UNIVERSITY OF PRETORIA

INFORMATION GOVERNANCE AND PRIVACY PROTECTION (iGaPP) RESEARCH DATA MANAGEMENT (RDM) RESOURCE MATERIALS MANUAL, PROCEDURES AND SOCIALISATION PLAN

1. PROBLEM STATEMENT

The iGaPP RDM project included a review and revision of the University of Pretoria (UP) policies, structures and processes and compliance with regulations and legislation with a focus on research data management. The UP Research, Intellectual Property, and Survey Policies were revised and approved by Senate in October 2022 and February 2023.

Senate is requested to approve the set of resource materials which were developed as part of the change management process to inform and guide UP researchers to conduct research responsibly and comply with relevant regulations. This includes UP students, staff, research fellows and collaborators conducting research at or on behalf of the University of Pretoria to do so responsibly and comply with regulations. These materials include:

- Research @ UP Manual
- Research Proposal and Ethics Approval Guideline
- Research Data Management Plan template, and
- Protection of Personal Information Act (POPIA) Self-assessment

In addition, approval of the proposed Socialisation Plan is requested.

2. BACKGROUND

The iGaPP RDM Project commenced in March 2022 and the objectives were to:

Analyse the impact of Protection of Personal Information Act (POPIA) and the forthcoming ASSAf Code of Conduct for Research on the University's research activities,

- Identify the different role players in the governance of research projects (and data management) and to define their responsibilities,
- Train and equip the different role players to ensure that they can discharge their responsibilities,
- Ensure that the structures, policies and procedures are in place to ensure that the University complies with all of its regulatory and contractual obligations in relation to research data.

The iGaPP RDM Project initially focused on addressing research data protection and compliance, policy revision and alignment and clarifying structures, roles and responsibilities. The UP Intellectual Property and Survey policies were revised and approved by Senate in October 2022, and the Research Policy approved in February 2023. Senate also approved the accompanying Research Compliance and Intellectual Property regulations.

However, during the extensive stakeholder consultations and engagements it was clear that there was a significant lack of awareness among faculties and other stakeholders of the required processes for research ethics approvals, research data management, research contracting, and collaborations and data sharing. With the approval of the Steering Committee, the scope of the project was expanded to include a more comprehensive change management approach to include comprehensive information and a central portal for the policies, resource materials and information to conduct research.

With regard to update on the status of the proposed ASSAf Code of Conduct for Research, the Information Regulator's response included requirements deemed to be unreasonable. The informal update from Elizabeth de Stadler with Novation Consulting, who assisted ASSAf with drafting of the Code is that the Code will be a Standard and universities will be requested to undertake to adhere to the Standard.

The following were developed for UP academic and contract researchers, fellows and students:

- Research @ UP Manual (drafted by Novation Consulting)
- Google forms (drafted by Novation Consulting) for
  Research Proposal and Ethics Approval guideline
  - https://docs.google.com/forms/d/e/1FAIpQLSfz0OBDEbOJzD-JuxyQDyHHmAicpDuHdt5r6eMea7c2DcCzWA/viewform?usp=sf_link
  - Research Data Management Plan: https://docs.google.com/forms/d/e/1FAIpQLSfxoI1MHC4m3WkhxfNjWZFNepckLt6EvDdhaFT8kYSeVkJPvQ/viewform?usp=sf_link
  - POPIA Self-assessment: https://docs.google.com/forms/d/e/1FAIpQLSd7wFzPvB3aaz_2sBaqjiQcsNRvyvN15K3rItDRPB4vEoZT_A/viewform?usp=sf_link
- Research Resources microsite on the UP website with all the policies, procedures and contact information (https://www.up.ac.za/research-resources)
- E-learning modules that students and researchers must complete. These are short and focus on key aspects of regulations and information in the Research @ UP Manual. There are learning outcomes and assessments and cover the following:
  - Module 1 – Getting Research Approved
  - Module 2 – Research Misconduct
  - Module 3 – Securing Research Data and Intellectual Property
  - Module 4 – Protection of Personal Information

  These will be compulsory for postgraduate students, supervisors and postdoctoral research fellows to complete.

The proposed Socialisation Plan to raise awareness across all campuses and ensure compliance with the policies and legislation is provided for the Committee's approval.

3. CONSULTATION

The draft documents were shared with the different working groups across the university for comment and inputs. The groups included the Deputy Deans Research, Chairs of Faculty Research Ethics Committees, the Library Services team that lead the research data

management platform and the Information Technology Services Director and team including the Unit for Academic IT and System Development. The IGaPP Steering Committee chaired by the Registrar also reviewed and provided input to the research manual and the other documentation.

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RESEARCH@UP MANUAL

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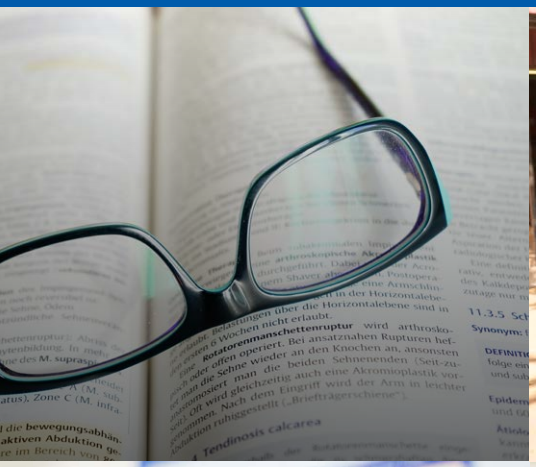

iGaPP
Information Governance Programme:
RESEARCH DATA MANAGEMENT

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Department of Research and Innovation

Departement Navorsing- en Innovasie
Kgoro ya Dinyakišišo le Mpshafatšo

Make today matter

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A. RESEARCH@UP AT A GLANCE

10 Rules for Responsible Research

The University of Pretoria is proud of its reputation as a world-class research institution. If our reputation suffers because of irresponsible research, we risk losing our good relationships with researchers, funders and other collaborators.
Here are the ten rules for responsible research.

For more information, visit the RESEARCH RESOURCES PAGE

Follow ethical standards

Always conduct research in accordance with established ethical principles, including respect for human and animal subjects, informed consent, and confidentiality. You can complete the ethics and grant application process on the PeopleSoft Ethics Application and Approval System.

Be transparent

Ensure that your research is transparent and reproducible. Document your methods, data, and analyses so that others can replicate your work and verify your findings. It all starts with your research proposal.

Avoid plagiarism

Give credit to prior work by properly citing sources. Plagiarism undermines trust in research and can have severe consequences for your academic or professional career.

Disclose conflicts of interest

Disclose any potential conflicts of interest, financial or otherwise, that could bias your research. **Transparency** in this regard is essential for maintaining trust in your work.

Consider societal and environmental impact

Consider the broader social and environmental implications of your research. Be aware of **how your work might impact** society and the environment, and actively engage in discussions about its ethical and societal implications.

Promote inclusivity and diversity

Promote diversity and inclusivity in your research teams and collaborations. **Respect and value** diverse perspectives and backgrounds to enrich the research process.

Comply with legal and professional rules

Ensure that your research complies with all relevant legal and professional regulations in your field. **Adhere to guidelines** and standards to maintain the integrity of your work.

Embrace peer review

Submit your research to peer-reviewed journals and conferences to undergo rigorous evaluation by experts in the field. Participate in peer review to help **maintain the quality** of scientific publications.

Learn and improve continuously

Stay informed about evolving ethical, legal, and technological issues in your field. Adapt your research practices to ensure they remain responsible and aligned with current best practices.

Manage research data

Safeguard your research data and make it available for review and replication, where appropriate. Follow best practices for data storage, backup, and retention. Learn more in our Research Data Management Guide.

The purpose of the Research@UP Manual is to promote ethical research. It will also help you comply with:

- the University's policies, regulations and procedures; and
- any legislation, regulations or codes which may apply to research activities.

You will find a list of all policies, regulations, procedures, legislation or codes that may apply to research activities on the Research Resources page.

