

Asian Consortium for the Conservation and Sustainable Use of Microbial Resources (ACM)

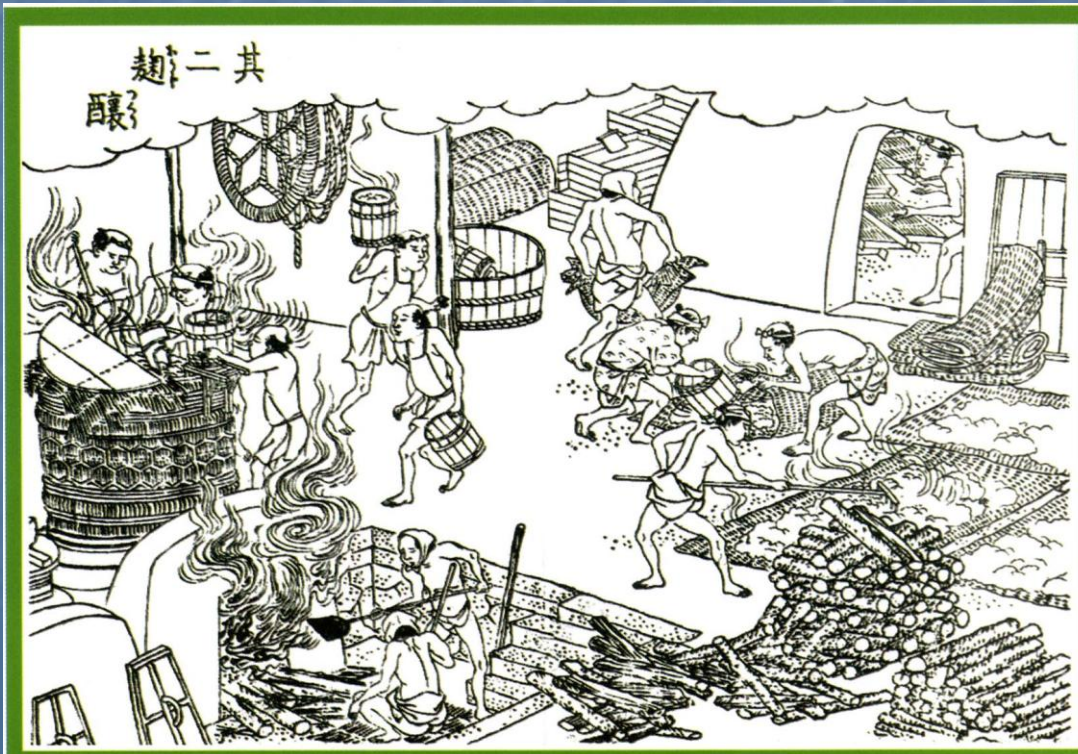
ACM

30 September 2010

Ken-ichiro Suzuki

NITE Biological
Resource

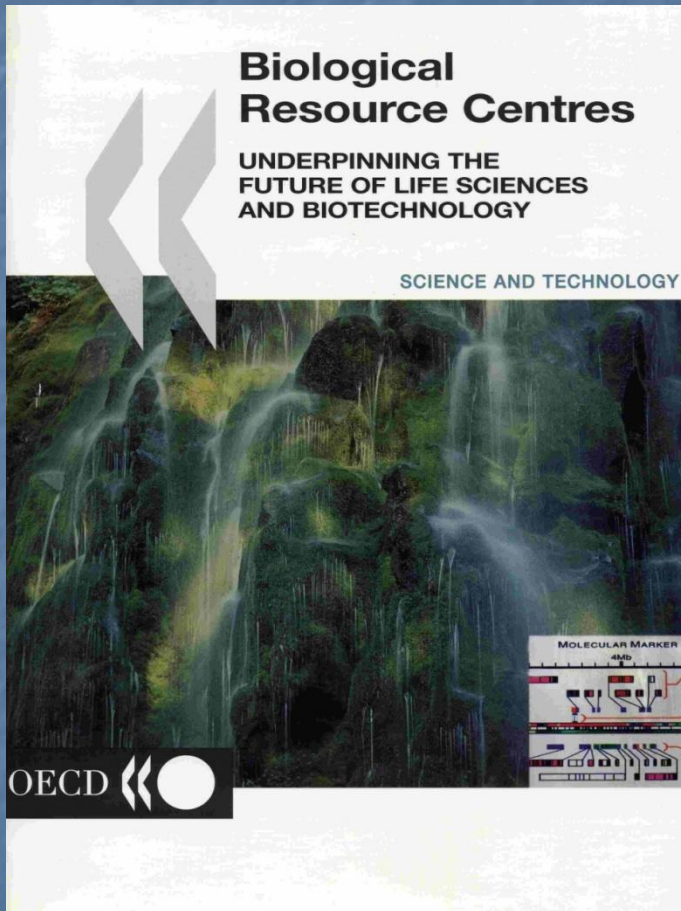
It is said that pure culture of *Aspergillus oryzae* have been sold to SAKE brewers Since 10th century.



