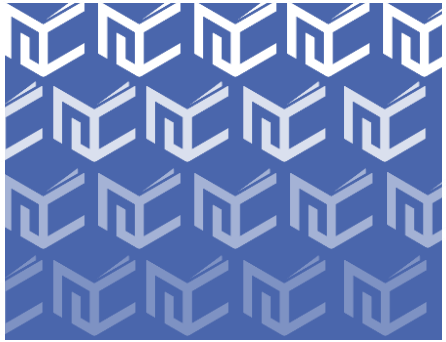
加速學術服務轉型關蹊徑：RDM X NYCU Dataverse 推廣經驗與聚焦未來

報告人：王慧恆

國立陽明交通大學圖書館
National Yang Ming Chiao Tung University Library

Overview

1. 資料啟動創新：解鎖研究資料管理的無限可能
2. 驅動以及優勢：研究資料管理服務的嶄新篇章
3. Dataverse平臺：串聯點滴展現資料管理的價值
4. 超越傳統挑戰：主動積極的RDM與推廣服務策略
5. 圖的未來角色：引領RDM與生命週期服務革新



01

資料啟動創新：
解鎖研究資料管理的無限可能

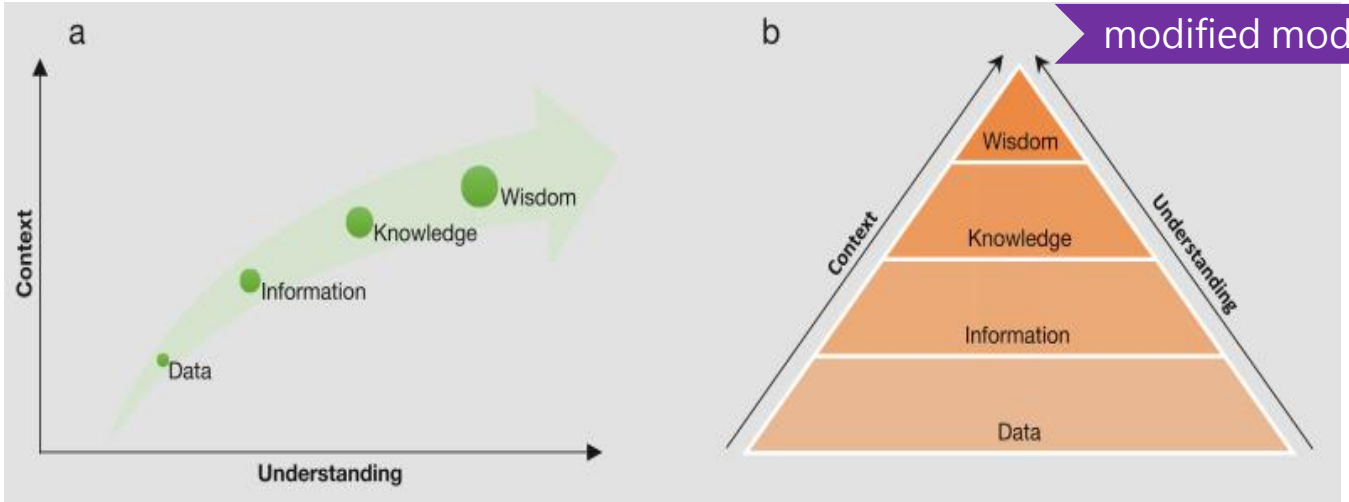
資料是什麼？

- According to The Oxford Learner’ s Dictionary (2021) data are “facts or information, especially when examined and used to find out things or to make decisions.”
- Glaser noted that “all is data.” He noted that data included not just what was said during an interview, for example, but also how it was told and the conditions under which it was reported.

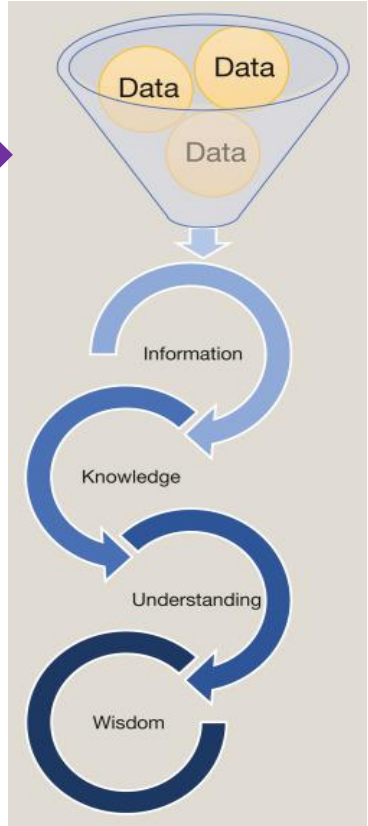
Source: Olson, K. (2021). What are data?. *Qualitative Health Research*, *31*(9), 1567-1569.

Source:https://en.wikipedia.org/wiki/Data#/media/File:Data_types_-_en.svg

從資料到智慧的旅程



modified model



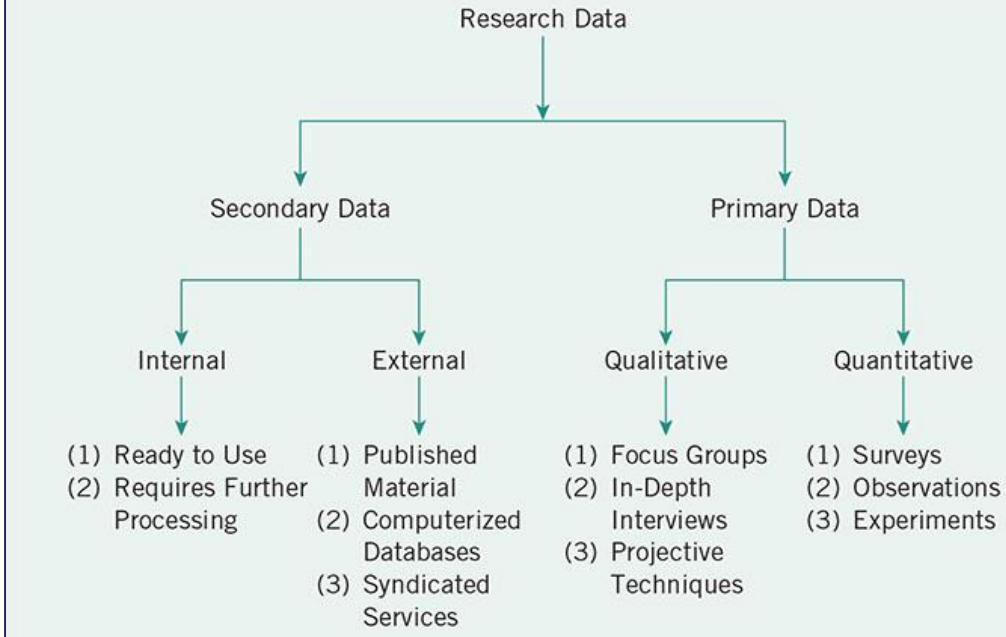
Source:Jonathan E Dickerson, Data, information, knowledge, wisdom, and understanding, Anaesthesia & Intensive Care Medicine, Volume 23, Issue 11, 2022, Pages 737-739

研究資料是什麼？

依格式

Source:https://communities.springernature.com/documents/infographic-what-are-research-data

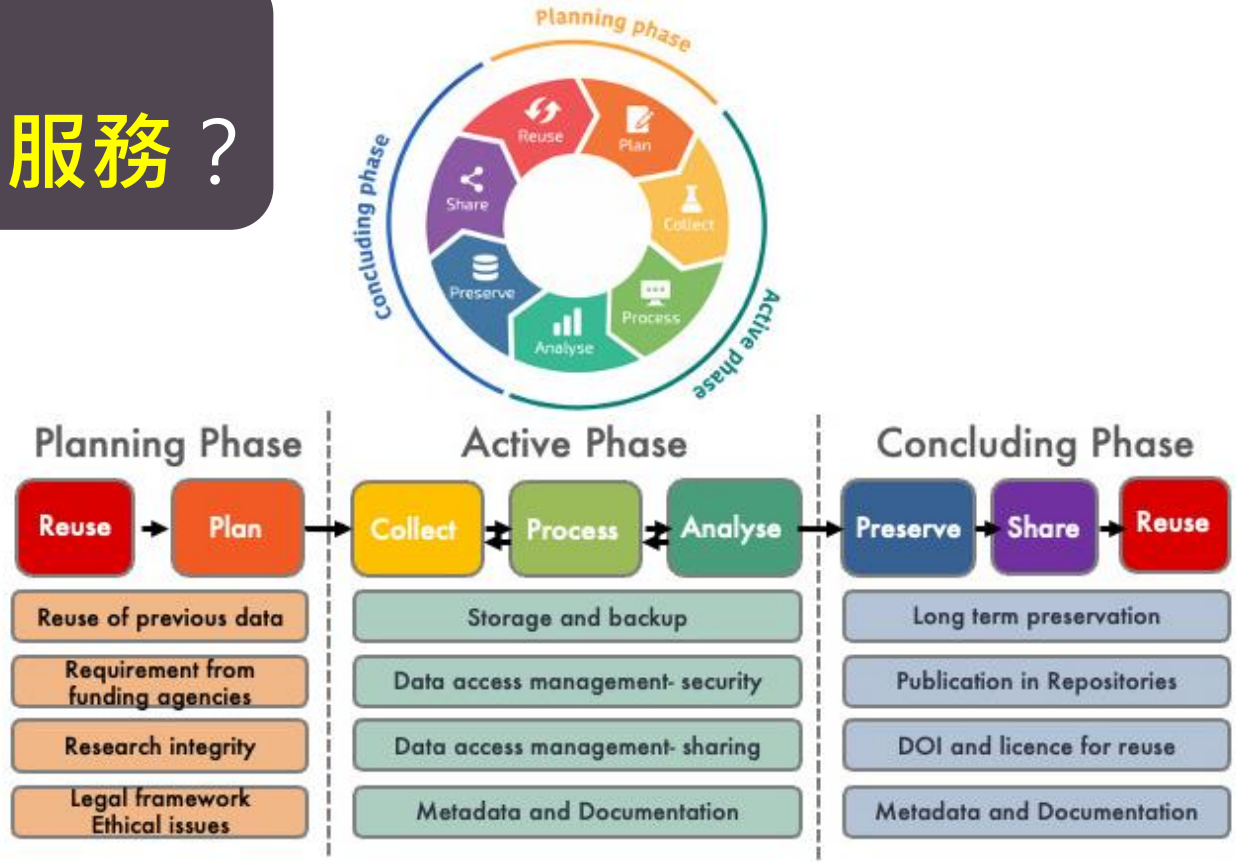
依來源



Source:https://methods.sagepub.com/book/designing-and-managing-a-research-project-4e/i1199.xml

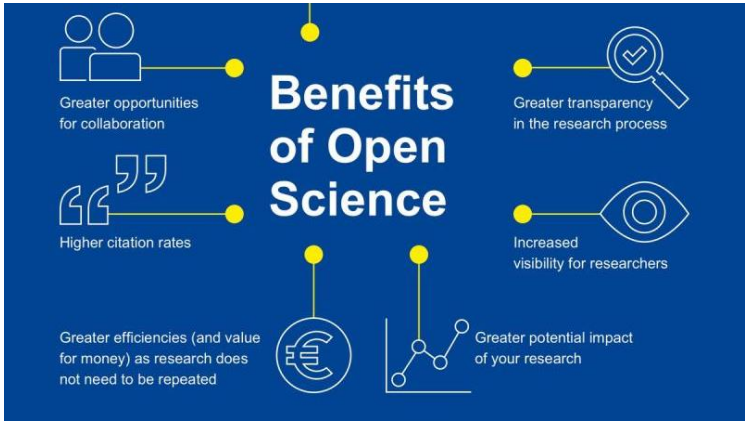
什麼是
研究資料管理服務？

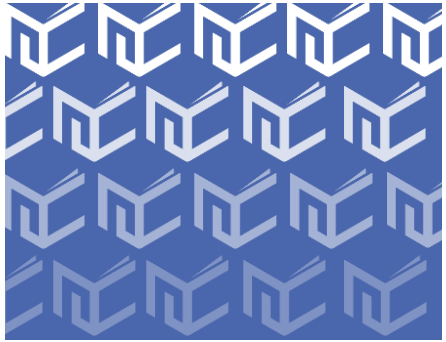
美國研究圖書館聯盟 - SPEC Kit 334 “Research Data Management Services,” defined as “providing information, consulting, training or active involvement in data management planning, data management guidance during research (e.g., advice on data storage or file security), research documentation and metadata, research data sharing and curation (selection, preservation, archiving, citation) of completed projects and published data”



Source: https://www.bium.ch/en/publication-open-access/data-management/

研究資料管理為什麼重要？

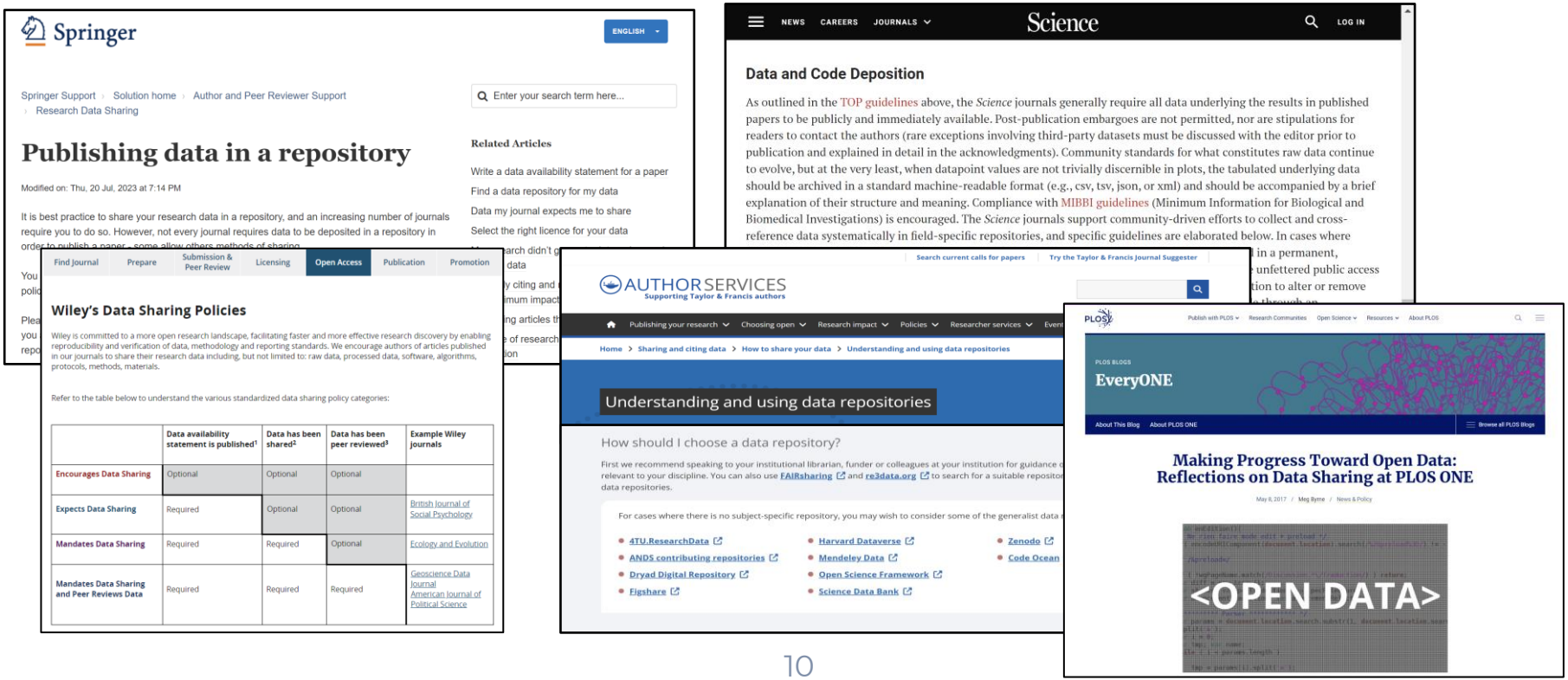




02

驅動以及優勢：
研究資料管理服務的嶄新篇章

越來越多期刊鼓勵作者典藏研究資料供參考



期刊中的研究資料 Supplementary Information

CellPress

eLife

nature.com

Taylor & Francis Online

Science AAAS

PLOS

Cambridge University Press

American Heart Association. Professional Heart Daily

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nature > nature communications > articles > article

Article | Open Access | Published: 19 July 2022

Stomatin modulates adipogenesis through the ERK pathway and regulates fatty acid uptake and lipid droplet growth

Shao-Chin Wu, Yuan-Ming Lo, Jui-Hao Lee, Chin-Yau Chen, Tung-Wei Chen, Hong-Wen Liu, Wei-Nan Lian, Kate Hua, Chen-Chung Liao, Wei-Ju Lin, Chih-Yung Yang, Chien-Yi Tung & Chi-Hung Lin

Nature Communications **13**, Article number: 4174 (2022) | Cite this article

2892 Accesses | **9** Altmetric | Metrics

Abstract

Regulation of fatty acid uptake, lipid production and storage, and metabolism of lipid droplets (LDs), is closely related to lipid homeostasis, adipocyte hypertrophy and obesity. We report here that stomatin, a major constituent of lipid raft, participates in adipogenesis and adipocyte maturation by modulating related signaling pathways. In adipocyte-like cells, increased stomatin promotes LD growth or enlargements by facilitating LD-LD fusion. It also promotes fatty acid uptake from extracellular environment by recruiting effector molecules, such as FAT/CD36 translocase, to lipid rafts to promote internalization of fatty acids. Stomatin transgenic mice fed with high-fat diet exhibit obesity, insulin resistance and hepatic impairments; however, such phenotypes are not seen in transgenic animals fed with regular diet. Inhibitions of stomatin by gene knockdown or OB-1 inhibit adipogenic differentiation and LD growth through downregulation of $PPAR_{\gamma}$ pathway. Effects of stomatin on $PPAR_{\gamma}$ involves ERK signaling; however, an alternate pathway may also exist.

