



Supporting reproducible research with the Research Data Integration Project

R D I P

(November 2020)

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1. Introduction

UCT's [Vision 2030](#) includes the goal 'unleash knowledge in and from Afrika to redefine and co-create a sustainable global future'.

This kind of ambitious goal requires an integrated, responsive and well-governed infrastructure to support research, specifically research of a high quality that meets the requirements of reproducibility.

In response to this, UCT has embarked on a Research Data Integration Project (RDIP) to integrate the institution's research support systems throughout the research project lifecycle to avoid duplication of effort and help researchers achieve the goals of reproducible research.

This workbook serves as a guide to explain the different systems and processes at UCT, and how they are being streamlined by RDIP to simplify the administrative demands that accompany research projects, so that researchers can spend more time on actual research.

A workbook produced by the UCT RDIP advocacy working group (Jill Claassen, Tina Seale, Birgit Ottermann and Renate Meyer); with contributions from the full RDIP project team (Dale Peters, Kimi Keith, Glenn Hurlow, Trevor Joubert, Pierre Neethling, Leon Liebenberg, Niklas Zimmer, Ya'qub Ebrahim); and external contributions from Information & Communication Technology Services (ICTS), Scholarly Communication and Publishing, and Digital Library Services (DLS).

2. What is reproducible research?

It is becoming increasingly important for researchers to share their data, code, software and publications easily and safely. This practice, known as 'reproducible research' or 'open science', involves the publication of data and other research outputs in a way that makes them findable, accessible, interoperable and reusable (FAIR). It also allows other researchers to verify and expand upon their work.

Funders are recognising the value of FAIR publication, and the requirement for open science practices is growing. The National Research Foundation (NRF) recognises the new paradigm of open science as a powerful driver for scientific research and scholarship and its application to social, economic and global environmental priorities. All researchers (including postgraduates) are expected to submit data management plans and to deposit the data supporting the research in an accredited open-access repository. From the funder perspective, the practice of open science also offers a better return on investment of public funding. It means that research, often paid for from public funds, is available to the public. It also means funders do not keep funding the same data collection processes repeatedly.

As part of [UCT's Vision 2030](#) 'to unleash knowledge in and from Afrika to redefine and co-create a sustainable global future', the institution has committed itself to providing integrated, responsive and well-governed infrastructure and enterprise to support research, including ethics compliance infrastructure; cutting edge online platforms to sustain virtual research collaborations; and relevant and accessible information resources, cross-institutional capabilities and infrastructure to support the shared management and use of data.

Top reasons for making your research reproducible.

Reproducible research or open science has many benefits, including improved access to research outputs, increased global collaboration, greater evaluation and scrutiny by the scientific community, and reducing duplication in scientific efforts.

[\(Click here for a high-resolution version of the infographic.\)](#)



3. The research project lifecycle

UCT supports several systems to facilitate open science and FAIR publication. In 2020, the institution carried out a [Research Data Integration Project \(RDIP\)](#), led by UCT eResearch, to integrate those systems and make the practice of FAIR publication easier for researchers.

The following infographic illustrates how the systems support the various processes throughout a typical research project lifecycle at UCT:

[\(Click here for a high-resolution version of the infographic.\)](#)

PROCESSES AND SYSTEMS IN THE RESEARCH PROJECT LIFECYCLE AT UCT

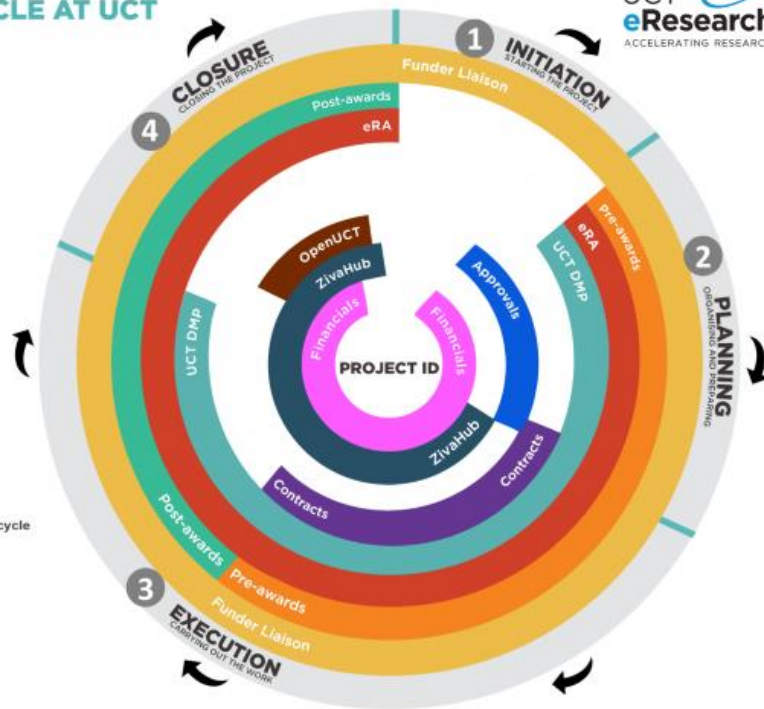


PROCESSES

- Funder Liaison** - Develop proposals, submit applications and reports, negotiate a contract, and share data management plan and research data
- Approvals** - Obtain UCT internal approval to submit funding applications
- Pre-awards** - Project and other funding applications
- Contracts** - Manage contracts
- Post-awards** - Track project award financial activities

SYSTEMS

- eRA System** - One-stop shop to manage and track the administrative workflow within a project lifecycle and beyond
- UCT DMP** - Create, update and (privately) share Data Management Plan (DMP)
- OpenUCT** - Deposit research to share with the global community
- ZivaHub** - Upload, update, (privately) share and publish research data



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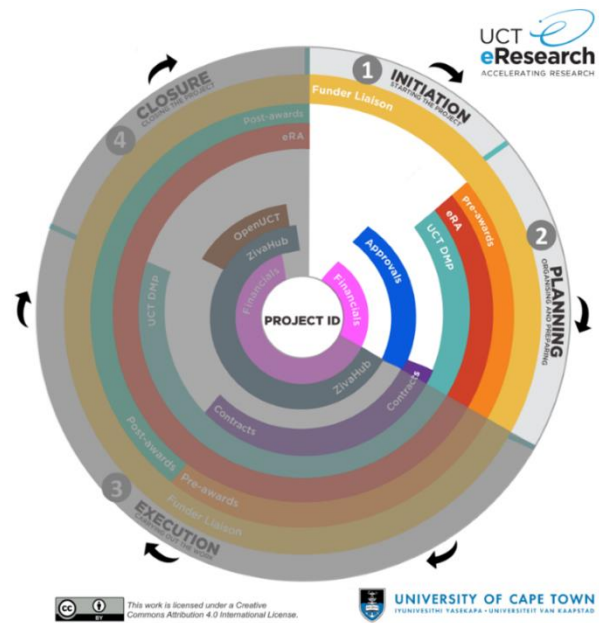


3.1 Phases one and two: Initiation and Planning

A key component of the university's approach to facilitate the practice of open science is [eRA](#), [UCT's electronic Research Administration](#) that enables the research community to manage the administrative processes within a research project lifecycle.

