

Collaborative Effort for Global Significance: Example of Chinese Medicine Digital Project

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圖書館 LIBRARY

December 3, 2013

Introduction of Chinese Medicine Digital Project



Introduction

- ▶ The Project is collaborative effort done by a multidisciplinary team from SCM and the University Library
- ▶ Team members include Chinese medicine subject experts, librarians and IT experts
- ▶ The Project is supported by University Teaching Development Grants (TDG) and financial support from SCM and University Library
- ▶ Aims to support teaching & learning, advocate open access, and promote the internationalization of Chinese Medicine (CM)



Completed Databases



- ▶ All databases are open-access online to the world
- ▶ The first Hong Kong-developed series of CM database
- ▶ Collect most common used materials in CM practice
- ▶ Searchable for all descriptions and images
- ▶ Serve as a important e-learning tools for CM subject courses
- ▶ Support student's learning in-class and after-class

Chinese Medicine Specimen Database (CMSD)



- ▶ Officially Launched in 2007
- ▶ 686 kinds of specimen displayed in CM Specimen Centre, HKBU
- ▶ Each record has corresponding exhibit in specimen center
- ▶ Help student's learning in variety, authenticity, and use of CM

Medicinal Plant Images Database

The screenshot shows the website for the Medicinal Plant Images Database. At the top, it features the logo for the School of Chinese Medicine and the title '藥用植物圖像數據庫' (Medicinal Plant Images Database). Below the title, there is a paragraph in Chinese and an English translation. The Chinese text states that medicinal plants are a key part of Chinese medicine culture and that the database was created to promote their use and sharing. The English text explains that the database was established through a collaborative effort between the School of Chinese Medicine and the University Library, containing over 1,000 medicinal plants with images and descriptions in both languages. A central image strip shows five different medicinal plants: a purple orchid, a pink orchid, a field of pink flowers, a yellow flower, and a red flower. A blue button with the Chinese characters '進入' (Enter) and the English word 'Enter' is overlaid on the image strip. At the bottom, there is a footer with the Hong Kong Baptist University logo, the visit count '1034887', and the development team and copyright information.

School of 中醫藥學院 Chinese Medicine 藥用植物圖像數據庫 Medicinal Plant Images Database

藥用植物是中醫藥文化的主要物質基礎，其歷史源遠流長，種類繁多，為了推進藥用植物的普及和信息共享，香港浸會大學中醫藥學院和圖書館共同合作創建了此藥用植物圖像數據庫，數據庫以植物圖片附加文字說明形式，用中英文雙語對千餘種藥用植物進行了系統的歸類和介紹，並提供便捷的檢索平臺幫助中醫藥愛好者對不同類別的藥用植物獲得直觀和系統的認知。

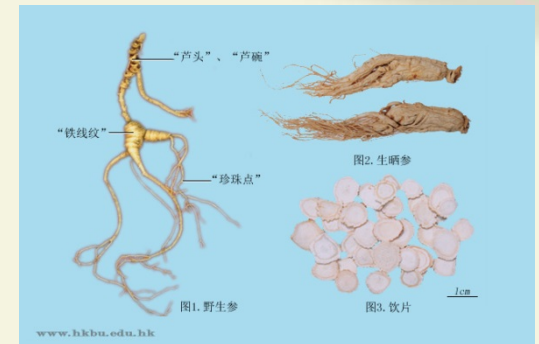
Medicinal plants, as an important material basis of Chinese Medicine culture, have a long standing history and variety. The Database was established by the collaborative effort between the School of Chinese Medicine and the University Library with the aim of promoting popularization and resource sharing in Chinese medicine. More than one thousand medicinal plants were systematically consolidated and summarized in the form of plant images and detailed descriptions in a bilingual environment. The database will provide all interested learners with perceptual and systematic knowledge of various medicinal plants through a user friendly and powerful searching platform.

進入 Enter

香港浸會大學 HONG KONG BAPTIST UNIVERSITY 訪客次數 (Visit times since Oct.16, 2009) : 1034887 編創人員 • 版權公告 Development team • Copyright

- ▶ Chinese version Lunched in 2009
- ▶ Bilingual version Lunched in 2012
- ▶ Contain 1159 common used ecological medicinal plants
- ▶ Tailor-made as a important e-learning tool for the subject course of **Medicinal Botany**

Chinese Medicinal Material Images Database



- ▶ Chinese Version Launched in May, 2013
- ▶ Contains 420 common used crude drugs with detail description and annotated photos.
- ▶ Tailor-made as an essential e-learning tool for the subject course of ***Authentication of Chinese Materia Medica***

Phytochemical Images Database

The screenshot shows the website's header with the logo of the School of Chinese Medicine and the title 'Phytochemical Image Database'. It features a navigation bar with '進入 Enter' and a main content area with text in Chinese and English. The Chinese text describes the database's purpose and features, while the English text provides a more detailed overview. At the bottom, there is a filmstrip-style image gallery and a footer with university and library information.

