Open Science

Support systems and services at UCT Libraries

01/11/2018

Niklas Zimmer

Manager: **Digital Library Services**, UCT Libraries

1. Building a **Scholarly Commons** at UCT
   RDM at UCT Slack workspace

2. **Research Data Management** (RDM)
   a brief overview

3. RDM planning: **DMPonline**
   UCT **DMPonline**

4. Collaboration: UCT **Open Science Framework** (OSF)
   UCT **OSF**

5. Publishing data: **ZivaHub**
   ZivaHub | Open Data UCT

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Building a **Scholarly Commons** at UCT

RDM at UCT Slack workspace


DVC
RESEARCH
Leadership
Governance
Strategy
Resourcing
ICTS
Data storage
Compute
Networks
Cloud
UCT
LIBRARIES
Research visibility
& discovery
Research data
management
Digital scholarship
UCT
eResearch
RESEARCH
OFFICE
Advocacy
Collaboration
Scientific
communication
FACULTIES
Various capabilities

The Scholarly Commons concept

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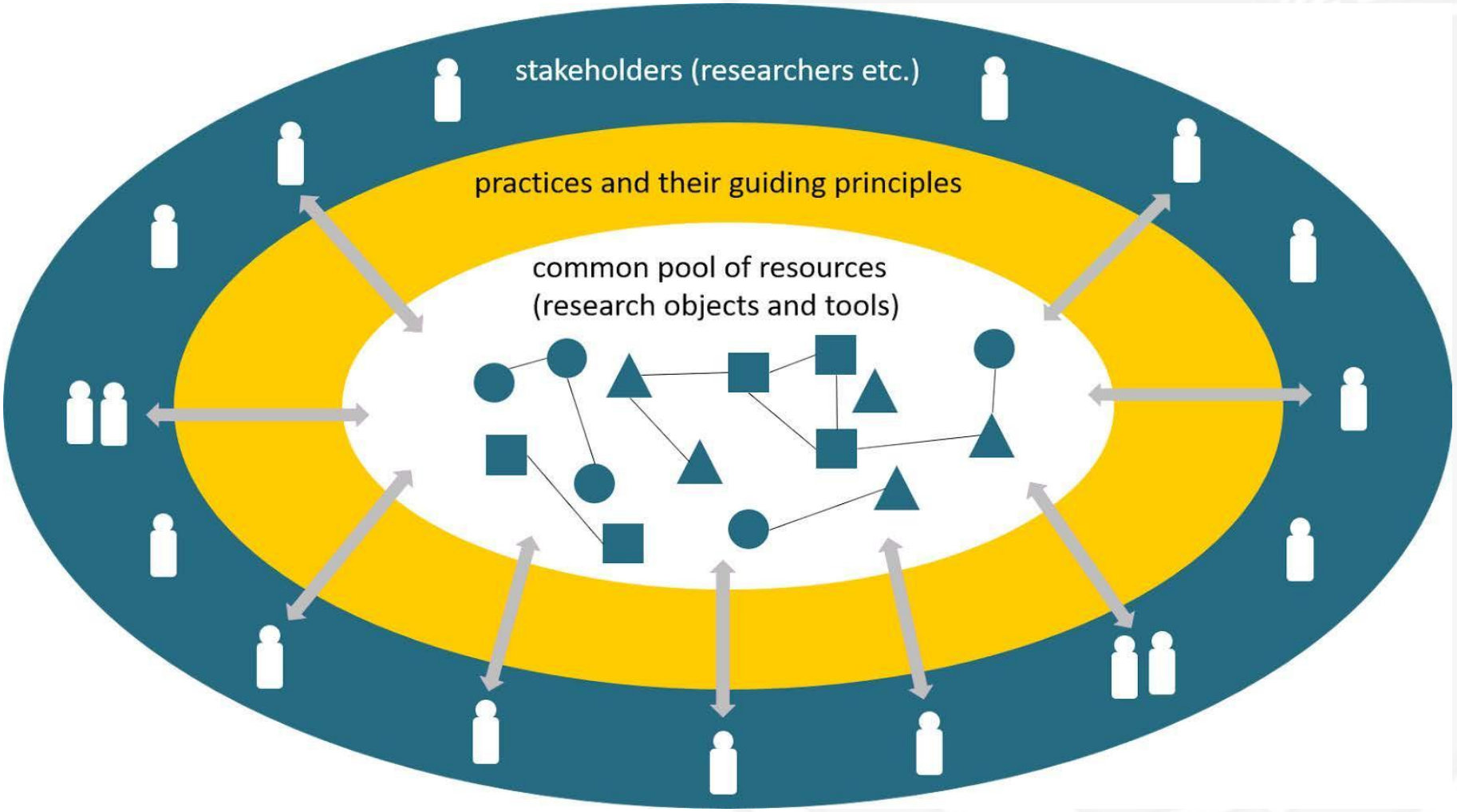

Source: Bosman, Jeroen, Ian Bruno, Chris Chapman, Bastian Greshake Tzovaras, Nate Jacobs, Bianca Kramer, Maryann Martone, et al. 2017. '[The Scholarly Commons - Principles and Practices to Guide Research Communication](osf.io/6c2xt)'. Open Science Framework. September 15. osf.io/6c2xt

RDM Scholarly Commons at UCT

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Adapted from: Bosman, Jeroen, Ian Bruno, Chris Chapman, Bastian Greshake Tzovaras, Nate Jacobs, Bianca Kramer, Maryann Martone, et al. 2017. 'The Scholarly Commons - Principles and Practices to Guide Research Communication'. Open Science Framework. September 15. osf.io/6c2xt

RDM ‘Scholarly Commons’ at UCT

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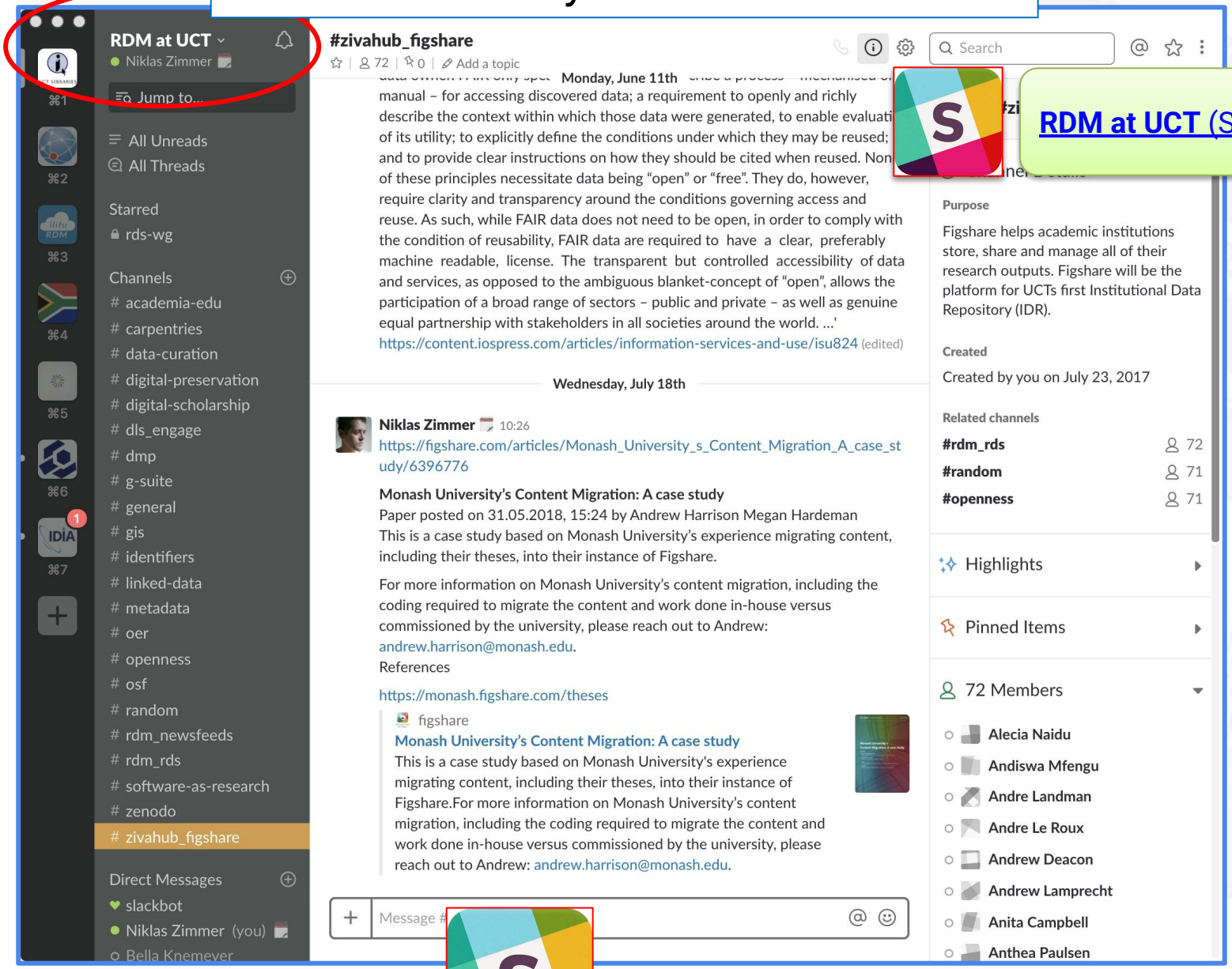

[RDM at UCT (Slack)]

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Research Data Management (RDM)
a brief overview

Research data management (RDM) in brief

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- The organisation and documentation of the data processes (collection, description, de-identification, curation, archiving and publication) within a research project.
- Is already practised by researchers, but often only internally, and to varying degrees of professionalism.
- International drive to professionalise data management practices (more coherent, i.e. shareable)
    - Journals, institutions and funders increasingly stipulate that data be published alongside research outputs (reports, working papers, journal articles)

RDM … whichever way you turn it :)

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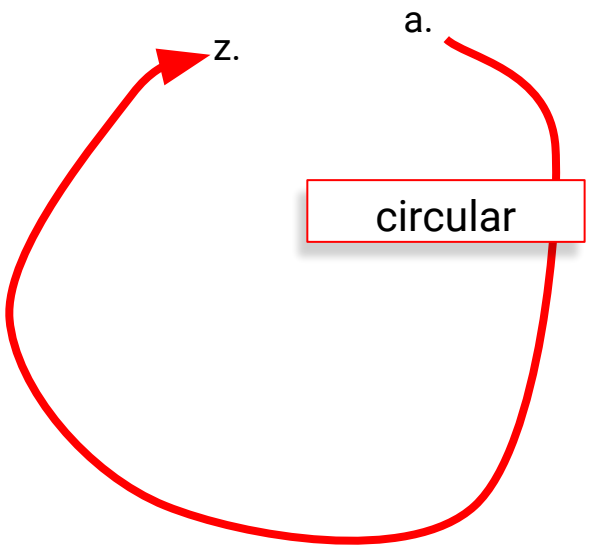
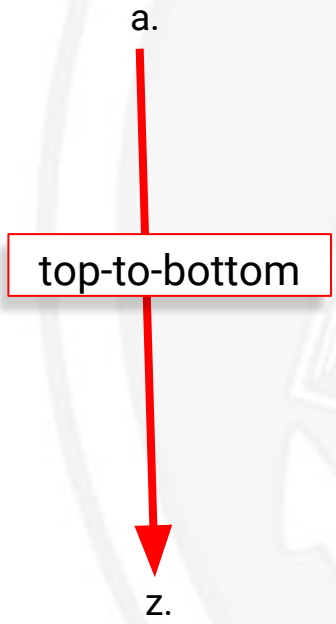
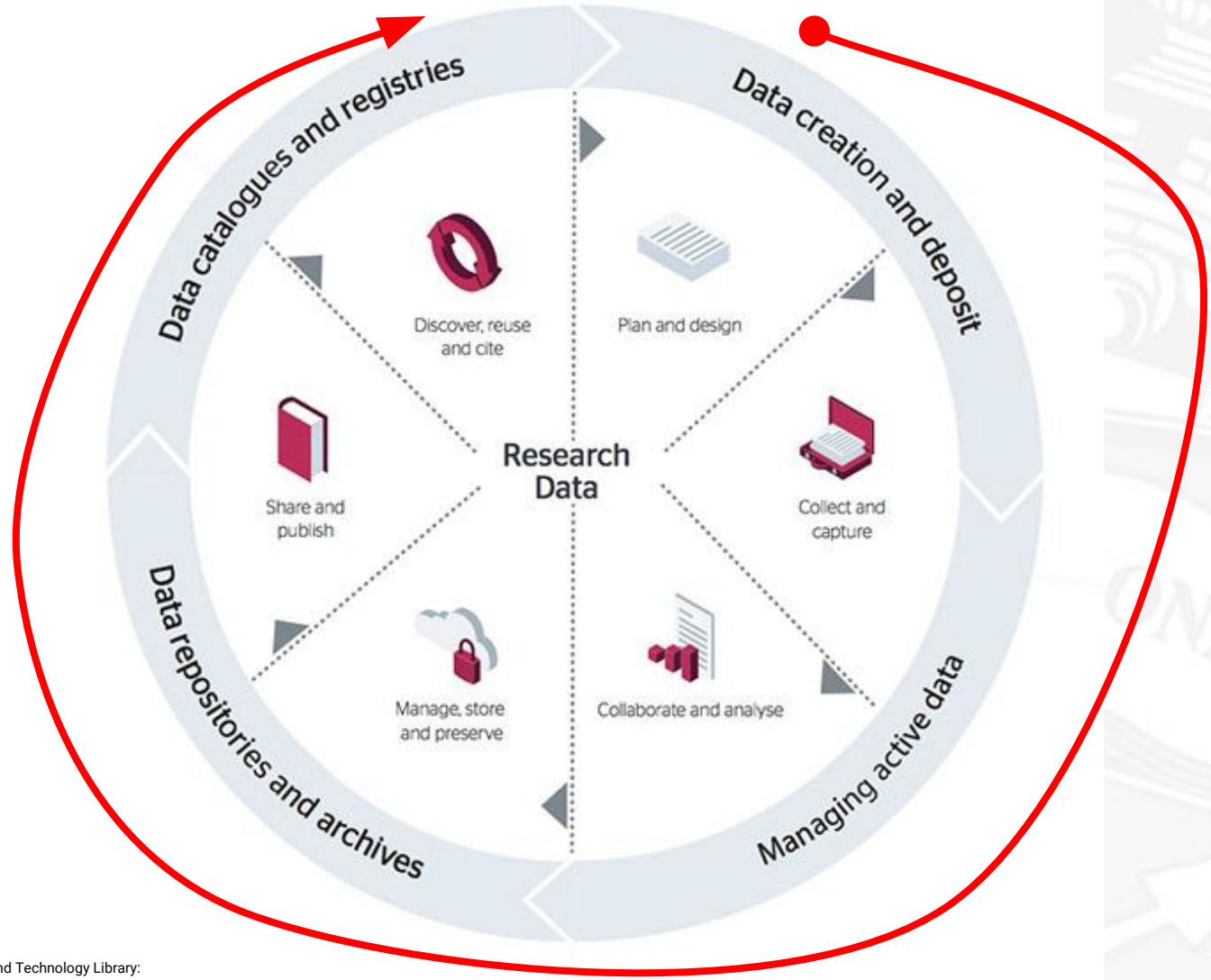
Information about RDM, from *planning* for data management through to *publishing* research data, is often provided in flow-chart formats:





The research data management **lifecycle**



Source: Hong Kong University of Science and Technology Library:
The Research Data Management (RDM) Service Kit. Available: https://library.ust.hk/sc/data-management/rdm-service-kit/

The research **data management** lifecycle

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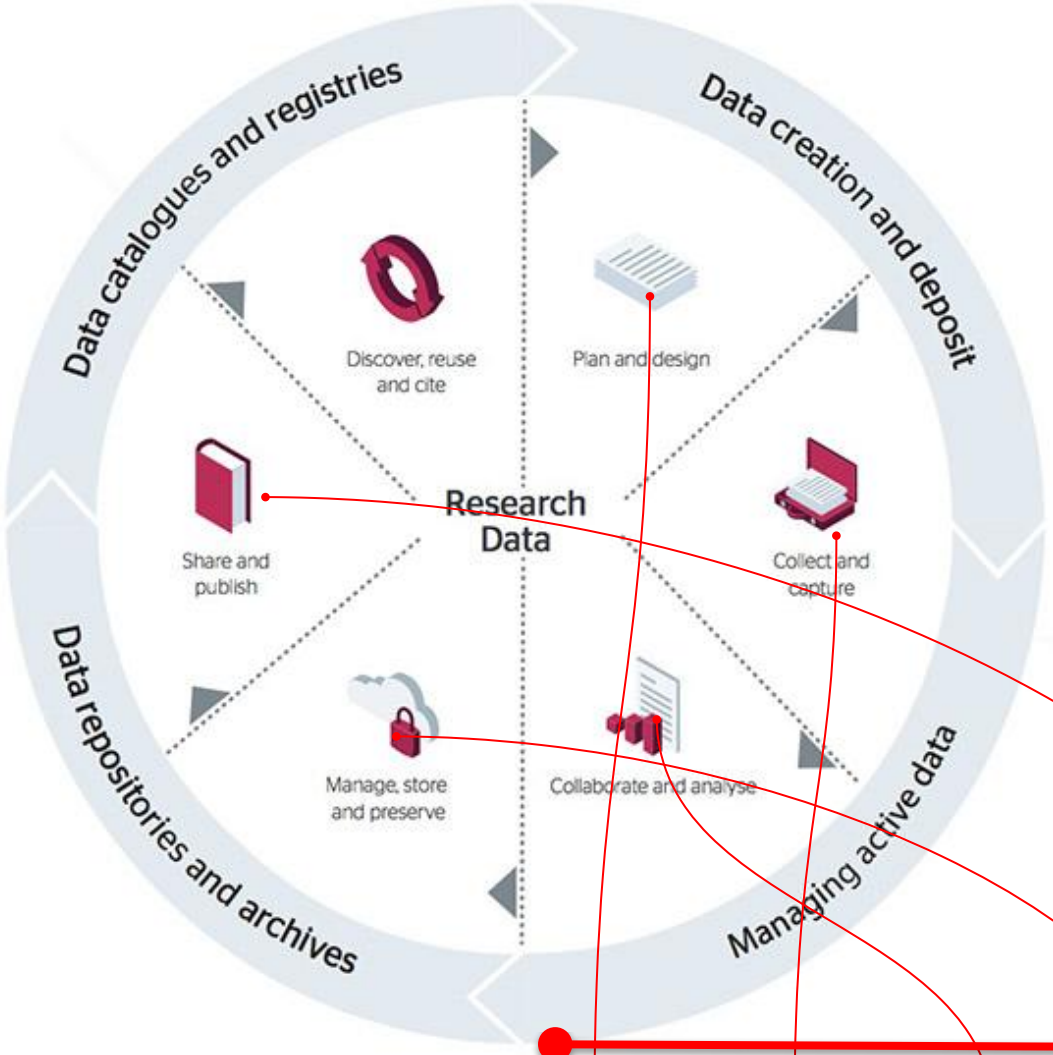

Source: Hong Kong University of Science and Technology Library:
The Research Data Management (RDM) Service Kit. Available: https://library.ust.hk/sc/data-management/rdm-service-kit/

The **Support-Your-Data** RDM rubric

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	Ad Hoc	One-Time	Active and Informative	Optimized for Re-Use
Planning your project	When it comes to my data, I have a "way of doing things" but no standard or documented plans.	I create some formal plans about how I will manage my data at the start of a project, but I generally don't refer back to them.	I develop detailed plans about how I will manage my data that I actively revisit and revise over the course of a project.	I have created plans for managing my data that are designed to streamline its future use by myself or others.
Organizing your data	I don't follow a consistent approach for keeping my data organized, so it often takes time to find things.	I have an approach for organizing my data, but I only put it into action after my project is complete.	I have an approach for organizing my data that I implement prospectively, but it not necessarily standardized.	I organize my data so that others can navigate, understand, and use it without me being present.
Saving and backing up your data	I decide what data is important while I am working on it and typically save it in a single location.	I know what data needs to be saved and I back it up after I'm done working on it to reduce the risk of loss.	I have a system for regularly saving important data while I am working on it. I have multiple backups.	I save my data in a manner and location designed maximize opportunities for re-use by myself and others.
Getting your data ready for analysis	I don't have a standardized or well documented process for preparing my data for analysis.	I have thought about how I will need to prepare my data, but I handle each case in a different manner.	My process for preparing data is standardized and well documented.	I prepare my data in such a way as to facilitate use by both myself and others in the future.
Analyzing your data and handling the outputs	I often have to redo my analyses or examine their products to determine what procedures or parameters were applied.	After I finish my analysis, I document the specific parameters, procedures, and protocols applied.	I regularly document the specifics of both my analysis workflow and decision making process while I am analyzing my data.	I have ensured that the specifics of my analysis workflow and decision making process can be understood and put into action by others.
Sharing and publishing your data	I share the results of my research, but generally I do not share the underlying data.	I share my data only when I'm required to do so or in response to direct requests from other researchers.	I regularly share the data that underlies my results and conclusions in a form that enables use by others.	Because of my excellent data management practices, I am able to efficiently share my data whenever I need to with whomever I need to.

Source: Borghi J, Abrams S, Lowenberg D, Simms S, Chodacki J (2018) Support Your Data:
A Research Data Management Guide for Researchers. Research Ideas and Outcomes 4: e26439. https://doi.org/10.3897/rio.4.e26439

The **digital research journey** (data focus)

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Plan	Process	Analyse	Preserve	Publish	Reuse
design research	enter data, digitise, transcribe, translate	interpret data	migrate data to best format	distribute data	follow-up research
plan data management (formats, storage, etc.)	check, validate, clean data	derive data	share data	new research	
plan consent for sharing	anonymise data where necessary	produce research outputs	migrate data to suitable medium	control access	undertake research interviews
locate existing data	describe data	author publications	back-up and store data	establish copyright	scrutinise findings
collect data (experiment, observe, measure, simulate)	manage and store data	prepare data for preservation	create metadata and documentation	promote data	teach and learn
capture and create metadata			archive data		

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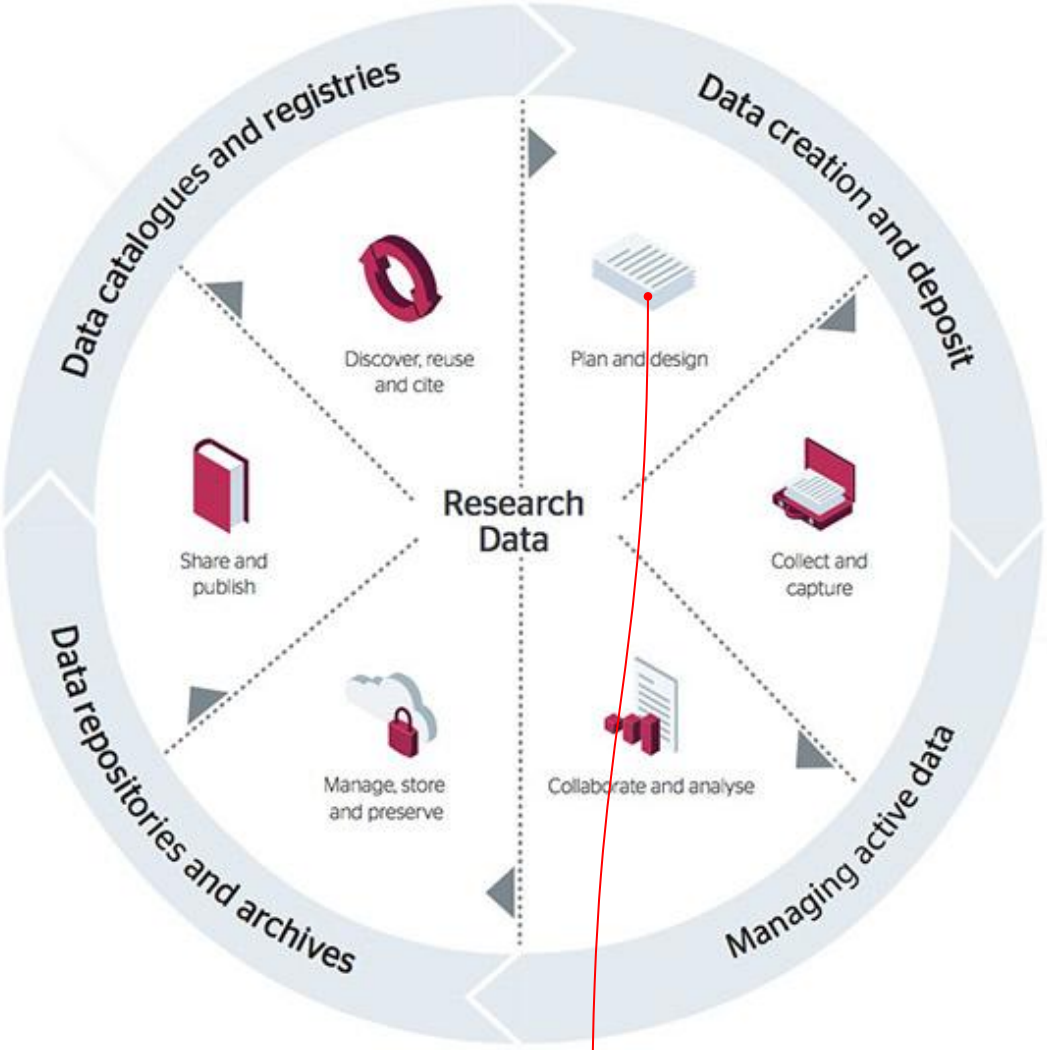
RDM planning: **DMPonline**

UCT **DMPonline**

RDM: **Plan** and **design**



Source: Hong Kong University of Science and Technology Library: *The Research Data Management (RDM) Service Kit*
Available: https://library.ust.hk/sc/data-management/rdm-service-kit/

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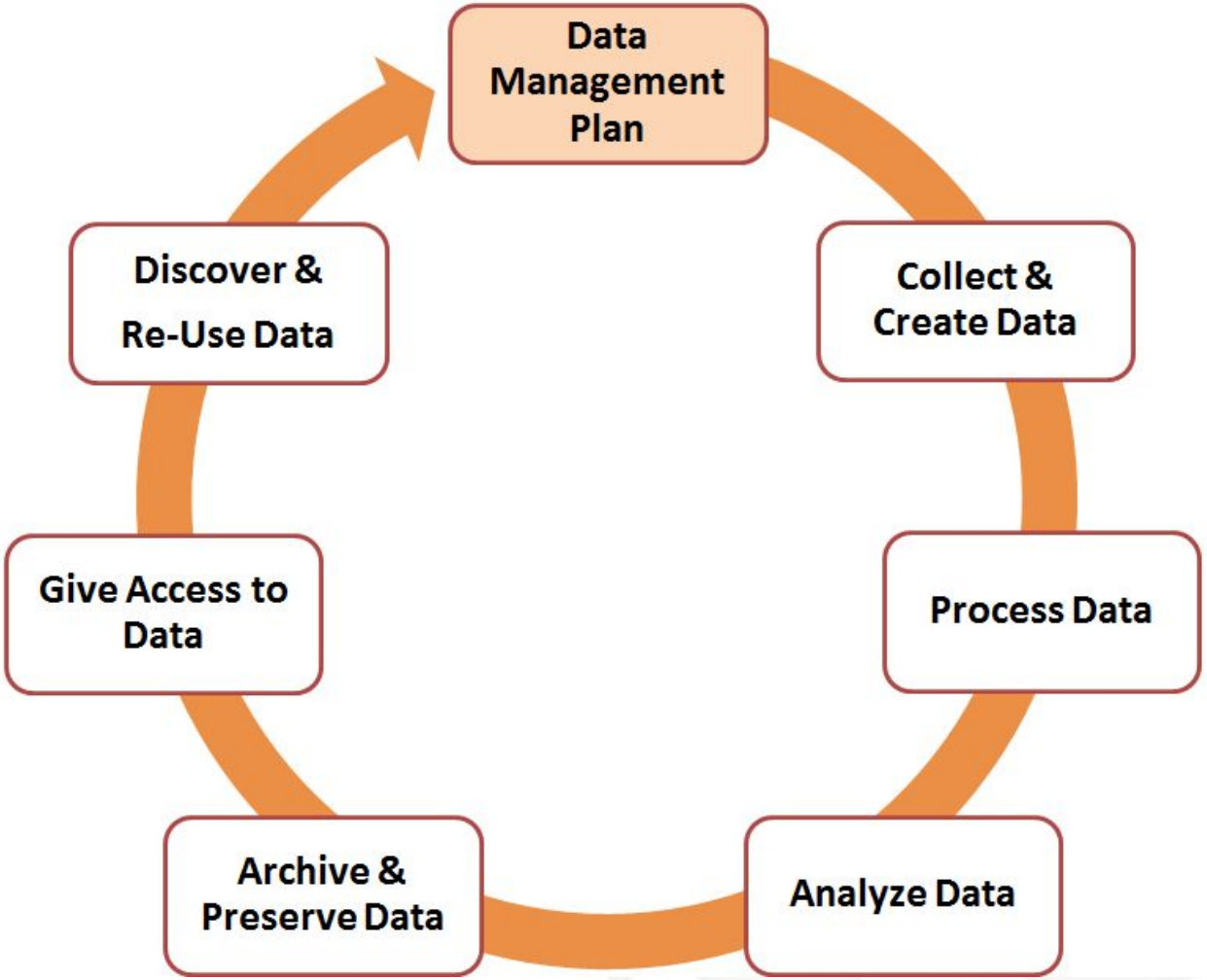
DMP ONLINE

arkivum
Bringing archived data to life

ZivaHub
Open Data UCT

Planning for data management



Source: University of St Thomas Library. Research Data Management: Getting Started. August 15. https://libguides.stthomas.edu/RDM

What is a DMP?

