelj National Park, Nalaikh district, 612710, Mongolia

Meeting Homepage: <http://igeb.ac.mn/?id=158669>

Participants:

Members: Total of 12 organizations from 9 countries and regions participated

- CGMCC/China
- InaCC/Indonesia
- NBRC/Japan
- NIES/Japan
- KACC/Korea
- KCTC/KRIBB/Korea
- KNRRC/Korea
- Universiti Putra Malaysia/Malaysia
- PNCM/BIOTECH/Philippines



- USTC/Philippines
- BCRC/FIRDI/Taiwan
- BIOTEC/Thailand
- TISTR/Thailand
- IGEB-MAS/Mongolia

Special Speakers:

- Dr. Ipek Kurtböke, President, World Federation for Culture Collections (WFCC), Australia
- Prof. Michael Goodfellow, Senior Research Investigator, School of Natural and Environmental Sciences, University of Newcastle upon Tyne, UK
- Dr. Hiroko Kawasaki, Director, Industrial Innovation Division, Biological Resource Center, NITE (NBRC), Japan
- Prof. Kazuhito Fujiyama, Director, International Center for Biotechnology, Osaka University, Japan
- Prof. Katsuhiko Ando, Visiting adviser, Biological Resource Center, NITE (NBRC), Japan
- Dr. Tsetseg Baljinova, Honourable member, Laboratory of Microbiology, Institute of General and Experimental Biology (IGEB), MAS, Mongolia

Regular Session Speakers:

- Dr. Mutsuaki Suzuki, Director, NIG INNOVATION, National Institute of Genetics (NIG), Japan
- Ms. Rie Funabiki, Chief, International Affairs Division, Biological Resource Center, NITE (NBRC), Japan
- Prof. Batjargal Batdorj, Department of Biology, National University of Mongolia (NUM), Mongolia
- Prof. Gina R. Dedeles, Faculty Researcher, Research Center for the Natural and Applied Sciences, University of Santo Tomas, Philippines



Program summary

- Welcome Remarks
- Inauguration of the 15th ACM Meeting and International Conference
- International Conference “Microbial diversity: research, conservation and sustainable use”
 1. Microbial diversity research, conservation and sustainable use: WFCC’s Perspective
 2. Actinobacterial diversity in Atacama Desert soils, a source of new drugs for healthcare
 3. Microbial resource management using MALDI-TOF MS identification method and future prospects
 4. Lipid production with higher oleic acid content in *Rhodospiridium toruloides* isolated in Thailand
 5. Importance of International collaboration: NITE-MAS joint research project
 6. Microbial diversity in Mongolia and its importance for sustainable green development
 7. Nagoya Protocol implementation and Strategy of Bioeconomy in Japan
 8. Digital sequence information: what has been discussed in the CBD forum so far
 9. Proteolytic activity of lactic acid bacteria isolated from Mongolian fermented camel milk “Khoormog”
 10. Marine Oomycetes as source of fatty acids
- 15th Meeting of the Asian Consortium For the Conservation and Sustainable Use of Microbial Resources (ACM)
 1. ACM Member Reports
 2. ACM Task Force Reports
 3. General Assembly
 4. Closing Ceremony
 5. Sightseeing in Tsonjin Boldog Resort and UB city tour & shopping



Day 1

- **Welcome Remarks**

The 15th Asian Consortium for the Conservation and Sustainable Use of Microbial Resources (ACM15) and the International Conference “Microbial diversity: research, conservation and sustainable use” were opened with opening remarks made by Dr. Adiya Yansanjav, Director of Institute of General and Experimental Biology (IGEB), Mongolian Academy of Sciences (MAS).

- **Inauguration of the conference**

The 15th ACM meeting and International Symposium were inaugurated and welcome address was given by Prof. B. Avid, Secretary General, MAS, Dr. S. Munkhbat, Director, Scientific and Technological Policy Department, Ministry of Education, Culture, Science and Sports of Mongolia, Mrs. T. Bulgan, Director, Green Development Policy and Planning Department, Ministry of Environment and Tourism (MET) of Mongolia, and the ABS National Focal Point.