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B. WHO MUST USE THIS MANUAL

As stated in the Research Policy approved by Senate in 2023, the University of Pretoria:

- Respects academic freedom and inquiry;
- Creates an enabling and supportive environment for researchers;
- Promotes high quality research and drive research excellence;
- Approves and monitors research conducted at the University;
- Secures research data, findings and intellectual property;
- Respects intellectual property and rights;
- Conducts research that complies with the law and ethical norms;
- Shares, publishes or reuses research data and results responsibly; and
- Acts against research misconduct.

WHAT IS RESEARCH?

Are you conducting research?

According to the Research Policy, research is 'any activity aimed at generating or improving knowledge in any discipline (or across disciplines) through enquiry or systematic investigation'. This includes:

- All academic research conducted as part of any academic programme in any subject, including Agricultural Sciences, Economic and Management Sciences, Earth Sciences, Education, Health/Medical Sciences, Humanities, Life Sciences, Mathematical Sciences, Physical Sciences, Social Sciences, Theology, and Technological and Engineering Sciences.
- Scientific Research conducted by public or private bodies (regardless of whether that research is privately or publicly funded).
- Commercial or industrial research aimed at developing or improving products or services.
- Technological development and demonstration (e.g., prototype development, testing, user trials).

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Who should use this Manual	What this Manual will help you with

Researchers

This Research Manual applies to academic, scientific and commercial research.

It applies to research:

- conducted by the University's students, fellows and staff (temporary and permanent);
- conducted by affiliates, visiting research associates, contractors and collaborators who are subject to the University's policies by contract;
- conducted at Centres, Institutes, Units, Platforms, Bureaus and any other recognisable structures of the University;
- using the University's infrastructure;
- that the University funds (in full or partially); and
- in which the University's students, fellows or staff are research participants.

This Manual explains the general conduct the University expects of researchers and provides guidance on other ethical and legal standards that may apply.

All researchers at the University are responsible to ensure that their conduct meets ethical and legal standards. The University refers to this as 'ethical self-management.'

Researchers are responsible to identify, understand and comply with:

- the University's policies;
- legislation that applies to them and the type of research they do;
- approved research proposals and protocols; and
- any research contracts that apply to them.

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Who should use this Manual	What this Manual will help you with

Principal investigators, postgraduate students, supervisors and study leaders

The principal investigator is the individual who oversees the research. The principal investigator can be:

- the researcher (e.g. a postgraduate student, fellow or a member of the academic staff);
- the supervisor (in the case of postgraduate research);
- the study leader or research group leader;
- the person appointed as the principal investigator by a funder;
- the person appointed in terms of a contract; or
- the person appointed in terms of the law or other binding rules (e.g. the Clinical Trial Guidelines).

Principal investigators must:

- submit or oversee the submission of a research proposal and data management plan;
- apply for or oversee applications for approval from the relevant committees and bodies before commencing research;
- ensure that researchers follow the approved research proposal and data management plan when conducting their research or apply for approval for an amended proposal in the case of material changes;
- ensure that the appropriate contracts are concluded and that researchers comply with their obligations;
- manage funding and resources;
- report incidents and complaints of academic misconduct;
- ensure that the rights of research participants are protected; and
- participate in audits by the University, funders or regulators.

A good place to start is to ensure that researchers have access to:

- this Research Manual;
- the Research Compliance Regulation;
- the approved research proposal and data management plan; and
- any other rules or contracts that apply to them.

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Who should use this Manual	What this Manual will help you with
Research ethics committees	Faculty research ethics committees and the Animal Ethics Committee must consider, advise on, approve or reject research proposals that do not adhere to the University's policies, procedures, this Manual or legal obligations. Research ethics committees must also consider complaints of research misconduct.
Deans, Deputy Deans and Heads of Departments	Deans, with the help of their Deputy Deans and Heads of Department, must implement, monitor and advocate for responsible research. They have a responsibility towards the curation and management of raw and processed data for all research projects conducted at the University. Deans of faculties and Heads of Departments should ensure that all relevant role-players in their departments are aware of, and adhere to, the University's Research Compliance Regulation. Deputy Deans have been appointed as custodians in their faculties. Their responsibilities are set out in the Information Security Management Policy.

C. THE CONSEQUENCES OF IRRESPONSIBLE RESEARCH

Here are examples of research misconduct and the types of headlines that they come with:

Fabricated, falsified or manipulated research data:	*"Key Breast Cancer Study Was a Fraud"*
Research has been plagiarised:	*"Widely celebrated Tehran professor accused of plagiarising Durham PhD dissertation"* *"Plagiarism case kept under wraps at XXX"*
Violating autonomy, dignity and privacy:	*"Unethical experiments' painful contribution to medicine"* *"California medical school apologises for unethical prisoner experiments"*
Harming animals:	*"Harvard study on monkeys reignites ethical debate over animal testing"* *"PETA accuses JHU of cruelly treating owls for research, university strongly denies"*
Mismanagement of research data:	*"Research Institute Breach Results in $3.9 Million Sanction"* *"Skin cancer survey hack may have 'compromised' personal details, Medicare numbers of participants"* *"University loses 77TB of research data due to backup error"*

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These types of scandals could cause serious damage and financial loss to:

- you, the researcher: damage to a person's academic reputation can leave lasting scars;
- the University: it also harms the research institution's reputation;
- the research fraternity: it erodes faith in scientific endeavours;
- research participants, communities, living organisms and the environment: many of these scandals involved ethically and legally questionable conduct and a failure to mitigate the risks to participants, communities and living organisms; and
- funders and other partners: whether research is funded by the public or by other organisations, research misconduct hurts someone's pocket.

This loss comes in several forms, for instance:

- harm to the academic reputation of researchers and the University;
- failure to create or utilise valuable intellectual property;
- lost or wasted funding;
- wasted time and resources;
- fines and lawsuits; and
- physical and mental anguish.

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D. THE UNIVERSITY WILL ACT AGAINST RESEARCH MISCONDUCT

1. What research misconduct is

Research misconduct occurs when a researcher fails to:

- obtain any necessary approval for the research before starting it;
- follow applicable regulatory requirements;
- follow the approved research proposal;
- amend the research proposal when the scope of their research changes materially;
- obtain ethics approval for an amended research proposal;
- behave ethically and exercise acceptable practices within the research community;
- acknowledge contributions;
- respect someone else's intellectual property rights;
- manage research funds responsibly; or
- submit and publish their research findings when required.

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2. How the University will act against research misconduct

Complaints of research misconduct must be referred to the chairperson of the relevant research ethics committee(s) for consideration by the committee. Each ethics committee must develop its own procedure and guidelines for handling complaints. The procedure must ensure that researchers are given adequate notice and receive a fair hearing and that the decisions of the research ethics committee are unbiased.

The research ethics committee must report the outcome of its investigation with suggested corrective actions to the relevant faculty committees and the Chairperson of the Senate Committee for Research Ethics and Integrity. The corrective actions may include that the researcher be instructed to cease the research.

The faculty must take appropriate corrective action. This means that they have the authority to:

- implement any corrective action suggested by the research ethics committee;
- in the case of students, refer the matter to the Legal Services (Students) for possible further disciplinary action; and
- in the case of employees, refer the matter to Employment Relations for possible further disciplinary action.

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E. CONDUCTING RESPONSIBLE RESEARCH

1. Balancing competing rights and interests

You have a constitutional right to academic freedom. Academic freedom means you have the freedom to engage in any academic activity that involves knowledge generation such as conducting scientific research. It also means that you have the right to express your views and opinions, engage in discussion, and choose the topic on which you want to conduct your research.

However, you cannot express your academic freedom in such a way that it infringes on the rights of others – there must be a balance between your academic freedom and the rights of others.

Here are examples of rights that you must consider and respect:

- a research participant's right to privacy
- another researcher or research institution's intellectual property rights
- a research participant's right not to be subjected to scientific experiments without their informed consent
- the right to equality and dignity and other human rights

You must also comply with the law, University policies, and funding and research contracts.

You must accept responsibility to provide ethical and compliant research. The University refers to this as 'ethical self-management'.

THINK ABOUT IT:

What does the Research Compliance Regulation say?