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- Brief formal document outlining the various stages of the research data lifecycle as pertains to a specific project (including theses/dissertations)
- Aim to plan for, explicate and document RDM practice
- Explains what the data for a particular project is, how it will be collected, managed and curated, what processes have been put in place to secure the data (encryption, backup, archiving) and the identity of research participants (confidentiality), how the data will be shared and which parts will be shared, and who's responsible
- Living document that can/should be revisited and revised

The digital research journey (data focus) [1]

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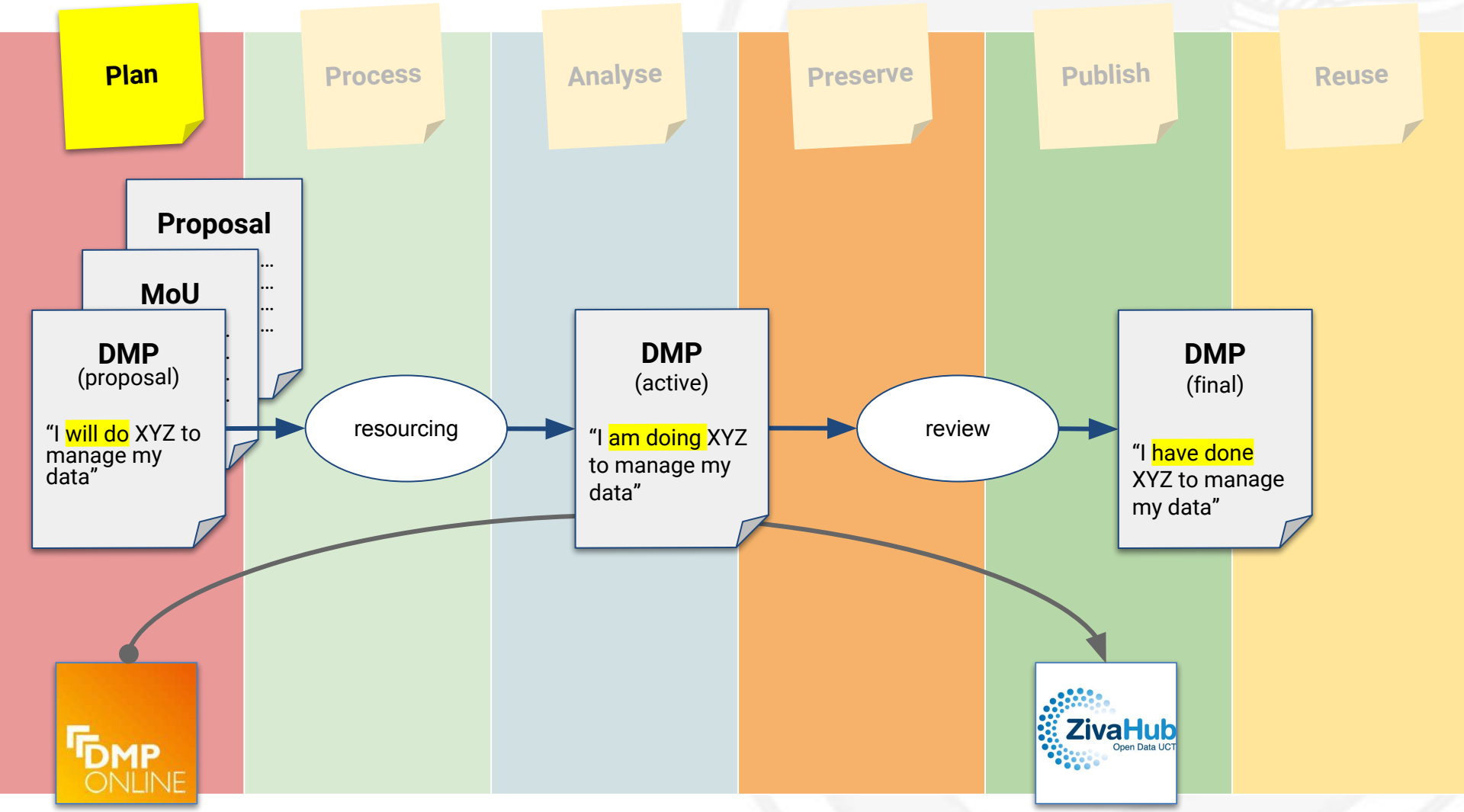

Why create a DMP?

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- Assists with project planning
- Allows you a moment to think ahead and focus specifically on planning and budgeting for data activities
- Provides guidance for curation-specific activities, such as file-naming, archiving, formats suitable for long-term preservation, etc.
- Is already a requirement for many funders (NIH, Wellcome Trust, NRF) and as of 2018 for the whole of UCT

NIH Data Sharing Policy and Implementation Guidance

(Updated: March 5, 2003)

This guidance provides the National Institutes of Health (NIH) policy statement on data sharing and additional information on the implementation of this policy.

- Goals of Data Sharing
- Applicability
- Implementation
  - Timeliness of Data Sharing
  - Human Subjects and Privacy Issues
  - Proprietary Data
  - Methods for Data Sharing
  - Data Documentation

NIH Data Sharing plan - https://grants.nih.gov/grants/policy/data_sharing/data_sharing_guidance.htm

Developing an outputs management plan

We expect the researchers we fund to manage their research outputs in a way that will achieve the greatest health benefit.

These guidelines provide an overview of things to consider as you develop your outputs management plan, in line with our policy on data, software and materials management and sharing and our policy on intellectual property.

Which research outputs are included

Your outputs management plan should set out your approach for maximising the value of the following types of outputs:

- datasets generated by your research

Wellcome Trust data sharing plan - https://wellcome.ac.uk/funding/guidance/developing-outputs-management-plan

DMP ONLINE

Creating a DMP

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- Format/tool agnostic – can use various software
- But: UCTs DMPonline platform provides guidance for major funders (ERC, NSF, NRF, NIH, Wellcome Trust) - and we keep add more on request!
- Takes the form of guiding questions customised to the specific template chosen
- Two FoHS units have already developed their own custom templates
  - Clinical Research Centre
  - Gender, Health and Justice Research Unit
- NB: major software upgrade is ongoing – layout and functionality due to change soon

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Signed in as Thomas King

View plans | Create plan | About | Roadmap | Help

Create a new plan

Please select from the following drop-downs so we can determine what questions and guidance should be displayed in your plan.

If you aren't responding to specific requirements from a funder or an institution, select here to write a generic DMP based on the most common themes.

If applying for funding, select your research funder.

Otherwise leave blank.

Funder

Not applicable/not listed.

DCC Jisc

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DMP ONLINE

Signed in as Thomas King

View plans | Create plan | About | Roadmap | Help

My plan (Gender, Health and Justice Research Unit)

Plan details | GHJRU DMP | Share | Export

This page gives you an overview of your plan. It tells what your plan is based on and gives an overview of the questions that you will be asked.

Edit plan details

Plan name	My plan (Gender, Health and Justice Research Unit)
ID	-
Grant number	-
Principal Investigator/Researcher	Thomas King
Plan data contact	-
Description	-

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Signed in as Thomas King

View plans | Create plan | About | Roadmap | Help

My plan (Gender, Health and Justice Research Unit)

0/18

approx. 20% of available space used (max 10 pages)

Plan details | **GHJRU DMP** | Share | Export

- **1. Project name** (1 question, 0 answered) +
- **2 Introduction/type of study** (1 question, 0 answered) +
- **3. Description of existing data** (1 question, 0 answered) +
- **4. Data collection and generation** (3 questions, 0 answered) +
- **5. Data management, documentation and curation** (5 questions, 0 answered) +
- **6. Data publication, sharing and Open Access** (5 questions, 0 answered) +
- **7. Responsibilities** (1 question, 0 answered) +

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5. Data management, documentation and curation (5 questions, 0 answered)

MANAGING, STORING AND CURATING DATA - Indicate how you will be storing and curating your electronic and paper/hard copy data. Focus on principles and systems with brief examples, and avoid long lists.

Save

Not answered yet

Guidance | Add comment

UCT Guidance

Qualitative or quantitative data that is de-identified (not containing real names, phone numbers, addresses, IP addresses, email addresses, electronic signatures of participants, or other identifying information) may be stored on cloud (such as Dropbox or Google Drive).

Data containing identifying information of participants must never be stored on Dropbox or Google Drive clouds. Appropriate storage can include: password protected computer hard drives, external hard drives, secure G drive provided on UCT server or secure clouds such as ZivaHub or REDCap. Should a secure cloud be used, this must be explicitly agreed upon by the research study's principal investigator(s).

Ideally, all data sets should have a backup copy in a secure cloud like ZivaHub. While external hard drives are a useful back-up, they should not solely be relied upon as they may be lost or stolen.

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Signed in as Thomas King

View plans | Create plan | About | Roadmap | Help

My plan (Gender, Health and Justice Research Unit)

Plan details | GHJRU DMP | **Share** | Export

You can give other people access to your plan here. There are three permission levels.

Users with "read only" access can only read the plan.
Editors can contribute to the plan.
Co-owners can also contribute to the plan, but additionally can edit the plan details and control access to the plan.

Add each collaborator in turn by entering their email address below, choosing a permission level and clicking "Add collaborator".

Those you invite will receive an email notification that they have access to this plan, inviting them to register with DMPonline if they don't already have an account. A notification is also issued when a user's permission level is changed.

Collaborators

Email address	Permissions	

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Signed in as Thomas King

View plans | Create plan | About | Roadmap | Help

My plan (Gender, Health and Justice Research Unit)

Plan details | GHJRU DMP | Share | **Export**

From here you can download your plan in various formats. This may be useful if you need to submit your plan as part of a grant application. Select what format you wish to use and click to 'Export'.

Format

pdf | Export

Settings (Using default PDF formatting values) +

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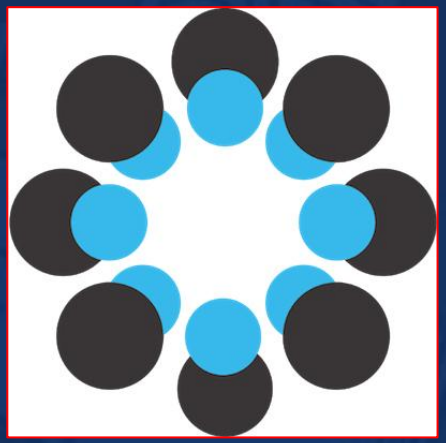
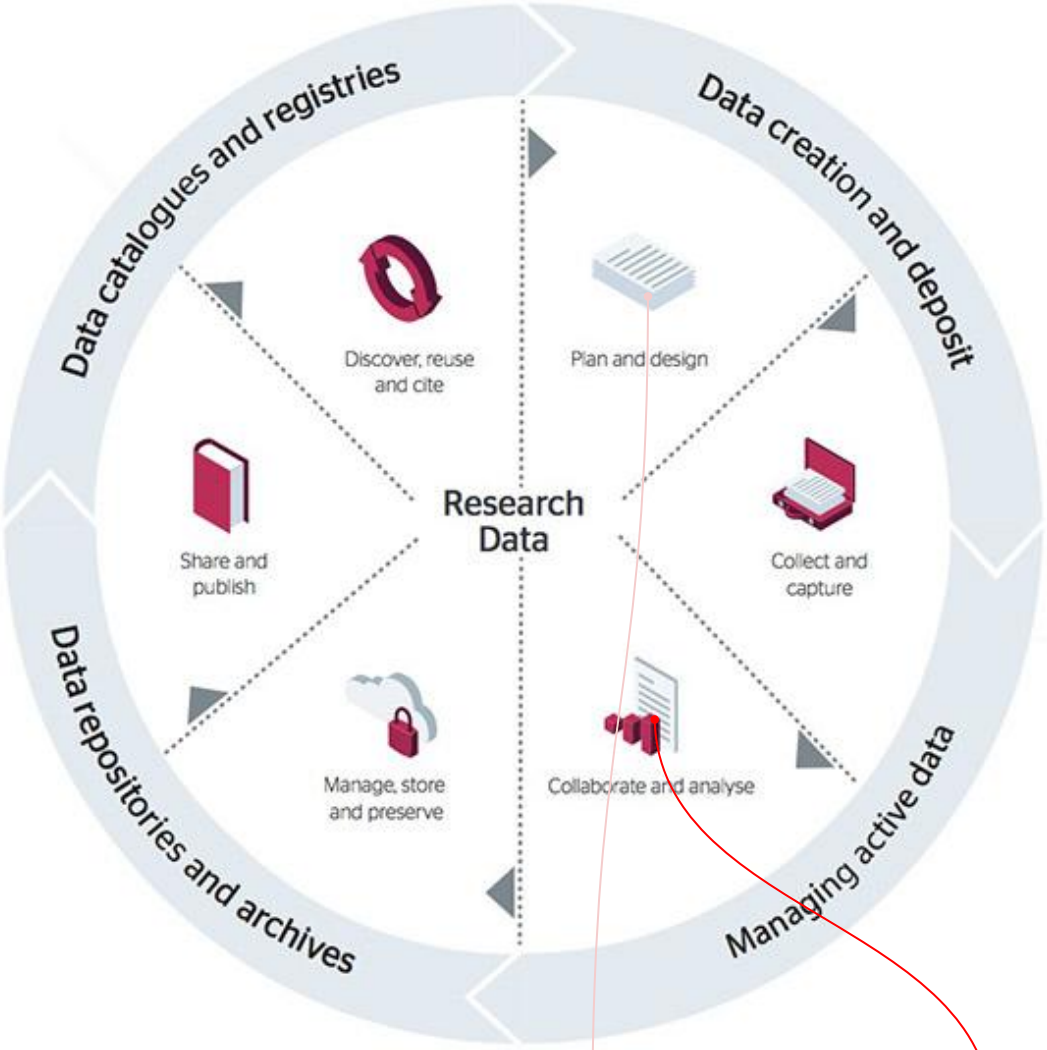
Collaboration (active research phase)
UCT **Open Science Framework** (OSF)
UCT **OSF**



RDM: **Collaborate** and **analyse**



Source: Hong Kong University of Science and Technology Library: *The Research Data Management (RDM) Service Kit*
Available: https://library.ust.hk/sc/data-management/rdm-service-kit/