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Sections | Figures | References

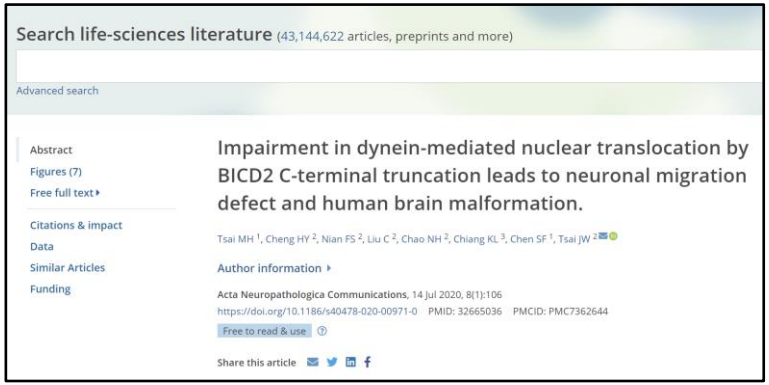
Abstract
Introduction
Results
Discussion
Methods
Data availability
References
Acknowledgemer
Author informati
Ethics declaration
Peer review
Additional inform
Supplementary in
Source data
Rights and permi
About this article
Comments

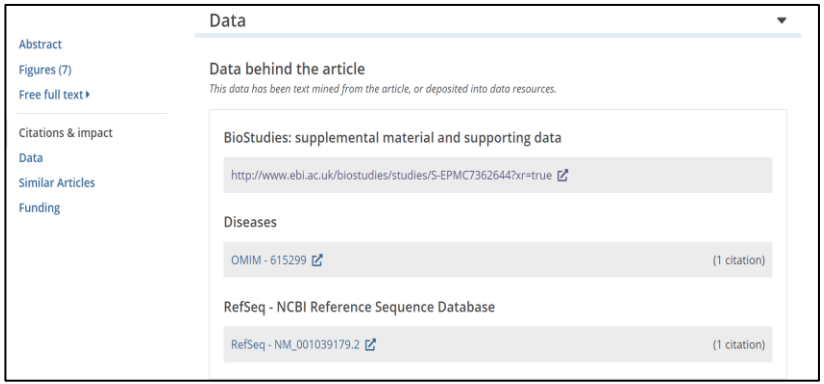
Supplementary information

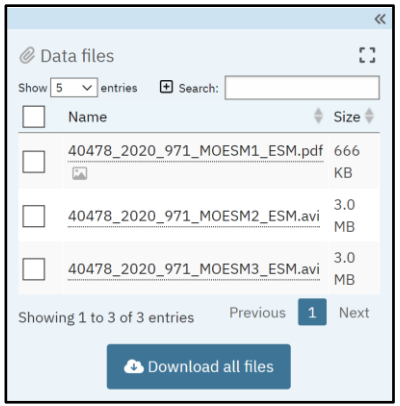
Supplementary Information
Peer Review File
Description of Additional Supplementary Files
Supplementary Data 1
Supplementary Movie 1
Reporting Summary

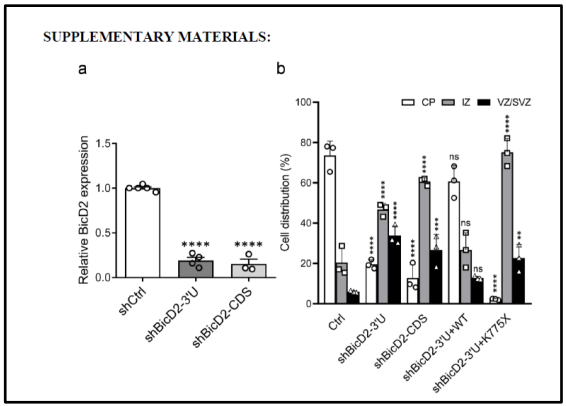
0:08 / 0:08

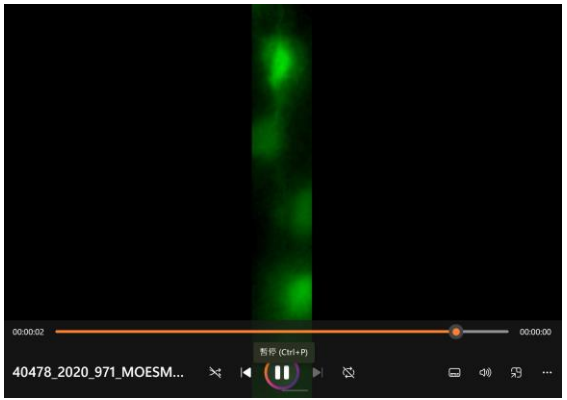
Pubmed 中的研究資料 Data behind the article





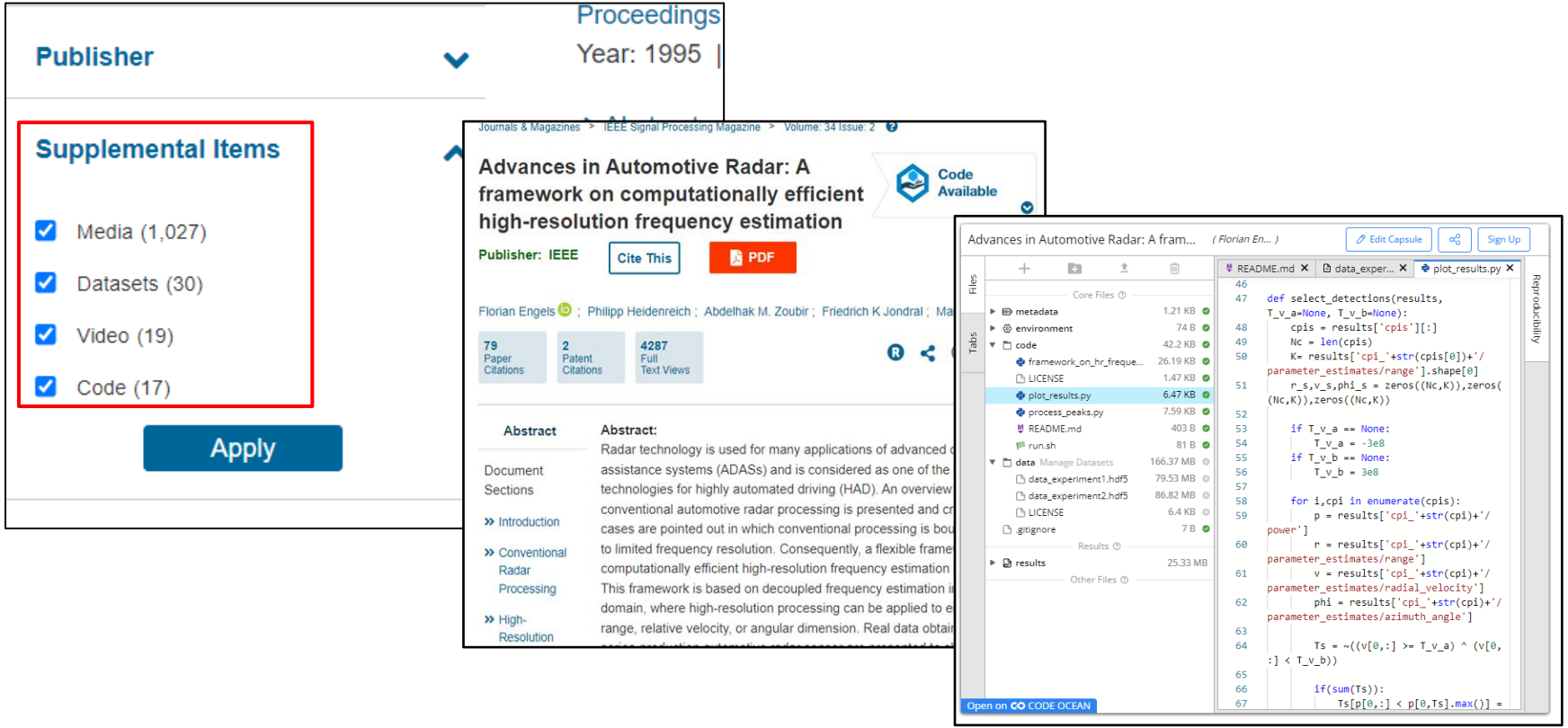




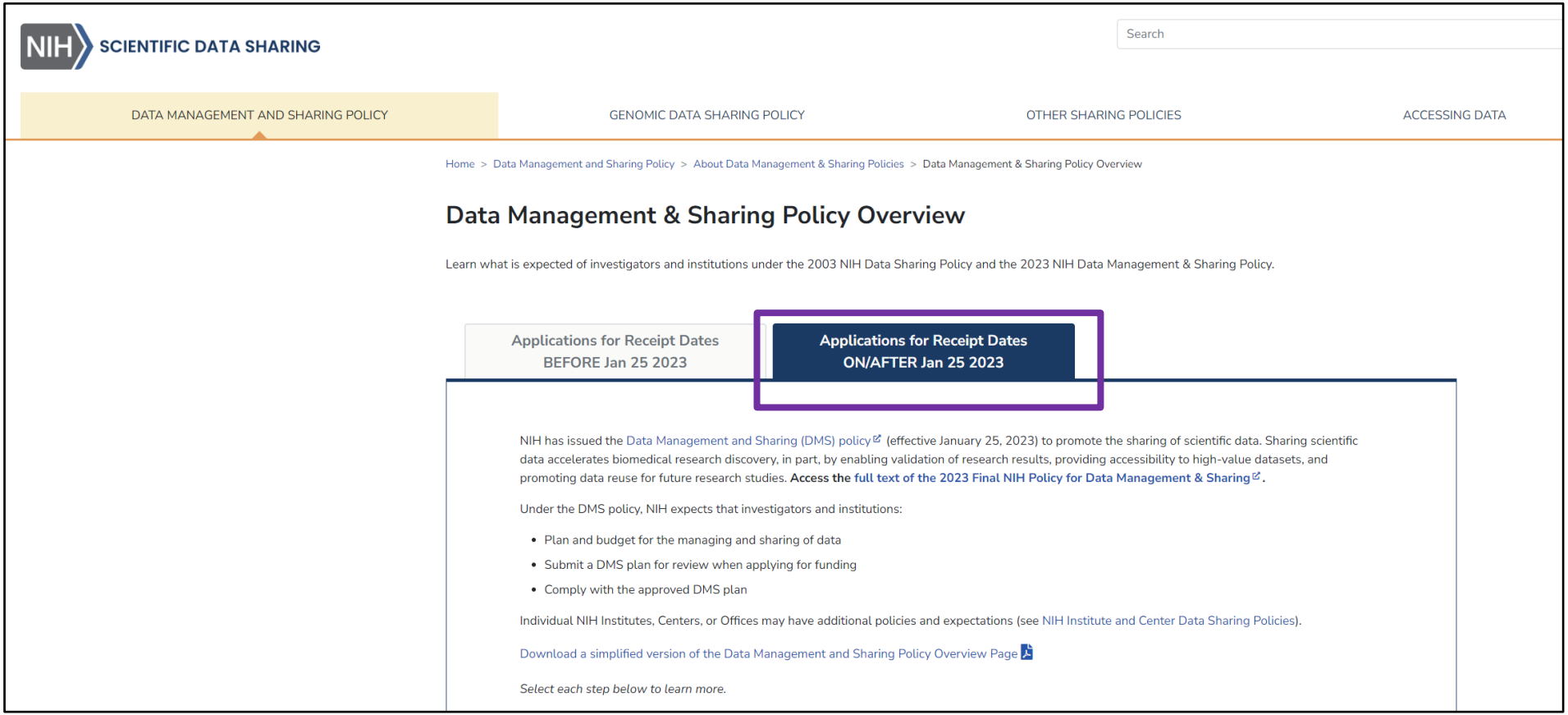


https://grants.nih.gov/grants/guide/notice-files/NOT-OD-21-016.html

IEEE IEL 中的研究資料 Supplemental Items



以NIH資助研究計畫共享政策為例



NIH SCIENTIFIC DATA SHARING

Search

DATA MANAGEMENT AND SHARING POLICY | GENOMIC DATA SHARING POLICY | OTHER SHARING POLICIES | ACCESSING DATA

Home > Data Management and Sharing Policy > About Data Management & Sharing Policies > Data Management & Sharing Policy Overview

Data Management & Sharing Policy Overview

Learn what is expected of investigators and institutions under the 2003 NIH Data Sharing Policy and the 2023 NIH Data Management & Sharing Policy.

Applications for Receipt Dates BEFORE Jan 25 2023

Applications for Receipt Dates ON/AFTER Jan 25 2023

NIH has issued the Data Management and Sharing (DMS) policy (effective January 25, 2023) to promote the sharing of scientific data. Sharing scientific data accelerates biomedical research discovery, in part, by enabling validation of research results, providing accessibility to high-value datasets, and promoting data reuse for future research studies. **Access the full text of the 2023 Final NIH Policy for Data Management & Sharing.**

Under the DMS policy, NIH expects that investigators and institutions:

- Plan and budget for the managing and sharing of data
- Submit a DMS plan for review when applying for funding
- Comply with the approved DMS plan

Individual NIH Institutes, Centers, or Offices may have additional policies and expectations (see NIH Institute and Center Data Sharing Policies).

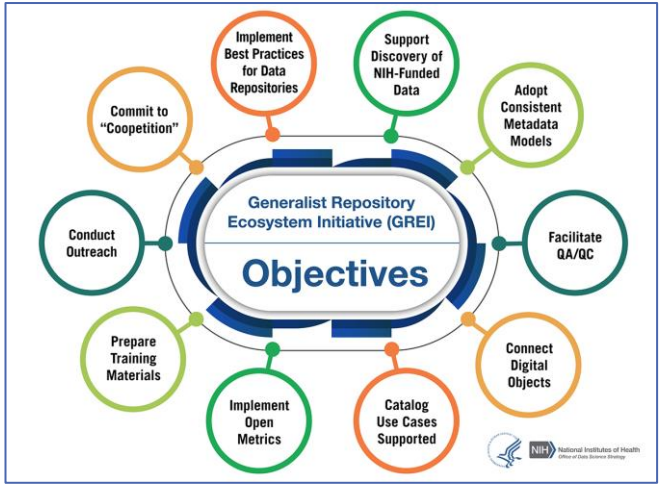
Download a simplified version of the Data Management and Sharing Policy Overview Page

Select each step below to learn more.

