

Summary Report

Training Course for Microbial Data Analysis

Hosted by:

WFCC-MIRCEN World Data Center for Microorganisms
(WDCM)

Organized by:

World Federation for Culture Collections (WFCC)
The Center for Microbial Resource and Big Data, Institute of
Microbiology, Chinese Academy of Sciences
Beijing, China
November 23-30, 2018

Dénes Dlačhy

NCAIM

National Collection of Agricultural and Industrial Microorganisms
Faculty of Food Science
Szent István University
1118 BUDAPEST, Somlói út 14-16
Hungary

Personal introduction

Name: Dénes Dlauchy
Academic qualification: MSc. (1992): Szent István University
PhD (2000): Szent István University

Employment:

From 1992-2018: **National Collection of Agricultural and Industrial Microorganisms (NCAIM)**

- application and adaptation of molecular biology technics in yeast taxonomy
- responsibility for yeast strains of NCAIM
- classification and description of new species, computing

-Field trips:

- Reading: Conventional identification of yeast strains (bilateral project)
- Bristol: DNA sequencing (bilateral project)
- University of Bloemfoenten: Classical yeast identification
- Tokyo, JCM, NITE BRC: Yeast biodiversity

Interest: molecular taxonomy of yeasts, PCR and rtPCR detection and quantification of targeted gene sequences

Name of my culture collection:

National Collection of Agricultural and Industrial Microorganisms NCAIM

Abstract

Training course was organized by WDCM during Nov 23- Nov 30, 2018 which focused on the standard of procedure for participants: the genome-sequencing project, including sample preparation, data annotation and legal issues for the cooperation. The training focused on the collaboration among Culture Collections to promote the GCM 2.0 type strain sequencing project. This project is an effort to close current gaps in the genomic maps of microbes and hence to promote research through deep mining of the genomic data.

Key words: Culture Collection, WDCM, NCAIM, GCM 2.0

1. Brief introduction of my Culture Collection

The predecessor of NCAIM, the Hungarian Microbiological Gene Bank (HMGB) was established in 1974. In the early years the HMGB existed as a decentralized organization. It consisted of some 30 research- and industry laboratories that were grouped according to their special expertise such as plant protection, soil-, medical-, veterinary-, food microbiology and so on.

The idea of centralization and establishing a national collection was supported by the Hungarian Biotechnology Program in the years 1983-1986, National Community for Developments provided substantial support to our collection and enabled its development. In 1985, the name of the culture collection was changed to National Collection of Agricultural and Industrial Microorganisms (NCAIM). In the following year NCAIM was approved as an International Depository Authority.

NCAIM became part of the Faculty of Food Sciences of Szent István University.

The main functions of NCAIM is to

- collect, maintain and store bacteria, filamentous fungi and yeasts with relevance for biotechnology, different areas of microbiology and to teaching
- receive, preserve, and maintain strains for the patent purposes under Budapest Treaty and for safe deposit

- supply institutions, scientists, and students with NCAIM cultures
- offer identification services to the industry and research laboratories
- provide data on NCAIM strains in form of printed catalogues, or online
- provide consultations.

Cultures maintained in NCAIM

	1976	1986	1996	2018
Bacteria	38	218	520	1260
Filamentous Fungi	92	168	240	400
Yeast	75	470	780	1500
Total	205	856	1560	3160

Research Activity at NCAIM

- Study of survival of microorganisms preserved and maintained with different methods
- Comparative study of the yeast biota of natural and man-made habitats
- Classification and identification of yeast strains, description of new yeast species and taxa
- Taxonomic studies using modern molecular biology methods
- Biodiversity of yeasts in foods and beverages
- Investigations of microbial contaminants in industrial products
- Consultancy for hygiene in factories