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DMP ONLINE

arkivum
Bringing archived data to life

ZivaHub
Open Data UCT

The digital research journey (data focus) [2]

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Plan | **Process** | **Analyse** | Preserve | Publish | Reuse

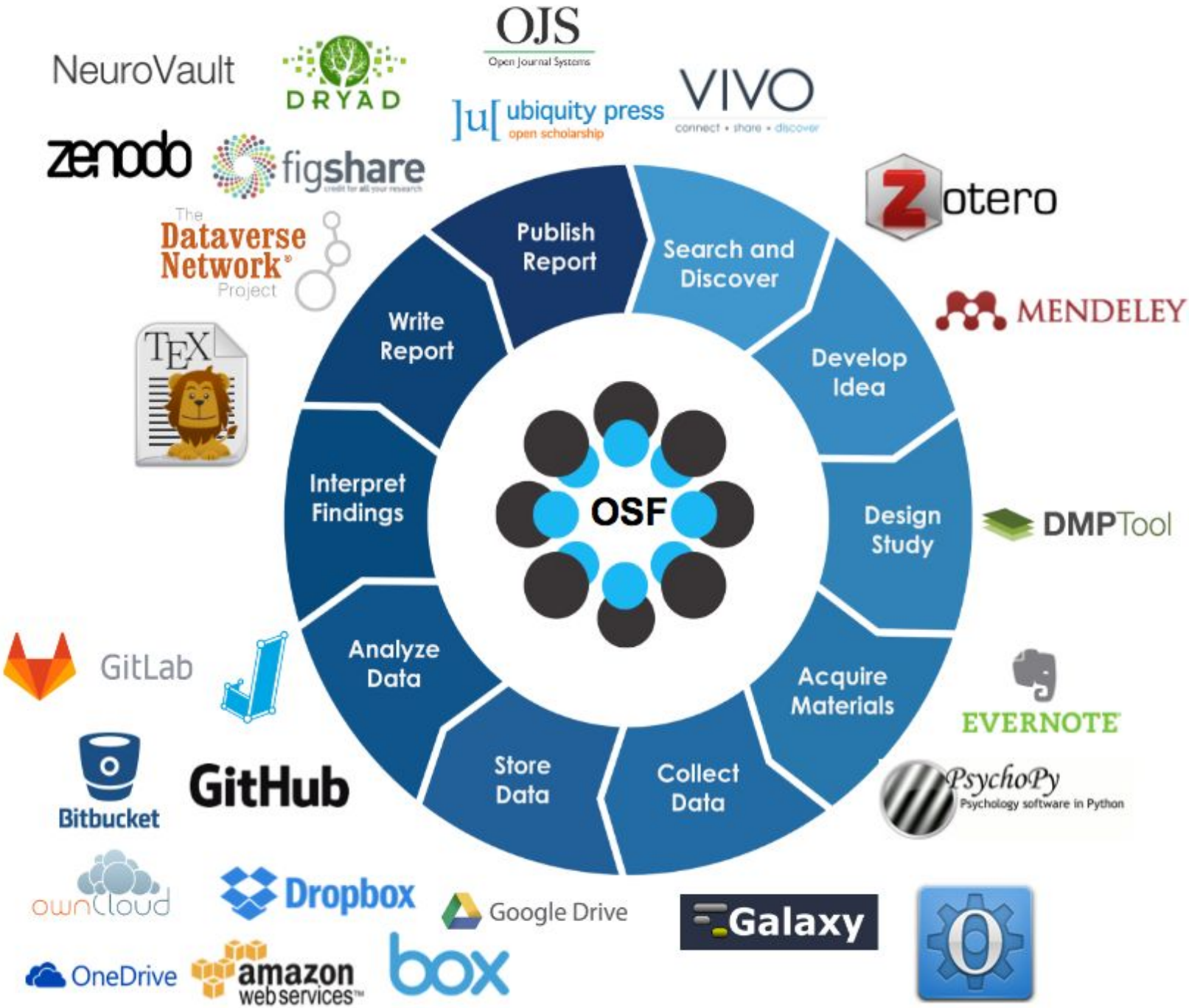
- Research projects today often include a team of researchers scattered geographically who need access to the same data at the same time.
- There are many options for creating shared data stores, dataset transfers, file sharing and other facilities or software required for effective collaboration.
- One of these is the UCT Open Science Framework, an online platform that allows you to register your project, manage stakeholders, and centrally collaborate on data stored at different locations with different collaborators. (further reading)

About the Open Science Framework (OSF)

The OSF is a free and **open source software and project management repository that facilitates open collaboration in science research, supporting researchers across the entire project lifecycle.** As a collaboration tool, OSF helps researchers work on projects privately with a limited number of collaborators and make parts of their projects public, or make all the project publicly accessible for broader dissemination with citable, discoverable DOIs. As a workflow system, OSF enables connections to the many products researchers already use to streamline their process and increase efficiency.

The latest of **21 community preprint services built on the OSF** is **AfricArxiv**, which supports preprints, postprints, code and data, and welcomes submissions from all African languages, including Akan, Twi, Swahili and Xhosa.

niklas.zimmer@uct.ac.za


NeuroVault
DRYAD
OJS
Open Journal Systems
ubiquity press
open scholarship
VIVO
connect • share • discover
zenodo
figshare
Zotero
The Dataverse Network Project
MENDELEY
TEX
Publish Report
Search and Discover
Develop Idea
Design Study
Acquire Materials
Collect Data
Store Data
Analyze Data
Interpret Findings
Write Report
OSF
DMPTool
GitLab
EVERNOTE
Bitbucket
GitHub
PsychoPy
Psychology software in Python
ownCloud
Dropbox
Google Drive
Galaxy
OneDrive
amazon web services
box

Sign in through UCT

UCT LIBRARIES

1. Navigate to the OSF home page https://osf.io/
2. Click on **Sign in**
3. Under 'Sign in through institution', select **University of Cape Town**
4. Enter your SSO details.

OSF Institutions

tion has partnered with OSF, please select its name below and sign in with your institutional credentials.

If you do not currently have an OSF account, this will create one for you.

Sign in through institution

Select your institution

-- select an institution --

I have read and agree to the Terms of Use and Privacy Policy.

SIGN IN

Log in with OSF

Create an OSF account Back to OSF

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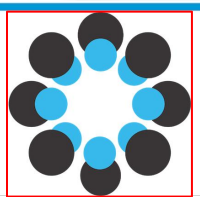
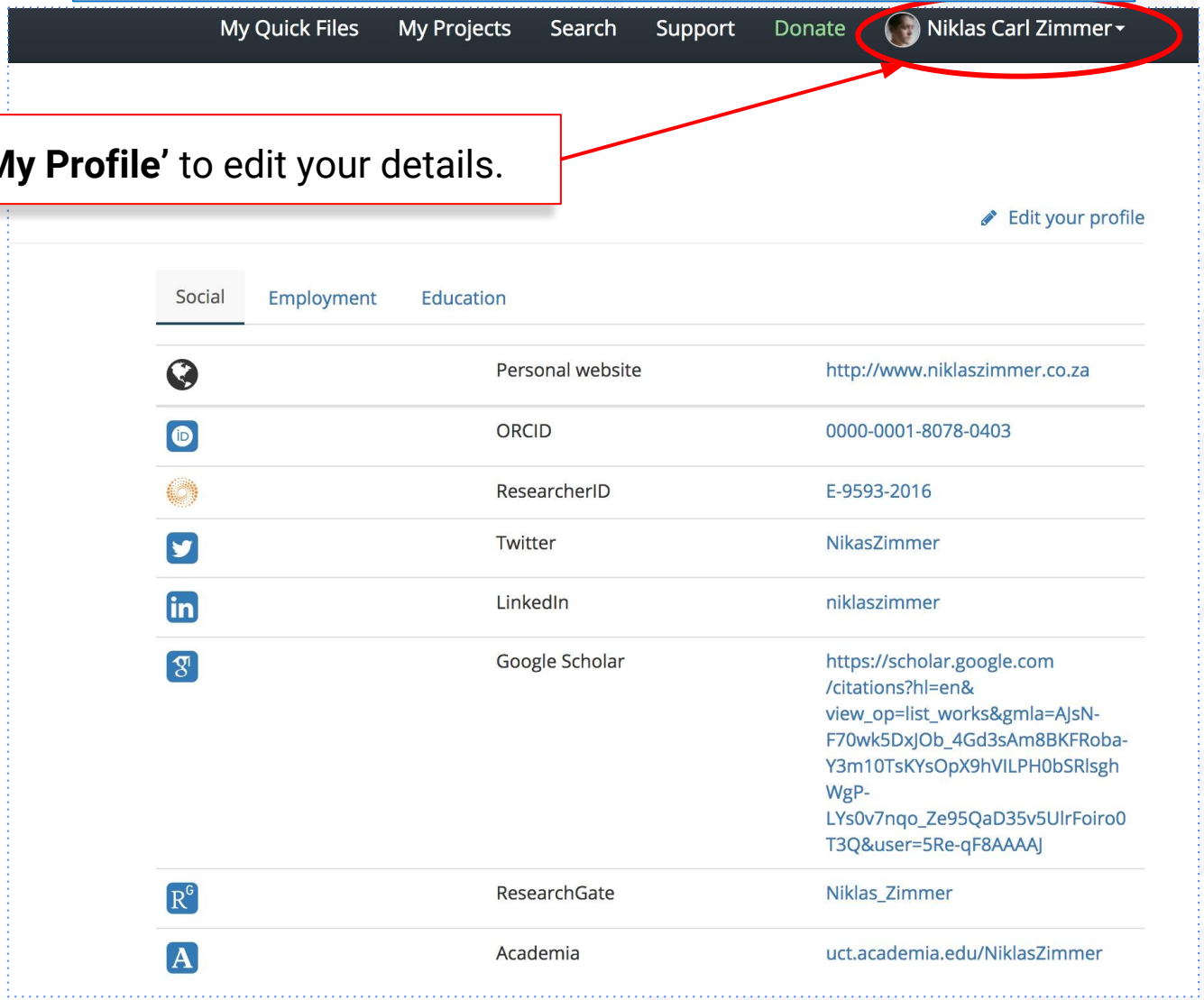


edit your profile



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create a project

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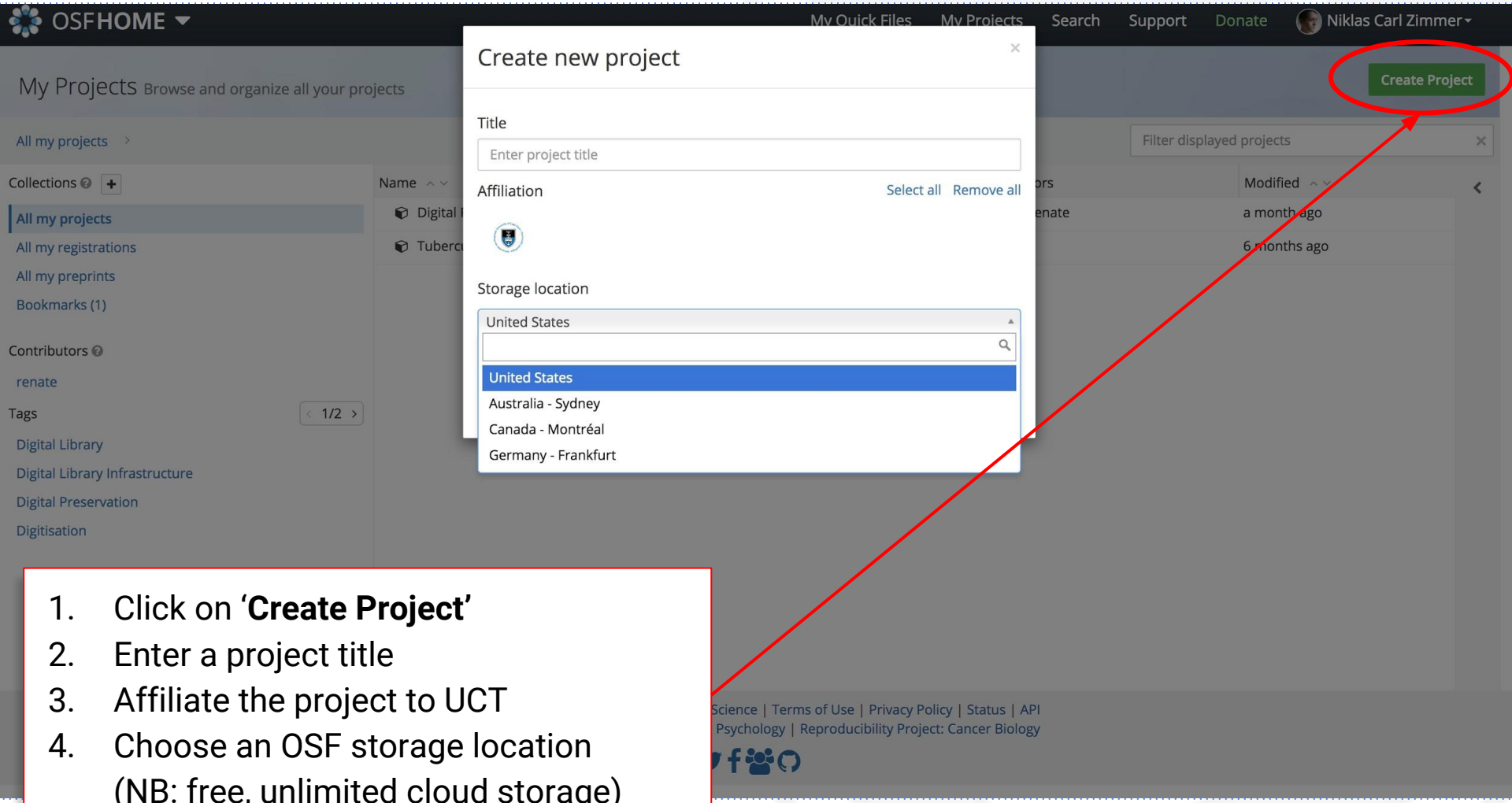

1. Click on '**Create Project**'
2. Enter a project title
3. Affiliate the project to UCT
4. Choose an OSF storage location
   (NB: free, unlimited cloud storage)