Biological Resource Centres

Underpinning the future of life sciences and biotechnology

OECD 2001



Importance of Networking

1. The need for BRCs
2. The increasing challenges of biodiversity and genomics
3. Financial support for long-term stability
4. Ensuring quality and expertise
5. Restrictions affecting access
6. Towards a global network of BRCs
7. A call for action by OECD countries and beyond

Why networking?

Essential Functions of BRC are
Collection, Preservation and Supply of:

1. **Reference organisms** for quality control and standardized tests
 - Needs of specification of strains by national or international regulations
2. **Taxonomic type strains** of prokaryotes (bacteria, archaea) and yeasts
 - According to the Bacteriological Code of Nomenclature
 - Living culture of fungi derived from type according to the Botanical Code
3. **Materials for research and development**
 - Characteristic for BRC and the original country for screening sources

The 1st ACM Meeting @Tsukuba ICCC10



ACM was established at Tsukuba Meeting on 10th October, 2004.
Preliminary meeting was held in March 2004.
Members were from twelve countries.
Current secretariat is in NITE.

Asian Consortium for the Conservation and Sustainable Use of Microbial Resources(ACM)



Aims of ACM

- Framework for international cooperation to encourage microbiological researches
- Development of microbial resources characteristic for each country
- Construction of the mechanism for academia and industry to utilize microbial resources
- Establishment of BRC network
- Establishment of international standards for biological material transfer and benefit-sharing
- Improvement and share of standardized techniques

Annual Meeting of ACM

1. Japan (2004)
2. Thailand (2005)
3. China (2006)
4. Indonesia (2007)
5. Korea (2008)
6. Vietnam (2009)
7. (Japan, 2010)

1. Country report
2. Report from Task Forces
3. Open symposium to facilitate the utilization of local biological resource centers