NIH GREI (Generalist Repository Ecosystem Initiative)

TOPIC	HARVARD DATAVERSE REPOSITORY	DRYAD	FIGSHARE	MENDELEY DATA	OSF	VIVLI	ZENODO
Brief Description	Harvard Dataverse Repository is a free data repository open to all researchers from any discipline, both inside and outside of the Harvard community, where you can share, archive, cite, access, and explore research data.	Dryad is an open data publishing platform and community committed to the open availability and routine re-use of all research data. Dryad fully curates all data and metadata and publishes exclusively under a Creative Commons Public Domain License (CC0).	Figshare is a freely available open data publishing platform for all researchers where they can share and get credit for all types of scholarly output including any file type from any research discipline. The Figshare+ repository supports sharing of larger datasets.	Mendeley Data is a free repository specialized for research data. Search more than 20+ million datasets indexed from 1000s of data repositories and collect and share datasets with the research community following the FAIR data principles.	OSF is a free and open source project management tool that supports researchers throughout their entire project lifecycle in open science best practices.	Vivli is an independent, non-profit organization that has developed a global data-sharing and analytics platform. Our focus is on sharing individual participant-level data from completed clinical trials to serve the international research community.	Powering Open Science, built on Open Source. Built by reserachers for researchers. Run from the CERN data centre, whose purpose is long term preservation of digital objects. CERN maintains one of the largest scientific datasets in the world for high-energy physics.
Size limits	No byte size limit per dataset. Harvard Dataverse Repository currently sets a file size limit of 2.5GB.	300GB per dataset through browser submission system and up to 1TB with assistance from help@datadryad.org.	20GB for free figshare.com accounts. Figshare+ offers storage in tiers beginning at 100GB up to 10TB+ per dataset. System limit of 5TB/file.	10GB per dataset	Projects and child/sub projects currently have a 50GB storage limit if they are public, and 5GB limit if they are private. There is a 5GB/file upload limit for native OSF Storage. There is no limit imposed by OSF for the amount of storage used across add-ons connected to a given project.	If more than 1TB of study data, reach out to us at support@vivli.org so we can help transfer your data.	50GB per dataset, contact us via https://zenodo.org/support for higher limits
Storage space per researcher	1 TB	No limit	No limit	No limit	No limit	No limit	No limit
Persistent, Unique Identifier Support	DOI	DOI	DOI	DOI	DOI	DOI	DOI

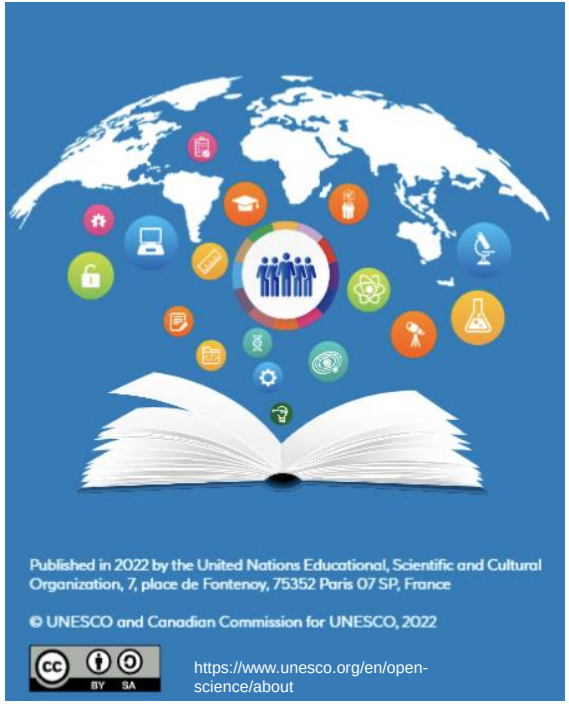
Generalist Repository Comparison Chart：doi: 10.5281/zenodo.3946719 | Version 3, 12 May 2023



資助者要求 Data Management Plan (DMP)

https://umlibguides.um.edu.my/c.php?g=958795&p=6959474

UNESCO Recommendation on Open Science



Sources: Towards a UNESCO recommendation on Open Science.

Open science has the potential of making the scientific process more transparent, inclusive and democratic.

讓科學更容易取得更包容更公平造福所有人。

Open Science in Horizon Europe

IN THE METHODOLOGY YOU NEED TO ADDRESS BOTH:
1) HOW YOU WILL COMPLY WITH THE MANDATORY PRACTICES
2) HOW YOU WILL ADOPT RACCOMENDED PRACTICES

RACCOMMENDED PRACTICES

- IN THE RESEARCHERS' PROFILE: 5 RELEVANT OUTPUTS (publications, data) OPENLY ACCESSIBLE + PERSISTENT IDENTIFIER + «AS OPEN AS POSSIBLE»
- IN THE PROJECT METHODOLOGY 1) EMBEDDED OPEN SCIENCE PRACTICES 2) FAIR DATA MANAGEMENT + DMP SCHEMA
- MAXIMIZING IMPACT USING OPEN SCIENCE (OS IS AMONG KEY PATHWAY INDICATORS) + SCHEMA OF DISSEMINATION PLAN (DELIVERABLE M6)
- OPEN SCIENCE PRACTICES IN PREVIOUS PROJECTS TO EVALUATE QUALITY OF IMPLEMENTATION AND CONSORTIUM CAPACITY

MANDATORY PRACTICES

- DEPOSIT+ IMMEDIATE ACCESS (ZERO EMBARGO + CC BY) =
  1. OPEN RESEARCH EUROPE
  2. OA JOURNAL
  3. TRADTIONAL JOURNAL [RETAINING RIGHTS]
- - DATA AND OTHER OUTPUTS «AS OPEN AS POSSIBLE, AS CLOSED AS NECESSARY»
  - RESPONSIBLY MANAGED ACCORDING TO FAIR PRINCIPLES
  - DATA MANAGMENT PLAN BY M6

RESEARCHERS PROFILE Template PartA → SCIENTIFIC EXCELLENCE Template PartB → IMPACT Template PartB → IMPLEMENTATION Template PartB

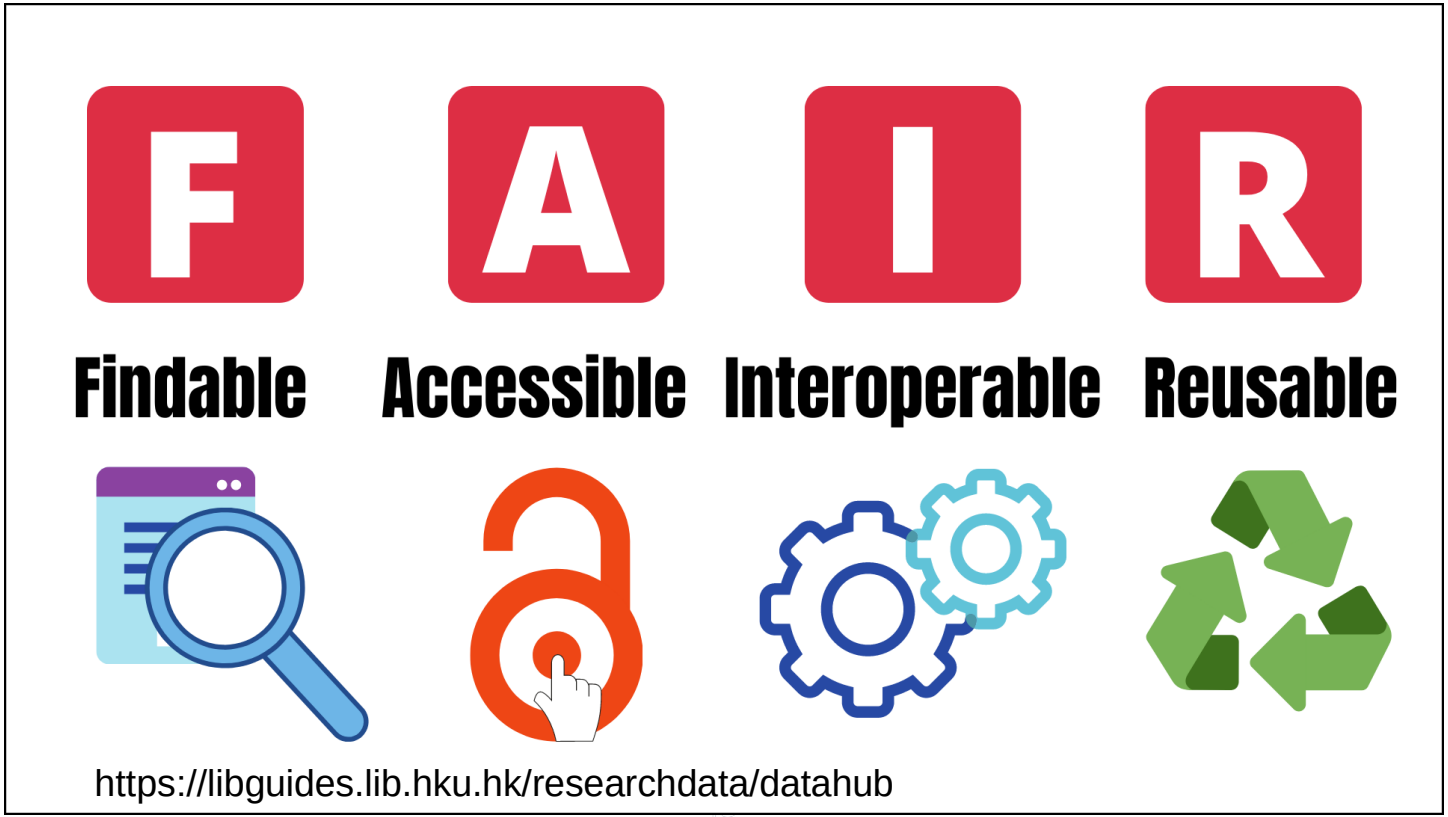
DISSEMINATION Publications → DISSEMINATION FAIR data

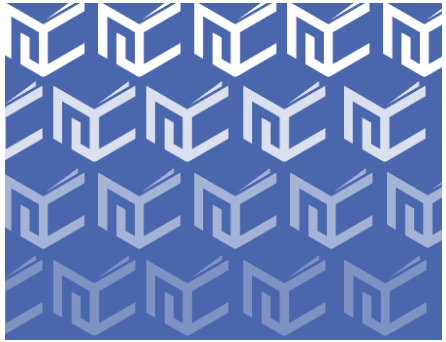
PROJECT PROPOSAL [YOU WILL BE EVALUATED ON THIS]

MANDATORY ONCE ACCEPTED

Open Science in Horizon Europe Guide : https://zenodo.org/records/5534111#.YVL91LgzaUk

研究資料典藏庫必需遵循 F.A.I.R. 原則



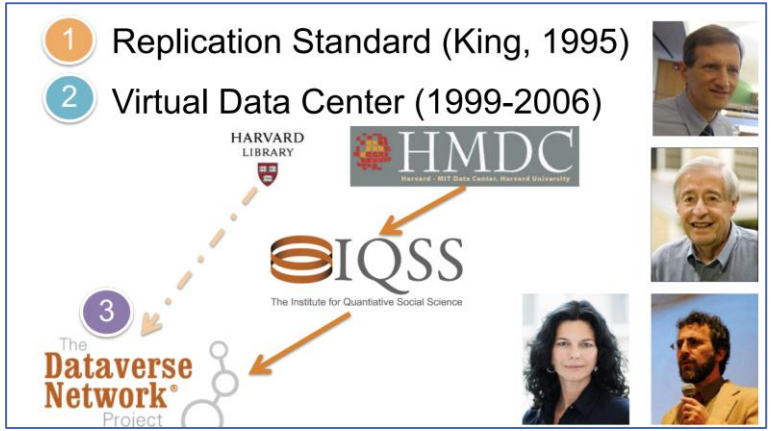


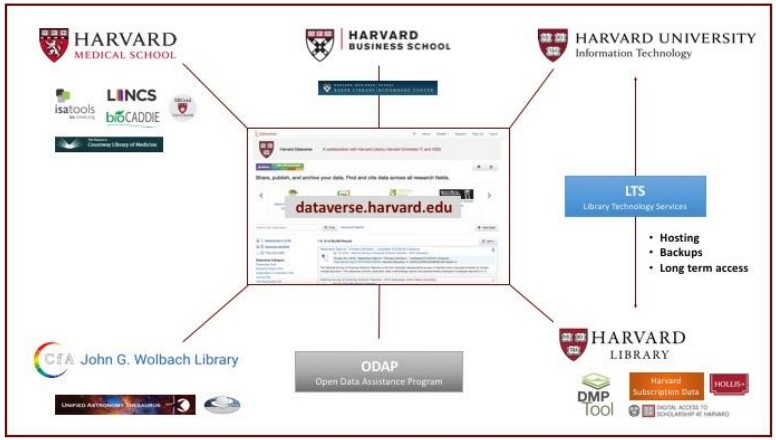
03

Dataverse平臺：
串聯點滴展現資料管理的價值

為什麼會有 Dataverse ？

- 資料重用標準
- 虛擬資料中心
- 跨單位的合作



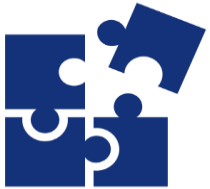


https://dataverse.org/sites/projects.iq.harvard.edu/files/dataverseorg/files/harvarddataverserdap.jpg?m=1464795891