- **International Conference “Microbial diversity: research, conservation and sustainable use”**

As part of the ACM meeting, an International Conference “Microbial diversity: research, conservation and sustainable use” dedicated to the 45th anniversary of the Department of Microbiology was also organized. The conference included a plenary session with six special seminars, a regular session with four oral presentations and a poster session with 9 poster presentations. The detail of their topics was as shown below and this symposium was held on one day.

- **Plenary session**

1. Dr. Ipek Kurtböke: Microbial diversity research, conservation and sustainable use: WFCC’s Perspective
2. Prof. Michael Goodfellow: Actinobacterial diversity in Atacama Desert soils, a source of new drugs for healthcare
3. Dr. Hiroko Kawasaki: Microbial resource management using MALDI-TOF MS



identification method and future prospects

4. Prof. Kazuhito Fujiyama: Lipid production with higher oleic acid content in *Rhodospiridium toruloides* isolated in Thailand
5. Prof. Katsuhiko Ando: Importance of International collaboration: NITE-MAS joint research project
6. Dr. Tsetseg Baljinova: Microbial diversity in Mongolia and its importance for sustainable green development

- **Regular Session:**

1. Dr. Mutsuaki Suzuki: Nagoya Protocol implementation and Strategy of Bioeconomy in Japan
2. Ms. Rie Funabiki: Digital sequence information: what has been discussed in the CBD forum so far
3. Prof. Batjargal Batdorj: Proteolytic activity of lactic acid bacteria isolated from Mongolian fermented camel milk “Khoormog”
4. Prof. Gina R. Dedeles: Marine Oomycetes as source of fatty acids

- **Poster Session:**

Nine posters were presented by researchers from China, Philippines, Russia and Mongolia.

1. Dr. Chenghang Sun, Institute of Medicinal Biotechnology, Chinese Academy of Medical Sciences & Peking Union Medical College, China
“Studies on diversity and bioactivity of endophytic actinobacteria in Taklamakan desert”
2. Mr. Reuel M. Bennett, University of Santo Tomas Collection of Microbial Strains, Philippines
“Phylogeny and diversity of mangrove oomycetes”
3. Dr. Elena Abidueva, Institute of General and Experimental Biology, SB RAS, Russia
“Taxonomic diversity of actinobacteria through two soil depth profiles in dry steppe zone of South-West Transbaikalia”
4. Ms. Narantuya Damdinsuren, National University of Mongolia (NUM), Mongolia
“Molecular biological result of the mining soil at Zaamar, Mongolia”



5. Dr. Battsetseg Choidash, NUM, Mongolia

“The genotoxic activity of the soil from Zaamar and Sergelen soum, Tuv province”

6. Dr. Enkhtuul Tsendeekhuu, University of Science and Technology, Mongolia

“Overview on registration of local strains of microorganisms with potential genetic resources”

7. Dr. Rentsenkhand Tserennadmid, Institute of General and Experimental Biology (IGEB), Mongolian Academy of Sciences (MAS), Mongolia

“Isolation and screening of antagonistic yeasts for biocontrol of fungal pathogen on stored apples”

8. Ms. Amarbayasgalan Maidarjav, IGEB-MAS, Mongolia

“Antimicrobial activity of alkaloids produced by endophytic fungi”

9. Ms. Odgerel Bumandalai, IGEB-MAS, Mongolia

“Molecular identification of Chlorella species”

- **Closing of the International Conference**

The International conference was successfully concluded with enthusiastic participation from invited speakers, ACM members and several microbiology researchers from Mongolian universities and research organizations. The organizers thanked all the participants for making the international conference a grand success.



Day 2

- **15th Meeting of the Asian Consortium For the Conservation and Sustainable Use of Microbial Resources (ACM)**

The 15th ACM was opened with opening remarks made by Mr. Yasuo Kii, Director-General of Biological Resource Center, NITE (NBRC), Japan and Dr. Tsetseg Baljinova, Honourable member, IGEB, MAS.

- **Members Report**

Member reports were presented on annual activities and their achievement from 12 member organizations. The topics were listed as follows.