The University respects academic freedom and supports researchers by ensuring that researchers:

- are free to choose the subject of their research, decide how to conduct their research, and seek support for their research from any source;
- have access to information required for their research as long as the access is legal and does not violate any other rights (e.g., to personal or confidential information);
- have the right to disseminate their research results without oversight or alteration by external organisations, unless those organisations have a legal or contractual right to do so;
- have access to resources based on fairness and educational and ethical merits (and not speculation on the political or social acceptability of research results); and
- have been trained in research ethics and compliance.

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2. What responsible research means

For your research to be responsible it must be ethical and your research must be compliant.

- **Ethical:** Researchers must be accountable, be socially responsible, be fair, be beneficent, respect individual dignity and autonomy, behave professionally, avoid unfair discrimination and avoid (or declare) conflicts of interest.
- **Compliant:** Your research must comply with the law, University policies and research contracts.

2.1. YOUR RESEARCH MUST BE ETHICAL

Ethical self-management means that you must:

- identify the ethical and legal requirements that may apply to your research;
- obtain the necessary approvals before you start your research;
- create a research proposal and protocol that meets all of the requirements of the Research Proposal Guidelines of the University; and
- ensure that you follow your research proposal and protocol (or amend it if it has changed).

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You have to apply **ethical self-management**, which means you have a responsibility to the University and yourself to deliver high-quality, honest, understandable, transparent, accurate, and credible work.

You have a responsibility to be **receptive to the needs and problems of the community** and to contribute to developing prosperous, free and just societies through your research activities.

You have a conflict of interests when your private or personal interests conflict with your professional interests in a way that they **undermine the integrity of your research**.

You must not allow your own interests to compromise your objectivity.

You must treat participants, other researchers, the community, living things and any other stakeholders **fairly and with dignity and respect**.

You must **not directly or indirectly unfairly discriminate** against people based on race, gender, sexual orientation, pregnancy, marital status, family status, culture, language, ethnic or social origin, age, disability or medical condition, religion, conscience or beliefs and birth.

You must design and conduct your research during your research project in such a way that you **protect** individuals, communities and living things involved from potential harm while you achieve the most benefit from your research.

You must carefully consider whether the benefits of your research outweigh the risks involved. You must be willing to disregard the benefits **when the risk of harm is too significant**.

You must consider **psychological, physical, social, environmental** and **economic harm** and the corresponding benefits.

You must ensure that:

- you comply with the professional standards of your field of research where applicable;
- your work is accurate and original; and
- you apply the highest standards when you plan, implement, conduct, and publish your research.

You must, throughout your research project, **consider the individual's autonomy** and protect those individuals who are incapable of making decisions due to immaturity, disease, mental or physical disorders, or any condition limiting their freedom, to make an informed decision.

You must provide individuals with the opportunity and the **freedom to give their opinion** and not restrict their actions unless it is detrimental to others. Do not withhold information from individuals that can influence their opinion or decisions.

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2.2. YOUR RESEARCH MUST BE COMPLIANT

Your research may be subject to the following legal rules:

- Legislation, regulations and codes of conduct (e.g. the National Health Amendment Act of 2013, the Protection of Personal Information Act of 2013 (POPIA), the Promotion of Access to Information Act 2 of 2000 (PAIA), The National Archives and Record Service of South Africa Act 43 of 1996 or the Animal Diseases Act of 1984).
- Professional standards or codes that apply to your discipline or field (e.g. the Ethical and Professional Rules of the Health Professions Council of South Africa, the Universities South Africa (USAf) Standard)
- Contractual obligations (e.g. those found in research contracts)
- Policies, procedures and other rules prescribed by the University
- Policies, procedures and other rules prescribed by any other organisations you are working with (e.g., funders or other research institutions)

IMPORTANT:

You must ensure that you are aware of and that you understand the legal responsibilities that apply to you.

HELP:

You can consult the Research Resources Page for a list of the legal rules that apply to your faculty or for your type of research. Note that these pages may not be complete or may not cater to your specific research; you should also check whether any other legal rules apply to you.

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3. Additional requirements for certain types of research

3.1 ETHICAL PRINCIPLES FOR ANIMAL RESEARCH

In addition to the general guidelines on ethical research, these guidelines will help you ensure that your research with animals is ethical.

IMPORTANT:

Before you start your experiment, you must prepare a written protocol for approval by the University's Animal Use and Care Committee (AUCC) and, if it is required by your faculty, the relevant research committee. You may not start your experiment before your protocol is approved.

3.1.1. Do your best to refine, reduce, and replace animal experimentation

Carefully consider whether you really need animals in your experiment.	You must, where possible, replace the use of animals with an alternative approach or experimental system. If you must use animals, your experiments must have a clear and rational objective and must be essential. There must be no basis for questioning the justification of the research, whatever the results.
Try to reduce the number of animals you need.	You must conduct literature studies, consider alternative experiment designs, and calculate the number of animals you need. You must only use the number of animals necessary to maintain the scientific quality of the experiments and the relevance of the results.
Choose your animal subjects carefully.	You must choose your animal subjects very carefully and get experts in the biology of laboratory animals and their health and disease conditions to help you. You must base your selection on scientific criteria, and not on habit, or irrational considerations. You must consider the use of *in vitro* biological systems and theoretic modelling systems for ethical, practical and financial reasons if it is possible that such systems can produce data of equally good or better quality.

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3.1.2. Respect animals and appreciate that they are sensitive to pain, respond to stress, and may remember such experiences

Try to avoid, or at least minimise discomfort, stress and distress of animals.	Where it is likely that the animals will experience pain, discomfort, and anxiety a veterinarian or suitably qualified and registered person in terms of the applicable Act of Parliament must supervise the study. You must limit pain, discomfort, and anxiety of the animals to at least within the parameters determined by the AUCC. You must prevent or reduce pain, anxiety, and discomfort by using analgesic or other drugs where necessary with the help of a veterinarian or suitably qualified and registered person in terms of the applicable Act of Parliament. You must use anaesthetics as prescribed in veterinary practice during radical operation procedures with the help of a veterinarian or suitably qualified and registered person in terms of the applicable Act of Parliament. You must aim to reduce or eliminate pain and discomfort caused by the experimental procedure with aftercare procedures.
Exceptions may apply under extraordinary circumstances.	You may not subject laboratory animals to pain, discomfort, or anxiety, unless the experiment is of exceptional importance. You must present a thorough ethical evaluation to motivate your experiment. The AUCC will carefully weigh the benefits of the experiment against the extent of the pain, anxiety and discomfort.

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3.1.3. Take optimal care of experimental animals

Ensure that the animals are well cared for.	You must make sure that the care of the animals is of the highest standard and in accordance with veterinary practices to ensure reliable research results and to minimise waste of resources.
Take care of the physical and social needs of the animals.	You must keep in mind the animals' need for water, food, sanitation, sleep, waste removal and the control of diseases. You must take care to eliminate disease, injury, overpopulation, and stress factors, and to protect animals from infection with parasites. Where possible, you must keep animals in social groups, and provide for their social needs in terms of physical contact, communication by means of sight, sound, and smell.
Use a trained, reliable team to care for the animals and conduct the experiments.	A qualified and registered laboratory animal technologist or veterinary nurse must take care of the animals and a veterinarian or suitably qualified and registered person must control their care in terms of the applicable Act of Parliament. The head of the academic section where the research is conducted must ensure that the persons performing the experiments are well qualified. Where necessary, use the programme that the University offers to teaching and research staff.
Ensure that the animals have constant care.	The animals must have daily care, including over weekends and during holidays, to ensure their well-being and to comply with research requirements. Emergency veterinary services must always be available. In an emergency, security personnel should be able to contact the carers.

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3.1.4. Your research protocol must provide guidelines for euthanasia

DEFINE IT: Euthanasia means the humane killing of animals using methods that ensure rapid unconsciousness and painless death.