方潤華基金資助
Sponsored by Fong's Family Foundation

School of 中醫藥學院
Chinese Medicine

中草藥化學圖像數據庫
Phytochemical Image Database

中草藥化學圖像數據庫以常用中草藥中的活性成分為對象，除了提供常見各種物理化學參數，更有特色的是推薦了有關化合物的定性/定量分析和製備方法，並附有免費的核磁共振(NMR)等原始光譜圖，供有關領域的科研和教學人員參考。本數據庫與為人熟知的藥用植物圖像數據庫和中藥材圖像數據庫相輔相成，旨在提供一種研究和學習中草藥化學與中草藥質量控制的新途徑。

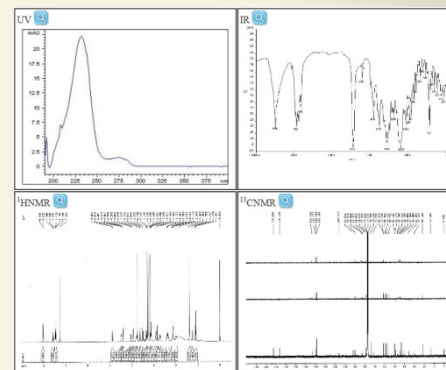
The Phytochemical Image Database aims to provide comprehensive information of bioactive compounds found in medicinal herbs. It includes not only general information like descriptive and numerical data on chemical, physical and biological properties, and literature references, but also useful methods of qualitative/quantitative analysis and sample preparation; as well as the unique part: real spectra of NMR/ MS/ IR. It arose as a sister database of our well-known Medicinal Plant Images Database and Chinese Medicinal Material Images Database, with mission to offer a new approach for studying and learning Phytochemistry and Quality Control of Chinese medicines by providing easy-to-access and free phytochemical information.

進入
Enter

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訪問次數 (Pageviews since 1 Sep., 2014) : 3,060

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Acknowledgements · Copyright



- ▶ Launched in Sept, 2014
- ▶ Contains 200 common used bioactive compounds found in medicinal herbs with the property description, analysis methods, sample preparation and the spectra images.
- ▶ Tailor-made as an essential e-learning tool for the subject course of **Phytochemistry**

Example of MPID

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香港浸會大學藥學院 藥用植物圖像數據庫
School of Chinese Medicine Medicinal Plant Images Database

ENG | 繁體

Select all | View selected
Keyword search
Advanced search

Keyword: %
Sort by: Latin Name
Search Clear

Faceted search

Latin Family Name:
Fabaceae (79)
Asteraceae (74)
Euphorbiaceae (43)
Lamiaceae (39)
Liliaceae (38)
More...

Chinese Family Name:
豆科 (79)
菊科 (74)
大戟科 (43)
唇形科 (39)
百合科 (38)
More...

Latin Genus Name:
Euphorbia (13)
Polygonum (13)
Citrus (10)
Prunus (9)
Solanum (9)
More...

Chinese Genus Name:
大戟屬 (13)
蓼屬 (13)
柑橘屬 (10)
李屬 (9)
茄屬 (9)

Prunus m...
梅 Mei
【中文名稱】
【漢語拼音】
【英文名稱】
【拉丁學名】
【科屬名稱】
【生藥部位】
【藥用部位】
【採收時間】
【主要成分】
【藥理作用】
【性味功能】
【主治用法】
【應用舉例】

Advanced Search Page

School of Chinese Medicine 藥用植物圖像數據庫
Medicinal Plant Images Database

ENG | 繁體

Select all | SCM | Library | Main Page

Advanced search

Latin Family Name:
A B C D E F G
H I J K L M N
O P Q R S T U
V W X Y Z

Random picture

拉丁學名 Latin Name
中文名稱 Chinese Name
漢語拼音 Chinese Pinyin
英文名稱 English Name
拉丁科名 Latin Family Name
中文科名 Chinese Family Name
拉丁屬名 Latin Genus Name
中文屬名 Chinese Genus Name
藥用部位 Part Used
藥理作用 Pharmacology
性味功能 Properties & Actions
主治用法 Indications & Usage

Pull Down to Select
Pull Down to Select
Pull Down to Select
Pull Down to Select

Search Clear Match all items Sort by: Latin Name

香港浸會大學圖書館
Hong Kong Baptist University Library
©2007 Hong Kong Baptist University. All rights reserved. Best viewed in JavaScript enabled I.E.7.0, with UTF-8 display.