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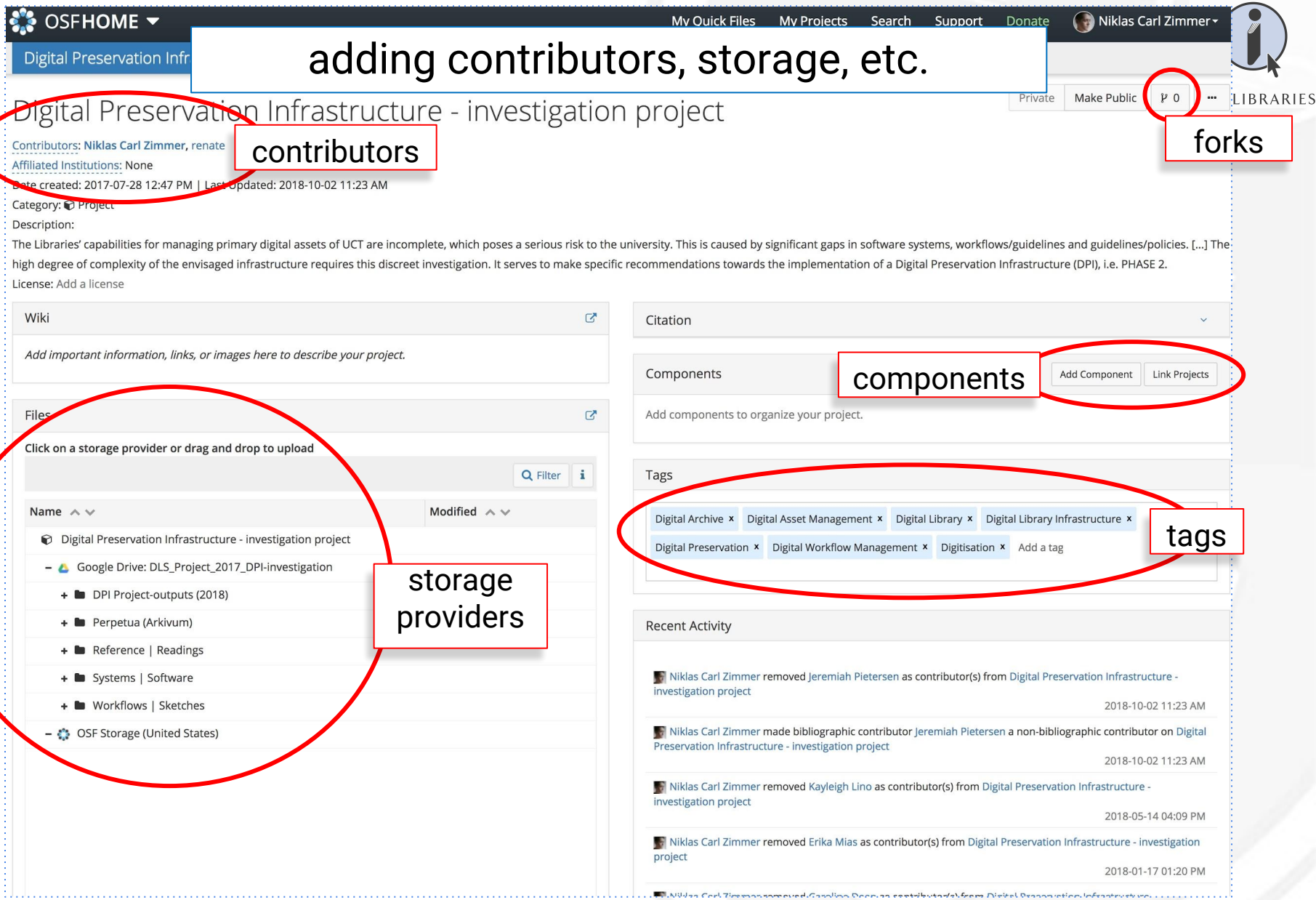

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adding contributors

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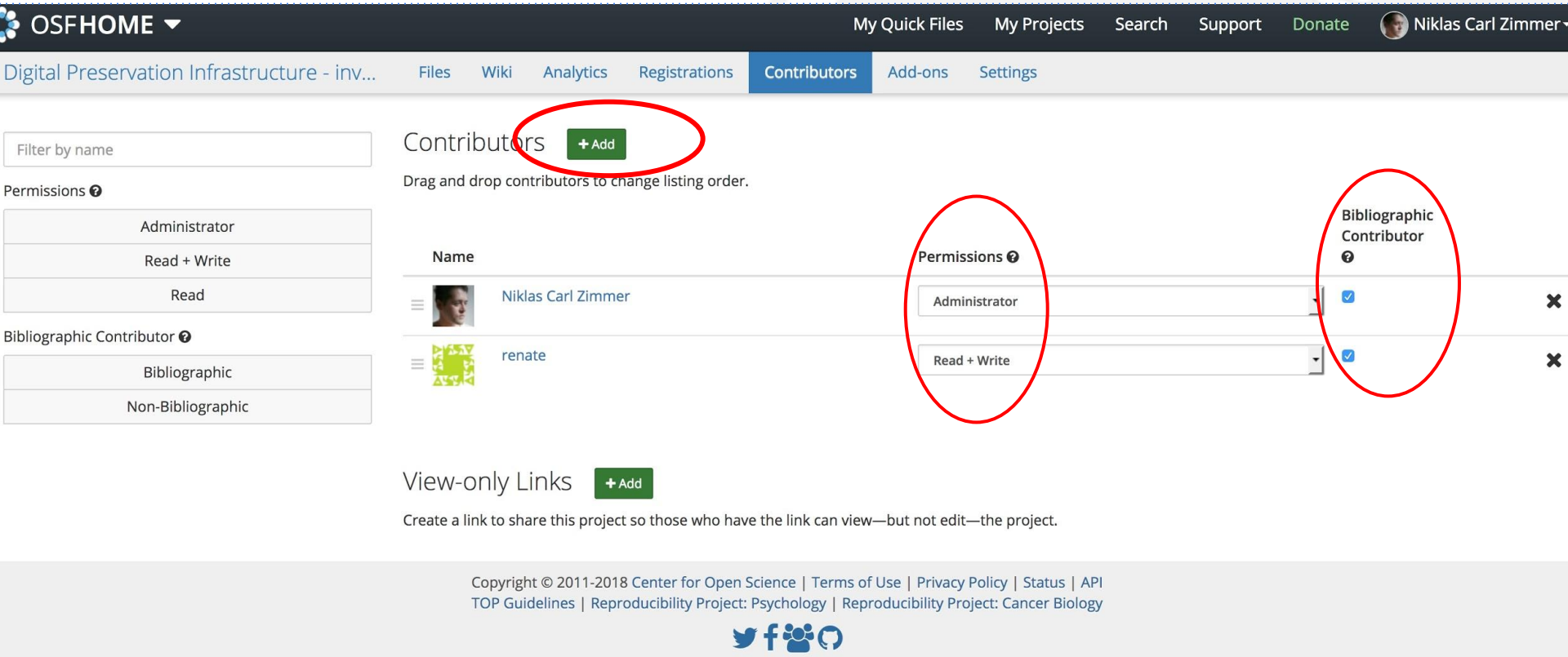

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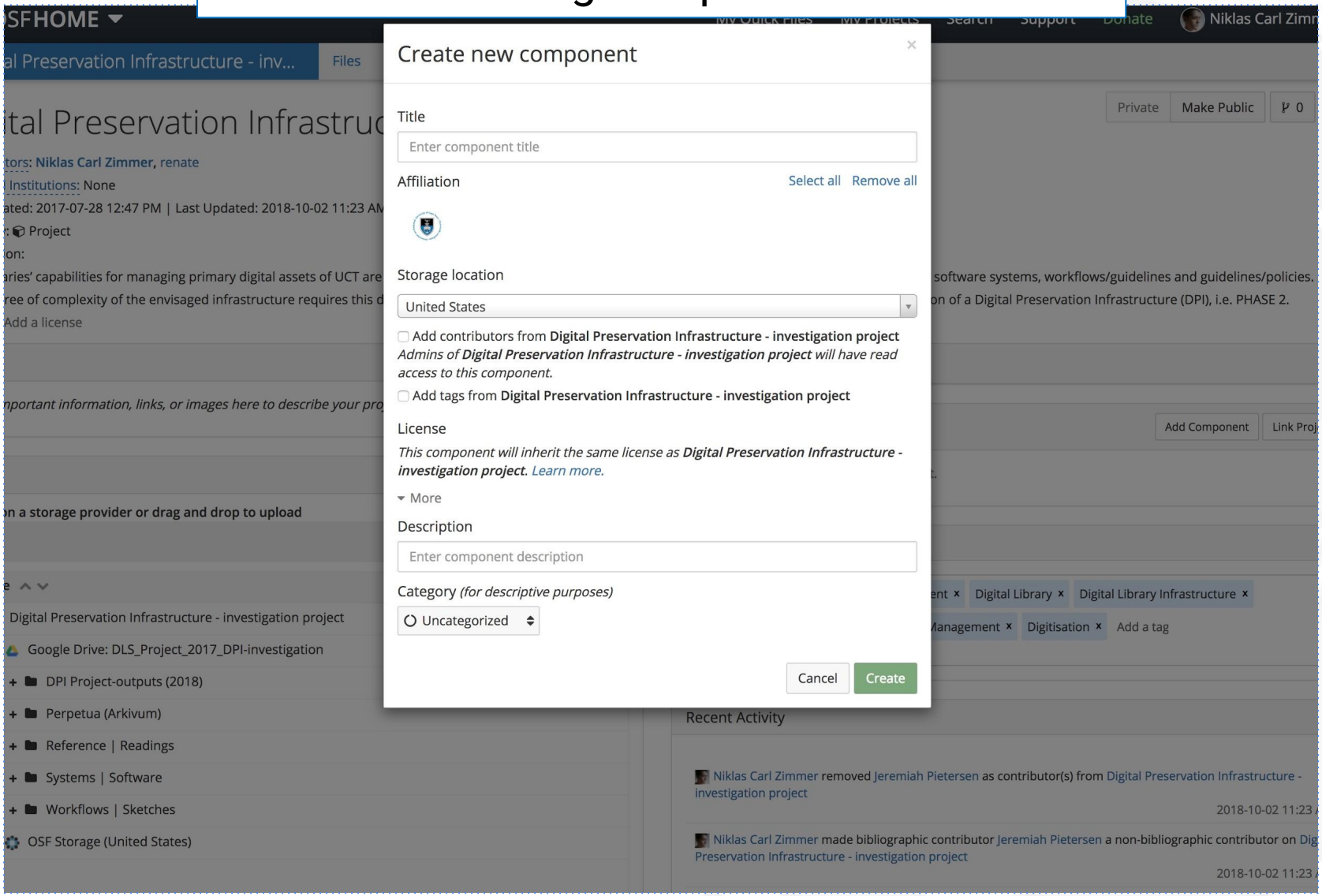
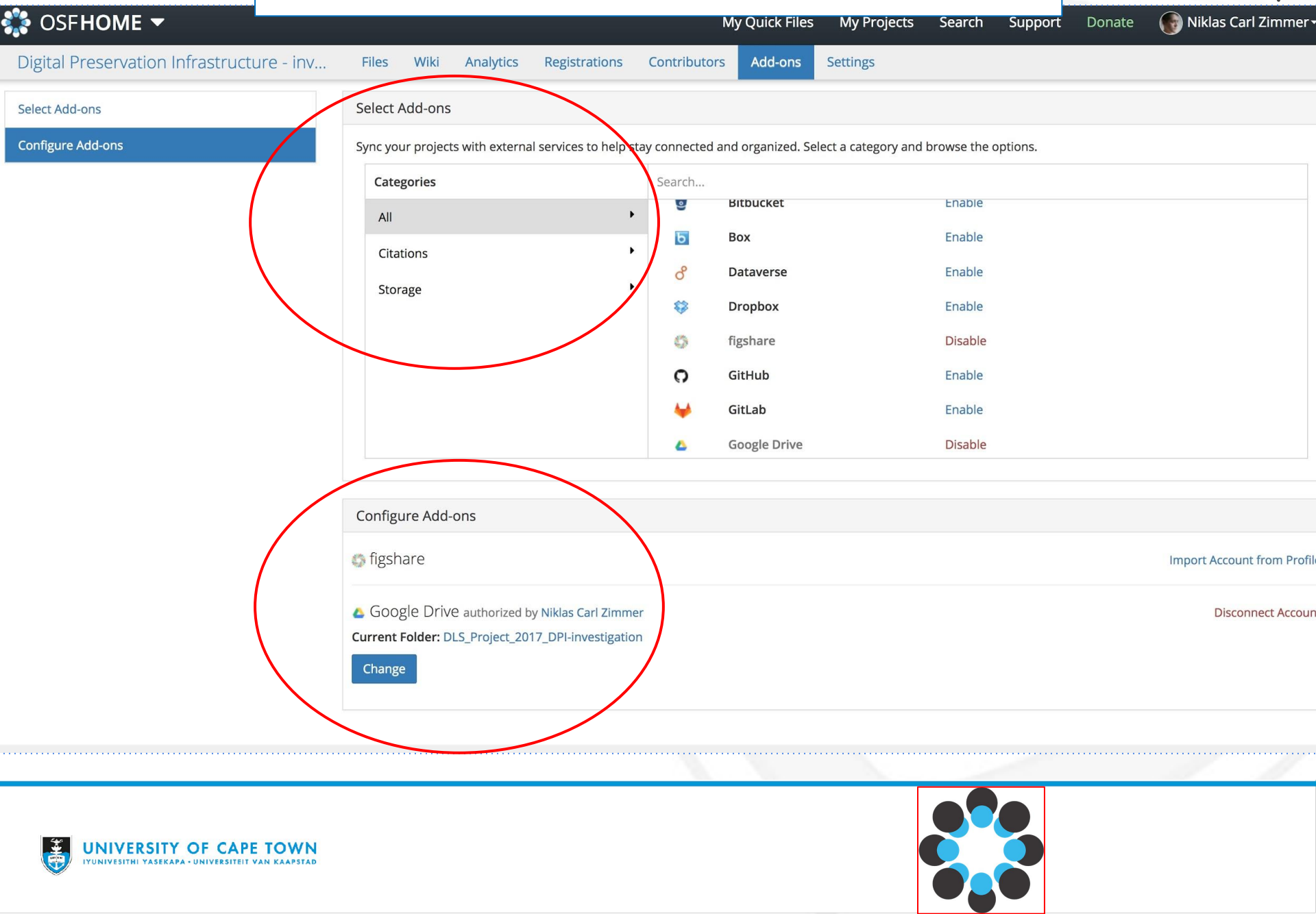
contributor permissions