When must you euthanise animals?	In experimental settings it may be necessary to eliminate animals or end their suffering when conventional treatments fail or when pathological changes from the experiment lead to serious disease or disability. You must specify the predetermined terminal points for experiments and the criteria to establish those points in your research protocol. The protocol must include guidelines for the application of euthanasia.
Euthanasia may be mandatory.	Euthanasia is mandatory if experimental procedures fail or compromise the validity of data collection.
Methods for euthanasia must align with veterinary practices and must be described in detail.	A qualified veterinarian or authorised individual must decide whether to withdraw the animals from the study and euthanise them. Euthanasia must be performed compassionately and only by competent staff members. Animals must undergo a thorough clinical examination to confirm death before they are removed.

3.1.5. Meet your legal obligations

You must follow the provisions of the South African National Standard 10386 "The Care and Use of Animals for Scientific Purposes".

You must take note of and comply with the statutes and provincial ordinances that apply to the use of domesticated and wild animals, including:

- The Animals Protection Act (Act No 71 of 1962)
- The Animal Diseases Act (Act No 35 of 1984)
- The National Parks Act (Act No 57 of 1976)
- The National Environmental Management Biodiversity Act (NEMBA) (Act No 10 of 2004)
- The Nature Conservation Ordinances of the provinces of South Africa
- The Convention on International Trade in Endangered Species (CITES)

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3.1.6. Take note of public policy statements regarding the use of laboratory animals

The University recognises and supports the following important public policy statements:

- The National Code for the Handling and Use of Animals in Research, Teaching, Diagnosis and the Testing of Medicine and other Related Substances in South Africa, Department of Agriculture, July 1990
- Guidelines for the Ethics for Medical Research: Use of Animals in research and training, South African Medical Research Council, 2004
- Guidelines for the Care and Use of Laboratory Animals, British National Academy for Science, 1996
- The Declaration of Helsinki regarding experimental animal research, 1989

3.2. ETHICAL PRINCIPLES FOR RESEARCH INVOLVING HUMAN PARTICIPANTS OR PERSONAL INFORMATION

In addition to the general guidelines on ethical research, these guidelines will ensure that your research with human participants is ethical.

IMPORTANT:

If you are collecting research data from or about an identifiable, living individual or an existing organisation, this section applies to your research. This is a slightly broader definition than researchers are used to, however, it is necessary because POPIA applies to any personal information collected from or about an identifiable, living individual or an existing organisation. This means that due to POPIA, the range of research that requires rigorous ethical scrutiny has broadened. This section will apply to your research if you:

- gather information through physical procedures (e.g., taking samples);
- interact with participants (e.g., doing a survey or interview);
- manipulate the participant or the participant's environment;
- observe participants;
- collect personal information about identifiable living individuals or existing organisations, whether they are 'participants' or not (e.g., personal information about the owner of an animal); or
- harvest personal information about identifiable living individuals or existing organisations from public records, the internet or other sources.

For convenience, we refer to these individuals and organisations as 'research participants' in the remainder of this section.

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What is personal information?

According to the University's Information Governance Policy, personal information means any information relating to an identifiable individual (living or deceased) or an existing organisation (a company, public body, university, etc.). This includes the personal information of research participants, members of the public or other individuals (living or deceased), or organisations. As UP's Information Governance Policy applies to living and deceased identifiable individuals and POPIA only applies to living individuals, you must think carefully about whether you are under an ethical obligation to protect the dignity of the deceased or their next of kin.

Examples of personal information include:

- identifiers, such as a name, identity number, student number, staff number, account number, customer number, company registration number, tax number, photos, videos, or any other unique information that can be used to identify a person
- demographic information, such as race, gender, sex, pregnancy, marital status, national or ethnic or social origin, colour, sexual orientation, age, religion, conscience, belief, culture, language and birth
- information relating to physical or mental health, well-being or disability
- background information, such as education, financial, employment, medical, criminal or credit history
- contact details, such as physical and postal address, email address, telephone number, online identifier (e.g., a person's Twitter, now known as X, handle) or location information
- biometric information: this refers to techniques of identification that are based on physical, physiological, or behavioural characterisation such as blood-typing, fingerprinting, DNA analysis, retinal scanning, and voice recognition
- someone's opinions, views, and preferences
- private or confidential correspondence and any further correspondence that would reveal the contents of the original correspondence
- views or opinions about a person, such as interview notes and trade references
- the criminal behaviour of a data subject to the extent that such information relates to the alleged commission by a data subject of any offence or any proceedings in respect of any offence allegedly committed by a data subject or the disposal of such proceedings

Read more here.

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3.2.1. Carefully evaluate risks to the research participants and try to avoid or mitigate them

Evaluate the risk of your research to your research participants.	Risk refers to the possibility that the research could harm the research participants. **Consider the following types of harm:** • psychological harm • physical harm • social harm • economic harm • any form of exploitation You must consider both the severity as well as the likelihood of the harm. You must take extra care in your analysis of the risk of harm when you are dealing with vulnerable participants or communities, as the harm may be elevated.
Avoid, or at least mitigate, the risks of your research.	You must design your research to minimise the risk of harm. For example, many risks can be avoided if you collect research data anonymously or if you mask the identity of the research participants. **Consider:** • using human research participants only when it is essential; • that brutal or inhuman treatment is never morally justified; and • if you systematically examined all alternative procedures for your research and if you chose the least invasive or risky option.
Balance the risks of your research against the benefits.	A risk of harm to the research participants can be justified by the benefit that research participants, their family, their community or the public will enjoy as a result of the research. The benefit of the research refers to something of positive value with regard to the health (physical or mental) or well-being of the research participants, their family, their community or the public. You must consider the extent and likelihood of the benefit of your research. The benefits of your research must always outweigh the risk of harm. The risk should also be essential to achieve the objective(s) of the research.
Carefully document this analysis of your research and the research participants.	You must carefully document the risks, benefits and steps you have taken to mitigate or avoid the risks to your research participants in your research proposal.

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3.2.2. Respect the personal autonomy of research participants

The Constitution of South Africa protects the right to bodily and psychological integrity. This includes a person's right not to be subjected to medical or scientific experiments without their informed consent.

IMPORTANT:

The University has adopted a broad interpretation of this human right and therefore requires informed consent for all research in any discipline that involves human participants. However, the University acknowledges that it may not always be possible to obtain informed consent, that is why the research ethics committees may waive the requirement of informed consent **under exceptional circumstances**.

Provide specific and sufficient information to your research participants.	You must give research participants sufficient information which allows them to make an informed decision about their participation in the research. Your research participants must be able to ask questions before they give consent and throughout the research. Where it is necessary to withhold information to ensure the validity of your research, you must demonstrate why it is necessary and have a plan to make full disclosure at a later stage. You may not withhold information about significant risks of harm.
Make sure your research participants understand the information.	You must adapt your information and how you present it to your research participants according to the abilities of the average research participant in your sample. For instance, you must assess the average literacy of your research participants and ensure that you adjust the language of your informed consent accordingly. You must take special precautions where the abilities of your research participants are limited by immaturity, minority, mental deficiency or socio-economic factors. These precautions may include testing how well they understand the information or requiring that a third party assist them before they provide consent.

Your research participants must give their consents voluntarily.	You may not pressurise, coerce or unduly influence the research participant to participate in your research. **For example:** • Unjustifiable pressure takes place if people in positions of authority over the research participant require their participation. • There must be no threat of harm if the research participant declines. • The research participant must not be denied access to any service (e.g., healthcare) if they withhold consent. • Research participants must not be offered undue, unauthorised or inappropriate compensation in exchange for their participation. You may require the informed consent of a third party (e.g., a parent or guardian) in cases where the research participant is incapacitated. Even if the participant is assisted by a third party, you must still take steps to ensure that the participant understands the information and participates in the decision to take part or not, to the extent that they are capable. Research participants must be able to withdraw consent at any time. You should make it easy for them to exercise this right.

IMPORTANT:

The minimum requirements for a valid informed consent are set out in this informed consent checklist. Funders, faculties and research ethics committees may also issue guidance on the requirements for a valid informed consent.

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AN INFORMED CONSENT CHECKLIST

You must use the template prescribed by the relevant research ethics committee. However, here is a checklist you can use to ensure that your 'informed consent' meets all of the ethical and legal requirements. If you cannot obtain informed consent, you must apply for a consent waiver and you must ensure that your research is legal in terms of POPIA by completing the POPIA self-assessment.