DataLink

藥用植物圖像數據庫 Medicinal Plant Images Database

人參 Renshen



藥用植物圖像數據庫
Medicinal Plant Images Database

中文名稱: 人參
學名: Renshen
學名(英文): Ginseng, Asia Ginseng, Asiatic Ginseng, Asiatic Ginseng
學名(拉丁): Radix Ginseng
學名(法文): Ginseng
學名(德文): Ginseng
學名(俄文): Женьшень
學名(日語): 人參

科名: 五加科
性味: 味甘、性溫
功效: 大補元氣、強心補腎、安神定志、生津止渴

產地: 吉林省
藥效種類: 補益劑
功能分類: 補虛劑
藥材類別: 補劑類
提供單位: 曾健記

中藥標本資料庫 Chinese Medicine Specimen Database

人參 Ginseng, Ren Shen

編號 (ID): D00005

藥材拉丁名 (Pharmaceutical Name): Radix Ginseng

拉丁學名 (Latin Name): *Panax ginseng* C. A. Mey

標本位置 (Location): 29



科名: 五加科 Family: *Araliaceae*

性味: 味甘、性溫 Odour: slightly fragrant and distinctive

功效: 大補元氣、強心補腎、安神定志、生津止渴 Taste: slightly bitter, gradually sweet

產地: 吉林省 Clinical Indications: 1. General weakness, palpitations, forgetfulness
2. Thirst and hyperhidrosis, anorexia
3. All kinds of chronic disease, post-haemorrhagic shock, collapse

藥效種類: 補益劑 Origin of Production: Jilin, China

藥材類別: 補劑類 Display Category: [Hong Kong Chinese Materia Medica Standards \(@experimental Samples\)](#)

提供單位: 曾健記 Function Category: *Tonics*

中藥材圖像數據庫 Chinese Medicinal Material Images Database

人參 Renshen

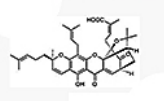


中文名稱: 人參
學名: Renshen
學名(英文): Ginseng
學名(拉丁): Radix Ginseng
學名(法文): Ginseng
學名(德文): Ginseng
學名(俄文): Женьшень
學名(日語): 人參

科名: 五加科
性味: 味甘、性溫
功效: 大補元氣、強心補腎、安神定志、生津止渴

產地: 吉林省
藥效種類: 補益劑
功能分類: 補虛劑
藥材類別: 補劑類
提供單位: 曾健記

中草藥化學圖像數據庫 Phytochemical Image Database



Name: Gambogic Acid

Appearance: Fresh yellow solid

CAS No.: 2752-65-0

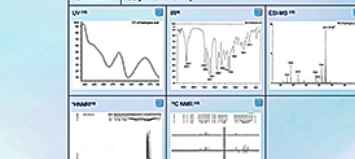
Formula: $C_{26}H_{38}O_8$

Molecular Weight: 428.76

Inhibitor Resistant: The root of *Curatella habuata* Link to [\(藥用植物化學數據庫\) \(中藥材化學數據庫\)](#)

Description: Gambogic acid showed potent anticancer effects against a variety of cancers, such as human breast cancer $MCF-7$, human hepatoma $HepG2$, human leukemia $M5$, human gastric carcinoma $MGC-83$, pancreatic cancer $MIPAC$, etc. The mechanism of action is considered to involve cytoskeletal disruption, apoptosis induction, and mitogen-activated protein kinase inhibition.