1. Dr. Lei Song, CGMCC/China
2. Dr. Atit Kanti, InaCC/Indonesia
3. Dr. Katsutoshi Fujita, NBRC/Japan
4. Dr. Cha Young Kim, KCTC/KRIBB/Korea
5. Dr. Misook Kim, KNRRC/Korea
6. Dr. Tan Geok Hun, Universiti Putra Malaysia/Malaysia
7. Dr. Rosaria G. Monsalud, PNCM/BIOTECH/Philippines
8. Dr. Mark Kevin P. Devanadera, USTC/Philippines
9. Dr. Chien Chi Chen, BCRC/FIRDI/Taiwan
10. Dr. Suwanee Chunhametha, TBRC/BIOTEC/NSTDA/Thailand
11. Dr. Pornpoj Srisukchayakul, TISTR/Thailand
12. Dr. Enkh-Amgalan Jigjiddorj , IGEB-MAS/Mongolia

- **ACM Task Force Meeting**

The Task Force was discussed as follows.

- **Asian BRC Network (ABRCN-TF)**

Dr. Juncai Ma reported the ABRCN-TF and its Members activities, and introduced the future working plan of ABRCN-TF. ABRCN-TF Meeting was held on 20 March 2018 at Bangkok, Thailand, where the activities of ABRCN-TF from 2006-2017 were reviewed and future activities of ABRCN were discussed.



- **Human Resource Development (HRD-TF)**

Dr. Rosario G. Monsalud reported on the annual activities of 2018. Four training-workshops were conducted by HRD-TF and one upcoming training course was announced. Dr. Monsalud also reported on HRD activities of members: KCTC, NBRC, UniCC and PNCM & MSP. She welcomed and congratulated Dr. Song-Gun Kim as the new chair of HRD-TF.

- **Management of Material Transfer (MMT-TF)**

Ms. Rie Funabiki summarized MMT-TF activities from 2006-2017 and the previous schemes of microbial strains transfer. She reported the results of MMT-TF Meeting in March 2018, as analyzing the current ABS situation of various countries as a first step to make those models for transboundary transfer work. She presented a case study of Japan and Dr. Jung-Sook Kim presented a case study of Korea.

- **Mutual Aid Association for mBRC (MAA-TF)**

Dr. Takahide Ishida reported the 2nd year activities of MAA-TF. In the last GA, there was an idea asking WFCC to send an opinion letter to the ACM member governments. Dr. Ishida introduced a draft statement of the opinion letter which intended to have relaxed ABS measures for users to access GRs in providing countries.

Comments and Q&A

- Dr. Ipek Kurtböke (President of WFCC): We should be realistic. Each country has own legislation. WFCC might help in different ways and WFCC is always happy to support ACM activities.
- Dr. Hiroko Kawasaki: This statement will be from TF or ACM? Response: From ACM. Ms.Funabiki: There should be a kind of propose at GA, not from ACM, now.
- Dr. Hiroko Kawasaki: Whose statement? Response from Dr. Tan Geok Hun: Last year we talked about this letter.
- Dr. Lily Eurwilaichitr: Last year I did not support. We write to own government. Every country should do it by its own.
- Dr. Song-Gun Kim: Role of MAA-TF is to propose something. This time we suggest WFCC to give the letter.
- Dr. Gina Dedeles: We ask WFCC for assistance and help. We ask consensus of



ACM.

- Dr. Hiroko Kawasaki: Before NP, ACM could propose. Now each country has own law or regulations.

- **General Assembly**

The chair and vice-chair of this section were Dr. Enkh-Amgalan Jigjiddorj and Dr. Tan Geok Hun. In general assembly, reports and discussions were made regarding the following agenda; (1) Adoption of 14th ACM Minutes, (2) Next ACM Secretariat, (3) ACM Statement, (4) AOB, and (5) Announcement of ACM 16 (2019) & ACM 17 (2020).