Provide a detailed description of the specific research project that the research participant is consenting to.

Explain:

- ☐ the objective of the research;
- ☐ how the research will be done (e.g., the procedure that will be followed);
- ☐ any risks associated with the research;
- ☐ the benefits associated with the research;
- ☐ that the research participant will have the opportunity to ask questions about the research;
- ☐ how the research participant can access the research data relating to them (i.e., describe the procedure the research participant must follow and any circumstances where the research participant's request will be denied);
- ☐ if, how and when the research results will be made available to the research participant;
- ☐ that participation in the research is voluntary; and
- ☐ that the research participant can withdraw from the research at any time and what procedure they must follow if they want to withdraw.

Sometimes it may be necessary to withhold information if providing the information will influence the validity of the research. In such a case, you must notify the research participant that some information will only be provided at a later stage (e.g., when the research has been completed). You may not withhold information about significant risks of harm.

Describe:

- ☐ what personal information will be collected;
- ☐ the sources of the personal information (if not the research participant directly);
- ☐ who the personal information will be shared with in an identifiable form;
- ☐ where the research data will be published and whether it will be in an identifiable form;
- ☐ where and for how long the research data will be retained in an identifiable form; and
- ☐ whether the research data will be reused for future research and whether the research participant will be notified and asked to provide consent for the reuse of the data.

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Ensure:

- ☐ that the consent is written in a language that most of the research participants in the sample understand;
- ☐ that the consent is written in a language that is appropriate for the average level of literacy of the research participants in the sample;
- ☐ that the research participant is not pressured, coerced or unduly influenced to provide consent (e.g., incentives to participate over and above compensation for costs incurred, or penalised if they do not participate); and
- ☐ that the participant's consent is voluntary and not bundled with other activities or transactions (e.g., simultaneously consenting to medical treatment or other services and consenting to participation in research).

If the research data will be reused in future, researchers can make use of tiered or broad consent as long as they comply with the National Health Act 61 of 2003 and the National Department of Health's *Ethics in Health Research: Principles, Processes and Structures 2015*.

3.2.3. Be just in your selection of research participants

Researchers have a moral and legal obligation to be fair when they select participants for their research.

Justice at an individual level	Researchers should not discriminate between potential participants in an unfair manner or based on their personal opinion of a particular participant (either favourable or unfavourable).
Justice at a social level	Researchers should consider whether the load of the research would be too heavy for certain groups due to their abilities or because they are already overloaded. For instance, it may happen that certain groups, such as racially-based minority groups, economically less-privileged groups or seriously ill or institutionalised persons are continually being targeted as research participants. Conversely, researchers should ensure that their sampling is unbiased and that they do not unfairly discriminate between participants based on race, gender, sexual orientation, pregnancy, marital status, family status, culture, language, ethnic or social origin, age, disability or medical condition, religion, conscience or belief and birth.

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3.2.4. Privacy and confidentiality

POPIA applies whenever identifiable personal information is processed in South Africa. If your research involves living human participants or existing organisations, i.e., research participants, it is extremely likely that POPIA applies.

POPIA will apply if you:

- collect personal information from research participants directly (e.g., in an interview or a survey);
- observe research participants or monitor their behaviour;
- harvest the personal information of research participants from a publicly available source;
- reuse the personal information of research participants which was collected for another purpose; or
- obtain the personal information of research participants from another organisation.

It is clear that, even if a researcher does not interact with the research participant directly, POPIA could apply! POPIA is also much broader than the National Health Act as it applies to all disciplines and not just health research.

However, just because POPIA applies, does not mean that you cannot carry on with your research. POPIA recognises that, in research, the privacy of research participants should be balanced against the interest of the public.

To ensure that research complies with POPIA, the principal investigators must:

- develop and implement a data management plan that includes information security measures that will apply to the personal information throughout, and
- complete the POPIA self-assessment.

You can find a template for your data management plan and the POPIA self-assessment in the University's Research Proposal and Approval Guideline.

We have created a POPIA FAQ.

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4. Responsible research by design

You must:

01 Be proactive, not reactive

You must design your research so that you can conduct it responsibly from the start. This means designing your research to prevent research misconduct and research data management incidents rather than having to remedy misconduct or incidents when they have already occurred.

02 See responsible research as the default

You must conduct your research responsibly; it is not the research participant's responsibility to protect themselves.

03 Not view responsible research as compromising academic freedom or scientific discovery

Responsible research improves your research; in other words, everybody benefits from responsible research.

04 Be as open and transparent as possible about your research

You must be as open and transparent as possible with research participants, collaborators, funders and other stakeholders in terms of:

- why you are conducting your research;
- how you are conducting your research;
- how you are sharing, preserving and publishing research data and results; and
- how research data may be reused.

05 Keep your research research-participant-centric (where relevant) and user-friendly

You must design your research with the interests of the research participants (where relevant) in mind. Make it easy and convenient for the research participants to, for example, ask for more details about your research, research results, access to their research data and, where relevant, to withdraw their informed consent.

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F. WRITING RESEARCH PROPOSALS

1. When a research proposal is required

It is necessary to submit a research proposal whenever research requires some form of approval by the University's ethics committees, the Survey Coordinating Committee, the Innovation and Contracts Management Division, the Finance Department, or any other part of the University. The different steps in the approval process are discussed here.

THINK ABOUT IT:

What does the Research Compliance Regulation say?

According to the *Research Compliance Regulation*, you must write a research proposal for the following types of research:

- All research involving human participants (regardless of whether the information of the participants will be collected anonymously or anonymised after collection) or the personal information of members of the public or other individuals or organisations.
- Research conducted by an external researcher (i.e. not registered at, employed, or contracted by the University) who wants to collect data from prospective students, current students, alumni, faculty and/or professional services staff members and/or other University stakeholders.
- All research involving animals or samples that originate from animals, including opportunistically collected samples or investigation around animal ownership, farming practices, animal use, animals on observation, or working animals.
- Health research.
- Research that involves the reuse (secondary use) of research data that contains the personal information of research participants, members of the public, or other individuals or organisations.
- Any other research that is subject to approval according to the approval procedures of the relevant faculty, a research ethics committee, or by law.

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2. A step-by-step approach to gathering all the information before you start writing

Determining what you should include in your research proposal can be very daunting. However, the process will be more manageable if you have gathered all the information before you start writing. Here is a step-by-step approach to assist you in gathering all the information you need to write a research proposal.

IMPORTANT:

The essence of responsible research (by design) is to apply your mind to all these requirements. You must never copy and paste from another proposal. Even though you might think it is a shortcut, it can lead to difficulties at a later stage.

01 **STEP 1**

Check-in with your supervisor

Supervisors typically have preferences about what they want from research proposals and give valuable advice.

02 **STEP 2:**

Visit the Research Resources Page

The University created a Research Resources Page where you can find all the resources related to research at the University, such as policies, guidelines, procedures and other resources.

You will also find links to procedures and guidelines created by specific faculties and research ethics committees.

03 **STEP 3:**

Go through the Research Proposal and Approval Guideline

The University has developed a Research Proposal and Approval Guideline to guide you through the questions you must answer to:

- complete the ethics and grant application process on the PeopleSoft Ethics Application and Approval System;
- get your research approved by the relevant research ethics committees;
- apply to the Survey Coordinating Committee if you are surveying prospective students, current students, alumni, faculty and professional services staff members and other University stakeholders;
- conclude the right contracts; and
- make sure you comply with legislation, such as the Constitution of South Africa, POPIA, the Animal Diseases Act, and the National Health Act.