Identification: Melting point: 147-149°C (on p. of a pyridine acid pyridine salt, organic residues)
Optical rotation: $[\alpha]_D^{25} + 2.26$ (CHCl₃)



Direct Linkage

Direct Linkage

Cross-referencing

Related Linkage

Related Linkage

Related Linkage

Database Feature

- ▶ Beautiful interface
- ▶ Clear and vivid images
- ▶ Comprehensive collection
- ▶ Actual hue and stereo sense
- ▶ Professional authenticated data
- ▶ Detailed annotation and description
- ▶ Powerful easy-to-used search function
- ▶ Knowledge Linkings across the databases
- ▶ Dynamic trace and display the usage statistics



Game-based Assessment Tool

浸大用戶

非浸大用戶：[登入](#)

[註冊](#)

繁體



中醫藥 趣味練習

《中醫藥趣味練習》網上教學平臺旨在利用已有的《藥用植物圖像數據庫》和《中藥材圖像數據庫》的數據資料進行資訊整合，提供一種嶄新及靈活的教與學方式，促進使用者的互動與交流，達到自我學習與評估的目的。



Game-based Assessment Tool



- ▶ Both mobile and web versions will be open-accessed online
- ▶ Registration by Individual User ID or Anonymous
- ▶ Multiple choice questions are generated by computer for self-assessment learning purpose
- ▶ After answered, automatically give grade and calculate average
- ▶ The first Hong Kong-developed self-assessment e-learning tools for CM individual subject and combined courses

Benefit of Collaborative Effort



Collaborative Effort

- ▶ The project shows the knowledge and expertise of a multi-disciplinary team
- ▶ The subject professor provides scientific data to assure the dataset quality.
- ▶ The librarians use the skill in information management to build a powerful search engine and present quality information in an organized way.



Teaching Support



- ▶ **Enhanced the teaching pedagogy**
 - ▶ Gave instructor more flexibility in instant online demonstration
 - ▶ Easy to compare CM morphology and clinical indications
 - ▶ Give options to insert hyperlink in the PPT
- ▶ **Activate class atmosphere** and student interest when instant demo available
- ▶ **Save instructor time** for digging out the photos and description from their personal collection.
- ▶ **Provide sustainable and recurrent benefits each year** for instructors to do classroom demonstration



Learning Support



- ▶ **An essential e-learning tools** in classroom, self-study after class, and life-long learning
- ▶ **Make visualized comparison easily** among different plants and herbs. Inspire students' thinking and enhance their memory.
- ▶ Master the subject knowledge **in both Chinese and English languages** via bilingual database
- ▶ **DataLink** interactively links knowledge acquired across subject courses, such as *Medicinal Botany*, and *Authentication of Chinese Materia Medica*
- ▶ **Provide 24x7 learning environment.** CM Digital Project can cater different e-learning styles. Be able to use it anywhere and anytime.
- ▶ **Run on smart phone**, enable the students to use it during field trip or in laboratory for effective learning.

Evidence of Global Significance



Global Significance

- ▶ Advocate the advantages of open access of CM digital project and make the knowledge widely available
- ▶ Support University Vision for teaching, learning, research and community services
- ▶ Benefit to international instructors, students and CM practitioners
- ▶ Bilingual language benefits to all non-Chinese speaking learners worldwide
- ▶ Facilitates CM popularization & internationalization



Usage: WebPAC vs CM Databases



Use Rate per Records of CM Database (1 Jan 2012 - 31 Oct 2014)

Use Rate = Page Views / Total Records

	Total Records	Page Views	Usage Rate
<u>WebOPAC</u>	2,381,522	5,444,215	2.3
Medicinal Plant Image Database	1,159	1,947,735	1,680
Chinese Medicinal Material Image Database*	420	694,282	1,653
Chinese Medicine Specimen Database	859	283,190	329
CM Database Total	2,438	2,925,207	1,199