When it comes to the initiation and planning phases of a typical project lifecycle at UCT, eRA allows researchers to complete the [pre-award applications/approvals](#), track contract negotiations and post awards activities efficiently. A second system, [UCT DMP](#) (which can be accessed directly from eRA) assists researchers to create a data management plan (DMP) which can be updated and shared (privately) with funders and other stakeholders.

Great news is that researchers' workflow is further streamlined by UCT's single sign-on functionality – users can now log in seamlessly across the different systems, using their UCT credentials.

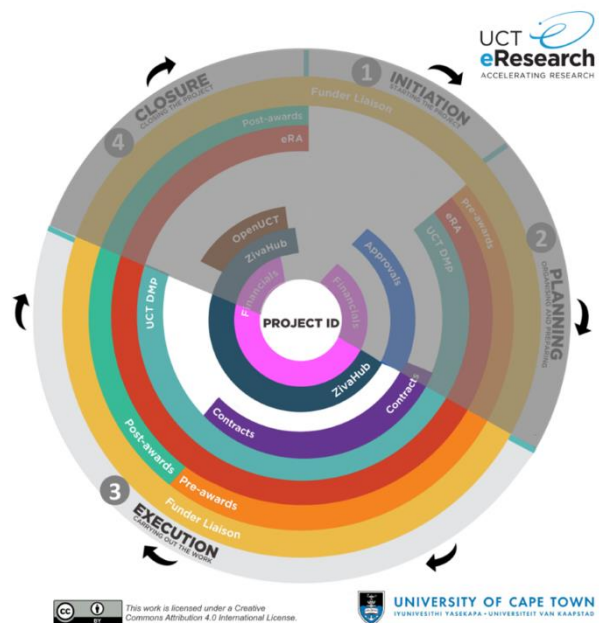


[\(Click here for high-resolution version of infographic.\)](#)

3.2 Phase three: Execution

When it comes to the third stage, the execution of a research project, eRA remains a key component in the smooth management of the administrative processes involved. It allows researchers to track pre-awards (contract negotiation) and post-awards (grant award financial activities), as well as manage their contract obligations.

The annual submission of research outputs to the Department of Higher Education and Training (DHET) for subsidy purposes is known as the Publication Count (PubCount) project at UCT. PubCount was the first module that was configured on the eRA system. The value of having all creative works, qualifying and non-qualifying research outputs captured on the eRA system means that all information is stored in one central system and accessible to all UCT staff members. All staff, whether researchers or administrative staff, are encouraged to capture their research outputs on eRA. Another advantage of having all research outputs on eRA is that users (depending on their access rights) can extract or generate simple to complex reports. For PubCount specifically, standard reports have been developed that make submission to DHET smoother.



[\(Click here for high-resolution version of infographic.\)](#)

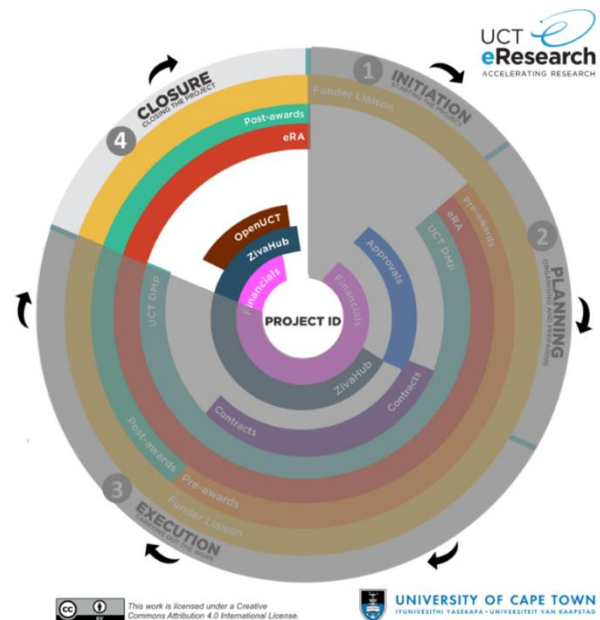
A second system, UCT DMP (which can be accessed directly from eRA) assists researchers to update and privately share their data management plan (DMP) with funders and other stakeholders. Finally, a third system, UCT's [ZivaHub](#) repository, provides the minting of a persistent UCT identifier for each published research output, including live metrics on views, downloads, citations and further reuse online.

All this can be done seamlessly via UCT's single sign-on functionality – users log in one time across the different systems, using their UCT credentials.

3.3 Phase four: Closure

Three UCT systems facilitate the finalisation or closure of a research project – all of which can be accessed via UCT's single sign-on functionality, using your UCT credentials.

The first, eRA, remains central to the smooth management of administrative processes. It allows researchers to track post-awards (project award financial activities), manage their final contract obligations and share research data with funders. The second system, UCT's open access data repository ZivaHub, provides the minting of a persistent UCT identifier (or DOI) for each published research output shared with the global community online, including live metrics on views, downloads and citations. The third system, UCT's open access publications repository [OpenUCT](#), provides a platform where you can deposit your research output as well as open educational resources.



[\(Click here for high-resolution version of infographic.\)](#)

4. Where to begin?

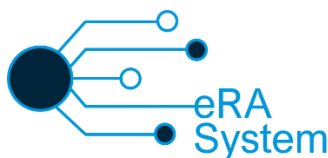
UCT has a number of institutional repositories and platforms (systems) in place to assist UCT staff and students along their research journey. These systems are available to all UCT staff and students and carry no cost for the user. If you are starting a grant proposal you may start with eRA, but if you are conducting an already supported research project, you might encounter UCT DMP first. In other words, there are different entry points along your research journey. Below we list the four systems with their benefits and uses.

5. Systems supporting reproducible research

Systems and tools are used to verify research activities, which ensures a reproducible environment.