A “Read” contributor can…	A “Read + Write” contributor can...	An “Administrator” can...
• view the contents of the project, component, registration, or preprint	• view the contents of the project, component, registration, or preprint • upload, edit, delete, + check out files • create, edit, + delete wiki pages • configure add-ons • create new components within the project • add and remove institutional affilitations to the project or regsitration	• view the contents of the project, component, registration, or preprint • upload, edit, delete, + check out files • create, edit, + delete wiki pages • configure add-ons • create new components within the project • add and remove contributors • modify contributor’s permissions • create view-only links for the project or registration • make a project private or public • delete the project • create a preprint from the project • register the project • view and edit draft registrations • end a registration’s embargo • add and remove institutional affilitations to the project or regsitration

adding components



Add-ons


OSFHOME
My Quick Files
My Projects
Search
Support
Donate
Niklas Carl Zimmer
Digital Preservation Infrastructure - inv...
Files
Wiki
Analytics
Registrations
Contributors
Add-ons
Settings
Select Add-ons
Configure Add-ons
Select Add-ons
Sync your projects with external services to help stay connected and organized. Select a category and browse the options.
Categories
Search...
All
Citations
Storage
Bitbucket
Enable
Box
Enable
Dataverse
Enable
Dropbox
Enable
figshare
Disable
GitHub
Enable
GitLab
Enable
Google Drive
Disable
Configure Add-ons
figshare
Import Account from Profil
Google Drive authorized by Niklas Carl Zimmer
Disconnect Accoun
Current Folder: DLS_Project_2017_DPI-investigation
Change

OSF in summary

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- **Structured projects**: Manage files, data, code, and protocols in one centralized location and easily build custom organization for your project - No more trawling emails to find files or scrambling to recover from lost data

- **Controlled access**: Control which parts of a project are public or private, making it easy to collaborate and share with the community or just your team

- **Enhanced workflow**: Automate version control, get persistent identifiers for projects and materials, pre-register your research, generate preprints, and connect your favorite third-party services directly to OSF

- **Dependable Repository**: OSF's Preservation Fund preserves and maintains read access to any hosted data on OSF. This fund is sufficient for 50+ years of read access hosting at present costs.

from: https://cos.io/our-products/osf/

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Publishing your data: **ZivaHub**

ZivaHub | Open Data UCT

RDM: **Share** and **publish**

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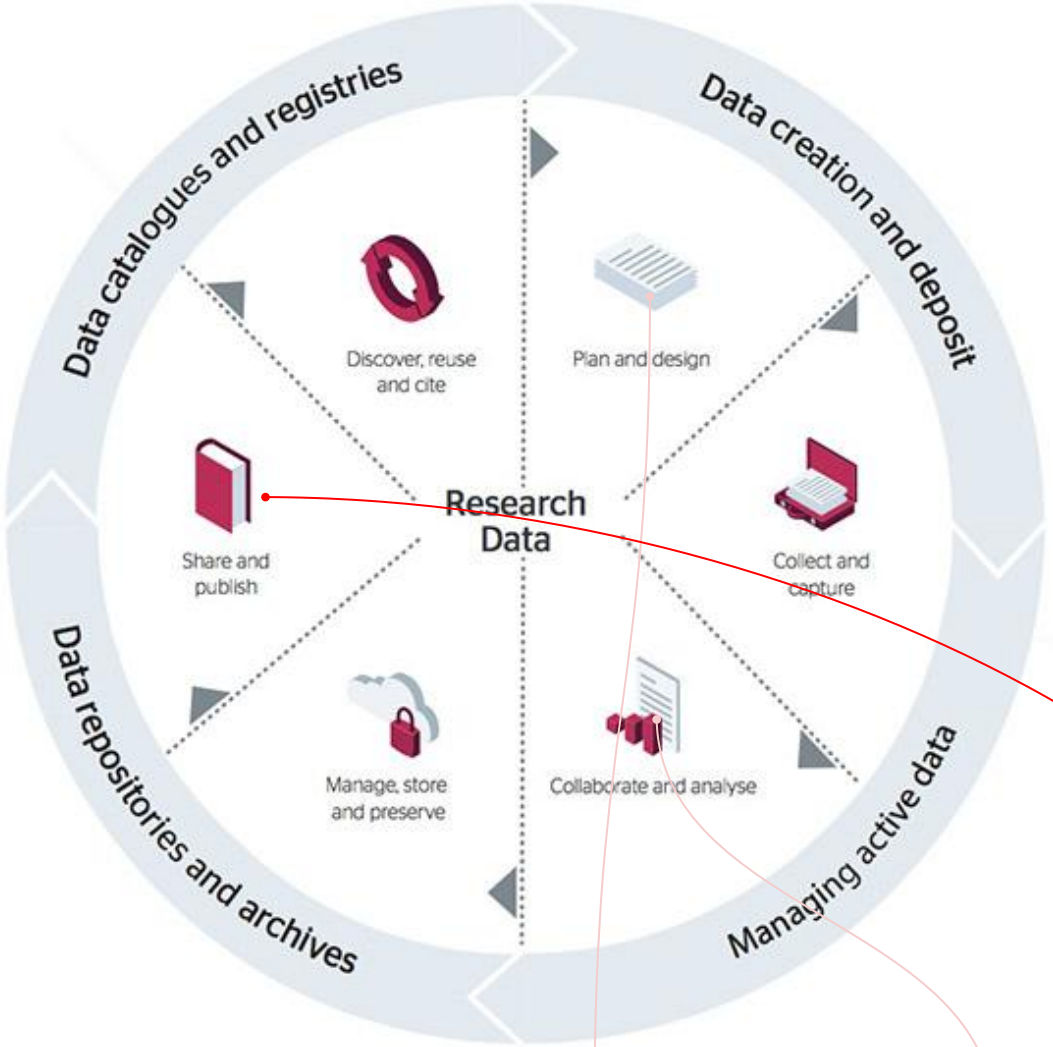


Source: Hong Kong University of Science a
Available: https://library.ust.hk/sc/data-ma

The digital research journey (data focus) [3]

UCT LIBRARIES

Plan | Process | Analyse | Preserve | **Publish** | Reuse

- For maximum impact, both research outputs and research data should be publicly available on an open-access platform.
- We support open-access publishing of research outputs, including publications and data.

ZivaHub: overview

UCT LIBRARIES

- UCT's Institutional Data Repository for publishing or sharing data
- Powered by Figshare for Institutions - online platform for citing, sharing, and discovering research data
- 20 GB free cloud storage per user / project
- Request for increase in storage allowance - contact Digital Library Services

ZivaHub: overview

UCT LIBRARIES

- Can upload multiple formats including audio, video, images, spreadsheets, documents, surveys, datasets and posters
  - Can render multiple file formats with in-browser visualiser

- Federated system: data is available online from anywhere in the world

ZivaHub: overview

UCT LIBRARIES

- Get UCT Digital Object Identifiers (DOIs) for your research outputs
- The DOI minted via ZivaHub makes your data publication is identifiable as UCT output (contains the letters 'uct')
- Increase citations and boost your research metrics
- Greater visibility of research outputs once published
- Discoverability: allows other researchers to find your work, enabling collaborative research

ZivaHub: overview

UCT LIBRARIES

- Control how your research outputs are accessed
  - Public records or private links
- Validate and authenticate your research outputs
- Comply with NRF and other funder and publisher requirements around making data openly accessible and stored in perpetuity
- Associate your ORCiD number to your ZivaHub profile

ZivaHub: publication options

UCT LIBRARIES

- **Private data** - uploaded/deposited into the repository, but nothing is shared or published
- Can create **metadata-only** record to link out to where content is already stored
- **Embargoed** data - uploaded to the repository, but the data is not immediately published

ZivaHub: licensing options

UCT LIBRARIES

- Apply Creative Commons or other appropriate licenses to define terms of re-use

- Default is CC-BY allows others to reuse your data without seeking direct permission from you, as long as they credit you as the original creator of the work.
  - Also available: CC0, MIT, GPL, Apache, CC BY-SA

ZivaHub: getting started

UCT LIBRARIES

- Step 1: Go to https://uct.figshare.com/
  - NB: Use your institutional login credentials

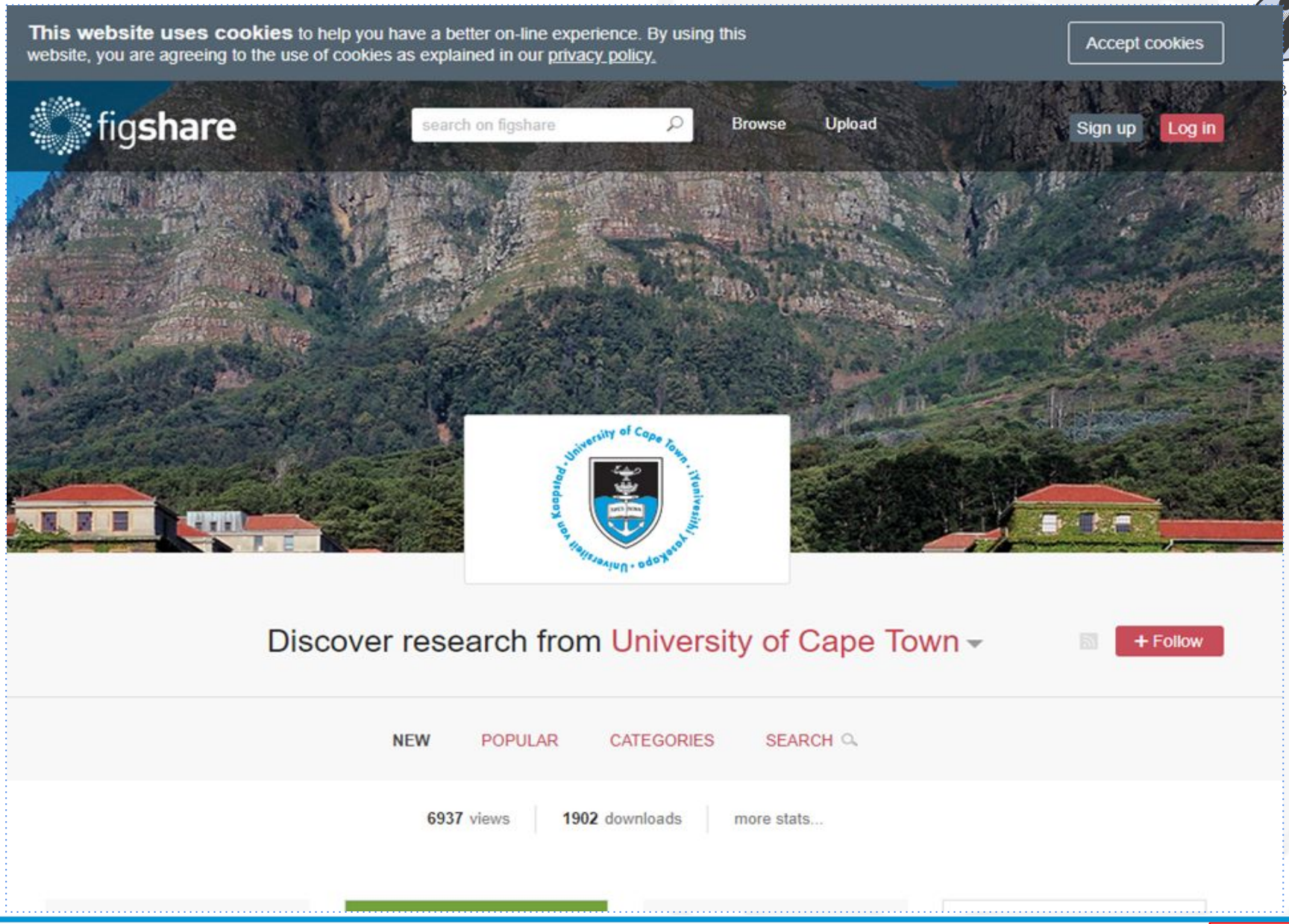
- Step 2: Upload your content in 9 easy steps
  - Create *record*, add *title*, add *authors*, select *category*, choose *file-type*, add *keywords*, write *description/abstract*, select *licence*, choose *publication type*

- Support resources:
  - UCT ZivaHub start-up guide
  - Figshare for institutions end user guide