Agenda 1: Adoption of 14th ACM minutes

Ms. Rie Funabaki reported the minutes of 14th Asian Consortium (ACM14) hosted by Bioresource Collection and Research Center (BCRC), Food Industry Research and Development Institute (FIRDI) on December 4 - 6, 2017 at NTUH International Convention Center, Taipei, Taiwan. All participants confirmed the contents and adopted the minutes.

Agenda 2: Next ACM Secretariat

The term of current Secretariat was from Oct 2015 to Oct 2018. And a nomination and application for the Secretariat were open to all members. Dr. Yasuo Kii, Director-General of NBRC announced that NBRC stepped up to be ACM Secretariat for the next term of 3 years. The General Assembly unanimously accepted the proposal and NBRC as ACM Secretariat was adopted.

Agenda 3: ACM Statement

Statement or letter from WFCC was proposed by MAA-TF. Dr. Ishida, the chair of MAA-TF, announced that the task force members gave up the proposal as WFCC is not likely to send the letter to member countries' governments. Therefore, it was adopted not continuing on this subject.



Agenda 4: AOB

Several items were discussed under this agenda.

4.1 Clarification differentiation of tasks taken by MAA-TF and MMT-TF

After the adoption of 14th ACM minutes, there was an explanation of purposes and functions of MAA-TF by Dr. Gina Dedeles. MAA-TF would help the culture collections in the implementation of material transfer, particularly the smaller culture collections because they may have problems regarding how to manage the cultures. They may not have the capability to manage their cultures in terms of deposit, preservation and maintenance. MAA-TF will collect information on the implementation of the regulations that each member country has. MAA-TF understands that each member country have their unique ABS regulations. Another task of MAA-TF would be to monitor or to track the microbial resources that are being used by other industries, by other users; at what extend those microbial resources have been used by the users. She asked if this is approved and reach a consensus among ACM members that there will be no overlapping over the functions with MMT-TF. After discussion and deliberation among the members, it was agreed by all members.

Last clarification by Ms. Rie Funabiki (co-chair of MMT-TF): Situations of every country vary and we can't make a policy, what we are going to do is to make an example of best practice. We are not going to make a policy and/or standardize MTA or anything like that because it's up to the country and up to the culture collection.

4.2. Information sharing on biosafety

Dr. Hiroko Kawasaki requested the members for cooperation on sharing information of microorganisms: National regulation, BSL List of microorganisms and the other biosecurity and biosafety related information.

All members supported the proposal and some suggestions were provided from the members. It was concluded that the information sharing would be done in due time.

4.3. Questionnaire on plant pathogens

Dr. Seung-Beom Hong from Korean Agricultural Culture Collection (KACC) introduced the questionnaire and requested the members for cooperation on providing information of plant pathogens which are listed as bioweapon in own countries, but not the list of plant pathogen for quarantine.

After some discussion, it was concluded that a direct contact would be done between



Dr. Hong and the members, not through ACM Secretariat, and the data would be shared among the members after collecting.

4.4. Proposal of new task force

A new task force was proposed by Dr. Lily Eurwilaichitr and Dr. Hiroko Kawasaki which would work on standardization of the microbial techniques or preservation, as well as various rules and regulation on biobanking. The General Assembly unanimously accepted the proposal, so the establishment of the new taskforce “Standardization TF” was adopted.

Agenda 5: Announcement of ACM16 (2019) and ACM 17 (2020)

The next ACM annual meeting, ACM16 (July 2019), would be held in Malaysia, hosted by Microbial Culture Collection Unit (UNiCC), Institute of Bioscience, Universiti Putra Malaysia (UPM). The 17th ACM annual meeting would be held in Japan, jointly hosted by Biological Resource Center, National Institute of Technology and Evaluation (NBRC), Japan Collection of Microorganisms (JCM), RIKEN BioResource Center (RIKEN BRC) and Microbial Culture Collection, National Institute for Environmental Studies (MCC-NIES).

Acknowledgement

Ms. Rie Funabiki expressed gratitude to Ms. Rieko Fukai of International Affairs Division, NBRC, the ACM Secretariat, for her contribution and assistance in organizing ACM15.