Task Force of ACM

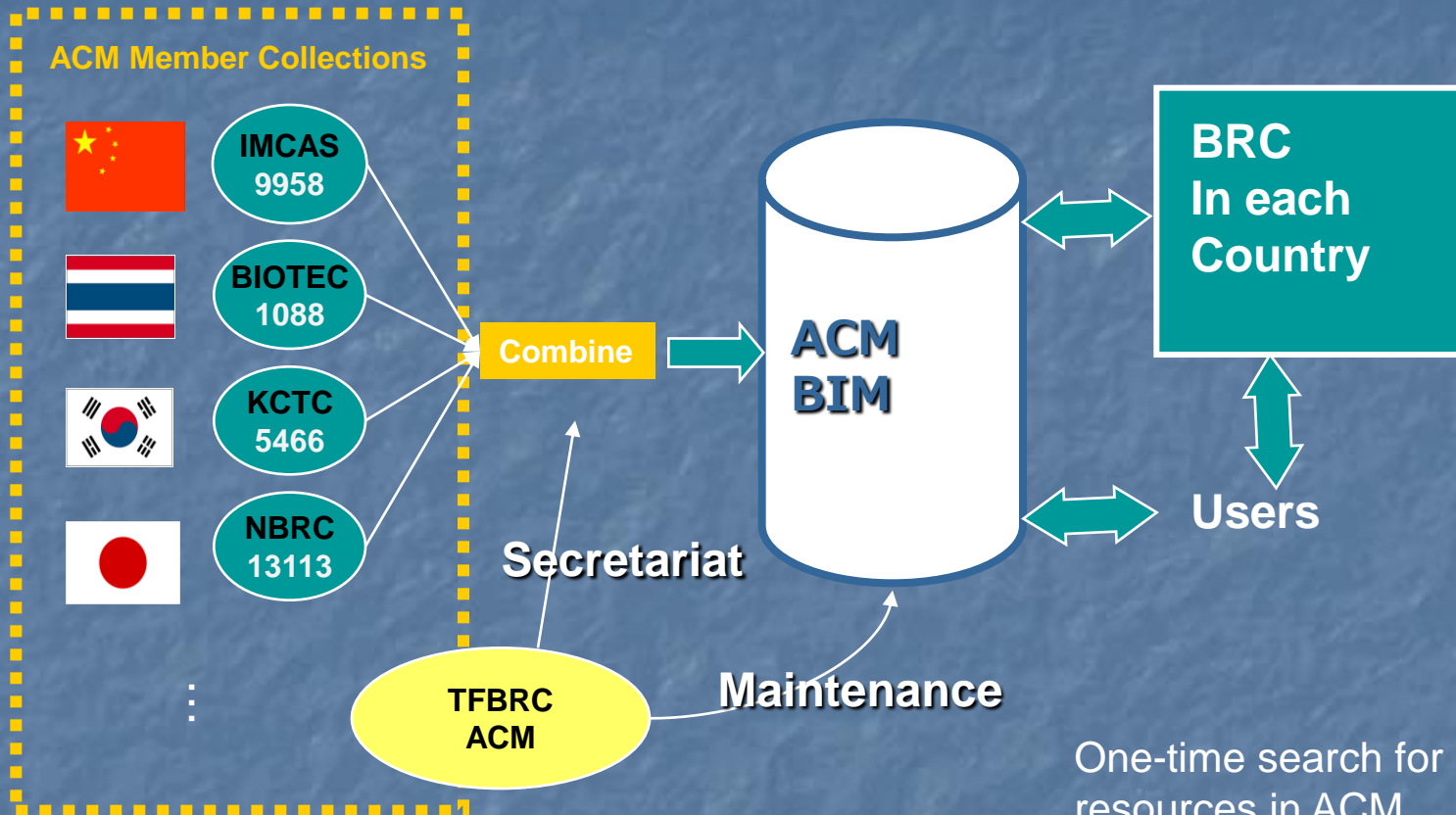
1. Biological Information Management (BIM)
2. Human Resource Development (HRD)
3. Management of Material Transfer (MMT)

Task Force of ACM

1. Biological Information Management (BIM) (Chair, Ken-ichiro Suzuki, Japan)

- Database for management of materials
- Establishment of Integrated Database using common platform
- Support of database development for small collections

Database Linkage and Friendship are essential and important to Network.



One-time search for all microbial resources in ACM
Detailed information and consultation are available from each collection

[Home](#) -> [Results](#)

CGMCC(China)(5) ▾				
ID	Strain number	Genus Name	Species epithet	History
1	cgmcc 4.1067	Nocardioides	luteus	<-Institute of Microbiology, CAS 71-N54
2	cgmcc 4.1069	Nocardioides	fulvus	<-Institute of Microbiology, CAS 71-N86
3	cgmcc 4.1334	Nocardioides	albus	<-CCRC CCRC 12442
4	cgmcc 4.1230	Nocardioides	albus	<-JCM JCM 3185
5	cgmcc 4.1068	Nocardioides	albus	<-Institute of Microbiology, CAS 71-N46
First Prev Next Last				