Dataverse 的特色

開源軟體

具國際性



多元學科

多元類型

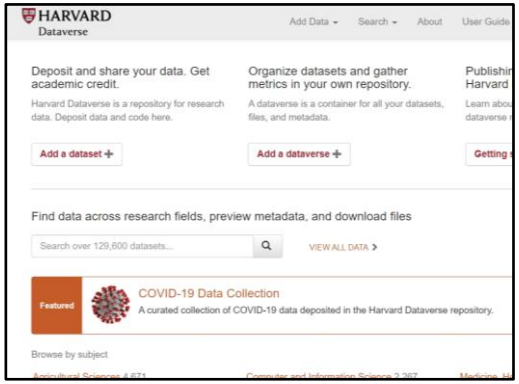
可被搜尋

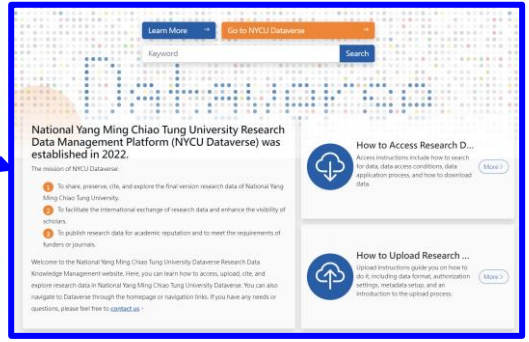
存取控管

權限管理

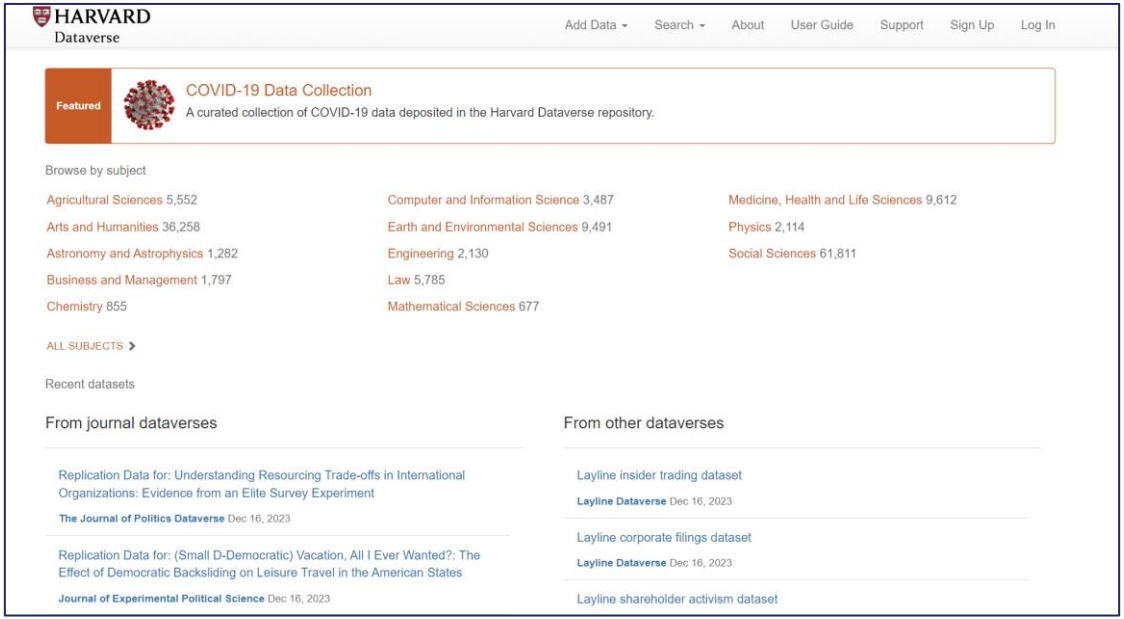
提高曝光

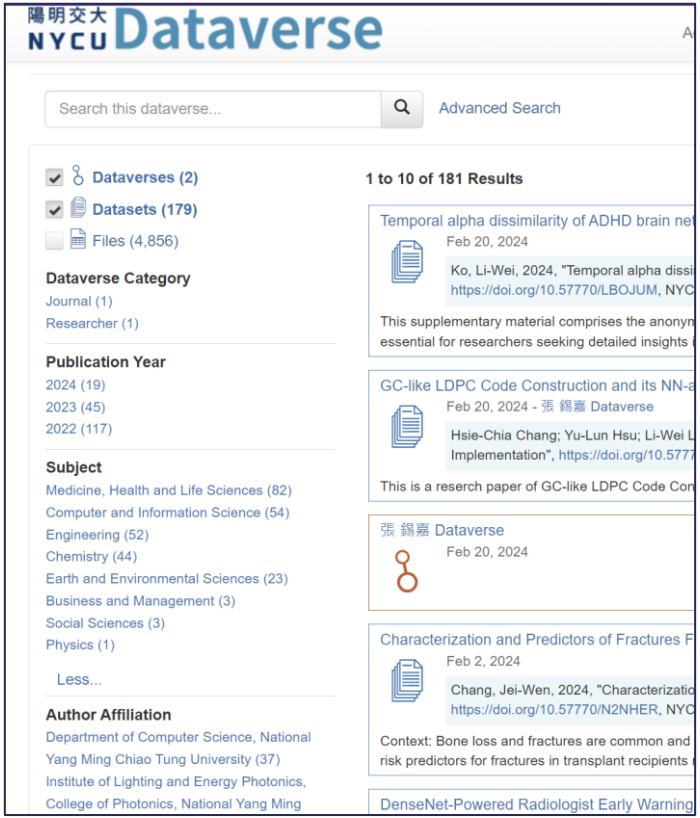
Dataverse 的特色 | 具國際性



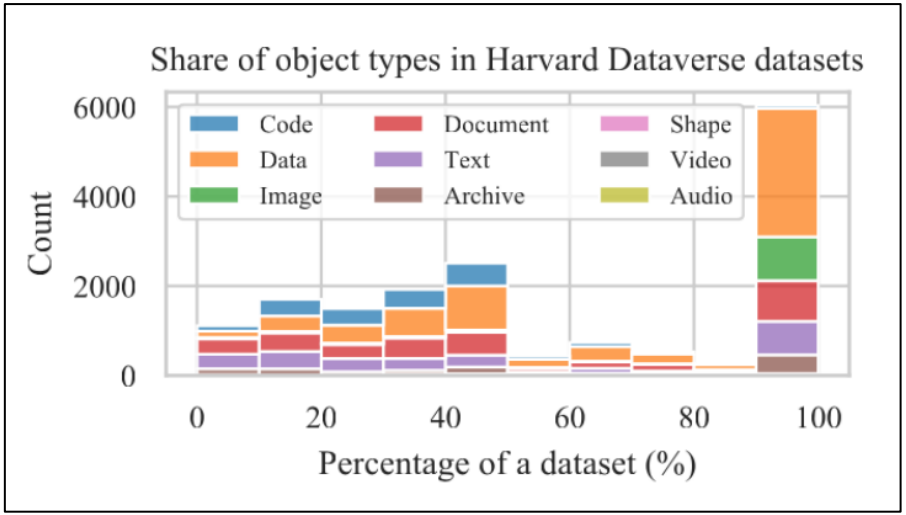


Dataverse 的特色 | 多元學科

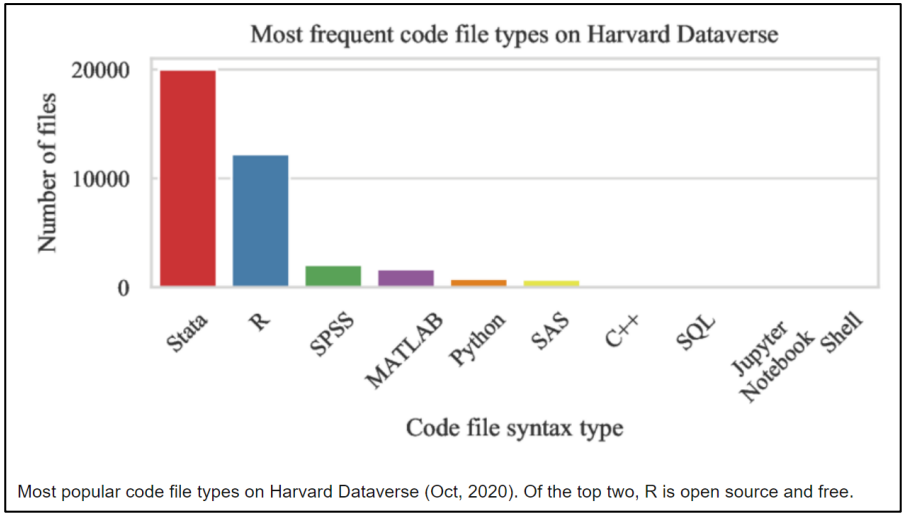




Dataverse 的特色 | 多元類型



Trisovic, Ana. (2023). Cluster Analysis of Open Research Data: A Case for Replication Metadata. International Journal of Digital Curation.

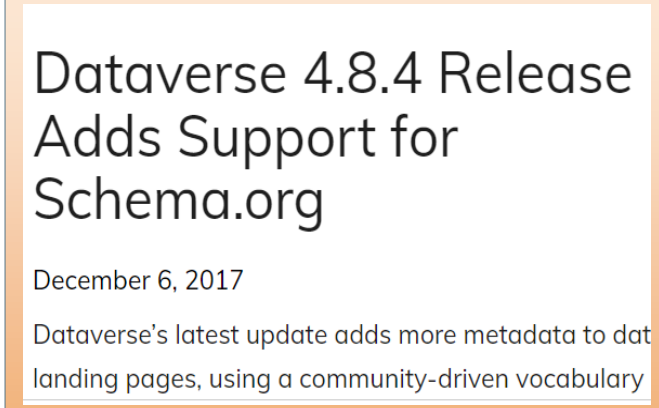


Most popular code file types on Harvard Dataverse (Oct, 2020). Of the top two, R is open source and free.

Trisovic, Ana & Lau, Matthew & Pasquier, Thomas & Crosas, Merce. (2021). A large-scale study on research code quality and execution.

Dataverse 的特色 | 可被蒐尋

Schema.org



Findable through Google

Re3data.org

NYCU Dataverse registered in

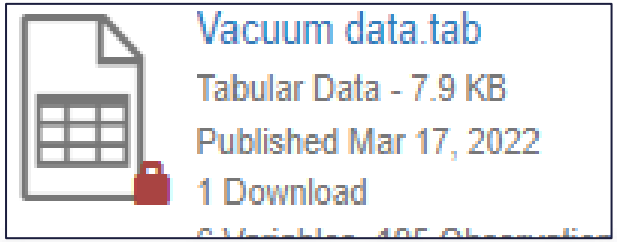
Datacite

Metadata of Dataverse harvested in Datacite

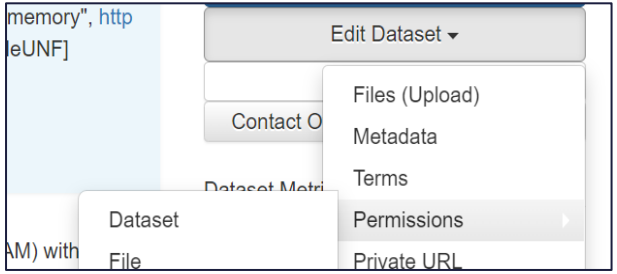
https://dataverse.org/book/data-discovery-and-identification

Dataverse 的特色 | 存取控管

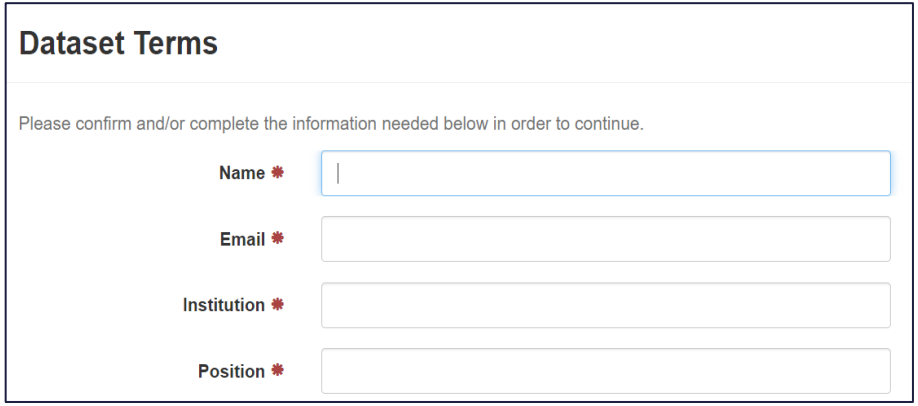
限制檔案存取



分配角色

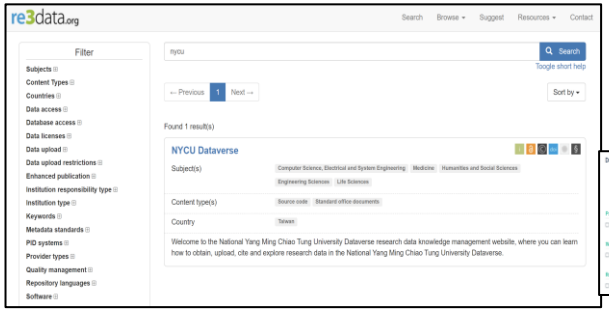


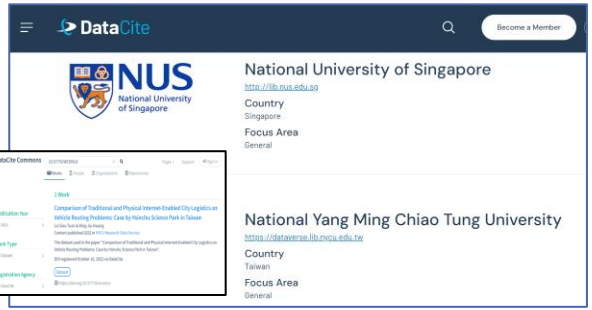
自行制定留言簿

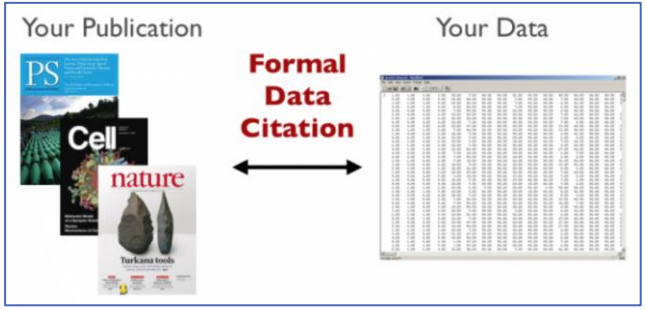


聯絡作者

Dataverse 的特色 | 提高曝光

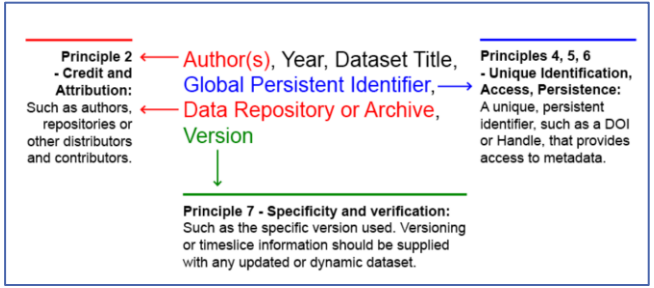






- 出版商和期刊，例如 Springer Nature 將 re3data.org 納入編輯政策，引薦資料典藏庫。
- “歐盟委員會 Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020” 中也建議參閱 re3data。

- 與其他基礎設施提供者互通，例如Crossref、ORCID。
- DataCite Commons中一篇 dataset，經由NYCU Dataverse 收錄進來。



- Dataverse 使用《Joint Declaration of Data Citation Principles》制定資料引用範例。
- APA、Chicago、MLA、...