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G. PROTECTING INTELLECTUAL PROPERTY

1. What is 'intellectual property'?

Intellectual property means all outputs of creative endeavour in any field, including all:

Intellectual property:	**forms of copyright** and copyrightable works (e.g., a thesis, dissertation or article)	**design rights, whether registered or unregistered**	**trademarks**
know-how and trade secrets	**rights in databases**, information and research data	**biological organisms and material, and reagents**	**discoveries**, mathematical formulae, specifications, diagrams and drawings
algorithms	**expertise, techniques, research results and inventions**	**integrated circuit chips**, computer software and programs	**laboratory notebooks**
business and research methods	actual and potential teaching and distance-learning **material**	**the University's name**, badge and other branding or trademarks associated with the operations of the University	**any other items** as the University may from time to time specify in writing

Intellectual property means any creation of the mind that can be protected by law from use by any other person, whether in terms of South African law or foreign intellectual property law. It includes statutory inventions, patent applications and registrations as defined in the Patents Act 57 of 1978, copyrighted works as defined in the Copyright Act 98 of 1978, plant breeders rights as defined in the Plant Breeders Rights Act of 1999, designs, design applications and registrations as defined in the Designs Act 195 of 1993, trademarks, trade mark applications and registrations as defined in the Trade Marks Act 194 of 1993, confidential or proprietary information, know-how, and trade secrets.

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2. Who owns the intellectual property created by researchers

IMPORTANT:

The University is a public university, so the intellectual property created through research is subject to the Intellectual Property Rights from Publicly Financed Research and Development Act 51 of 2008. This means that the University owns any intellectual property emanating from all publicly financed research and development conducted by its academic researchers, fellows and students, be it in the course and scope of their employ, research training, their studies, or by using the University's facilities or other resources.

For more information on intellectual property, see the University's Intellectual Property Policy and the Intellectual Property Compliance Regulation.

The following principles govern who owns intellectual property created by research activities at the University:

- If you are a student, an employee, a contractor or a visiting researcher or lecturer, the University owns the intellectual property you generate even if the research was commissioned or funded by an external organisation.
- If you are a University employee and are jointly appointed by the University and an external organisation, the agreement with the University and the external organisation must stipulate who owns the intellectual property.
- The University holds the copyright of a thesis, dissertation or scholarly article authored by students.
- The University will not unreasonably withhold permission for publications from a thesis or dissertation by University students who are authors or co-authors of a thesis, dissertation or scholarly article.
- The University assigns the copyright in scholarly and literary publications (e.g., academic articles and textbooks) created by employees to the authors.
- The University can agree in writing that intellectual property generated by a student, employee or contractor belongs to someone else (e.g., an external organisation funding the research, a student, an employee or a visiting researcher or lecturer).

IMPORTANT:

The only way to transfer intellectual property to an organisation or researcher not affiliated with the University is to conclude a written contract approved by the Innovation and Contracts Management Office situated in the Department of Research and Innovation.

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3. You must identify and declare any intellectual property that your research will create

IMPORTANT: This section applies to potentially valuable intellectual property other than a thesis, dissertation, scholarly article, or other copyrighted material.

You must determine whether your research will create any new intellectual property as early as possible.

If you identify any, you must:

- disclose any new intellectual property that your research will create to the Innovation and Contracts Management Office and the relevant Head of Department by completing the Invention Disclosure Form annexed to the University's Intellectual Property Policy;
- cooperate with the Department of Research and Innovation to formally register any intellectual property created by your research activities at the University; and
- preserve complete and accurate research records (e.g., a laboratory notebook) and apply a proper system of laboratory management to claim uniqueness and establish the date of an intellectual property invention in the event of a challenge.

You are not allowed to independently register intellectual property that is created through your research activities at the University without the University's prior written approval.

H. CONCLUDING THE RIGHT CONTRACTS

1. Why contracts are important

When you work with organisations or individuals not affiliated to the University, it is important to ensure that the correct contracts are in place. This ensures that:

- everybody understands their responsibilities and knows who is liable if something goes wrong;
- it is clear who owns any intellectual property or copyrighted works that the research will produce;
- the University and other organisations involved meet their legal obligations and assume responsibility for discharging them; and
- you have the permission of the University and other organisations involved to do your research and collect your research data.

IMPORTANT:

Researchers are generally not authorised to conclude contracts on behalf of the University. You must ensure that you have the right approvals from the University and that the right person signs the contract. You can contact the Innovation and Contracts Management Office for assistance at icm@up.ac.za.

You must take an active role in negotiating the contract as it is essential that you know of and are able to meet the undertakings that are made in the contract. For instance, if there are technical requirements for the management of research data, you must ensure that they are achievable and that you have the required budget and infrastructure to meet those undertakings.

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2. When contracts are required

HELP:

You can contact the Innovation and Contracts Management Office for assistance at icm@up.ac.za.

You must ensure that you have a contract in place if:

- your research is commissioned by an organisation or individual who is not affiliated to the University;
- your research is funded (in whole or in part) by an organisation or individual who is not affiliated to the University;
- you are cooperating or collaborating with another institution or doing academic research under joint supervision and one of the supervisors is from another institution;
- intellectual property will be shared with an organisation or individual who is not affiliated to the University;
- you are doing commercial research;
- you will be re-using research data (e.g., reusing research data from a repository or harvesting research data from a public record); or
- you are using a service provider to gather research data on your behalf or analyse the data.

FAQ:

Do you always need a contract in place when you harvest research data from a public record?

There is often already a contract or a data use policy in place (e.g., terms of use on a website or social media platform or a data use policy on a research data repository). You must ensure that you have the right to use the research data in your research.

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3. Complying with contracts

Once a contract is signed, the focus shifts to ensuring that you (and the University) comply with the contract. Breaches of research-related contracts can lead to conflict, damaged relationships, legal action, fines from regulators and lost funding!

You must make sure of the following:

- You must understand the contract: Legalese can be very daunting. Ask yourself, 'what does this mean for how I conduct my research?' If you need assistance interpreting the contract, contact the Innovation and Contracts Management Office at icm@up.ac.za.
- You must implement technical requirements in your research protocol: For instance, if the contract with a funder provides that research data must be handled in a certain way, you must ensure this is done. If it cannot be done, the contract should be amended in writing.
- You must establish that other researchers are aware of their responsibilities: If you are the principal investigator or study leader, it is your responsibility to ensure that everybody involved understands their responsibilities. Asking them to read the contract is not enough, you should discuss the contract with them to make sure that they understand their responsibilities.
- You must negotiate that the contract be amended when things change. Often, things will change, or you may encounter challenges, making it impossible to meet your obligations in terms of the contract. When this happens, you need to negotiate an amendment to the contract because the University will not be aware of these changes. Make sure you follow the formal procedures prescribed in the contract for amendments, and make sure that the amendments are approved. Ask the Innovation and Contracts Management Office for assistance at icm@up.ac.za.

IMPORTANT:

Even though agreements for funding will generally be between the funder and the University, the principal investigator or study leader is usually responsible for:

- financially managing the project; you must ensure that the funds are spent as provided for in the contract; and
- controlling equipment; you must ensure that you obtain approval to purchase the equipment, report the equipment to the University, and ensure that the equipment is properly marked and responsibly managed.

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I. GETTING YOUR RESEARCH APPROVED

1. How to get your research approved

The University has created a Research Proposal and Approval Guideline, which sets out the different steps in the University's approval processes. The purpose of the Guideline is to guide you through the questions you will have to answer to:

- complete the ethics and grant application process on the PeopleSoft Ethics Application and Approval System;
- get your research approved by the relevant research ethics committees;
- apply to the Survey Coordinating Committee if you are surveying prospective students, current students, alumni, faculty and professional services staff members and other University stakeholders;
- conclude the right contracts; and
- make sure you comply with legislation, such as the Constitution of South Africa, POPIA, the Animal Diseases Act, and the National Health Act.

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2. Who needs to approve your research

2.1. RESEARCH ETHICS COMMITTEES

The University's Research Compliance Regulation states that researchers must obtain approval for the following types of research:

- All research involving human participants (regardless of whether the information of the participants was collected anonymously or anonymised after collection) or the personal information of members of the public or other individuals or organisations.
- Research conducted by an external researcher (not registered at, nor employed or contracted by the University) who wants to collect data from prospective students, current students, alumni, faculty and/or professional services staff members and other University stakeholders.
- All research involving animals or samples that originate from animals, including opportunistically collected samples or investigation around animal ownership, farming practices, animal use, animals on observation, or working animals.
- Health research.
- Research that involves the reuse (secondary use) of research data that contains the personal information of research participants, members of the public, or other individuals or organisations.
- Any other research that is subject to approval according to the approval procedures of the relevant faculty, a research ethics committee or, by law.