*open to public use on 1 May 2013

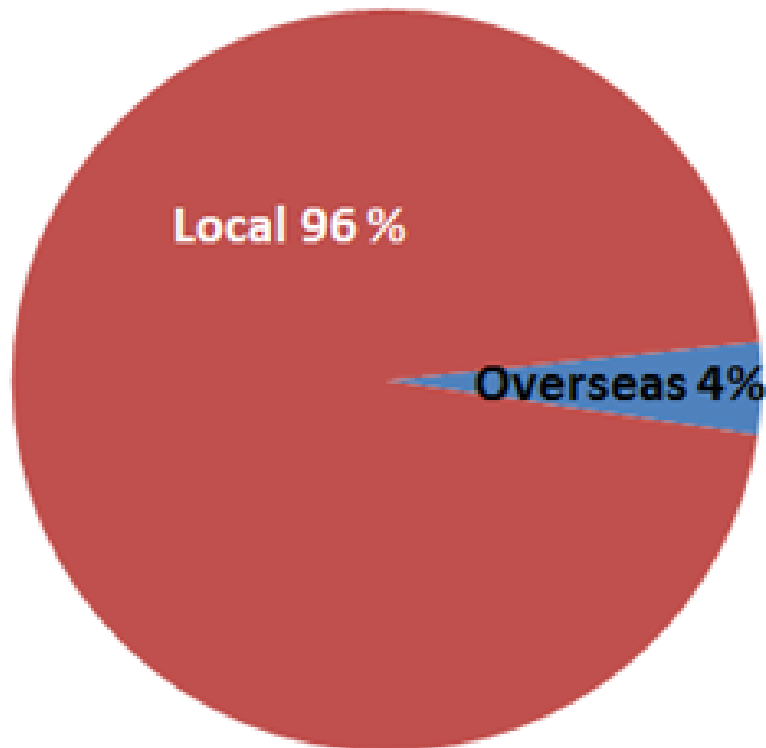
Usage: Overseas vs Local Visits



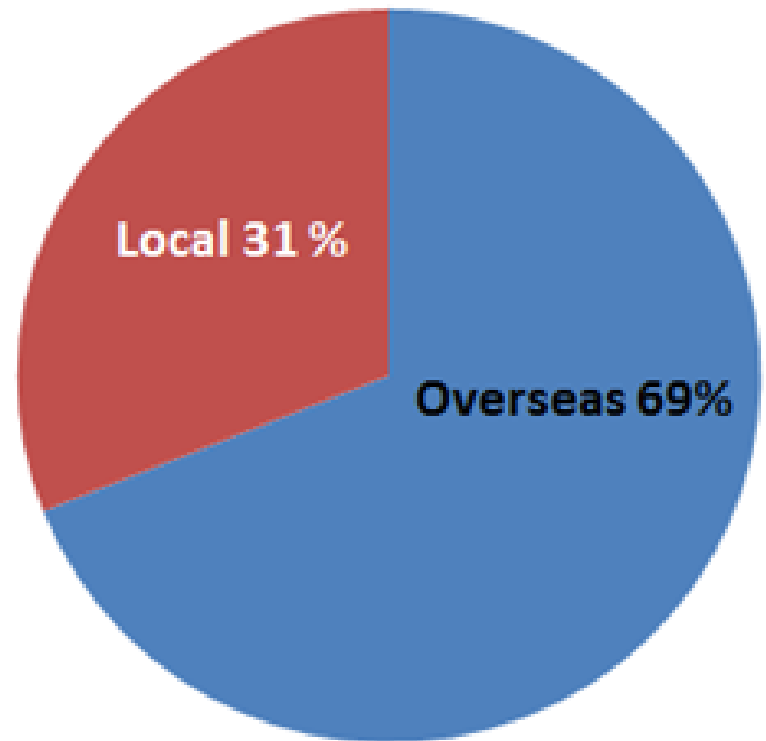
Overseas Vs Local Visits (1 Jan 2012 - 31 Oct 2014)

	Overseas Visits	Local Visits	Overseas %	Local %
<u>WebOPAC</u>	52,685	1,321,938	4%	96%
CM Database Total	413,006	183,197	69%	31%