NYCU Dataverse 建置目標

信譽

發布研究資料以獲得學術的信譽，滿足資助者或者期刊投稿的要求。

曝光

促進國際間研究資料傳遞及共享，提高研究人員知名度。

珍藏

初期以保存和探索陽明交大的定稿版研究資料為目標。

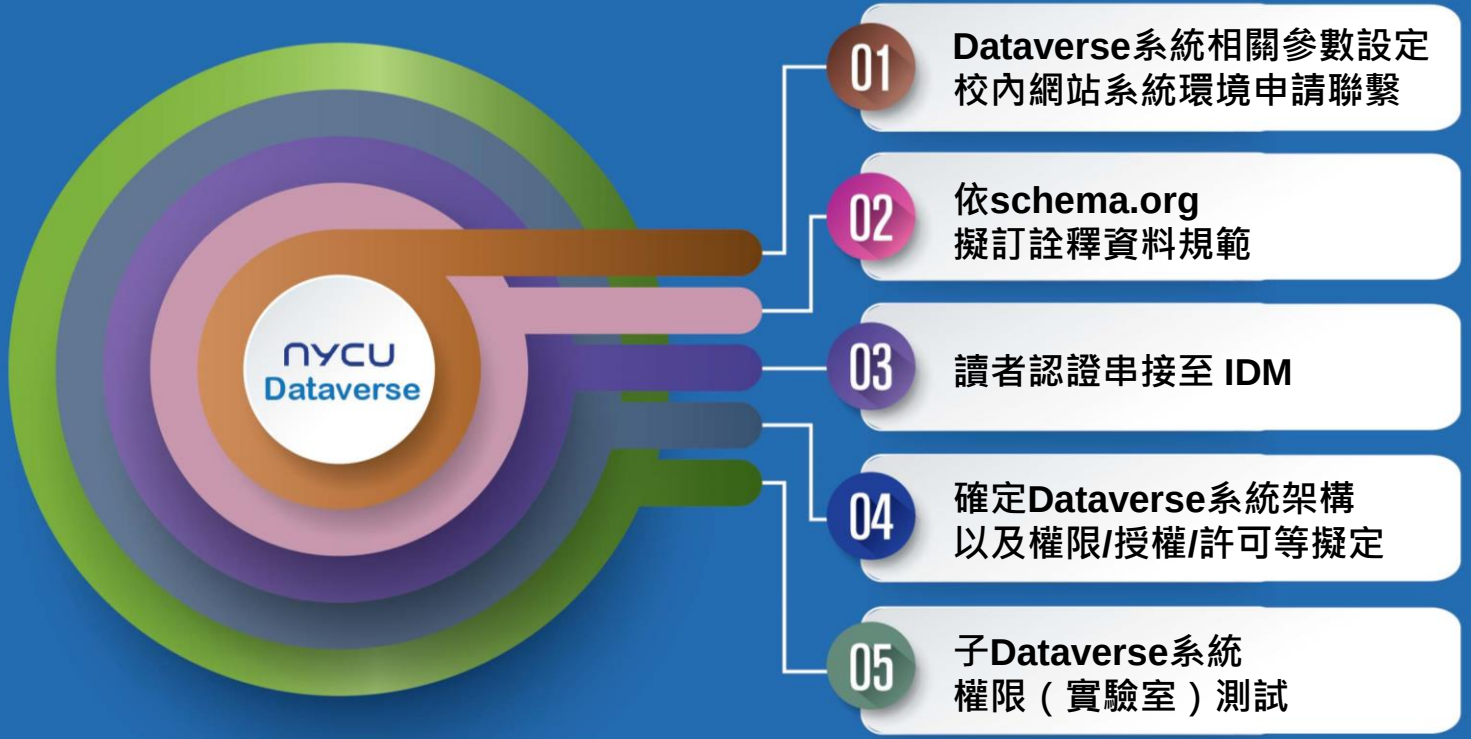
效益

研究人員可輕鬆上傳資料，使其他人更容易發現、取得和引用資料。

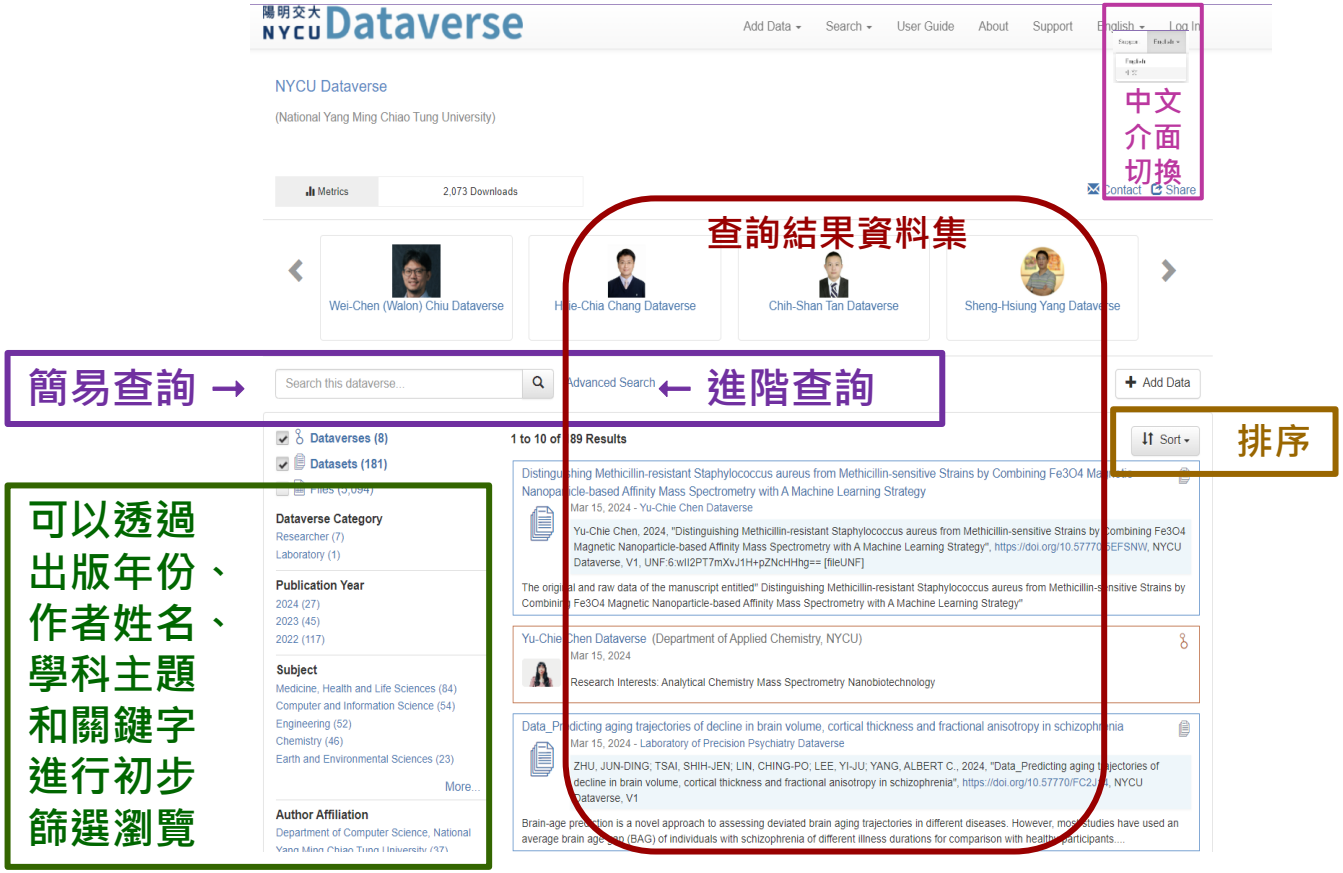
協作

建立或參與團隊按研究專案、研究室或單位，進行組織和管理權限。

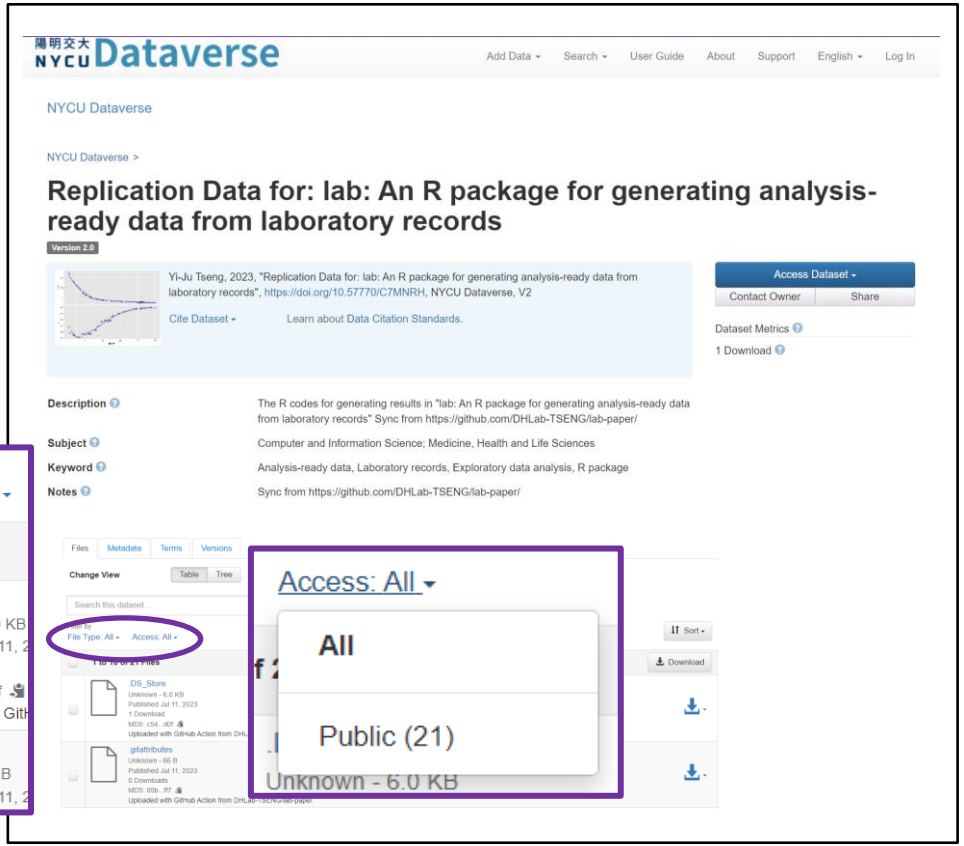
NYCU Dataverse 建置過程

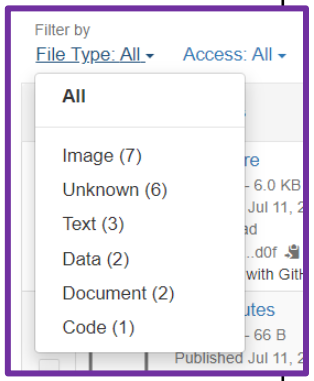


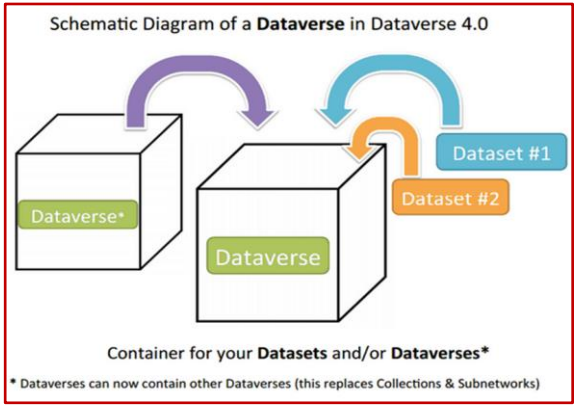
NYCU Dataverse 現況 - 中英文介面

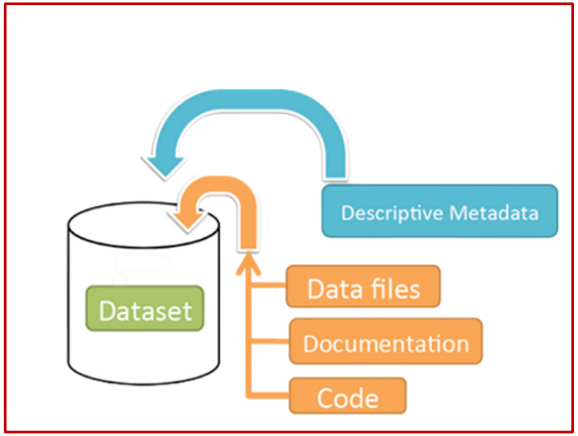


NYCU Dataverse 現況 – 層次架構

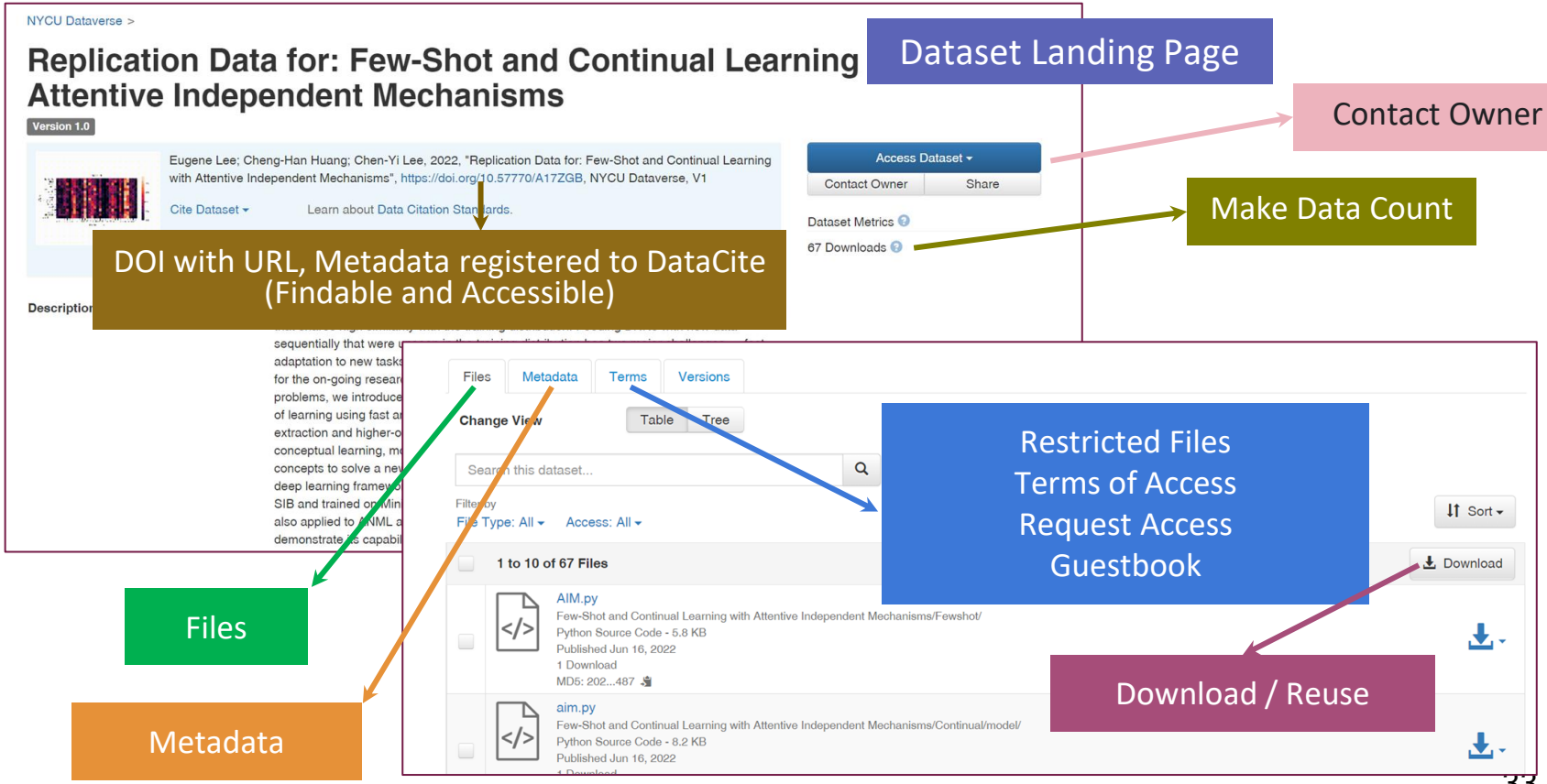








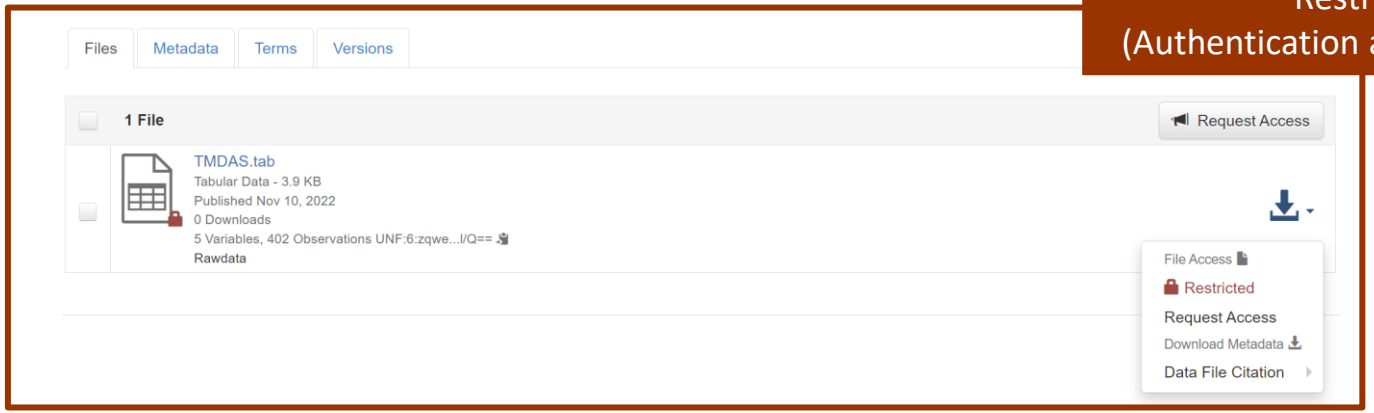
NYCU Dataverse 現況 | F.A.I.R 實踐



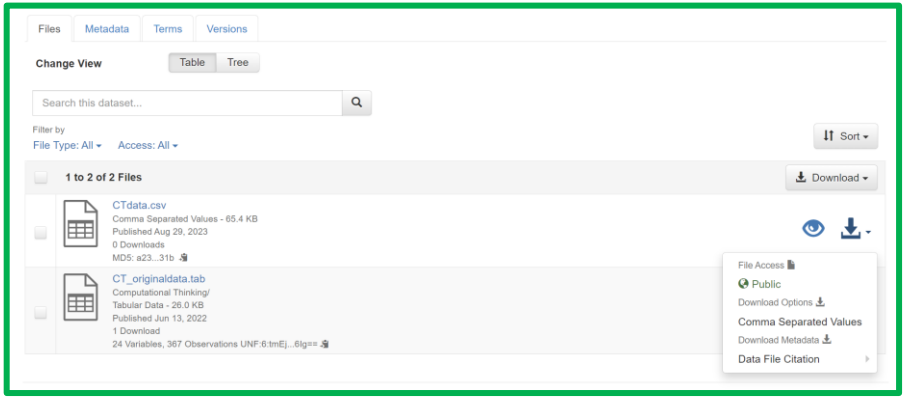
33

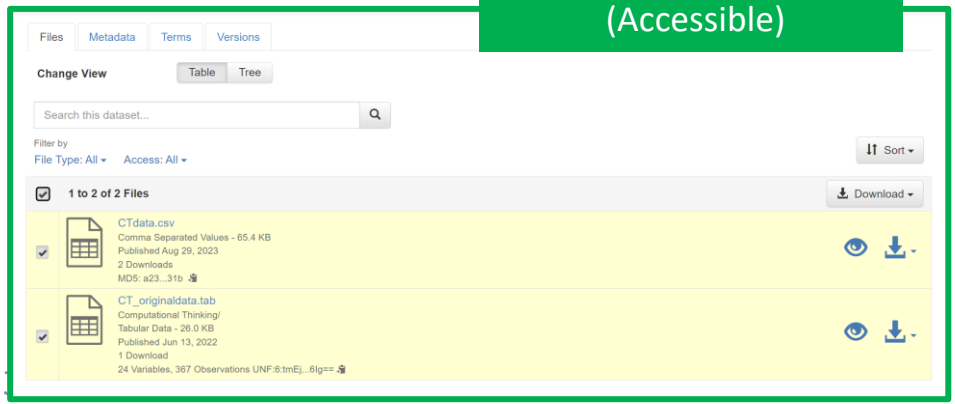
NYCU Dataverse 現況 | 取用設限

Restricted data files
(Authentication and Authorization needed)

