

A summary report about the WDCM training course

Personal introduction

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Educational Experience

- ◆ September 2001–July 2005: Northwest A & F University, College of Resources and Environment, Agricultural Resources and Environment, Bachelor degree.
- ◆ September 2005–June 2008: Northwest A & F University, College of Resources and Environment, Environmental Sciences, Master degree.
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Work Experience:

- ◆ July 2008–now: Guangdong Microbial Culture Collection Center (GDMCC), Guangdong Institute of Microbiology, Guangdong Academy of Sciences

Name of your culture collection (Times New Roman, 14)

Guangdong Microbial Culture Collection Center (GDMCC)

ABSTRACT

(Times New Roman, 14)

In this report, we introduced the biggest culture collection center in southern China—GDMCC. GDMCC is the third deposition organization of microorganisms for patent application in China and also is an international depository authority (IDA) under the regulations of the Budapest Treaty since 2016. We also talk about what we learned from the series of training courses in this report. We discussed how to construct a formal culture collection center, how to manage the database, what we should do to let more people know our center and strains and the importance of whole genome sequencing. We also give some suggestion to the WDCM work such as new member enrolling, standardized data uploading and holding meeting and training course. In the training courses, we learned a lot and i also give some comments on the training courses. I think we need more practice in data management and big data analysis. We will enhance the communication with other members of the WDCM in the future. We think the communication will be benefit to our service level.

Key words: (Times New Roman, 14)

GDMCC; Deposit; Patent; Distribution; Budapest treaty

Contents (Times New Roman, 14)

1. Brief introduction of your Culture Collection.

Guangdong Microbial Culture Collection Center (GDMCC) was non-profit organization and affiliated to Guangdong Institute of Microbiology, Guangdong Academy of Sciences. GDMCC was founded in 1987 and started to provide services to the society from 1990. GDMCC is the third deposition organization of microorganisms for patent application authorized by State Intellectual Property Office in Jan 2016 and it is also an International Depository Authority (IDA) under the regulations of the Budapest Treaty since 2016. More than 20,000 strains were deposited in GDMCC, including 3,095 species and 563 genera, and it has become the largest and most professional microbial culture collection center in southern China. GDMCC focus on microorganism isolation, culture, identification, and preservation, and GDMCC contributes to economic development through providing different biomaterials and technical supports to different communities, such as agriculture, industry, education, research, detection, environmental protection and so on.

2. Benefit from the training courses.

I think that i really learned a lot from the training courses in the past several days. In summary, they were shown as follows:

First, i learned a lot about how to construct a formal culture

collection center and data management is very important. I think our culture collection center have a lot work to do. There is no problem in the microorganism deposition. But we should improve the species description in the database and make them in accordance to international formal format, because our data cannot be imported to the WDCM directly and also cannot be searched by different communities and they could get enough information about the strains they want. If we want to contribute more to different communities, we must improve our data management and catalogue functions to provide better services. I also learned how to upload our database to WDCM to make our services more convenient to different communities.

Second, English version website must be constructed to improve our service. In the past years, we didn't have an English website and only Chinese people can contact with us and get service from our center. We can improve our service through the construction of a new English version website. As we know, if you want to publish a novel species, the type strain should be deposited to at least two different countries. It becomes more and more important to communicate with different countries. Microorganisms are very important bioresources to all the countries in the world. Deposition of microorganisms in different countries is beneficial to bioresources protection, sharing and utilization and it will become popular in different countries. Each formal culture

collection center should own an English version website and the database also should be canonical and easily to be used by different communities. It will become easier to get different strains from different culture collection centers.

Third, the data management of whole genome sequences is very important in the future. With the development of sequencing technology, the cost of whole genome sequencing dropped down sharply. The whole genomes of different microbes need to be sequenced and we can obtain more information and understand more from the genome sequences, such as gene transfer, genetic development, gene function, evolution and so on. Comparison the whole genome sequences between different strains and preservation of so huge data are the most important problems. In the training course, we get some suggestion about how to deal with the data by using some commercial software. We also need a big server machine to deposit the data and to do comparison. We also need to construct a database for whole genome sequences information. We should not only deposit the whole genome sequences into the Genbank, but also need to construct an in house database about whole genome sequences.

3. Suggestion on WDCM work.

More culture collection centers, especially from the developing countries, should be invited to join the WDCM and share the deposition

information. When uploading the database, all the culture collection organizations should conform to the rules designed by the WDCM and provide enough essential information about the strains. Each members of the WDCM should update their database in time and upload the data to the WDCM. In the data uploading, each strain should provide the full-length 16S rRNA gene sequence (Prokaryotes) or ITS gene sequence (Eukaryotes). The WDCM should hold the meeting at regular intervals to enhance the communication between different culture collections and to provide training course to help improve the construction of different culture collections.

4. Comments or suggestion on the training courses.

The training courses are very helpful for us to construct a formal database of culture collection. The courses showed what we need to do to construct the database and how to upload our data to the WDCM to let more people know our culture collection center and it is also helpful to the deposition and distribution of microbial cultures. We also learned how to do more basic researches using the whole genome sequences. However, i think there may be some points which need to be improved. They were shown as following:

The internet was so bad that we could not connect to the internet in most times. We cannot do any practice through the website about WDCM. I think most of us need to do more practice on how to use our system in

the website and learn how to upload the data and how to analyze the data. We hope the internet can be improved.

Another problem is that the courses took too much time on the research reports. What we want to learn from the training courses is how to use the software to deal with the big data, especially whole genome sequences analysis. But most of the lectures only told us the results but not the processing. How they deal with the whole genome sequences and got the results? We don't know. We need more practice in the big data analysis.

I think all these will be improved in the future training courses and it will be very helpful to different culture collection.

5. Suggestion on further cooperation between WDCM and your collections

First, we must change the format of our database according to the form provided by the WDCM and some fundamental essential information about different strains should be filled in the form and upload into the WDCM server. It will be very helpful to the people who want to find the strains in our center.

Second, we should strengthen the communication with the WDCM in the database management, big data analysis and website construction.

I think we need more support from the WDCM. The standardized information in WDCM will also make the application statistics of different strains easier.