WebOPAC

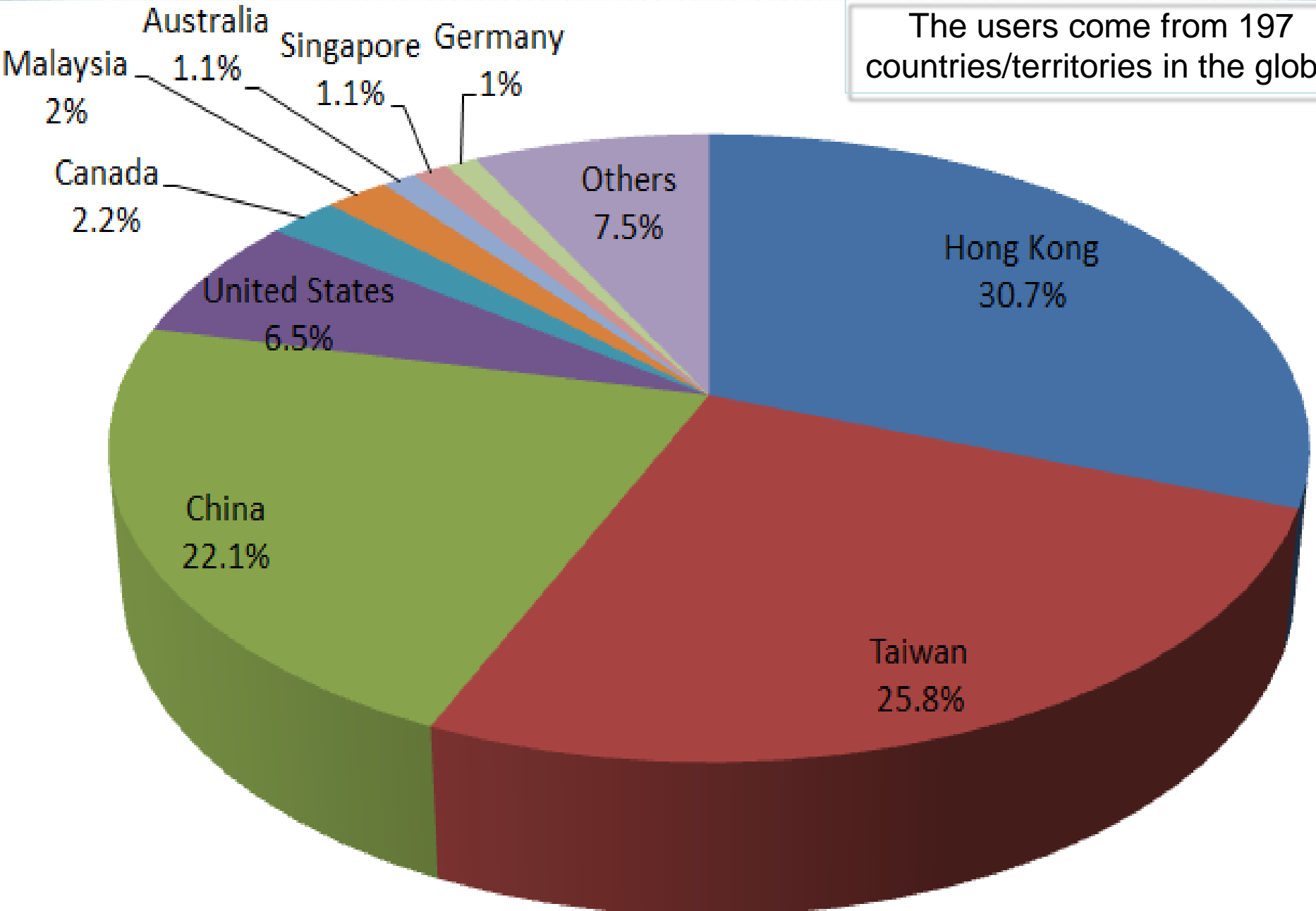


CM Database Total



Use of CM Database by Countries/Territories

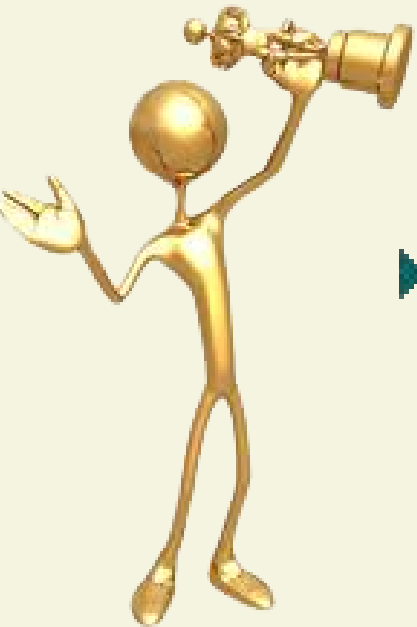
The users come from 197 countries/territories in the globe



Award Winning Project



- ▶ The Project received **2012 American Library Association (ALA) Presidential Award for Innovative International Library.**
- ▶ The project team received **Reward and Recognition Scheme for Non-teaching Staff** from Hong Kong Baptist University



Collaborative Effort for Global Significance



Collaborative Effort for Global Significance



Deep collaboration with faculty members in teaching and Learning

The e-service incorporated the knowledge from subject professors with information management skill from librarians

Essential e-learning tools for instructors and students to enhance their teaching and learning pedagogy

DataLink not only mutually links the related information across the databases, but also link the knowledge acquired from different subject courses for students

The users come from 197 countries/territories in the globe. Shows our collaborative effort achieved global significance

High usage speaks itself that this e-service loved by our user

*Thank
You!*