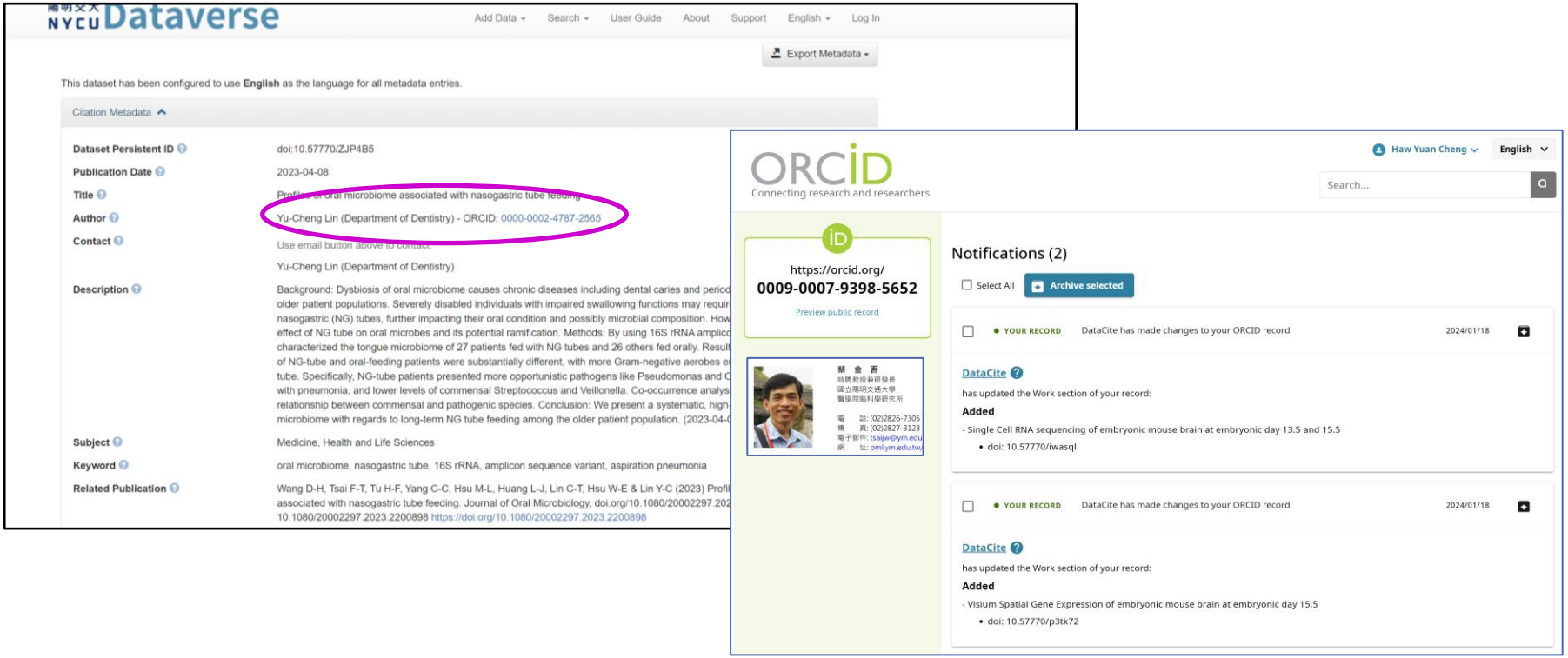


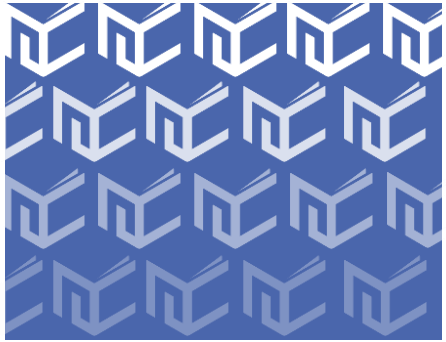
Open data files
(Accessible)





NYCU Dataverse 現況 | 串連 datasets與ORCiD





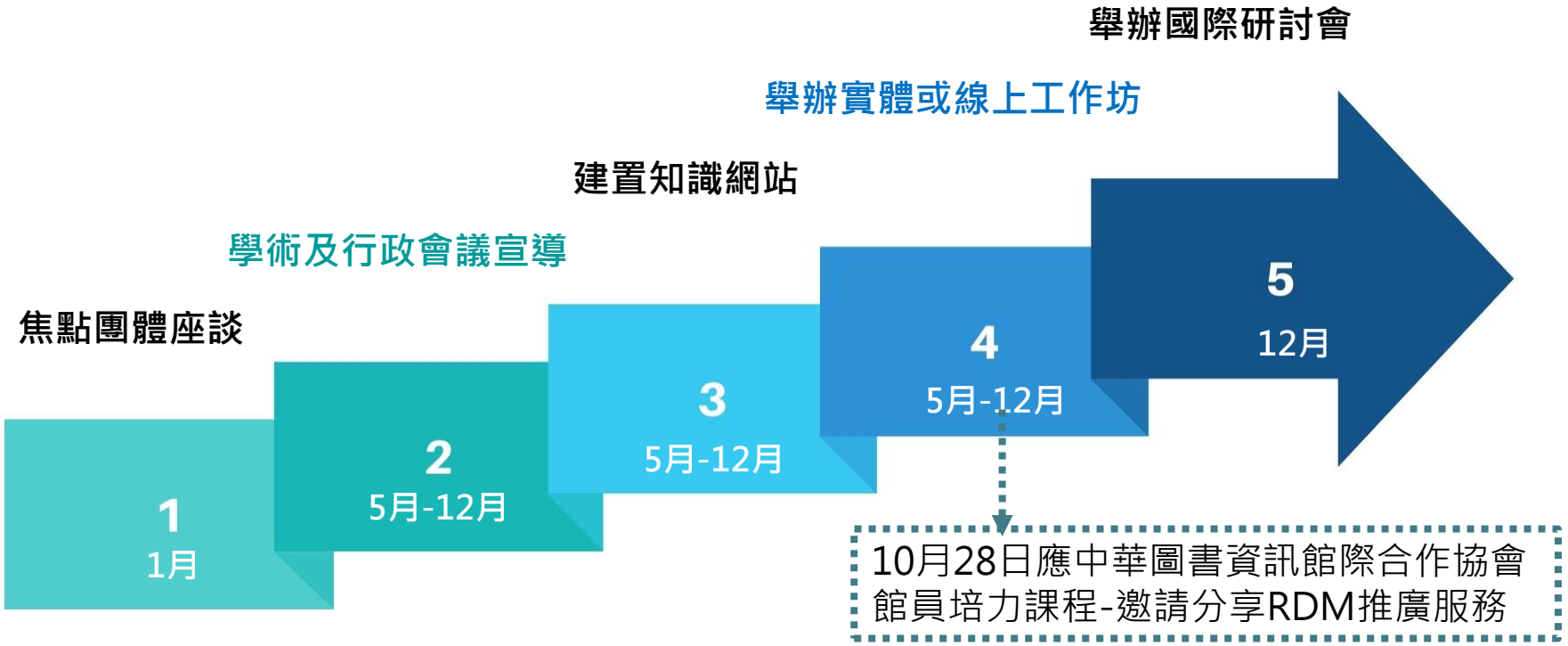
04

超越傳統挑戰：
主動積極的RDM與推廣服務策略

推廣策略


• 解說國際趨勢及服務宗旨
• NYCUDataverse 的亮點
• 圖書館支援研究生命週期
• 於各類型會議中報告交流
• 《研究資料管理原則》
• RDM知識服務入口網站
• 訪談研究人員請益及實踐
• 學科館員提供客製化服務
• 實體或線上工作坊及會議

第一年推廣過程（2022年）



Focus Group Interviews 焦點團體座談

周倩
Chien Chou
教育所，副校長

李大嵩
Ta-Sung Lee
電信工程，副校長

陳震寰
Chen-Huan Chen
心臟科，院長

黃柏勳
Po-Hsun Huang
重症內科，教授

劉柏村
Po-Tsun Liu
光電工程，研發長

Chiaotung Campus

Yangming Campus

蔡金吾
Jin-Wu Tsai,
腦科，研發長

圖書館關心研究人員的意識！

認識程度
對於研究資料與管理服務的認識為何

上傳經驗
如有公開研究資料的經驗其因素為何

資料管理
如何管理研究資料、使用工具及想法

上傳意願
是否願上傳至本校Dataverse及想法

主題特質
在不同學科中研究資料的樣態和特性

建議期許
對於圖書館推動研究資料管理服務支持度

研究人員的期待與想像？

儲存空間
平台應有大儲存空間並接受學科領域格式

法令規定
資助者、研究倫理、智財權、合約、保密

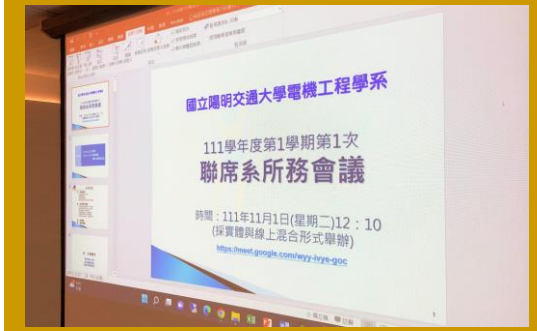
長期安全
舉例長期追踪的研究很需要研究資料平台

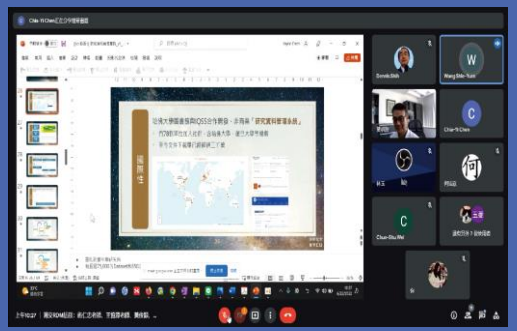
使用教學
系統操作及推廣說明

各種工具
各種應用工具以及深度介接期待輔助

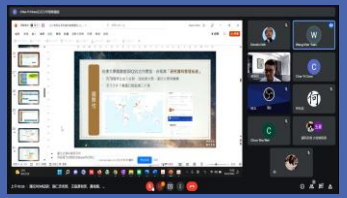
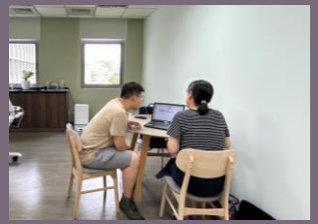
團隊運作
院系所或實驗室使用

學院館員至各個學院院務會議宣導及交流



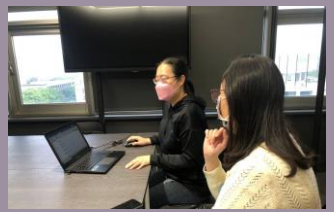


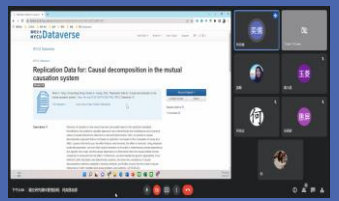
學院館員個別接觸教師-超過30位







學院館員簡報交流重點


• 國際趨勢及第三方要求
• 研究資料管理的重要性
• Dataverse的源起與價值
• 研究人員需求及意見交流
• 成功實例分享及邀請合作
• 舉辦教育推廣及諮詢服務

FAQ｜IRB相關研究資料上傳規範

1.進行知情同意書時便告知會存到Dataverse

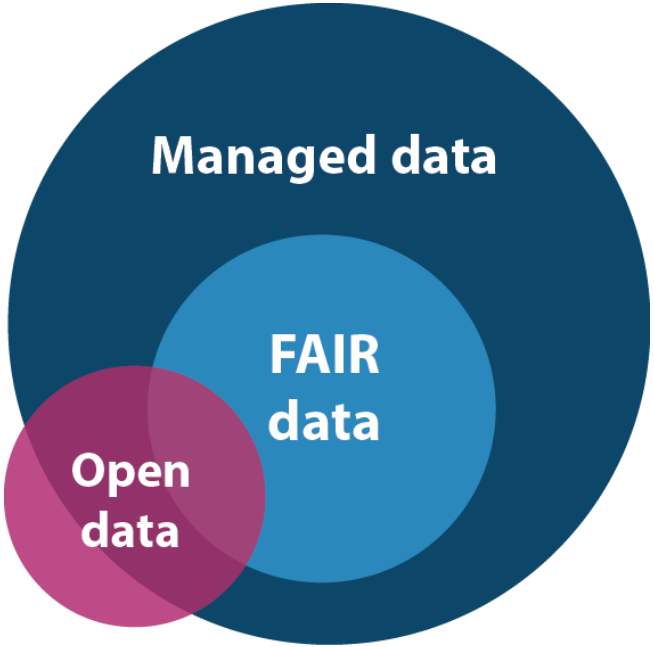
人體研究法第14條：

取得12條知情同意前，告知研究材料之保存期限及運用規劃。

2.研究材料已去連結

人體研究法第19條：

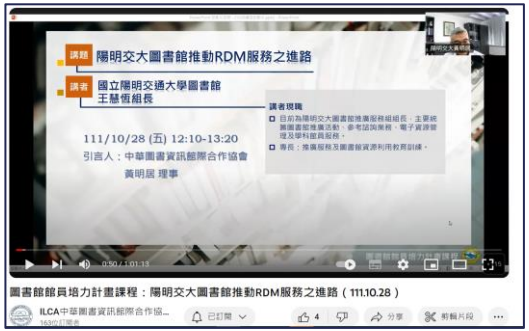
- 研究材料於研究結束或第14條第1項第8款所定之保存期限屆至後，應即銷毀。
- 但經當事人同意，或已去連結者，不在此限。

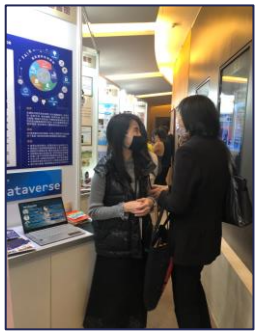


來源：The Hong Kong Polytechnic University, https://libguides.lb.polyu.edu.hk/rdm/sharing/fair

解說 Dataverse上傳步驟

for example...