2.2. WHO MUST APPROVE YOUR RESEARCH

Academic freedom is subject to legal and ethical limits. For certain types of research, you must obtain approval from the University before you can start doing your research. You must also ensure that you comply with the University's policies and legal obligations.

The questions in this section will help you determine who must approve your research.

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2.2.1. Are you conducting your research as part of an academic programme?

Who must approve your research:	If you are conducting your research as part of an academic programme, your faculty will appoint a supervisor. You must obtain approval from your faculty for your research before you can commence with your research and submit your dissertation or thesis.

IMPORTANT:

Depending on the type of research you conduct, you may need additional research ethics approval or approval from the Survey Coordinating Committee. Please complete the rest of the questions in this section as accurately as possible to see if you need additional approval.

IMPORTANT:

You may need research ethics approval even if you are not conducting your research as part of an academic programme. Please complete the rest of the questions in this section as accurately as possible.

2.2.2. Are you conducting animal research?

How to answer:	Answer 'Yes' if your research involves animals or samples that originate from animals, including opportunistically collected samples or investigation around animal ownership, farming practices, animal use, animals on observation, or working animals.
	After you receive approval from your faculty, the Animal Ethics Committee must approve your research. Applications for research ethics approval is managed through the PeopleSoft Ethics Application and Approval System. Your research proposal must also contain a data management plan.

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2.2.3. Are you conducting health research?

How to answer:	**Answer 'yes' if your research is:** • conducted by students or staff of the Faculty of Health Sciences; • internal or external research involving patients, healthcare workers or other staff, or biological material from Steve Biko Academic Hospital, Kalafong Hospital, Tshwane District Hospital, Weskoppies Hospital, the National Health Laboratory Service, or the Oral and Dental Hospital; • research in which students of the Faculty of Health Sciences are the research participants; or • research conducted at other faculties that falls within the definition of health research. Health research includes all quantitative and qualitative research related to the health of humans, the provision of health services, the development or application of pharmaceuticals, medicines and related substances, and the development of health technology.
Who must approve your research:	If you are conducting health research, after you received approval from your faculty, the Faculty of Health Sciences Research Ethics Committee must also approve your research. This is managed through the PeopleSoft Ethics Application and Approval System. Your research proposal must also contain a data management plan.

2.2.4. Does your research involve human participants?

How to answer:	'Answer 'yes' if your research involves human participants directly (e.g. interviewing them or taking samples of human biological materials from them) or indirectly (e.g. analysing their social media or medical records or reusing research data of human participants which was collected as part of a previous research project).
	If your research involves human participants, you must apply for ethics approval via the PeopleSoft Ethics Application and Approval System and your proposal must contain a data management plan.

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2.2.5. Are you collecting the personal information of any individual or organisation?

How to answer:

Answer 'yes' if you will collect personal information. This means any information relating to an identifiable living individual (not deceased) or an existing organisation (a company, public body, university, etc.). This includes the personal information of research participants, members of the public, or other individuals or organisations.

You should answer 'Yes':

- even if the personal information you collect will be anonymised;
- even if the research participant is only identifiable (e.g., you do not have a name, but you have another unique identifier such as an ID number, email address or IP address);
- if you are collecting the personal information directly from the research participant; or
- if you are indirectly collecting the personal information about the research participant (e.g. analysing their social media or medical records or reusing personal information that was collected as part of a previous research project).

If you answered 'yes', you must complete the POPIA self-assessment and your proposal must contain a data management plan. Without the self-assessment and your data management plan, you will not be able to complete the process on the PeopleSoft Ethics Application and Approval System.

2.2.6. Does your research involve surveying University staff, students, alumni or other University stakeholders?

How to answer:

All surveys used for academic or commercial research that involve University staff, students, alumni or other University stakeholders must first be approved by the Survey Coordinating Committee. Prospective students, current students, alumni, faculty and professional services staff members and other University stakeholders include donors, sponsors, funders, contractors, or service providers.

You can consult the Survey Policy to determine whether your survey requires approval. If you are conducting academic or commercial research, it probably does.

You should answer 'Yes' even if the information of the participants was collected anonymously or has been anonymised after collection.

After you have applied for ethics approval and have completed a data management plan, you must also apply to the Survey Coordinating Committee to approve your survey.

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2.2.7. Does an external organisation or researcher commission or fund your research?

How to answer:	External organisations or researchers are not affiliated to the University. **You should answer 'Yes' if external organisations or researchers are:** • commissioning your research; or • partially or fully funding your research.
	If your answer is 'Yes', you must ensure that a research contract is concluded with the external organisation or researchers. The University distinguishes between commercial contract research and other contract research. The next question will help you determine whether you are conducting commercial contract research.

2.2.8. Which of these statements apply to your research?

- ☐ The research has a clear commercial intent and focus.
- ☐ The recipient of the research outcomes will be leveraging the outcomes for commercial gain (e.g. clinical trials, analytical services, feasibility studies, proof of concept, prototype development).
- ☐ The research would be the result of Enterprise's UP's own commercial endeavours and exploits.
- ☐ A proposal must be submitted to the client via a tender process, quotation, or other formal supply chain management process.
- ☐ The research will be done at commercial rates without any contribution or subsidy from the University.
- ☐ None of these options apply.
- ☐ I am not sure.

Who must approve your research:	If you answered yes to any of the above, you may be conducting commercial contract research. In addition to obtaining the relevant ethics approval, you must conduct your research through Enterprises UP and obtain permission from the relevant Head of Department, Dean, or both, before you can start with your research. Contact the Innovation and Contracts Management Office for assistance at icm@up.ac.za.

	In addition to obtaining the relevant ethics approval, the University must conclude a contract with the outside organisation. Contact the Innovation and Contracts Management Office for assistance at icm@up.ac.za.
	If you are not sure whether you are conducting commercial contract research or not, you must contact the Innovation and Contracts Management Office for assistance at icm@up.ac.za.

2.3. THE SURVEY COORDINATING COMMITTEE

IMPORTANT:

A survey is a means of collecting data using structured or semi-structured instruments that may be written, oral (including face-to-face, telephone or focus groups) or online modes of questioning and data collection, including collection of institutional information.

All internal and external parties who would like to survey UP staff, students, alumni and other University stakeholders are subject to the University's Survey Policy.

2.3.1. Does your research involve surveying University staff, students, alumni, or other stakeholders of the University?

How to answer:	You should answer 'Yes' even if the information of the participants was collected anonymously or anonymised after collection. University stakeholders include donors, sponsors, funders, contractors, or service providers.

- ☐ I am collecting student information.
- ☐ I am collecting staff information.
- ☐ I am collecting alumni information.
- ☐ I am collecting information about other University stakeholders.

  Describe who you are surveying: _____
- ☐ I am collecting UP institutional information using a survey (policies, staff and student statistics, programme information, etc.).
- ☐ None of the above.

	After you received ethics approval and have completed a data management plan, you must also apply to the Survey Coordinating Committee to have your survey approved.

2.3.2. How will the participants be recruited?

- ☐ Open sources (contact information on the UP website, LinkedIn, etc.)
- ☐ Email lists obtained from the Department of Institutional Planning or other Departments (note that this is not generally allowed)
- ☐ Open invitation on social media/Facebook, etc.
- ☐ Direct recruitment on campus
- ☐ Open invitation on the UP intranet
- ☐ Other: _____

2.3.3. What research instrument will be used?

- ☐ Online survey link
- ☐ Paper questionnaires
- ☐ Focus groups
- ☐ Personal interviews
- ☐ Other: _____

2.3.4. Can your survey be anonymous?

	A survey is only considered anonymous if the researcher never receives identifiable personal information about the participants. For instance, if you are going to ask for an ID number or EMPLID, your survey is not anonymous, even if you do not know the participant's name.

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☐ Yes

☐ No

If no, motivate why you cannot work with anonymous data: _____

IMPORTANT: If your survey is not anonymous, you are subject to POPIA and you must complete the POPIA self-assessment.

2.3.5. Make sure that you submit the correct information to the Survey Co-ordinating Committee

You must submit the following information to the Survey Co-ordinating Committee:

☐ Your research proposal, including a data management plan.