5.1 The four systems

5.1.1 eRA

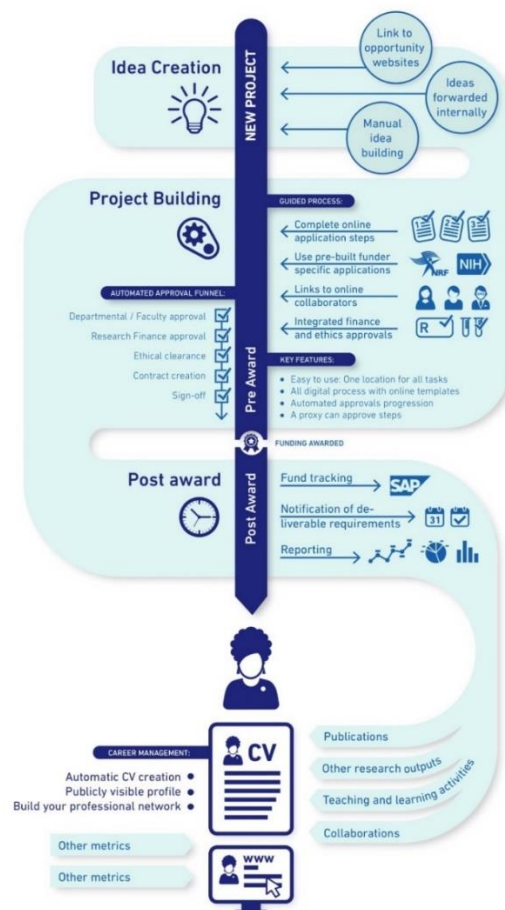


Research at UCT continues to grow year-on-year: every year, more research contracts are signed, and the number of postgraduates and postdoctoral fellows continues to grow. UCT continues to increase our publication count and attract more donations and funding. At the same time, the business of research management is rapidly changing with the exponential growth of big data, open access and international collaboration. Furthermore, universities face additional challenges as governments restrict research funding and donors demand more from research groups. Supporting the research enterprise of a university is becoming an increasingly complex task. In order to remain on top of our game and continue to make our mark both locally and internationally, UCT has implemented an electronic research administration (eRA) system.

What the eRA system means for researchers

As the diagram on the right shows, eRA will provide researchers with:

- a 'one-stop shop' to manage and track the administrative workflow within a project lifecycle and beyond
- software that guides them from the point where an idea is born and a funding opportunity identified, through to post-publication with automatic CV updates
- streamlined and automated workflows, where all parties involved – including finance and research contracts – are automatically notified of a project application coming their way
- the opportunity to track their applications through the automated process, reducing the risk of an application lying unseen in an inbox
- enable researchers to keep on top of their contract compliance requirements. Through its online portal, researchers can create and manage their CV which they can draw on to apply for grants and funding and use to create a publicly visible profile.



[\(Click here for a high-resolution version of diagram.\)](#)

Who will use the system?

UCT researchers and administrative staff supporting the research lifecycle.

How to access and use the system

You can access the eRA system by logging on with your UCT network username and password at <https://eraonline.uct.ac.za>.

Top five FAQs

- 1. I tried to log into the eRA system, but I received an 'Account deactivated' error message. What should I do?**

The 'Account deactivated' error message indicates that you do not have access to log into the eRA system. This could be as a result of a change in staff details, you may be new to the organisation and your staff profile may not yet have been created by Human Resources (HR). Please [log a call](#) with the eRA Support team, who will investigate and advise on the way forward.

- 2. What do the different reference numbers automated by the eRA system mean?**

For the eRA system to effectively track the various processing stages of a submission effectively, reference numbers are assigned at each stage of the module. These numbers are different at each stage, as they need to allow for situations where, for instance, one project has related renewals or amendments linked to it or if there is more than one contract that relates to a single research project. This means you will be assigned a different reference number depending on which phase your project is in on the eRA system. Refer to the [Quick guide to unique reference numbers](#).

- 3. My details on the eRA system are incorrect. How do I change this?**

All staff personal information in eRA is harvested from SAP HR, therefore any changes should be updated with HR first, using the [HR101](#) form, before requesting the profile changes with eRA Support. The SAP HR data is integrated with eRA and will be updated accordingly. If the work affiliation requires a change, please inform eRA Support by [logging a call](#) on ServiceNow.

- 4. I need to submit an application on behalf of my PI/researcher. How do I go about getting access to their profile?**

In order to have access to a specific researcher's / PI's profile on the eRA system, their 'Researcher' role should be delegated to you. It is the researcher's responsibility to delegate the role to you and anyone else who is required to have this role due to the sensitive nature of this transaction.

Delegating the role to you will allow you to not only make submissions on their behalf, but also track the submissions as it passes through various processing stages. Please click [here](#) to access the guide on delegating the researcher role.

- 5. My role requires that I have to review/process a form on the eRA system. What do I need to do to be assigned a particular role?**

The eRA system is both a workflow-phased system as well as a role-based system. If your job role requires you to process research project budgets, manage finance/administrative tasks related to research projects or capture and verify research outputs on the system, you will need to complete the required training before the role can be assigned to you.

Please [log a call](#) on the ServiceNow platform, advising us of your training requirements, so that you can be booked on the next available training session

Link to the system

eRA is available at the following link: <https://eraonline.uct.ac.za>

Contact for further assistance

Log a support request for all eRA queries on [ServiceNow](#).

[Click here](#) to download the one-page pdf guide on using ServiceNow to report eRA system-related issues.

5.1.2 UCT DMP



Purpose

UCT DMP is a tool that contains templates to create individual data management plans (DMP) for a thesis or dissertation, a research project or for a funding proposal. Creating a DMP ensures that planning has taken place for the research data process, such as how data will be collected, how it will be organised, curated and stored, as well as how data will be disseminated, if allowed. Furthermore, DMPs take into account what will occur with the data after projects are completed. UCT DMP contains comprehensive information on developing a tailor-made DMP, with samples and possible answers. Funder templates, as well as institution and department specific plans, are available in UCT DMP.

Who will use the system?

UCT DMP is available to all UCT's staff and students. Collaborators outside of UCT can co-own a data management plan which would be created and shared by their UCT-based users. Creating a DMP is compulsory for all UCT master's and PhD students. The DMP should be completed as part of the Memorandum of Understanding (MOU) for all postgraduate students. Read further about [Research Data Management clauses for inclusion in faculty MOU](#). Data management plans are increasingly becoming compulsory [for funding agencies](#) as well.

How to access and use the system

By using the single sign-on feature, sign into UCT DMP. The DMP can be shared with collaborators and allows exporting of different formats. The Libraries' Digital Library Service has created a ['how to' video tutorial](#) for UCT DMP, as well as material on creating a DMP: [video](#) | [audio](#) | [slide-deck](#).

Welcome to UCT DMP

UCT DMP has been developed by the **University of Cape Town** to help you write data management plans.



632 Users



910 Plans

Getting started:

- Digital Curation Centre
- UC3: University of California Curation Center
- UK funder requirements for Data Management Plans
- US funder requirements for Data Management Plans
- DCC Checklist for a Data Management Plan

Sign in

Sign in with your UCT credentials

DMP checklist

A [checklist for UCT DMP's data management](#) is also available:

<p>Quick DMP Checklist</p> <p>About the Tool</p> <p>The UCT DMP platform is UCT's customised instance of the Digital Curation Centre's DMPonline tool, running on DMProadmap code.</p> <p>This UCT-hosted platform allows users to create data management plans based on our custom-created templates, containing guidance, examples and suggested answers.</p> <p>Create your DMP today: https://dmp.lib.uct.ac.za</p> <p>For DMP queries contact: yaqub.ebrahim@uct.ac.za</p>	<p>Administrative Information</p> <p>Create an outline of your research project and identify all involved parties by including basic details</p> <ul style="list-style-type: none"> • Project title • Project summary • Researcher ID • Funding agency 	<p>Data Collection & Generation</p> <p>Consider these questions for data collection:</p> <ul style="list-style-type: none"> • Qualitative or Quantitative? • What methods will I be using? • Are there community data standards I should use? 	<p>Data management, Documentation and Curation</p> <p>What about the future of your data? Ask yourself:</p> <ul style="list-style-type: none"> • How will I store and back up my data? • What are my plans for long-term archiving? • What metadata standards will I use to describe my data?
<p>Data Security & Confidentiality</p> <p>Are there are legal issues pertaining to my data?</p> <ul style="list-style-type: none"> • Is my data sensitive or at risk? • Do I need restrictions on my data? • Do I need encryption or password controlled access? • Do I need ethical clearance? 	<p>Data Sharing & Open Access</p> <p>How will the rest of the world access it? Think about:</p> <ul style="list-style-type: none"> • Who owns the data? • Can the data produced be re-used and shared? • How will my data be shared and under which license? • Which repositories will I store my data in for others to access? 	<p>What is a DMP?</p> <p>A data management plan (DMP) is a formal document that outlines how data will be managed during a research project, as well as after the project's completed.</p> <p>This checklist is a guideline to help researchers plan for their data using best practices.</p> <p>It covers the most common sections needed for completing a DMP.</p>	

For further assistance with UCT DMP and creating DMPs check out this [guidance](#).

Top five FAQs

1. What is a data management plan (DMP)?

A data management plan (DMP) is a living document explaining what you intend to do with your data during and after the conclusion of your research project.

It describes:

- what kinds of data you plan on collecting and/or reusing
- how you will be storing and working with (e.g., processing) your data
- if you will be sharing your data with others and/or publishing them, and how
- what you will be doing with your data after your project ends (archiving, secure deletion)

2. Why do I need a DMP?

A DMP is already a requirement for postgraduate students and of many funders (e.g., NRF, NIH and Wellcome Trust). Even when it is not a requirement, having made such a plan will save you time and effort during and after your research project, as it assists you with organising your data, preparing it for the next phases in its lifecycle, and clarifying exactly who will have access to it, how, why and when. A DMP provides guidance for your data curation-specific activities, such as file naming, archiving, suitable formats.

3. What is UCT DMP?

[UCT DMP](#) is an online tool that assists you with creating a data management plan. The various templates available provide relevant questions to guide you in good planning for managing your data through the research lifecycle, as well as giving you tips for answering them. The DMP templates available on UCT DMP help you answer the requirements of specific funders, departments, or projects, depending on your discipline or field of research.

4. What is a DMP template?

Many funding agencies have requirements that need to be met before they are prepared to fund a researcher. The same goes for many journals, and even UCT itself (see: [UCT RDM policy](#)). The funder templates on UCT DMP outline those requirements for you in an easily accessible way. There are also a number of departmental templates, which are based on the guidance of specific departments at UCT.

To determine whether your funder has a specific template you should be using, you may want to view the [DLS funder guidelines](#) or the [Digital Curation Centre's overview of funder's data policies](#). For further assistance with writing your DMP, or if you would like us to create a new template custom-made to the needs of your department or research group, [please contact us](#).

5. Can I share my DMP with others?

Yes, all you need to do is insert the email addresses of any collaborators within UCT you would like to invite to read and/or edit your plan. Set the level of permissions you would like to grant them via the radio buttons and click 'Add collaborator'. Adjust permissions or remove collaborators at any time via the drop-down options.

The 'Share' tab is also where you can set your plan visibility:

- Private: restricted to you and your collaborators.
- Organisational: anyone at your organisation can view your plan.
- Public: anyone can view your plan in the list called 'Public DMPs'.

By default, all new and test plans will be set to 'Private' visibility. 'Public' and 'Organisational' visibility are intended for finished plans. You must complete at least 50% of a plan to enable these options. You can also share your plan with members outside of UCT by using the built-in 3rd party sign-up function.

More FAQs are [available here](#).

Link to the system

The UCT DMP is available at the following link: <https://dmp.lib.uct.ac.za>

Contact for further assistance

For assistance to create a data management plan, or for any queries, please contact [Ya'qub Ebrahim](#).

5.1.3 ZivaHub



Purpose

ZivaHub is the institutional data repository that allows research data to be uploaded, privately stored and shared, as well as published so that it can be FAIR (findable, accessible, interoperable and reusable). In terms of UCT's Intellectual Property Policy, UCT is the legal owner of research data emanating from research conducted at the university. Read more about [the terms and conditions of data](#) that should be considered prior to depositing into ZivaHub.

Research data published in ZivaHub has a unique Digital Object Identifier (DOI), complies with funder mandate requirements, and has control mechanisms in place on how research data is accessed. All data added to ZivaHub is searchable via Google Scholar and Google Data Search.

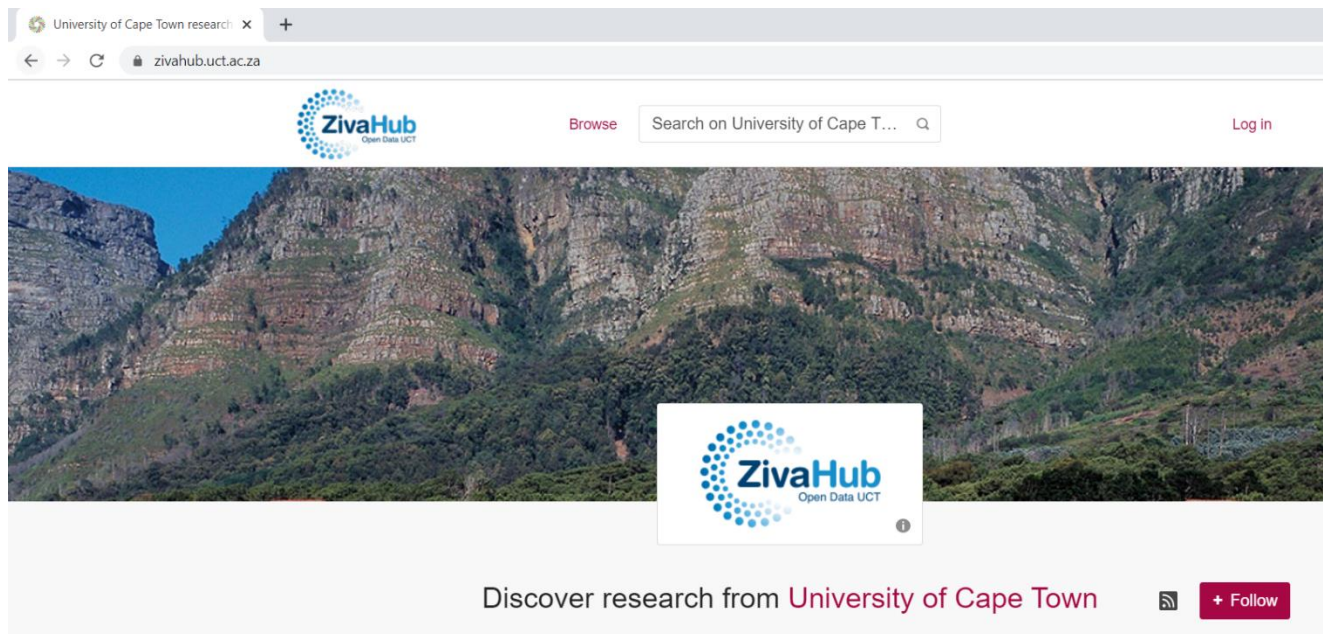
UCT's [Research Data Management \(RDM\) Policy](#) outlines the importance of a data management plan and that the research data should be stored in a trusted data repository at the end of the research. The RDM Policy further encourages publishing open data, whilst being aware of the possible constraints of making publicly-funded research open access. More details of the RDM Policy are [available here](#).