舉辦座談會｜工作坊｜國際研討會

國立陽明交通大學圖書館
National Yang Ming Chiao Tung University Library

圖書館官網

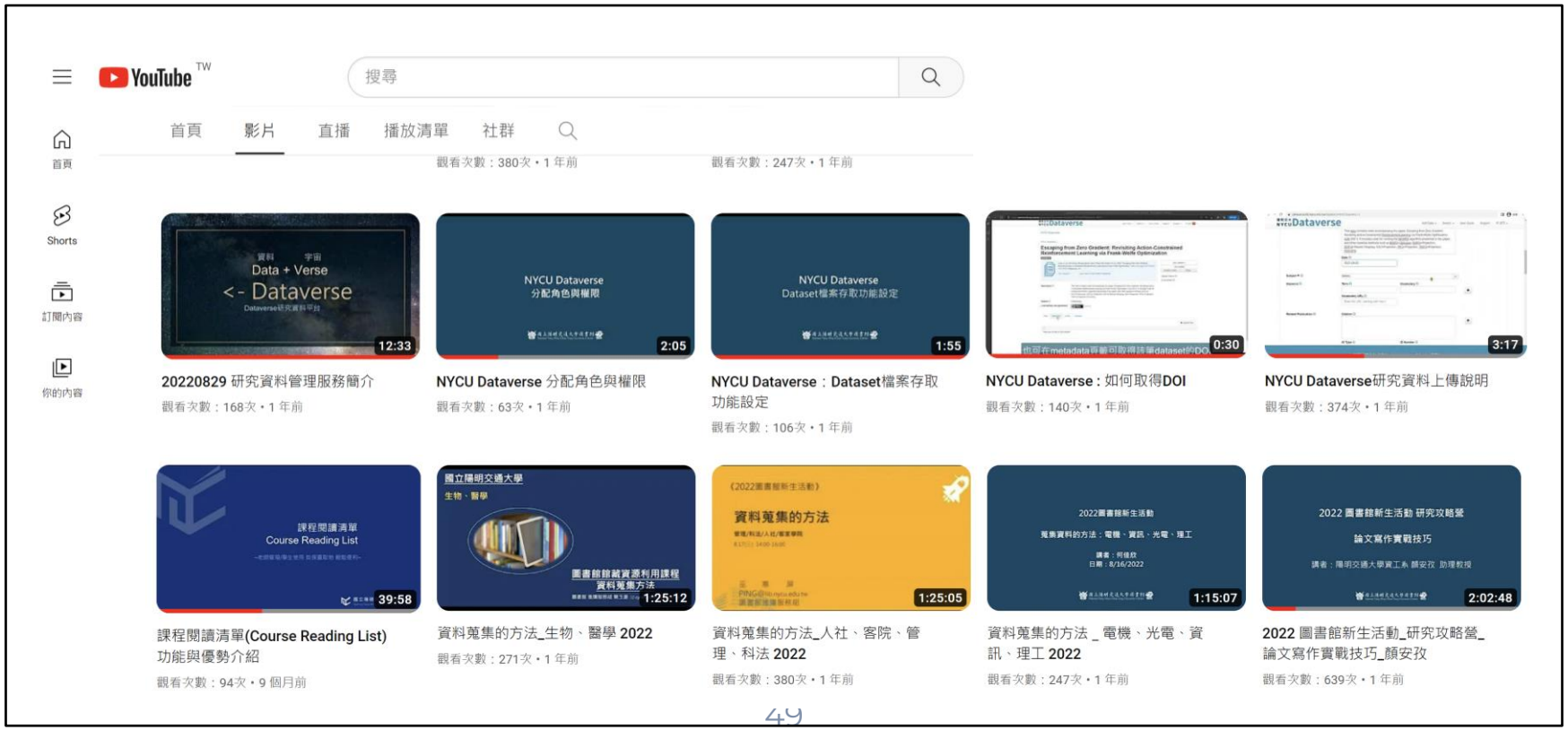
研究資料管理服務宗旨 /
服務平台/ 常見問題 /
Data Management Plan

入口知識網站

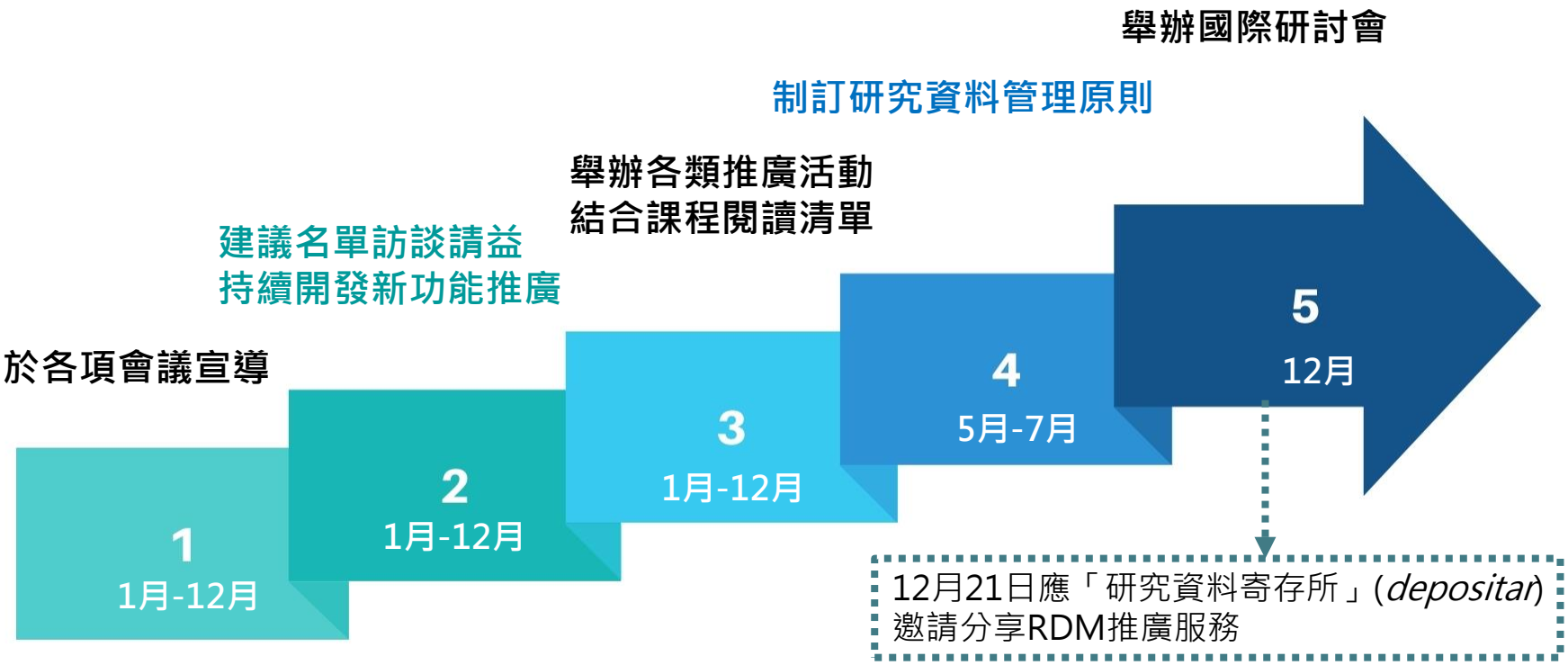
關於 / 使用指引 / 相關政策 / 常見問題 / 最新消息 / 諮詢預約

新進教師手冊

YouTube 數位教材專區



第二年（2023年）


舉辦國際研討會
制訂研究資料管理原則
舉辦各類推廣活動
結合課程閱讀清單
建議名單訪談請益
持續開發新功能推廣
於各項會議宣導
1
1月-12月
2
1月-12月
3
1月-12月
4
5月-7月
5
12月
12月21日應「研究資料寄存所」(*depositar*)
邀請分享RDM推廣服務

開發 NYCU Dataverse 新功能及製作短片

Dataset中可能含有不同類型的檔案,如Excel、圖檔、音檔等NYCUDataverse整合「FilePreviewers」工具, 可以快速查看檔案內容, 無需下載或打開檔案,而提高效率。

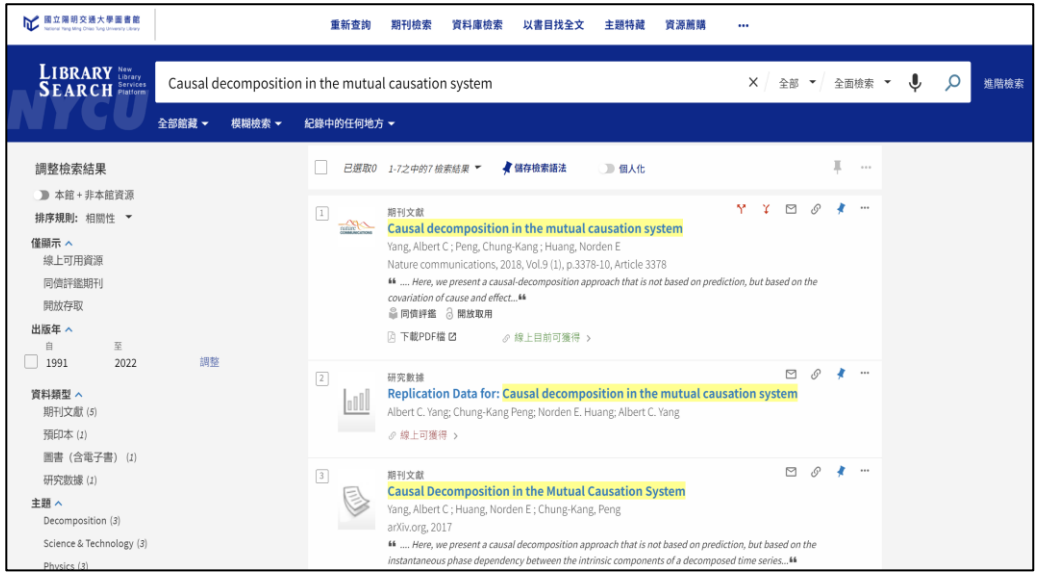
Widgets小工具，可讓研究者於網站上顯示Dataverse，讓研究者的研究資料能顯示在更多地方，進而增進學術曝光。

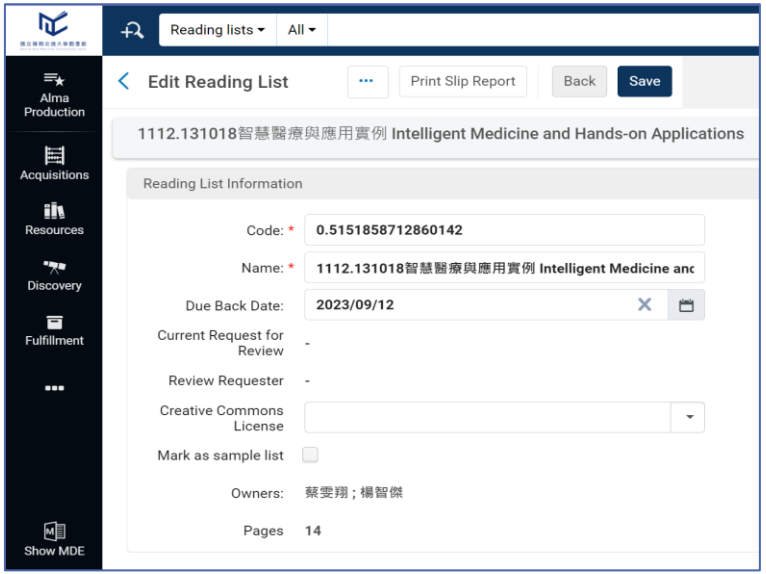
DataExplorer列出表格數據中的變數,並允許使用者探索繪製圖表和進行分析, 讓數據能有效被他人再利用。

當填寫完Dataset相關資料欄位後，進行研究資料上傳時，除了自本機上傳,也可藉由串聯到個人的Dropbox空間的功能，可直接上傳個人Dropbox內的檔案。

會議交流 | 工作坊 | 推廣活動

整合 Dataverse 與 館藏探索 以及 數位教學





研訂陽明交大《研究資料管理規則》

網站導覽 NYCU首頁 聯絡我們

國立陽明交通大學圖書館
National Yang Ming Chiao Tung University Library

開閉館時間 更多>
陽明 08:00-22:30
交大 08:00-22:30
Dec. 4

服務 學習 資源 校史・特藏 關於

首頁 / 本校研究資料管理原則

回上頁

本校研究資料管理原則

一、 國立陽明交通大學（以下簡稱本校）為完整保存研究紀錄之完整性，以及確保研究資料與結果之公開與共享，特訂定本原則。

二、 本原則適用於本校編制內外之各類人員及學生，及為進行學術研究與本校簽署產學合作約定者，但責任人員未實質參與本校研究計畫者，不在此限。

三、 本原則用詞，定義如下：

（一）研究資料：泛指研究過程中所產出之任何形式的資料，包含但不限於文字、實驗參數、數據、圖（影）像、圖表及其他各種媒介形式的原始資料。

（二）研究資料管理：未去連結之原始資料應以系統性方式組織、紀錄、儲存、維護，並訂定保存期限，及屆滿後之刪除銷毀程序，對已去連結之研究資料，亦應依上述方式為之，但得以永久保存，並於必要時，該研究資料得以有效率的存取、檢閱、再利用，以及可再現研究過程及結果。

（三）去連結：涉及個人資料、資訊之生物檢體、資料，應以編碼或其他方式，使其資料永久無法以任何方式連結、比對。

四、 研究計畫之執行，應透過學校行政作業流程並具名簽定合約，始得利用校內設備及人力進行研究，合約中應載明研發成果之歸屬、管理及運用，包括智慧財產權歸屬、申請及確保國內外權利、授權、讓與、收益、迴避及其相關資訊之揭露、委任、信託、訴訟或其他一切與管理或運用研發成果有關之行為，前項合約內容，由本校相關單位訂定之。

五、 本校應依以下原則辦理研究資料管理：

（一）為提供研究人員進行研發成果之維護與記錄管理，實成相關單位建置與維護有關系統。

（二）本校將不定期舉辦研究資料管理教育訓練，該教育訓練得認列為學術倫理時數。

六、 本校計畫主持人及參與研究人員，應依以下原則進行研究資料管理：

（一）於研究執行前與過程中，計畫主持人應善盡監督之責，訂立實驗室規範及研究資料管理規則，確保所屬研究人員清楚理解相關規範後，實成研究人員落實規範，並依規則妥善管理各階段的進度及成果，以確保研究資料的完整性與品質，參與研究人員亦應理解實驗室規範及相關法令規章，並積極履行並確認自身權責。

（二）研究性質涉及人體研究法、動物保護法或其他法規之規定者，應儘令本校各專責單位、研究經費補助單位（或經費資助者）及其他監督機關(構)訂定之法令規章、協議、監督及查核條款。

前項第一款之實驗室規範及研究資料管理規則，包括但不限研究紀錄方式（研究方法、過程與原始數據）、研究材料之使用、保存方式、保存期限、保存位置、研發成果去連結、未去連結之研究資料銷毀程序，以及異常事件標準處理流程。