NBRC(Japan)(9) ▾				
ID	Strain number	Genus Name	Species epithet	History
1	NBRC 100371	Nocardioides	aquaticus	DSM 11439 <- M. Labrenz <- P. Hirsch, EL-17K
2	NBRC 14755	Nocardioides	jensenii	IFO 14755 <- JCM 1364 <- K. Suzuki, CNF 091 <- IAM 12581 <- NCIB 9770 <- C.W. Evans <- H.L. Jensen
3	NBRC 14491	Nocardioides	luteus	IFO 14491 <- IMET 7830 <- H. Prauser, 939-9
4	NBRC 14398	Nocardioides	fulvus	IFO 14398 <- IMAS (J.S. Ruan, 71-N86)
5	NBRC 14397	Nocardioides	flavus	IFO 14397 <- IMAS (J.S. Ruan, 71-N82)
6	NBRC 14396	Nocardioides	luteus	IFO 14396 <- IMAS (J.S. Ruan, 71-N54)
7	NBRC 13917	Nocardioides	albus	IFO 13917 <- KCC A-0185 <- IMET 7807 <- H. Prauser, 652-48
8	NBRC 12679	Nocardioides	simplex	IFO 12679 <- Ajinomoto Co., Inc. (AJ 1450) <- K. Komagata, P-18
9	NBRC 12069	Nocardioides	simplex	IFO 12069 <- IAM 1660 <- ATCC 6946 <- NCTC 4215 <- H.L. Jensen
First Prev Next Last				

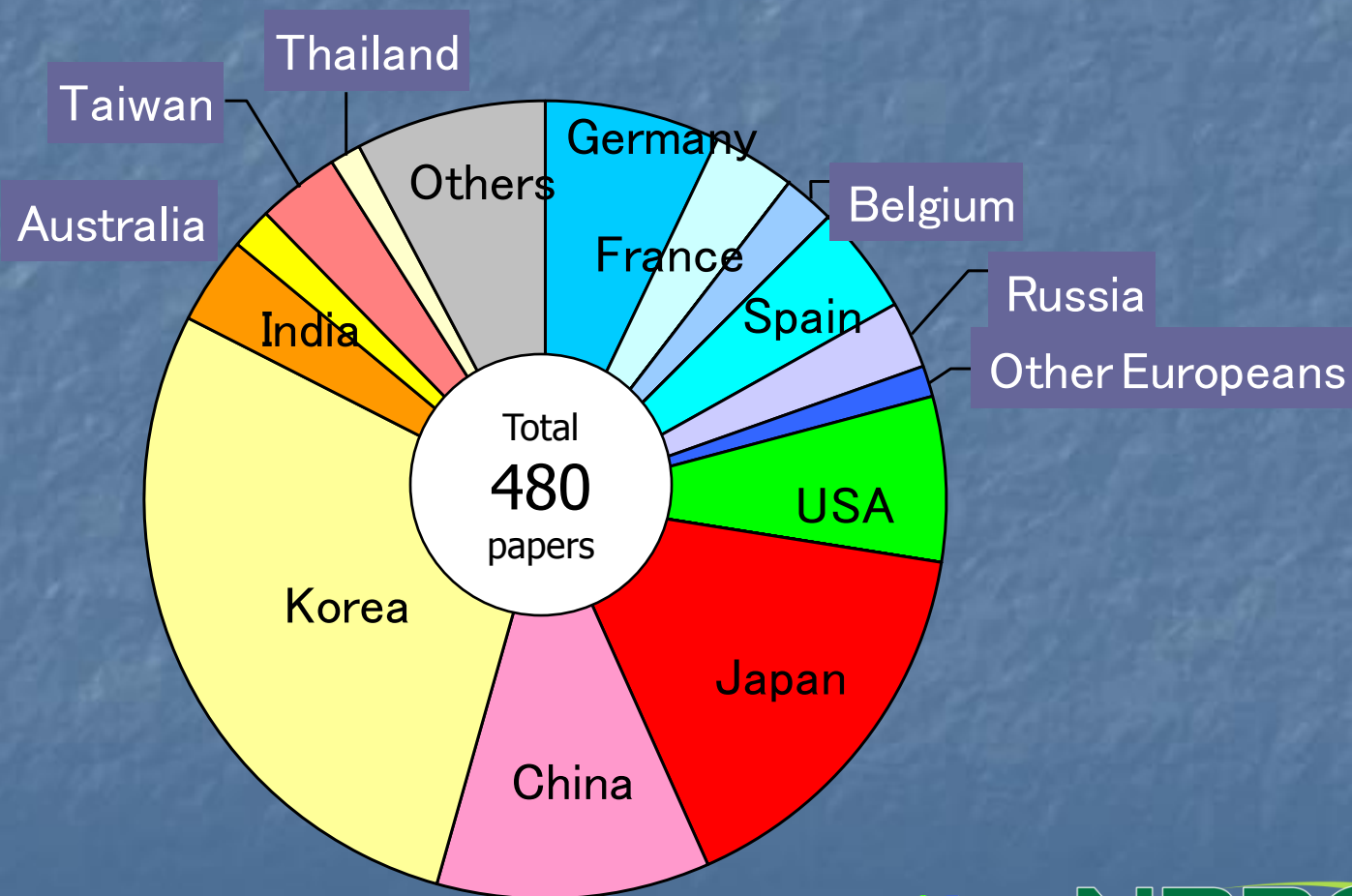
KCTC(Korea)(40) ▾				
ID	Strain number	Genus Name	Species epithet	History
1	KCTC 19197	Nocardioides	hwasunensis	<- SD Lee, Cheju Univ.
2	KCTC 19187	Nocardioides	panacihumi	<- ST Lee, KAIST
3	KCTC 19054	Nocardioides	kongjuensis	<- JH Yoon, KRIBB
4	KCTC 19039	Nocardioides	lentus	<- IG Kim, KRIBB