Who will use the system?

ZivaHub can be logged into with single sign-on, using UCT network credentials, as a UCT staff or student.

How to access and use the system?

When logging into ZivaHub with UCT network credentials, the account is immediately active. All staff and students are provided with 20 GB of cloud storage in ZivaHub. Uploading data starts on the 'My data' page and is undertaken in [nine easy steps](#). ZivaHub enables the de-identification of data by making it confidential, linked-to files or embargoed. There is a [terms of data deposit](#) that should be adhered to before publishing in ZivaHub. For further information about access and use of ZivaHub, view the [start-up guide](#).



Top five FAQs

1. How is my data stored, and is it secure?

All uploaded data can only be accessed by the person who uploaded the data, when they are logged in. All data is stored in the cloud on Amazon Web Services. As all data is time stamped, the security and persistent identifier can minimise the risk of plagiarism. Read more about the [security of data storage](#).

2. What is the most appropriate license for my data?

ZivaHub allows publicly stored and privately stored data. There are various Creative Commons licenses available for your open research data, as well as restrictive license templates for personal or confidential information. Learn more about the [licensing of data](#).

3. For how long will my data be stored?

Data will be stored for the lifetime of the repository. More information [available here](#).

4. Is any personally identifiable information stored?

Only information that is provided by the depositor of the research data is recorded, such as name, email, employer or institutional affiliation and research activities. Read more information about the [storage of personal information](#).

5. What file types are supported?

All file formats are supported and can be visualised within the browser e.g., jupyter, molecule, presentation, 3dviewer, txt, and network graph. Click [here](#) for a full list of the current file formats. Read [more information](#) on the browser versions and acceptable categories, as well as file types.

For more FAQs on research data, please [follow this link](#).

Link to the system

ZivaHub, powered by Figshare for Institutions, is available at the following link: <https://zivahub.uct.ac.za>

Contact for further assistance

Please contact the Digital Library Services' Manager, [Niklas Zimmer](#) for more assistance or have a look through some [useful guides](#).

5.1.4 OpenUCT



Purpose

According to UCT's [Open Access Policy](#), OpenUCT, the institutional open access scholarly repository, is committed to making UCT's scholarship discoverable, visible and freely available online to the wider public. The repository has been developed in line with international interoperability and metadata standards using DSpace open source software, and is indexed by all major search engines.

Who will use the system?

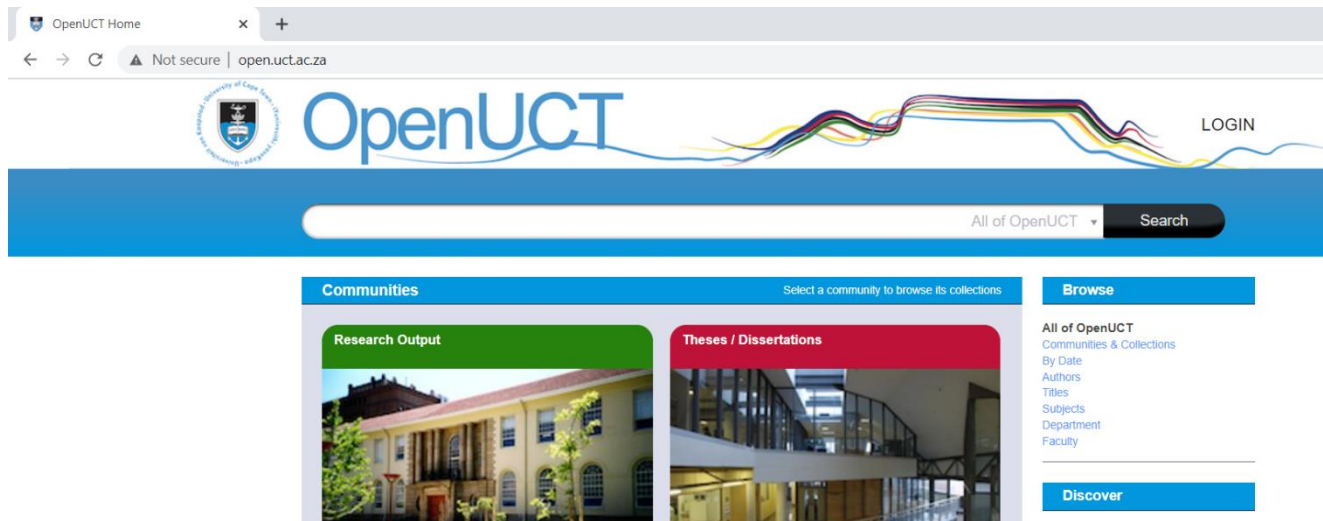
All resources in OpenUCT is discoverable by Google. To add resources into OpenUCT, this functionality is available to UCT's staff and students who should deposit their journal articles, as well as other scholarship including essays, books, conference papers, reports, educational resources, presentations, scholarly multi-media material and audio-visual works.

How to access and use the system?

Staff and students can log into OpenUCT with the single sign-on function to deposit open-access scholarly output, such as journal articles (post print or published version), chapters in books, conference proceedings, research and working paper reports, and open educational resources. These resources are moderated by the scholarly communication and publishing staff of UCT Libraries who check for [publisher copyright policies and](#)

[permissions](#) before making content publicly available. Even though theses and dissertations are available in OpenUCT, they are processed from PeopleSoft and are not directly deposited by students.

Follow the steps in the [OpenUCT submission guidelines](#).



Top five FAQs

1. What type of scholarly output can I add to OpenUCT?

OpenUCT uses the university's [Open Access Policy](#) as a guide as to what scholarship should be deposited into the repository. This scholarship includes journal articles, chapters in books, conference papers, textbooks, working papers and research reports, as well as open educational resources.

2. Will publishers allow me to place my article in a repository?

Most journal publishers allow authors to deposit specific version of papers in repositories following individual journal self-archiving guidelines. However, many publishers request that you **do not** use the publisher version. Some publishers have an embargo period between publication and deposit in a repository. The [SHERPA/RoMEO](#) website gives details of publishers' current policies on self-archiving and copyright. Authors can negotiate with publishers to keep certain rights to your work, such as the right to redistribute, via an '[author addendum to publication agreement](#)'.

3. What do I do when the publisher's embargo period is different to that of the funder's embargo?

Authors are urged to negotiate with the publisher via an '[author addendum to publication agreement](#)' granting the publisher distribution rights, while the author retains copyright. When authors retain copyright, it allows them to share the articles, thus fulfilling funder mandates.