ZivaHub: additional features

UCT LIBRARIES

- Collections:
  - gather interesting content from other Figshare users according to whatever principle you desire, and share the collection with others.
  - Can use to create course readers, examples of existing datasets in your field, etc.
- Projects:
  - Create a space for private uploads and private sharing with specific individuals (collaborators in other institutions, external reviewers, etc.)
  - Default private; can be published later.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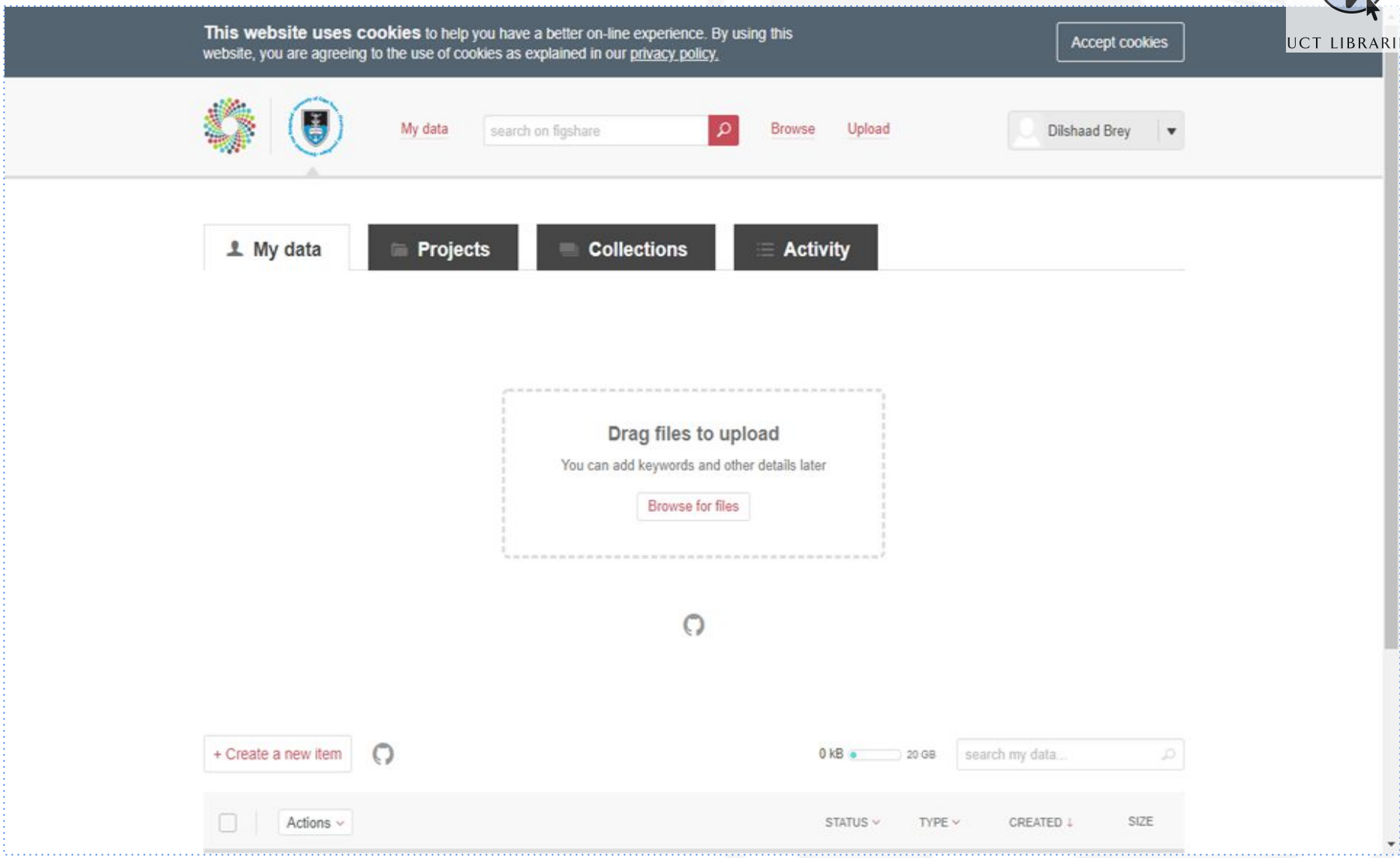
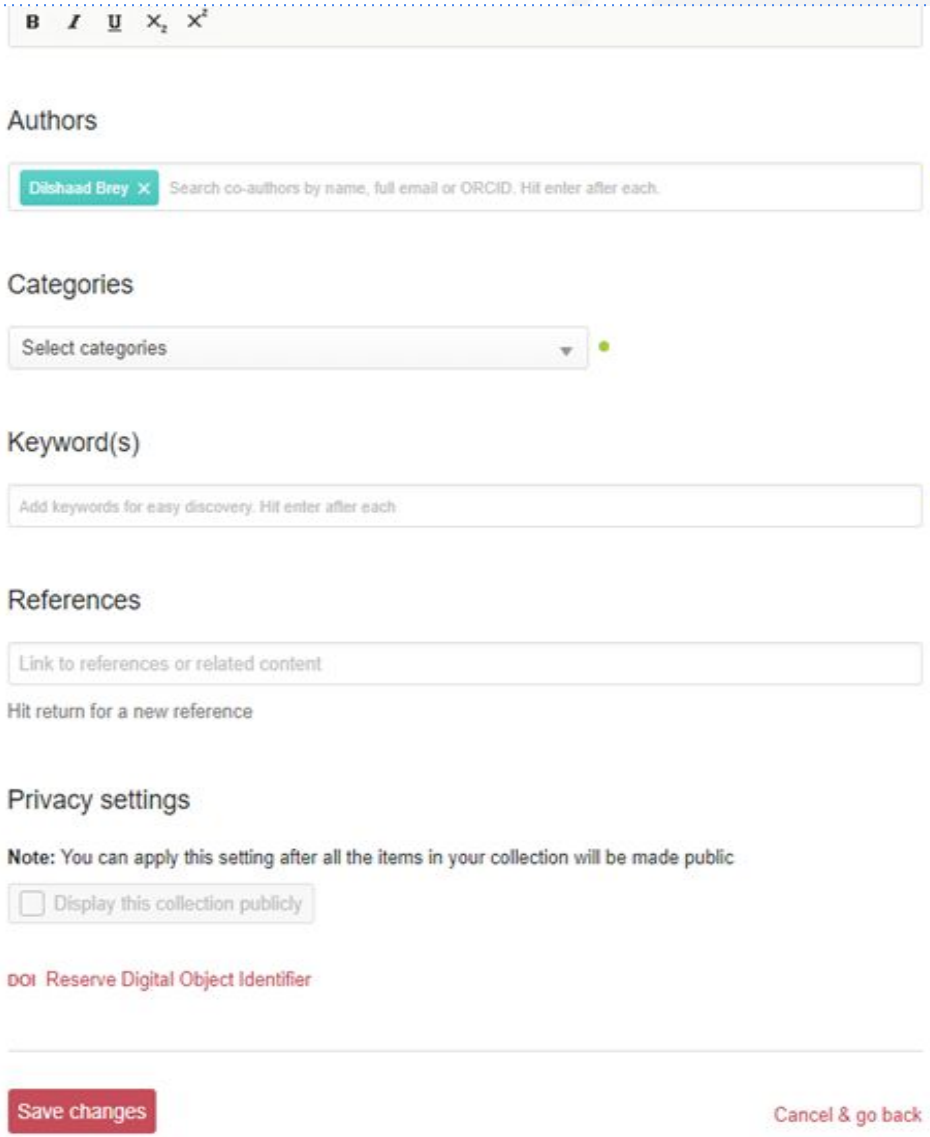
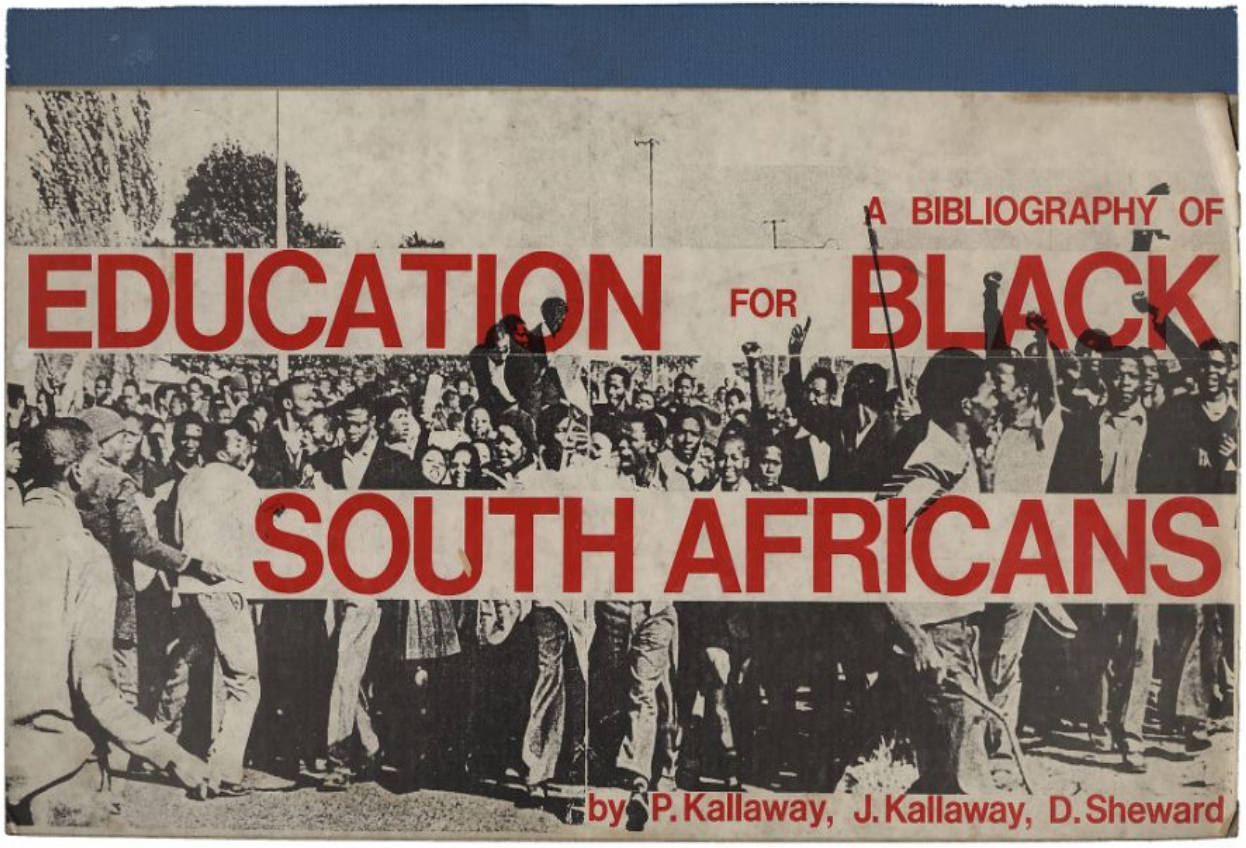
SEARCH
6937 views
1902 downloads
more stats...







ZivaHub: metrics

Cite | Download (2.97 MB) | Share | Embed | + Collect | •••

Mapungubwe-type glass beads from the glass bead cache (see Figure 7) on the edge of a lower terrace, northern side of Mapela.

172 views | 26 downloads

Figure posted on 31.10.2014, 05:50 by Shadreck Chirikure, Munyaradzi Manyanga, A. Mark Pollard, Foreman Bandama, Godfrey Mahachi, Innocent Pikirayi

READ THE PEER-REVIEWED F

Zimbabwe Culture before Map

Evidence from Mapela Hill, So

Zimbabwe

Mapungubwe-type glass beads from the glass bead cache (see Figure 7) on the edge of a lower terrace, northern side of Mapela.

UCT LIBRARIES

UNIVERSITY OF CAPE TOWN
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ZivaHub
Open Data UCT

ZivaHub: roles & responsibilities

UCT LIBRARIES

- Storage and management of so-called ‘raw’, e.g. unprocessed data is the responsibility of the researcher, *not* of the Libraries

  see: DLS: ‘Data Storage’

- Researchers upload (self-publish) their processed data and/or links to it on Figshare, accepting the terms provided

  see: UCT terms | Figshare user guide

- Curators check the content for completeness and if possible offer suggestions

  see: Figshare: ‘Curation and Review’

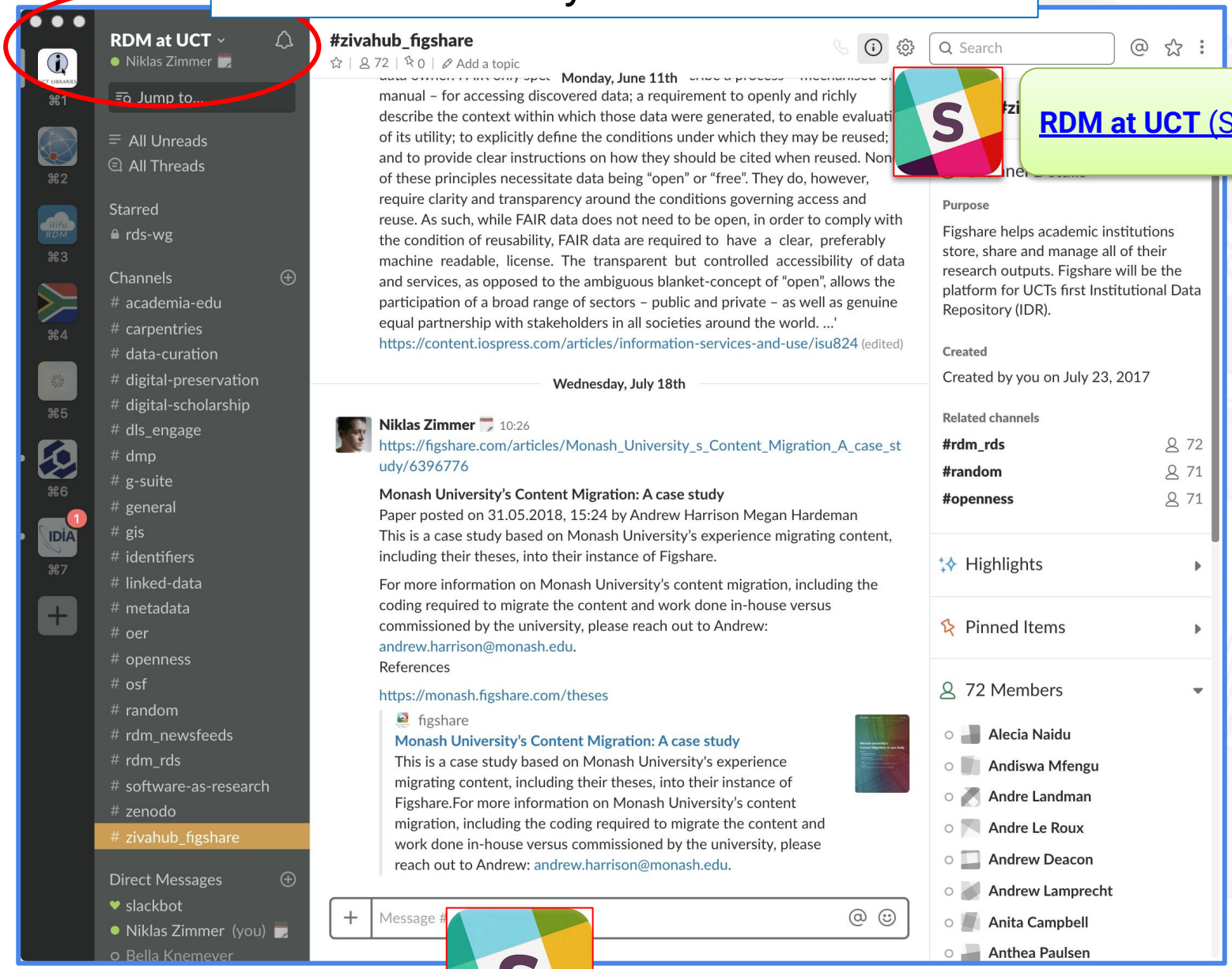
UCT LIBRARIES

Reminder: **Scholarly Commons** at UCT

RDM at UCT Slack workspace

RDM ‘Scholarly Commons’ at UCT

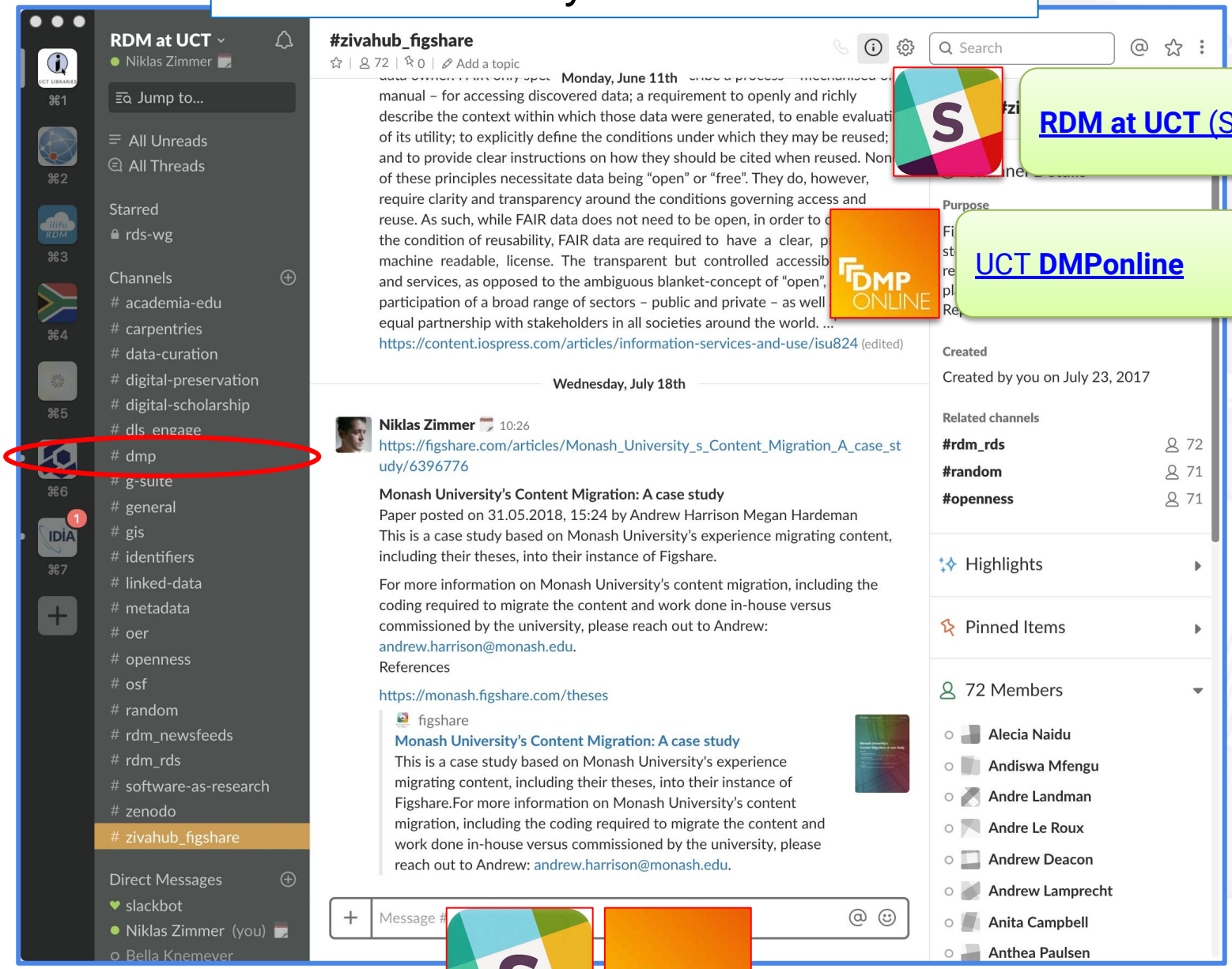
UCT LIBRARIES



[RDM at UCT (Slack)]