Taxonomic Type Strains of Prokaryotes

All type strains must be indicated at each occurrence in the text, tables and figures by a superscript capital T (e.g. NBRC 13546^T =IJSM 0819^T). The Code requires the designation of a type strain for a new type species and recommends the deposition of a culture, the type strain. **Type strains of culturable species must be deposited in at least two or more public culture collections from two or more countries and accession numbers must be provided.** An extensive listing of culture collections is available on line.

(Instruction to the authors, IJSEM)

Number of Papers for New Prokaryotic Taxa in IJSEM 2007



Future Plan of BIM

- Inviting other culture collections
 - The Philippines and Indonesia
- Connection to the local networks
 - PNMCC, FORKOMIKRO, JSCC, , ,
- Data integration and cross checking
 - Data updating
 - More items
- Link to the other databases
 - Scientific name databases
 - DNA sequence databases
 - Reference libraries
 - Biodiversity databases
 - Biosecurity databases

Task Force of ACM

2. Human Resource Development (HRD) (Chair: Dr. Rosario Monsalud, the Philippines)

- Sharing the standardized techniques and know-how for the management of culture collections
- Planning and Information on the training courses

Cibodas Botanical Garden

Cooperative Studies on Isolation and Taxonomy of Microorganisms



19 June 2003

Kupang in West Timor



21 August 2005

Bukit Sari Botanical Garden in Jambi

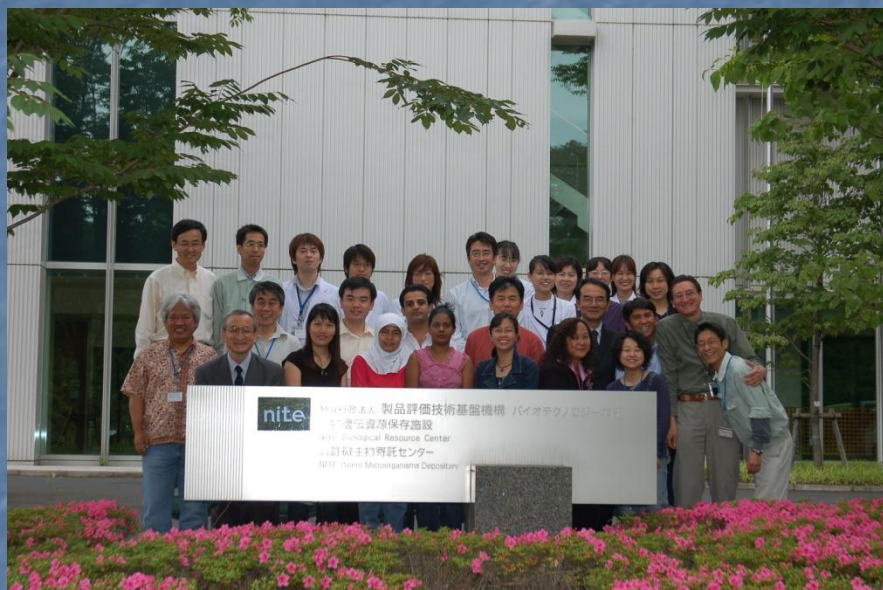


18 June 2004

Laboratory work



JICA-JBA Bioindustry Training Course for Government Officials with Technical Background 2003 -



The program had been carried on for 20 years, inviting 149 participants (1988-2004) from 23 countries.