4. When I share my article on the Department website, is there a need to share on OpenUCT?

When placing a journal article into OpenUCT, it is discoverable by search engines, such as Google, far more than on websites. OpenUCT provides a persistent identifier, which ensures that access is constant, even when the repository software is upgraded.

5. What are the benefits of adding scholarly output to OpenUCT?



[\(Click here for a high-resolution version of the diagram.\)](#)

[Additional FAQs](#) are available.

Link to the system

OpenUCT is available at the following link: <http://open.uct.ac.za>

Contact for further assistance

To learn more about OpenUCT, or for assistance with the upload of a scholarly output, email open@uct.ac.za.

5.2 ORCID

ORCID

As part of the RDIP project, researchers are encouraged to [sign up for an ORCID ID](#) and connect their ID to the eRA system. ORCID is a non-profit organisation that provides a permanent research identifier which works across a range of platforms, to reliably connect researchers digitally with their research outputs. It gives you free, life-long control over a trusted and easily shareable record of your research activities and affiliations.

The screenshot displays the 'My Settings' page on the UCT Research Portal. At the top, there is a navigation bar with 'UCT Research Portal' on the left and 'UNIVERSITY OF CAPE TOWN' (with its logo and Afrikaans name) on the right. A 'Login' button and an 'Accessibility' link are also visible in the top right corner. The main content area is titled 'My Settings' and contains several sections:

- Notification Settings:** Includes an 'Email' checkbox which is checked, and a 'Save' button.
- Language Settings:** Includes a 'Language' dropdown menu set to 'English (GB)' and a 'Save' button.
- User delegation:** Includes a 'New delegation' button.
- ORCID Settings (User 1):** Includes a description of the ORCID connection, the ORCID ID 'https://orcid.org/0000-0001-7800-1000', a 'Connection is valid until' date of '10.06.2040 09:16:20', and two buttons: 'Disconnect from your ORCID account' and 'Send/update my publications'.
- ORCID Settings (User 2):** Includes a description of the ORCID connection, the ORCID ID 'https://orcid.org/0000-0001-7800-1000', a 'Connection is valid until' date of '02.10.2039 07:24:30', and a 'Disconnect from your ORCID account' button.

The use of ORCID ID has become international research practice for researchers, with many publishers and funders requesting it. For optimal use of your ORCID ID with UCT systems, start by connecting yours to the eRA system. [Find out how to do this here.](#)

The infographic below has more information about the benefits of ORCID for researchers. You are also invited to visit the [UCT ORCID web page](#). [\(Click here for a high-resolution version of the infographic.\)](#)

ORCID

Connecting researchers with their digital research contributions

What is ORCID?
ORCID is a non-profit organisation that provides a research identifier which works across a range of platforms, to reliably connect researchers digitally with their research outputs.
The ORCID ID is a 16-digit persistent identifier that researchers can register for and use for free.

ORCID:

- 1 Connects individuals and their professional contributions across disciplines, organisations and time.
- 2 Helps research institutions, funders, publishers and other organisations better track and support research work.
- 3 Enables recognition of all kinds of research contributions and innovation.

ORCID allows you to control and manage a trusted and easily shareable record of research activities and affiliations for free.

Display your personal ORCID ID on websites and in your email signature. This quick guide shows you how:
https://bit.ly/Display_ORCID_UCT

First name Surname
ORCID ID
@ResearcherID.org/0000-0001-0001-0001

Why ORCID?

What is in a name?
Few personal names are unique or fixed. Names may change due to many circumstances.

An ORCID ID allows you to differentiate yourself from others who have the same name as you.

Researchers are mobile
You might not spend your entire career at one institution.
Your ORCID ID moves with you throughout your career.

Variety of research outputs
Research outputs are more than just publications. Researchers now produce open research data, scientific software and workflows. These are published in various places and easily overlooked or orphaned.

Research visibility
An ORCID ID gives you a virtual presence to make your work more discoverable.

Simplify your funding applications process
With an ORCID ID you can keep all your publications in a single virtual space to make preparing funding applications easier.
Many funders require an ORCID ID, including the National Research Foundation and Wellcome Trust.

Research outputs reports
Easily exports and creates a bibliography of your work.

Manage the systems overload
Throughout the research lifecycle researchers are expected to use several different systems, entering the same information several times. This duplication can be confusing and waste time.

- 1 ORCID is integrated into many systems used by publishers, funders (including the NRF) and institutions, including UCT's eRA system.
- 2 You can use your ORCID ID to automatically pull your publications, already captured in ORCID, into eRA.

Connecting virtual platforms with your ORCID ID
Throughout the research lifecycle researchers use several different systems, often entering the same information several times.
ORCID is integrated into many systems used by publishers, funders and institutions to connect platforms and save you time.

ORCID connects:

- ▶ **UCT platforms:**
 - ▶ eRA: electronic Research Administration system
 - ▶ UCT DMP: online data management planning tool
 - ▶ ZivaHub | Open Data UCT: institutional data repository
 - ▶ OpenUCT: institutional open access repository
- ▶ **Other platforms**
ORCID brings together your research profiles on:
 - ▶ DataCite ▶ ImpactStory ▶ Google Scholar
 - ▶ Open Science Framework (OSF)
 - ▶ Publons (Web of Science) ▶ Scopus, and more

For optimal use of your ORCID ID with UCT systems, start by connecting your ID to the electronic Research Administration (eRA) system

To find out how to do this, download our step-by-step guide:
https://bit.ly/ORCID_UCT

For queries, contact us at
eresearch@uct.ac.za

UNIVERSITY OF CAPE TOWN
YUNIBESITHI YASEKAPA - UNIVERSITEIT VAN KAAPSTAD

ORCID

5.3 Scholix



Scholix, shortened for Scholarly Link Exchange, serves the purpose of providing links between scholarly research and research data, as well as between data and data. In the Scholix multi-hub interoperability framework (see image below) you will see that there are four 'hubs': Journals, Data Centres, Repositories and Other. These hubs are (existing) services that collect and aggregate information about links from their respective communities. Scholix provides the framework for each journal, data centre and repository to interoperate through Scholix to get information from all the hubs.

[Scholixplorer](#) is the implementation of the Scholix initiative. The [service](#) accepts publications-data or data-data links from validated sources, builds a de-duplicated graph, and provides access to it via OpenAIRE, providing valuable evidence of data reuse and impact for data producers.

For additional information, view the [Scholix FAQs](#).