RDM ‘Scholarly Commons’ at UCT

UCT LIBRARIES

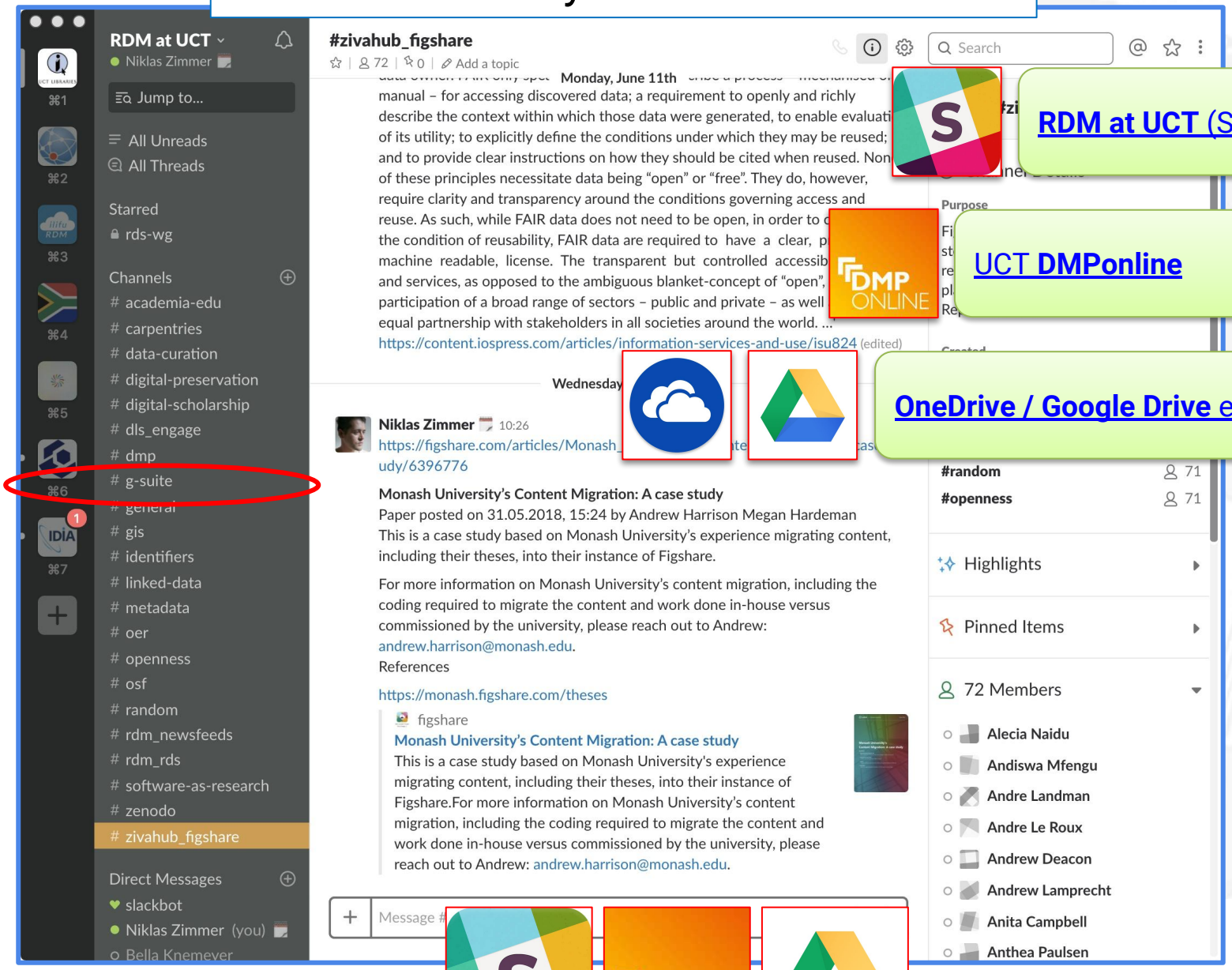


[RDM at UCT (Slack)]

[UCT DMPonline]

RDM ‘Scholarly Commons’ at UCT

UCT LIBRARIES



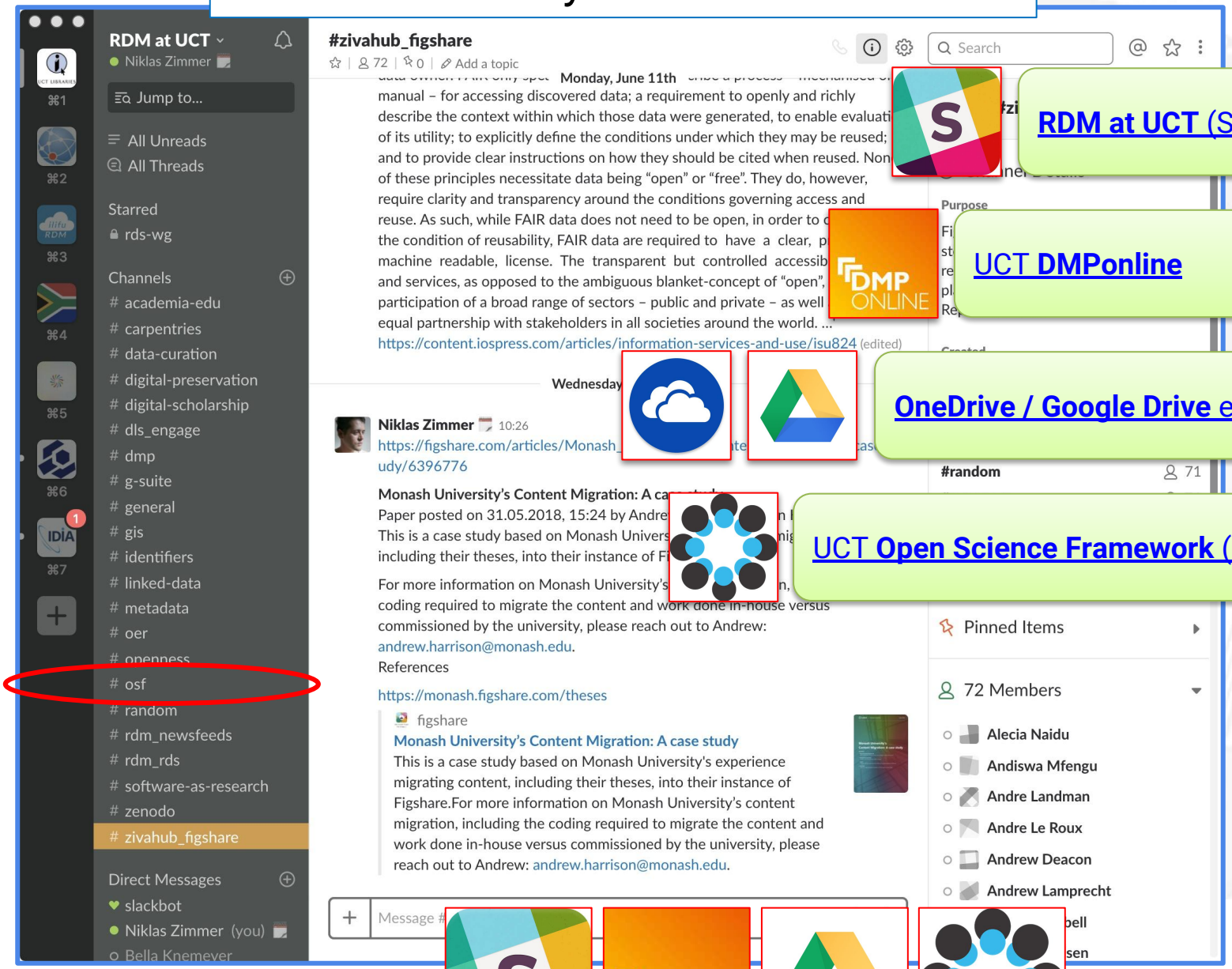
RDM at UCT (Slack)

UCT DMPonline

OneDrive / Google Drive etc.

RDM ‘Scholarly Commons’ at UCT

UCT LIBRARIES



[RDM at UCT (Slack)]

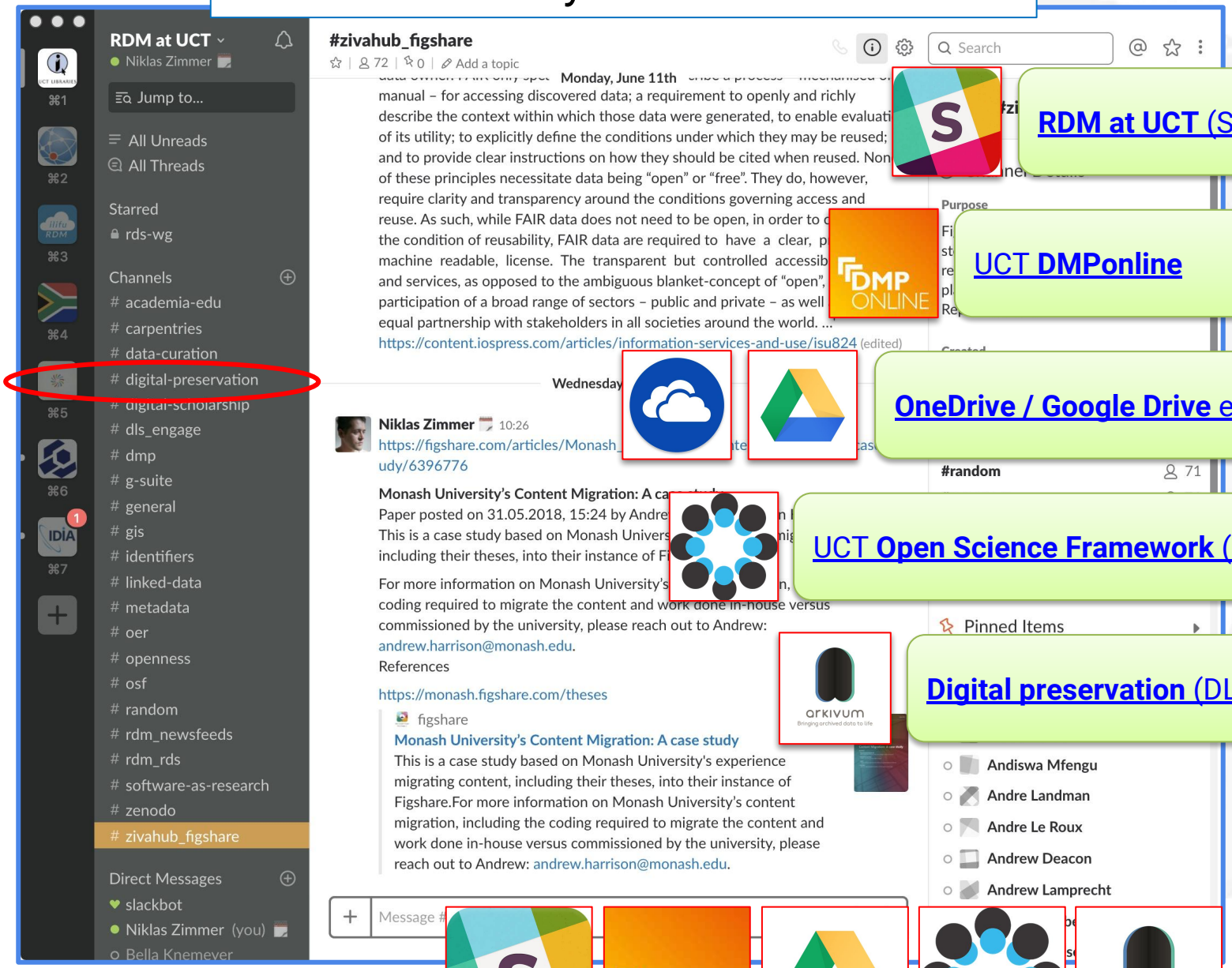
[UCT DMPonline]

[OneDrive / Google Drive etc.]

[UCT Open Science Framework (OSF)]

RDM ‘Scholarly Commons’ at UCT

UCT LIBRARIES



RDM at UCT (Slack)

UCT **DMPonline**

OneDrive / Google Drive etc.

UCT **Open Science Framework** (OSF)

Digital preservation (DLS)

RDM ‘Scholarly Commons’ at UCT

UCT LIBRARIES

[RDM at UCT (Slack)]

[UCT DMPonline]

[OneDrive / Google Drive etc.]

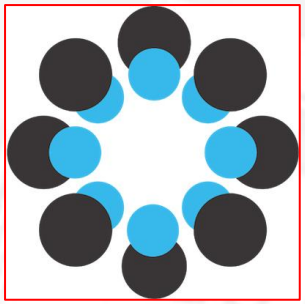
[UCT Open Science Framework (OSF)]

[Digital preservation (DLS)]

[ZivaHub | Open Data UCT]

UCT LIBRARIES

Thank You



contact us: dls@uct.ac.za