Program at NBRC (5 days)

LECTURES

- The role of biological resources
- Database of microorganisms for BRC
- Fungal taxonomy
- Bacterial taxonomy
- Yeast taxonomy
- Structure of fungal cell
- Convention on Biological Diversity: Access to bioresources and the benefit-sharing
- Preservation of microorganisms
- Economic value of microbial resources

PRACTICES

- Isolation of actinomycetes and screening of antibiotics
- Preparation of SEM sample and its observation
- Observation by optical microscope and manipulation
- Determination of 16S rRNA gene sequences of bacteria (DNA preparation, PCR, Sequencing and analysis)
- L-drying preservation of microorganisms

Future Plan of HRD

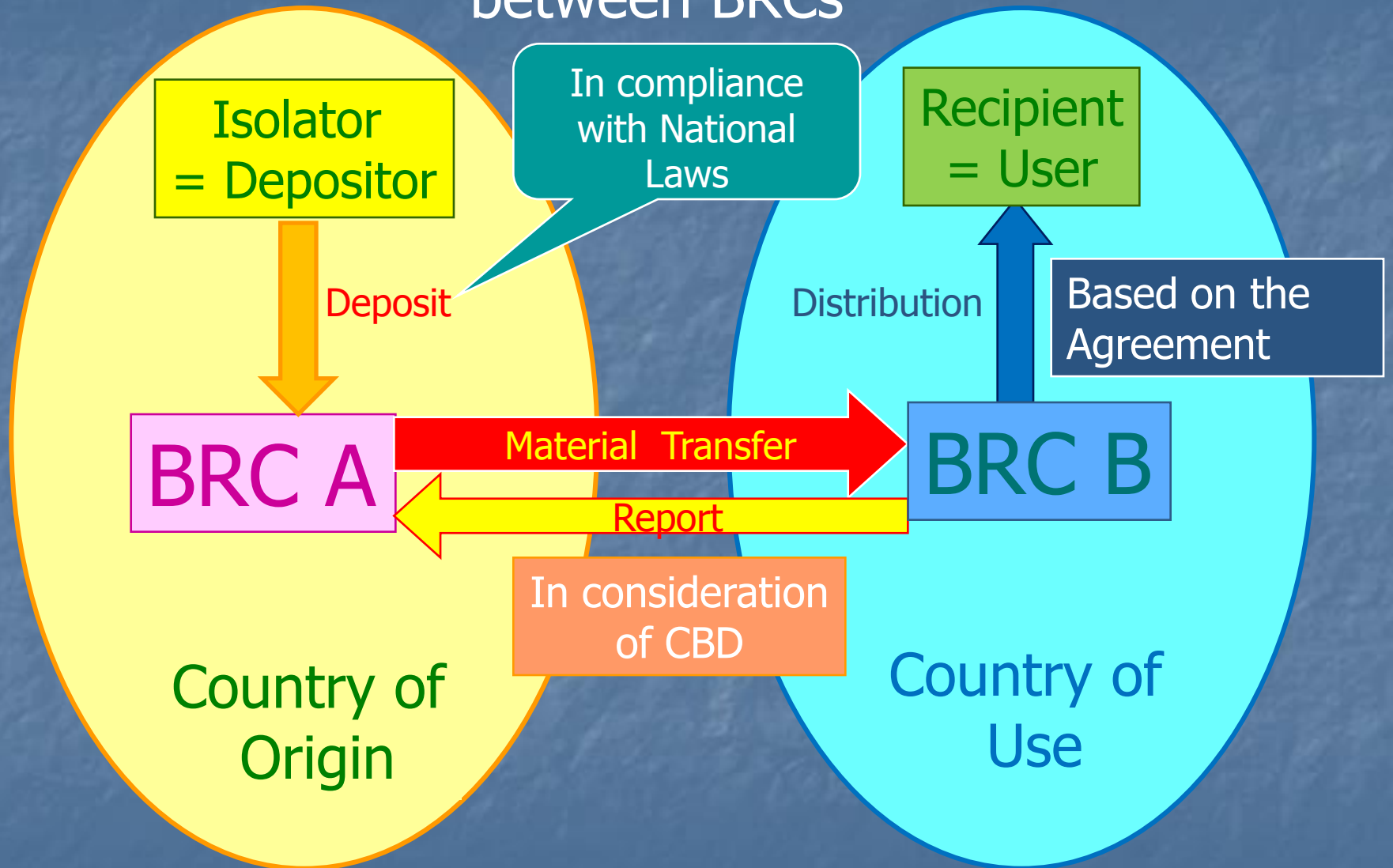
- Sharing the standardized techniques and know-how for the management of culture collections
 - Ames test, etc.
- Planning and Information on the training courses
- Finding of funding