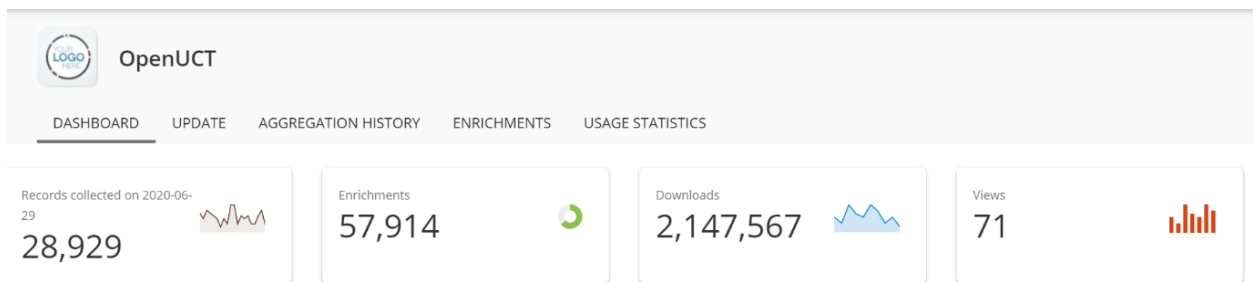
5.4 OpenAIRE



OpenAIRE is a project funded by the European Commission. The project has numerous aims, including building common standards for linking research globally to enable discoverability, transparency, reproducibility and quality-assurance of research. Open repositories which, (amongst others) house journals, publications, and datasets, register and then utilise the service to ensure their data is validated, linked and enriched. More than 10 Million full-texts of Open Access publications are mined by algorithms to enrich metadata records with additional properties and links among research products, funders, projects, communities, and organisations.

OpenAIRE utilises the Scholixplorer to enable literature and data interlinking.

OpenUCT and Zivahub are registered content repositories on OpenAIRE.



An example of the OpenUCT Dashboard in OpenAIRE with the suggested Enrichment metadata for fields within resources in OpenUCT repository. The enrichment service can enrich local metadata in repositories and consists of metadata such as ORCID, Persistent IDs (such as DOIs) and subject classifications.

Note: Dashboard view available when OpenUCT repository manager is logged into OpenAIRE.

For more information on OpenAIRE, [click here](#).

For additional information, [follow this link](#).

OpenAIRE brokering service

Content providers (such as OpenUCT and ZivaHub) can utilise the OpenAIRE Broker Service via the OpenAIRE Content Provider Dashboard. In essence, this means that registered repositories, publishers or aggregators can exchange metadata and enrich their local metadata collection by subscribing to notifications of different types. The Broker notifies providers when the OpenAIRE Graph contains information that is not available in the original collection of the provider. This includes notifications about additional PIDs of its publications (e.g., DOIs); additional classification subjects (e.g., subjects from standard schemes like ACM, JEL and DDC; links to Open Access versions; links to projects; links to datasets; missing publication dates; and enriched repositories for better access.

As such, the brokering service provides registered repositories with enriched (more complete) records harvested from global repositories, thereby ensuring the records in UCT repositories are the most up-to-date record.

Enrich Your Content - Browse Events

For each topic a sample of 100 events will be displayed, as well as the total number that can be potentially built for your data source. If you are interested to receive the full list, you can subscribe to these events and then be notified about the new enrichment events.

More		Missing	
ADDITIONAL METADATA INFORMATION THAT MAY ENRICH OR SUPPLEMENT OPENUCT CONTENT	# OF EVENTS	MISSING METADATA INFORMATION THAT MAY ENRICH OR COMPLETE OPENUCT CONTENT	# OF EVENTS
ENRICH/MORE/OPENACCESS_VERSION Another Open Access version of a publication	44255	ENRICH/MISSING/AUTHOR/ORCID An Open Researcher and Contributor ID (ORCID) that can be associated to an author of your publications	5539
ENRICH/MORE/PID Another persistent Identifier associated to your publications	6045	ENRICH/MISSING/PID A persistent Identifier associated to your publications	1609
ENRICH/MORE/SUBJECT/ARXIV Another ARXIV classification term that can be associated to your publications	23	ENRICH/MISSING/SUBJECT/JEL A Journal of Economic Literature (JEL) classification term that can be associated to your publications	189
Total	50323	ENRICH/MISSING/PROJECT A project reference that can be associated to your publications	119

Source: OpenAIRE Enrichment Service when logged in by OpenUCT repository manager.

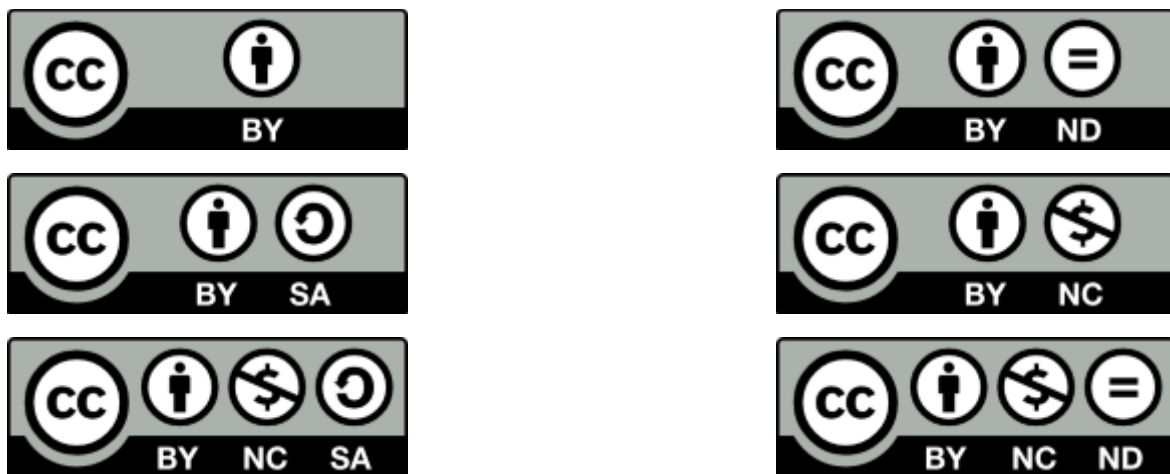
The number of records under the Enrichments category, consist of multiple data sources to enrich or supplement files in OpenUCT. For example, a full-text article is from the BioMed Central Publisher in OpenUCT. The Enrichment records have multiple sources where the article is also located, such as Directory of Open Access Journals, EuropePUBMED and Springer.

Not only does the Enrichment service provide additional metadata information, but the number of records include missing data, such as listing each ORCID for all authors (at times there may be over twenty authors per article). These ORCID IDs are listed as one record each. Missing abstract fields are also part of the number available in the Dashboard. At times, the suggested abstracts are not linked to the OpenUCT records, specifically the theses, that have the same title as the journal articles that emanated from the theses.

6. Share and license your research

Creative Commons licences facilitate the sharing and reuse of creative works and knowledge. When using a Creative Commons licence, attribution is automatic and copyright is retained by the researcher.

There are [six Creative Commons licence types](#):



Download the [Creative Commons South Africa: Licensor Guidelines](#) for an introduction to the different licences and how to apply them to copyright material.