• Closing Ceremony

Sightseeing in Tsonjin Boldog Resort and UB city tour & shopping



- APPENDIX 1. Schedule of the 15th Asian Consortium for the Conservation and Sustainable Use of Microbial Resources (ACM15) and the International Conference “Microbial diversity: research, conservation and sustainable use”

International Conference “Microbial diversity: research, conservation and sustainable use”

Thursday, October 4, 2018

08:30 - 09:30	Reception/Registration	
09:30 - 10:30	Opening Ceremony / Opening and Welcome remarks <ul style="list-style-type: none"> - Dr. Adiya Y., <i>Director, Institute of General and Experimental Biology (IGEB), Mongolian Academy of Sciences (MAS)</i> - Prof. Avid B., <i>Secretary General, Mongolian Academy of Sciences (MAS)</i> - Mr. Munkhbat S., <i>Director, Scientific and Technological Policy Department, Ministry of Education, Culture, Science and Sports of Mongolia</i> - Mrs. Bulgan T., <i>Director, Green Development Policy and Planning Department, Ministry of Environment and Tourism of Mongolia, and ABS National Focal Point</i> Photo time	
Plenary session		Chair
10:30 - 11:00	“Microbial diversity research, conservation and sustainable use: WFCC’s Perspective” Dr. Ipek Kurtböke <i>President of WFCC, c/o Genecology Research Centre and the Faculty of Science, Health, Education and Engineering, University of the Sunshine Coast, Australia</i>	Dr. Tsetseg Baljinova <i>Honourable member, Laboratory of Microbiology, Institute of General and Experimental Biology, MAS, Mongolia</i>
11:00 - 11:20	Coffee break	
11:20 - 11:50	“Actinobacterial diversity in Atacama Desert soils, a source of new drugs for healthcare” Prof. Michael Goodfellow <i>Senior Research Investigator, School of Natural and Environmental Sciences, University of Newcastle</i>	Dr. Lily Eurwilaichitr <i>Deputy Executive Director, National Center for Genetic Engineering and</i>



	<i>upon Tune, UK</i>	<i>Biotechnology (BIOTEC), Thailand</i>
11:50 - 12:20	“Microbial resource management using MALDI-TOF MS identification method and future prospects” Dr. Hiroko Kawasaki <i>Director, Industrial Innovation Division, Biological Resource Center, NITE (NBRC), Japan</i>	
12:20 - 12:50	“Lipid production with higher oleic acid content in <i>Rhodospiridium toruloides</i> isolated in Thailand” Prof. Kazuhito Fujiyama <i>Director, International Center for Biotechnology, Osaka University, Japan</i>	Dr. Gwo-Fang Yuan <i>Director, Bioresource Collection and Research Center (BCRC), Food Industry Research and Development Institute (FIRDI), Taiwan</i>
12:50 - 14:00	Lunch break	
14:00 - 14:30	“Importance of International collaboration: NITE-MAS joint research project” Prof. Kazuhiko Ando <i>Visiting adviser, Biological Resource Center, NITE (NBRC), Japan</i>	Dr. Cha Young Kim <i>Director, Korean Collection for Type Cultures (KCTC), Research Institute of Bioscience and Biotechnology (KRIBB), Korea</i>
14:30 - 15:00	“Microbial diversity in Mongolia and its importance for sustainable green development” Dr. Tsetseg Baljinova <i>Honourable member, Laboratory of Microbiology, Institute of General and Experimental Biology, MAS, Mongolia</i>	