Task Force of ACM

3. Management of Material Transfer (MMT)

- Establishment of standardized MTA
- Compliance with national laws and regulations (CBD, quarantine, etc.)
- Encouragement of international cooperation and commercialization using biological materials

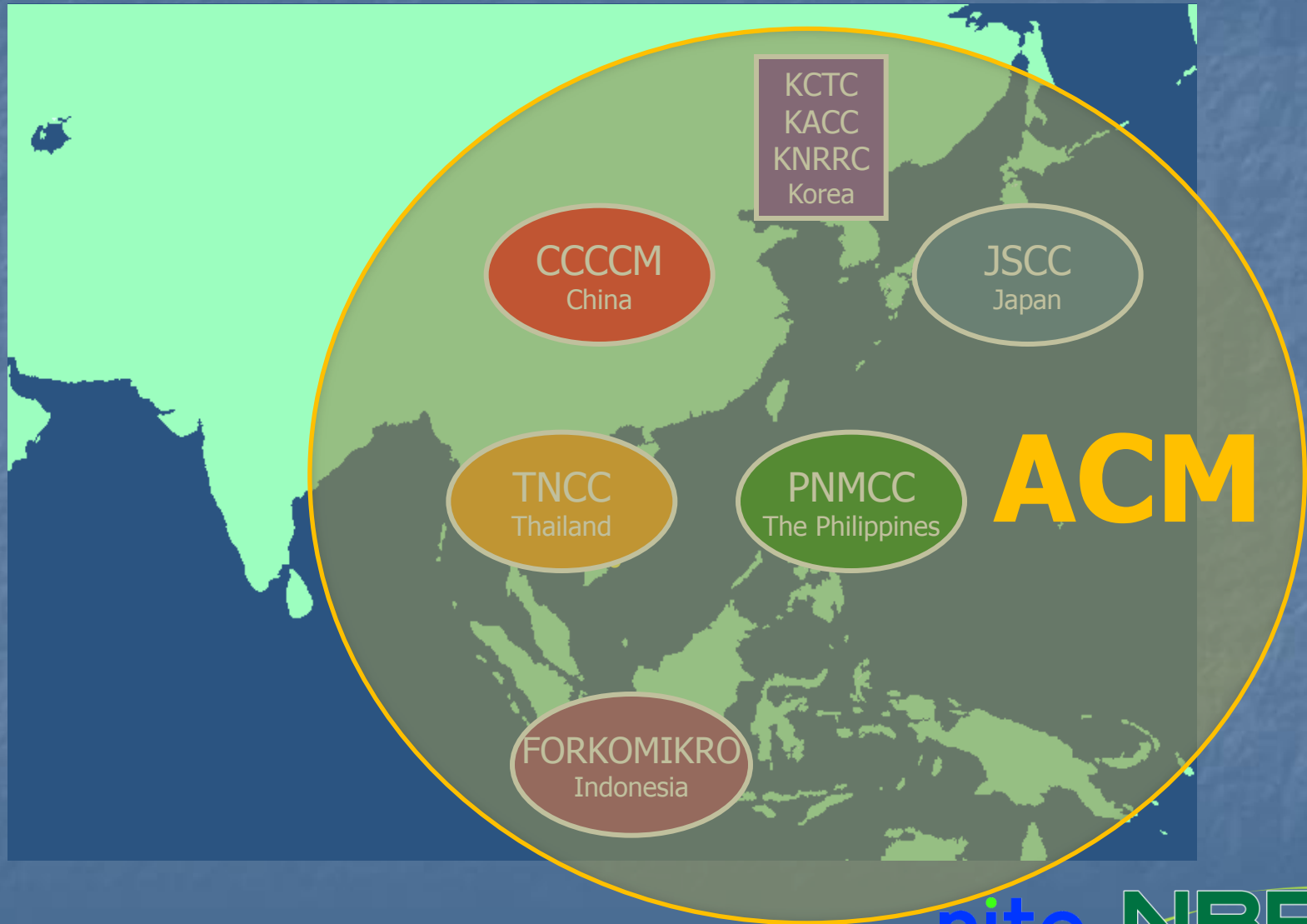
International Transfer of Biological Materials between BRCs