七、 本原則經本校行政會議通過後實施，修正時亦同。

《國立陽明交通大學研究資料管理原則》修訂歷程

- 112年7月26日 本校111學年度第9次行政會議通過

國立陽明交通大學圖書館
National Yang Ming Chiao Tung University Library

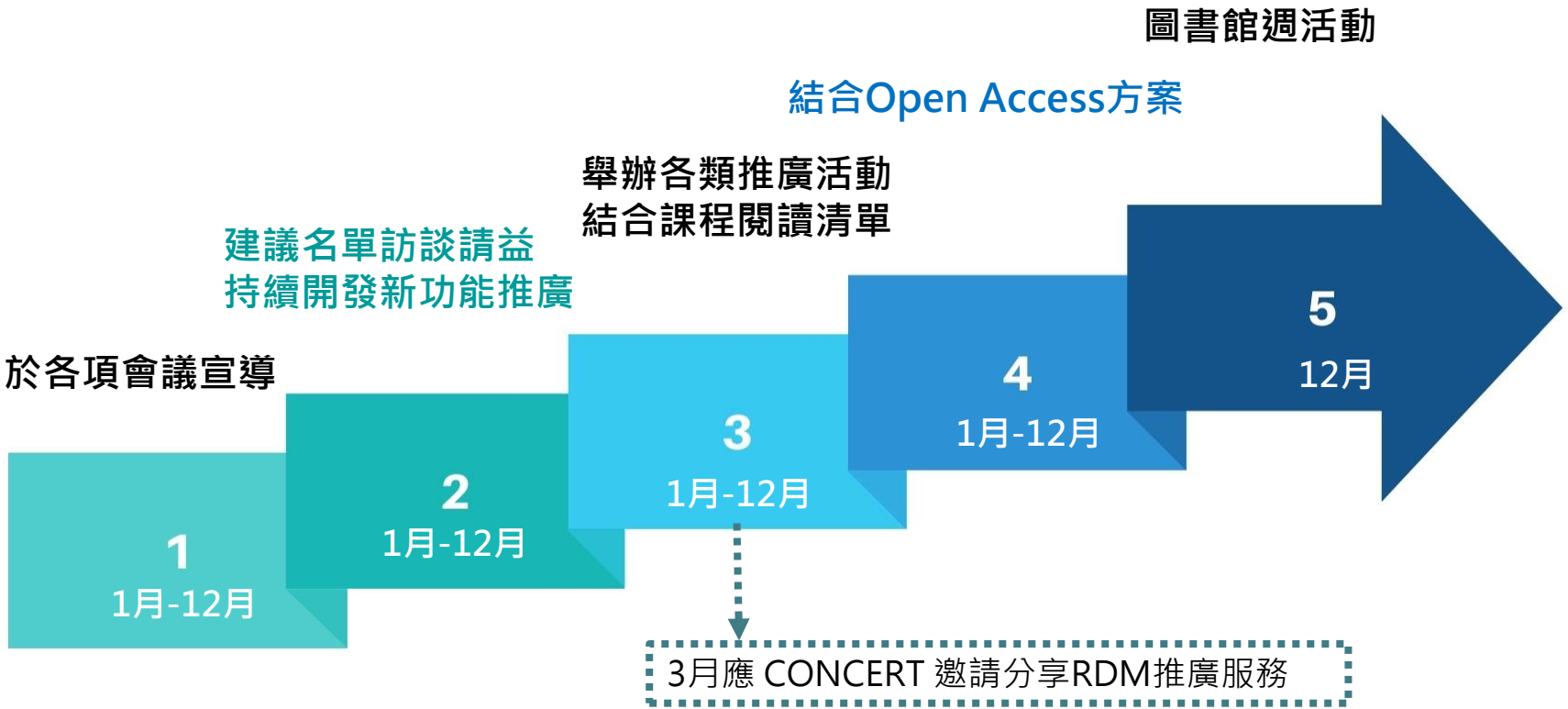
OAERI

國立陽明交通大學學術倫理與研究誠信辦公室
Office of Academic Ethics and Research Integrity

國立陽明交通大學研究發展處
National Yang Ming Chiao Tung University
Office of Research and Development

連結：https://www.lib.nycu.edu.tw/custom?cid=563

第三年（2024年）


圖書館週活動
結合Open Access方案
舉辦各類推廣活動
結合課程閱讀清單
建議名單訪談請益
持續開發新功能推廣
於各項會議宣導
1
1月-12月
2
1月-12月
3
1月-12月
4
1月-12月
5
12月
3月應 CONCERT 邀請分享RDM推廣服務

2024/2/1-2/2研討會

研究資料管理智慧之路：引領資料管理新方向

Research Data Roadmap: Guiding Wisdom in the Management Mode

https://flysheet.my.canva.site/flymed-rdm-seminar

期刊 Open Access 轉型方案結合 NYCU Dataverse

2021年起補助研究人員OA出版

鼓勵作者同步上傳研究資料至Dataverse

獎勵作者同步上傳研究資料至Dataverse

國立陽明交通大學圖書館
National Yang Ming Chiao Tung University Library

持續收集成功合作實例

投稿期刊上傳研究資料至公開的典藏庫

for example...

林奇宏 校長
微免所 教授

黃明居 館長
運輸與物流管理學系 教授

陳震寰 教振
北榮心臟內科特約醫師

蔡金吾 研發長
醫學院腦科學研究所

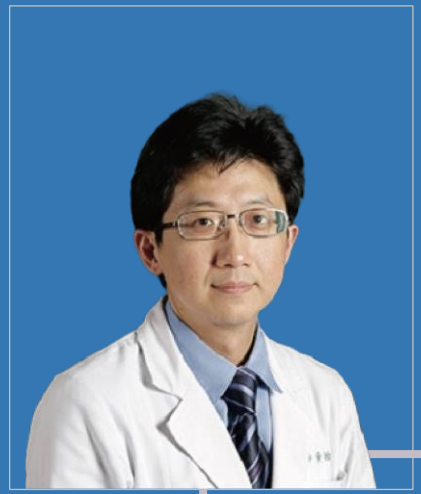
陳潤秋教授
生物醫學影像暨放射科學系

張瑞文 教授
北榮兒童免疫腎臟科主任

曾意儒 教授
資工學系

翁孟嘉教授
木土系

黃柏勳 教授
北榮心臟內科主治醫師



黃柏勳教授小檔案

陽明交大臨床醫學研究所 專任教授
陽明交大心臟血管疾病研究中心 主任
臺北榮總重症醫學部 重症加護內科主任

- 臺北榮總醫院重症加護內科主任，黃柏勳教授，為進行關於高血壓患者腎功能相關的研究，招募100 名高血壓患者，並且在符合研究倫理委員會的規定下收集患者的研究資料。
- 分析這些研究資料後，研究團隊發覺伴隨血管修復能力降低的內皮損傷，與高血壓患者腎功能進一步惡化有關，並以此為主題發表了文獻。
- 奠基這篇高血壓腎功能文獻的研究資料並沒有從此束之高閣。
- 2020年，來自尼德蘭馬斯垂克大學的學者連絡上黃柏勳教授，表明這份研究資料可以協助他們比較高血壓相關的動物模式，希望可以了解更多關於研究資料的內容。
- 因此，黃柏勳教授提供更細節的研究資料給尼德蘭馬大學者，最終分析出年齡相關高血壓內型的因果機制，亦作為偕同作者發表文獻，達成台灣與尼德蘭跨國合作。

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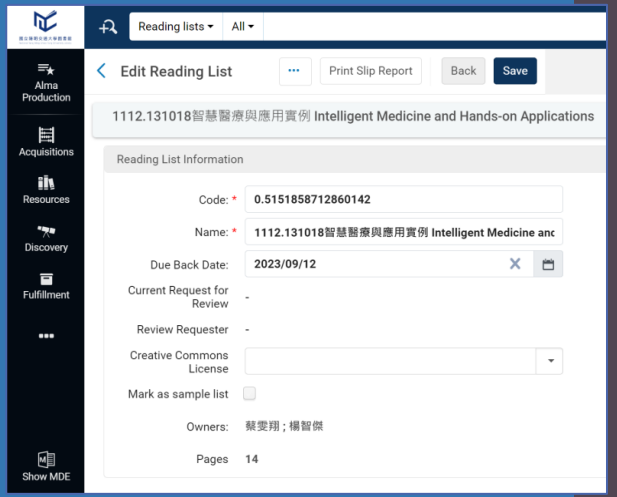
另亦合作＜課程閱讀清單＞

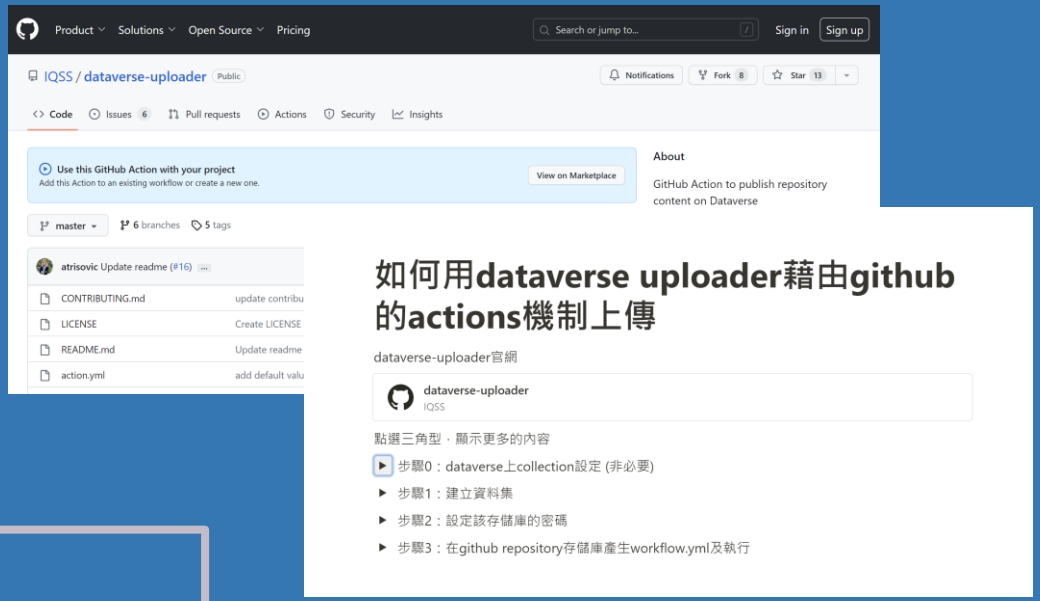
- 楊智傑教授在「智慧醫療與應用實例」課程中，學生運用研究資料平台取得研究資料，擬定主題進行再運用，參與課程內黑克松；另整合已有的研究資料集，於學校數位教學平台-本館課程閱讀清單服務，多方面培養學生研究資料再運用的技能。
- 學習研究資料使用是研究歷程中不可或缺的一環，運用 NYCU Dataverse，實踐再運用教學！

楊智傑教授小檔案

陽明交大學 腦科學研究所 教授兼所長
陽明交大學 醫學系 副主任
臺北榮總 醫學研究部 主治醫師
臺北榮總 人工智慧發展中心 副主任



曾意儒教授小檔案
陽明交大 資訊工程學系 副教授



- 資料管理對資訊領域也很重要。
- 運用Dataverse Uploader，Github同步投稿到Dataverse。

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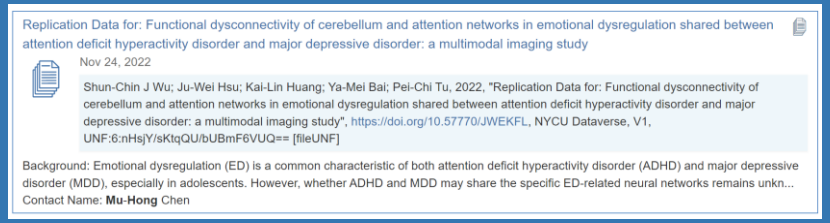
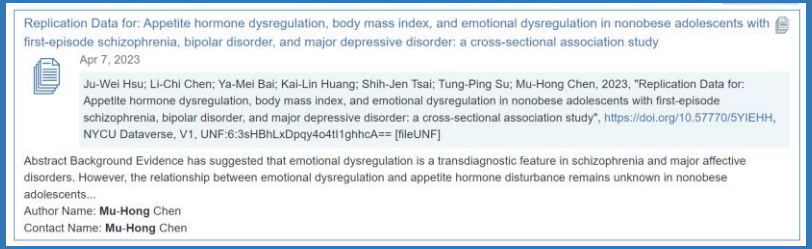
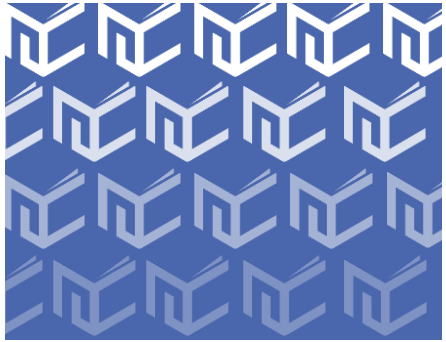
【2023陽明交大圖書館閱讀月講座】
青春的多重宇宙--陳牧宏醫師談青少年精神醫療





- 為鼓勵研究人員多以開放取用Open Access方式發表學術研究成果，促進科研成果最大限度發揮影響力，提升作者及本校的研究國際能見度，因此本館於合校後，積極爭取OA服務方案，減輕老師們投稿的文章處理費 (Article Processing Charge，簡稱APC) 負擔。
- 陳牧宏教授以通訊作者持續於Cambridge期刊投稿，運用OA方案服務及典藏研究資料於 NYCU Dataverse ，讓研究資料可重用，多重實踐開放科學！



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圖的未來角色：
引領RDM與生命週期服務革新

理念

June 2023

Research Intelligence

Research Data Management

White paper

Tracking institutional research data

How universities can nurture a culture of data sharing

Elsevier's Research Intelligence toolset equips researchers, faculty and research administrative professionals to address their institutions' most pressing challenges at every stage of the research lifecycle. Through high-quality, structured, interoperable data, advanced analytics and various indicators and metrics, Research Intelligence solutions give institutions the insights they need to elevate their research excellence.

The tracking of research data is underpinned by emerging practices

The scholarly communication infrastructure that can inform the tracking of research data is highly distributed. Data may be found in a complex network of institutional, generalist and disciplinary repositories, but also in other forms such as on individual websites that can only be discovered via tailored approaches due to limited or lack of metadata or machine-readable information. The University of Groning has described the use of software solutions to identify institutionally affiliated research data as "systematically collecting needles from the haystack." In their case, the u of Data Monitor helped cut the time spent validating data metadata from 20–30 to 5–10 minutes and allowed the University to grow its list of validated datasets from about 600 per year (gathered manually) to almost 4,000 per year (gathered via software and then validated).

Institutions, researchers, publishers and funders need to continue working together to foster improvements in individual behaviors, which will eventually lead to an enhanced ability to track research data. The above-mentioned FAIR principles offer a helpful focal point that all stakeholders can consider, from the individual researcher all the way through to international digital infrastructures. For example, those involved in data production should ensure that they deposit their data in an appropriate repository, which is in turn expected to accept (and, in some cases, require) complete, accurate and meaningful metadata and controlled vocabularies, as well as to create and manage a persistent identifier.

The use of persistent identifiers – whether digital object identifiers (DOIs), permalinks or others – is key in enabling institutions to identify data shared by their researchers and improving findability more broadly.

"In many cases, information about affiliation is missing from metadata. And, when it is there, the persistent identifier of the organization is only rarely available. Persistent identifiers could help overcome some difficulties with research data tracking, but they're not widespread enough today."

– Paolo Manghi, OpenAIRE

These don't only include DOIs or other persistent identifiers for datasets, but also Open Researcher and Contributor ID (ORCID) and Research Organization Registry IDs (ROR) as a minimum. Other forms of identifiers are also emerging, for example Research Activity Identifiers (RAiDs) for projects and Crossref grant DOIs.

Furthermore, organizations responsible for repository management can ensure data is curated and preserved, that metadata is surfaced appropriately and that the repository is accessible and optimized for discoverability.

"We gather all successful research data sharing stories on the NYCU Dataverse knowledge website, aiming to increase reuse and enhance international cooperation."

– Ming-Jiu Hwang, National Yang-Ming Chiao Tung University

consumption, including authors themselves. Today, data users are more frequently ensuring that they accurately cite and link to third-party data, and may incorporate linking to data assets in narrative CVs.

However, data citation practices are far from mature. For example, publications may include data citations as part of the full text, in dedicated data availability statements or not at all. This kind of fragmentation is partly responsible for the difficulties in tracking research data and sometimes leads to the need to disambiguate, deduplicate or further process the information that can be harvested from the scholarly infrastructure.

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"我們在 NYCU Dataverse 知識網站上收集了所有的成功的研究資料共享故事，增加重複使用並加強國際合作。"

– Ming-Jiu Hwang, National Yang-Ming Chiao Tung University

"在許多情況下，metadata缺少有關隸屬關係的資訊。 而且即使存在，永久識別碼也很少可用。 永久識別碼可幫助克服研究數據追蹤的困難，但目前它們還不夠廣泛。"

– Paolo Manghi, Open AIRE

https://view.highspot.com/viewer/64944cab6a9de707cf589675

結論

- NYCU Dataverse 可以提供研究人員研究資料的共享、保存、引用和探索。
- 滿足發表要求、提高引用與國際合作，是驅動因素，安全和Fair Data是驅動程式。
- 圖書館在研究資料管理服務上，可融入研究生命週期，提供支援環境。
- 圖書館服務角色上，需要具備與時俱進的認知和技能，關注研究人員新需求。
- 可以提供適當的誘因或獎例，例如由館員協助上傳 datasets 並引導 data sharing。
- 與各學科領域研究人員合作，運用其成功故事建立可供其他人參考的具體案例。
- 鼓勵畢業離校或離開實驗室的研究生上傳 datasets 至 NYCU Dataverse 。
- 遵循 “Data should be as open as possible and as closed as necessary“ 原則。
- 承諾協助國際合作、卓越研究、永續發展和人類社會的進步。

國立陽明交通大學圖書館
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謝謝聆聽

Thank you for listening