Regular session		Chair
15:00 - 15:15	“Nagoya Protocol implementation and Strategy of Bioeconomy in Japan” Dr. Mutsuaki Suzuki <i>Director, NIG INNOVATION, National Institute of Genetics (NIG), Japan</i>	Dr. Takahide Ishida <i>Center for Environmental Biology and Ecosystem Studies, National Institute of Environmental Studies (NIES), Japan</i>
15:15 - 15:30	“Digital sequence information: what has been discussed in the CBD forum so far” Ms. Rie Funabiki <i>Chief, International Affairs Division, Biological Resource Center, NITE (NBRC), Japan</i>	
15:30 - 15:50	Coffee break	
15:50 - 16:05	“Proteolytic activity of lactic acid bacteria isolated from Mongolian fermented camel milk “Khoormog” Prof. Batjargal Batdorj <i>Department of Biology, National University of Mongolia (NUM), Mongolia</i>	Dr. Hiroko Kawasaki <i>Director, Industrial Innovation Division, Biological Resource Center, NITE (NBRC), Japan</i>
16:05 - 16:20	“Marine Oomycetes as source of fatty acids” Prof. Gina R. Dedeles <i>Curator, University of Santo Tomas Collection of Microbial Strains, Faculty Researcher, Research Center for the Natural and Applied Sciences, University of Santo Tomas, Philippines</i>	
16:20 - 17:20	Poster session	
17:20 - 17:50	Discussion & Closing Ceremony	
18:00	Conference Dinner	



The 15th Asian Consortium for the Conservation and Sustainable Use of Microbial Resources

Friday, October 5, 2018

8:00 - 10:00	Move to “Red Rock Resort Hotel” in Gorkhi-Terelj National Park	
	ACM Member Report Session	Chair
10:00 - 11:00	Member 01-04 Dr. Lei Song, CGMCC/China Dr. Atit Kanti, InaCC/Indonesia Dr. Katsutoshi Fujita, NBRC/Japan Dr. Cha Young Kim, KCTC/KRIBB/Korea	Dr. Enkh-Amgalan Jigjiddorj <i>Head of laboratory, Laboratory of Microbiology, Institute of General and Experimental Biology, MAS, Mongolia</i>
11:00 - 11:30	Coffee break	
11:30 - 13:00	Member 05-10 Dr. Misook Kim, KNRRC/Korea Dr. Tan Geok Hun, Universiti Putra Malaysia/Malaysia Dr. Rosaria G. Monsalud, PNCM/BIOTECH/Philippines Dr. Mark Kevin P. Devanadera, USTC/Philippines Dr. Chien Chi Chen, BCRC/FIRDI/Taiwan Dr. Suwanee Chunhametha, TBRC/BIOTEC//NSTDA/Thailand	Dr. Atit Kanti <i>Indonesian Culture Collection (InaCC), Research Center for Biology, Indonesian Institute of Sciences (LIPI), Indonesia</i>
13:00 - 14:00	Lunch break	
14:00 - 14:30	Member 11-12 Dr. Pornpoj Srisukchayakul, TISTR/Thailand Dr. Enkh-Amgalan Jigjiddorj, IGEB- MAS/Mongolia	Dr. Tan Geok Hun <i>Microbial Culture Collection Unit, Institute of Bioscience, Department of Agriculture Technology, Faculty of Agriculture, Universiti Putra Malaysia, Malaysia</i>



Task Force Meeting	
14:30 - 15:00	Asian BRC Network (ABRCN-TF)
15:00 - 15:30	Human Resource Development (HRD-TF)
15:30 - 16:00	Coffee break
16:00 - 16:30	Management of Material Transfer (MMT-TF)
16:30 - 17:00	Mutual Aid Association for mBRC (MAA-TF)
18:00 -	Dinner time

Saturday, October 6, 2018

General Assembly	
9:00 - 11:00	<p>Chair: Dr. Enkh-Amgalan Jigjiddorj (IGEB-MAS)</p> <p>Vice-Chair: Dr. Tan Geok Hun (Universiti Putra Malaysia)</p> <p>Convene by Ms. Rie Funabiki of the <i>ACM Secretariat</i></p> <p>Agendas</p> <ol style="list-style-type: none"> 1. Adoption of 14th ACM Minutes 2. Next ACM Secretariat 3. ACM Statement 4. AOB 5. Announcement of ACM 16 & 17
11:00 - 11:30	Closing Ceremony
11:30 - 12:00	Check out
12:00 - 13:00	Lunch break
13:00 - 14:00	Sightseeing (Horse riding etc.)
14:00 - 17:00	Sightseeing in Tsonjin Boldog Resort and move back to UB
17:00 -	Free time in UB (shopping, sightseeing in UB)