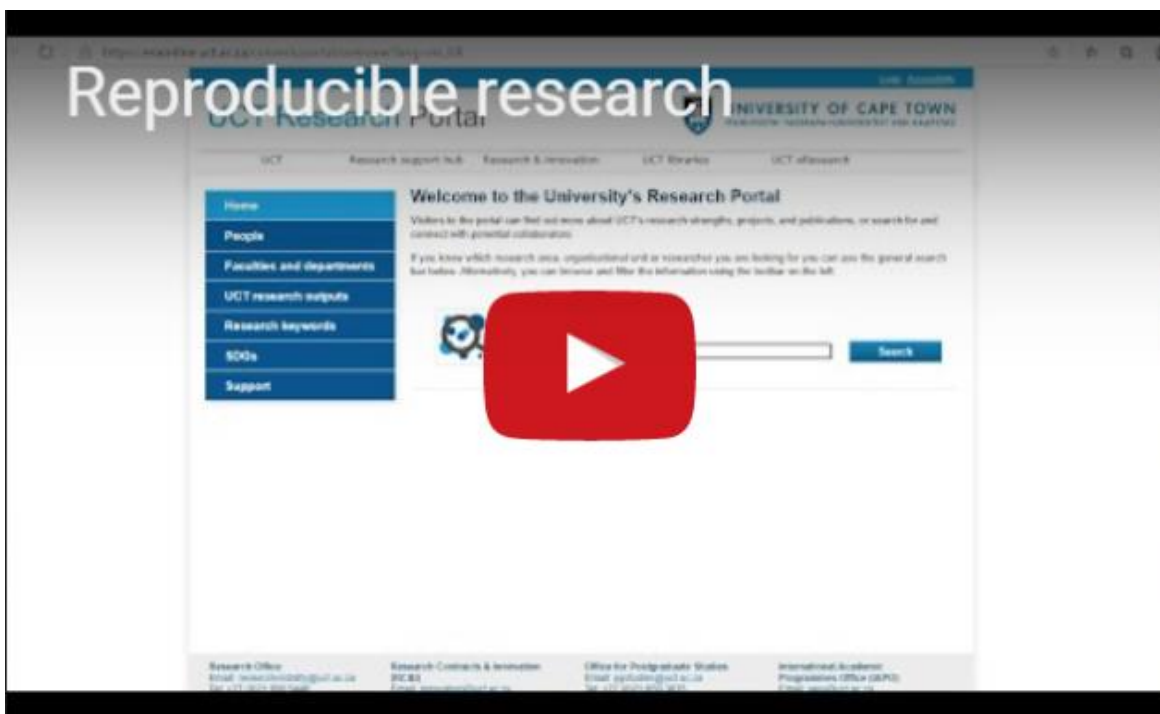
7. Watch the RDIP videos

What is RDIP?



(YouTube: <https://www.youtube.com/watch?v=reiltZDydVg>)

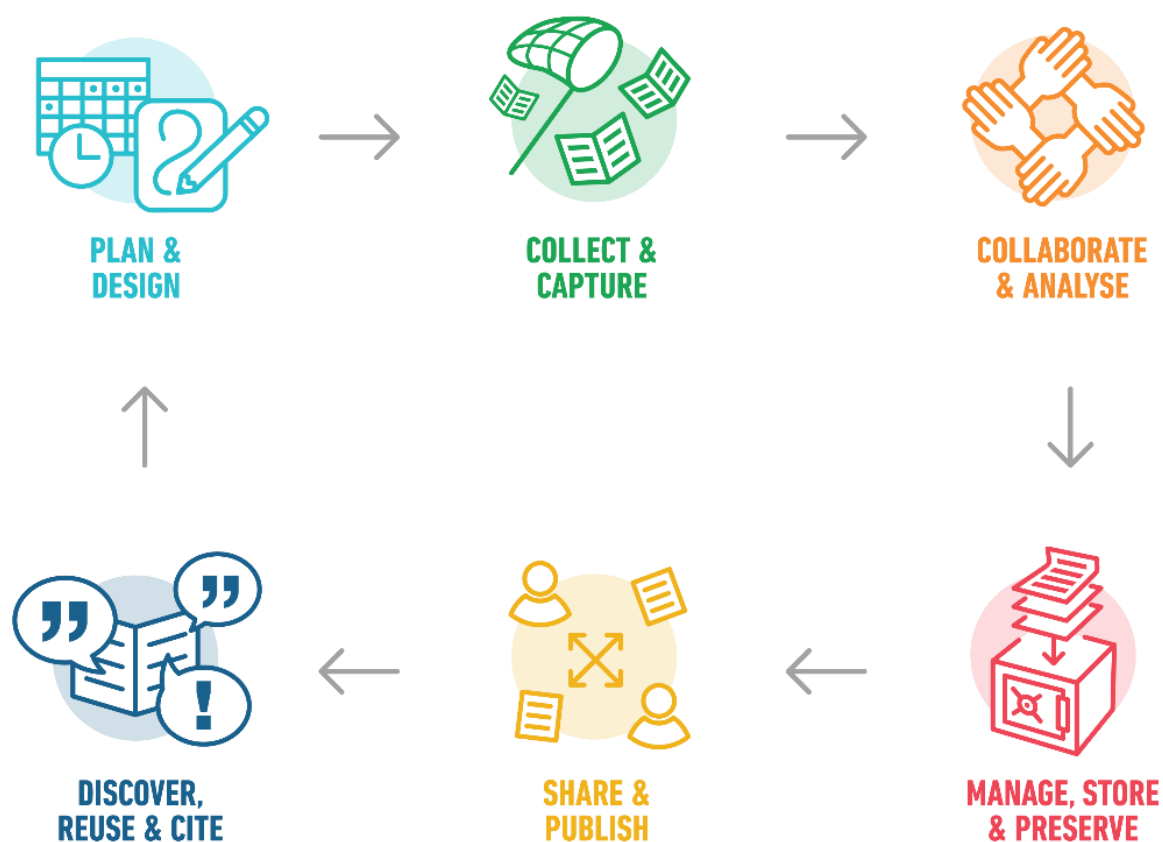
Reproducible research at UCT



(YouTube: <https://www.youtube.com/watch?v=FAFPEImWl00>)

8. Glossary

Research Data Management



[\(Click here for larger image.\)](#)

- **OpenAIRE:** It is a European project, funded by the European Union under the Horizon2020 programme that supports Open Science, and is a research infrastructure that harvests research outputs from data providers. For more information about OpenAIRE, [click here](#).
- **Open Science:** It is the practice that encourages collaboration and contribution where research processes are available for reuse. Open science encompasses the principle of openness in the whole research lifecycle. [Read more](#).
- **ORCID:** It is an iD that is a unique, open identifier that distinguishes one researcher from another.
- **Persistent identifier:** A persistent identifier (PID) is a long-lasting reference to a resource. It provides the information required to reliably identify, verify and locate the resource. [Read more](#).
- **Scholix Framework:** Scholix is short for Scholarly Link Exchange. It provides links between scholarly literature and data and well as within datasets. [Read more](#).

A comprehensive glossary of technical terms relating to research data management, digitisation and digital scholarship is [available here](#).

9. Contact us

For any further queries or suggestions around the RDIP, please contact eResearch@uct.ac.za.



*This workbook was produced by the UCT RDIP Working Group 4 (November 2020).
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