Importance of Domestic Network of BRCs/CCs

- Effective coverage of microbial diversity
- Promotion to facilitate the activity to inside/outside of the community
- Standardization for resources
- Public acceptance
- Recommendation to policy decision makers

Regional BRC/CC Networks in East / South-East Asia Between Global and Domestic



JSCC

(Japan Society for Culture Collections)



Founded in 1951, reorganized in 1993
Formerly Japan Federation for Culture Collections

Academic society registered in the
Science Council of Japan

Membership

Affiliate members 23

Individual members ca. 229

Sustaining members 32



Activities of JSCC

- JSCC has 23 member culture collections with their characteristic microbial resources and activities.
- Annual meeting including symposia, aural and poster sessions are organized.
- Publication of journal “Microbiology and Culture Collections” every half year
- Culture collection committee collects statistic data of the numbers of holdings and distribution and make integrated on-line catalogue of strains available.
- Seminar for curators is organized to share information on the common issues such as “infectious diseases law”, “shipment”, “cultivation media”

Present culture collections in Japan are:

- Specialized and research oriented collections by experts but the capacity is limited, then,
- Mostly organized by researchers and technicians, therefore not familiar with administrative matters such as contract and accounting,
- Not able to utilize the holding resources sufficiently by the third party users, and
- Not able to publish catalogue databases with user-friendly mechanism



World Federation for Culture Collections



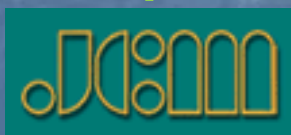
ACM



Regional



Domestic
(National)



Individual

ACKNOWLEDGMENTS

- All the delegates from the ACM member countries
- Dr. Rosario Monsalud, the Chairpersons of Task Forces HRD
- Special thanks to Database Working Group members, ie. Drs. Juncal Ma, Supawadee Ingsriswang, Jungsook Lee, and Masami Ichihara



IUMS 2011
Sapporo

Meetings of the
Three Divisions of the International Union of Microbiological Societies 2011

The Unlimited World of Microbes

[Link](#) | [Home](#)



Invitation

Committee and Members

General Information

Program

Registration

Call for Abstracts

Social Programs

Outreach Programs

Access

Hotel Accommodation & Tours

Sponsors

Exhibition

Date

◆ **XIII, International Congress of Bacteriology and Applied Microbiology**

6-10 September 2011

◆ **XIII, International Congress of Mycology**

6-10 September 2011

◆ **XV, International Congress of Virology**

11-16 September 2011

Venue

◆ **Sapporo Convention Center**

6-jo 1-chome, Higashi-Sapporo, Shiroishi-ku, Sapporo, 003-0006 Japan
<http://www.sora-scc.jp/english.php>

◆ **Sapporo Business Innovation Center**

5-jo 1-chome, Higashi-Sapporo, Shiroishi-ku, Sapporo, 003-0005 Japan
<http://sangyo.center.sec.or.jp/> : Japanese only

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<http://www.congre.co.jp/iums2011sapporo/index.html>

nite

NBRC
NITE Biological Resource Center