☐ Your POPIA self-assessment.

☐ A copy of your survey instrument (the questions you want to ask).

☐ An approval letter from the appropriate research ethics committee.

3. The University has the right to audit

The University has the right to audit:

- the quality of research;
- the ethical acceptability of research procedures;
- compliance with laws and research contracts; and
- financial management.

IMPORTANT: This audit may be performed by the University, funders, or peers.

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J. MANAGING YOUR RESEARCH DATA

1. What is research data

Research data is 'any information that has been collected, observed, generated or created to validate original research findings'. It is the data on which research publications, theses, reports, patents and other forms of published materials are based.

Research data can include the following:

- survey/questionnaire data
- documents (text, Word)
- spreadsheets or database contents (video, audio, text, images)
- consent forms
- collection of digital objects acquired and generated during the process of research
- videos of artistic performances
- audio records (transcripts) of interviews and their transcripts
- notes made during interviews and observations (fieldnotes)
- models, algorithms or scripts
- contents of an application (input, output, logfiles for analysis software, simulation software, schemes)
- slides, artefacts, specimens, samples
- physical samples (including biological samples of animal or human origin, plant specimens, organisms, molecules, chemicals, etc.)
- photographic images
- films
- environmental or habitat data
- observational data (of humans, organisations, animals, chemical reactions, etc.)
- testing outcomes of research projects

Research data can be in any form, for example, electronic or hard copy, video, audio, artefacts, and machine readouts.

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IMPORTANT:

If you are using research data in your research, you must include a data management plan in your research proposal, and your research data must be stored in a secure environment, in a tamper-free form, and with sufficient detail (as metadata). When you conclude your research, you must upload your research data (normally the processed data that supports the research findings) to the Research Data Repository, an accredited open-data repository, or an accredited or trusted discipline-specific repository before you graduate or publish your research findings. If there are compelling legal or ethical reasons why the research data should not be available, the principal investigator must request that access be restricted (i.e. the research data will be embargoed).

If your research data is going to be published in a repository other than the Research Data Repository, you must notify the library by emailing rdm@up.ac.za. The library will publish a metadata record that contains information about the relevant repository where research data is stored.

If you are surveying University stakeholders (e.g. students or staff), you will also need permission from the Survey Coordinating Committee.

HELP:

If you want to learn more about research data management and how to upload your research data to the Research Data Repository, visit the Research Data Management Guide. The Data Repositories page contains the procedure for uploading research data.

The Department of Library Services will provide consultation and training services for researchers on research data management, e.g., compiling data management plans, metadata standards, reference support for finding and citing data sets, and data publishing. You can contact Library Services at rdm@up.ac.za.

FAQ:

To whom does the research data that researchers generate belong?

All primary research materials and data created, collected or generated by students, employees and affiliates of the University belong to the University, unless the intellectual property rights have been assigned to someone else (e.g. a funder) in terms of a contract. This is because the University is publicly funded and subject to the Intellectual Property Rights from Publicly Financed Research Act of 2008. Also, see the Intellectual Property section of this Manual.

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FAQ:

Is it possible to do research without collecting research data?

A review of literature (e.g., published books and articles) on a particular topic may not generate research data.

Many humanists hear 'data' and they assume that they do not have research datat, but humanities data can take many forms, including images, music, poetry, short stories, and more. Research data in this context could be an excel spreadsheet identifying and listing the 'objects' that were studied, images of the objects, contextual information about the originals and where the original objects can be accessed. In other words, if you are studying artefacts in an archive, you are generating research data.

If you believe that your research will not generate research data, you must seek an exception from the data management plan and publication requirement from the Library by emailing rdm@up.ac.za. If your research will not generate research data, you will be asked to submit a disclaimer letter signed by the particular Head of Department, the principal investigator, and you, the researcher.

What if the research data (or other materials) are non-digital?

Non-digital research data must be retained in appropriate storage repositories, which must be maintained within the academic departments where the material was generated. The particular Head of Department must implement a system of recording and cataloguing the materials.

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2. Why research data management is important and who is responsible

Research data is an essential and valuable asset for the University. Ensuring that your research data is managed and curated effectively and efficiently and that it is made available is a crucial component of doing your research responsibly. It is also key to positioning the University as an international research-intensive university.

The principles of responsible research data management must be applied throughout the research data life cycle; from the raw data (when research is in process) to the final data (when the research data is ready for dissemination).

Research data management ensures that:

- researchers, the University and society as a whole, benefit from the research data;
- international research collaboration is facilitated;
- research is impactful, gets maximum exposure and is cited more frequently;
- research data is managed, stored, secured and preserved through the entire data life cycle according to subject or discipline-specific standards;
- research data generated by public funding is accessible and useful to other researchers without infringing on intellectual property, legal or ethical obligations;
- the requirements of funding bodies and publishers (often contained in project or publication agreements) for the proper management of research data are addressed;
- intellectual property rights and ownership of the research data are respected;
- the risk that important and valuable research data might be lost or become inaccessible due to changes in storage formats, damage or theft is reduced;
- research data and research findings can be authenticated and reproduced by storing sufficient metadata about the research data;
- research data is stored in a secure, tamper-free environment;
- research data can be reused responsibly;
- the University and researchers can balance open access against the rights of research participants (e.g., their right to privacy, dignity and autonomy); and
- researchers and the University comply with the requirements of international and national funders, academic publishers and other organisations.

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Role	The extent of their responsibility to manage research data
Researchers	All researchers at the University are responsible to ensure that their research data is managed properly.
Principal investigators (including supervisors)	**Principal investigators must ensure that:** • data management plans are drafted before the research commences; • other researchers follow the data management plan that was approved during the research approval process or that data management plans are updated when circumstances change; • the research data is published in the University's Research Data Repository or another accredited open data repository; • the sharing or publication of the research data is embargoed if there are compelling legal or ethical reasons; • they have access to the research data throughout the research data life cycle; and • the research data and research administration data is preserved and accessible.
Research Data Management Committee	**The Research Data Management Committee must:** • make recommendations on the University's research data management strategy, priorities, and budgetary requirements to the Senate; • provide advice to the University on legal requirements that apply to research data management; • co-ordinate responses to requests from information regulators and work with regulators during investigations into research data management practices; and • monitor developments regarding any proposed legislation, subordinate legislation, or any proposed policy that may affect research data management and recommend changes to the Research Policy and Research Compliance Regulation.

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Role	The extent of their responsibility to manage research data
Deans, Deputy Deans and Heads of Department	With the help of their Deputy Deans and Heads of Department, Deans must implement, monitor and advocate for research data management. They have a responsibility towards the curation and management of raw and processed data for all research projects conducted at the University. Deans of faculties and Heads of Departments should ensure that all relevant role-players in their departments are aware of, and adhere to, the University's policies relating to research data management. Deputy Deans have been appointed as custodians in their faculties. Their responsibilities are set out in the Information Security Management Policy. **Deans, Deputy Deans and Heads of Departments are specifically responsible for:** • managing and preserving non-digital research data (both raw and processed); • the proper acquisition, use and maintenance of faculty specific information technology infrastructure used for research data management; **IMPORTANT:** The University is currently implementing a centralised storage solution. Look out for announcements in this regard. • implementing discipline-specific standards for research data management in their faculties and departments; • creating a research records retention schedule for their faculties and departments to the extent that they differ from the default rule of 10 years; • identifying research data management related risks, requirements and opportunities and to report to the Research Data Management Committee; • ensuring that principal investigators and researchers in their faculty are aware of, and comply with, the University's research data management policies; and • monitoring compliance with the University's research data management policies within their faculty.

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Role	The extent of their responsibility to manage research data
Library Services	**HELP:** If you want to learn more about research data management and how to upload your research data to the Research Data Repository, visit the Research Data Management Guide. The Data Repositories page contains the procedure for uploading research data. The Department of Library Services will provide consultation and training services for researchers on research data management, e.g., compiling data management plans, metadata standards, reference support for finding and citing data sets, and data publishing. You can contact Library Services at rdm@up.ac.za.

3. Data management plans are compulsory

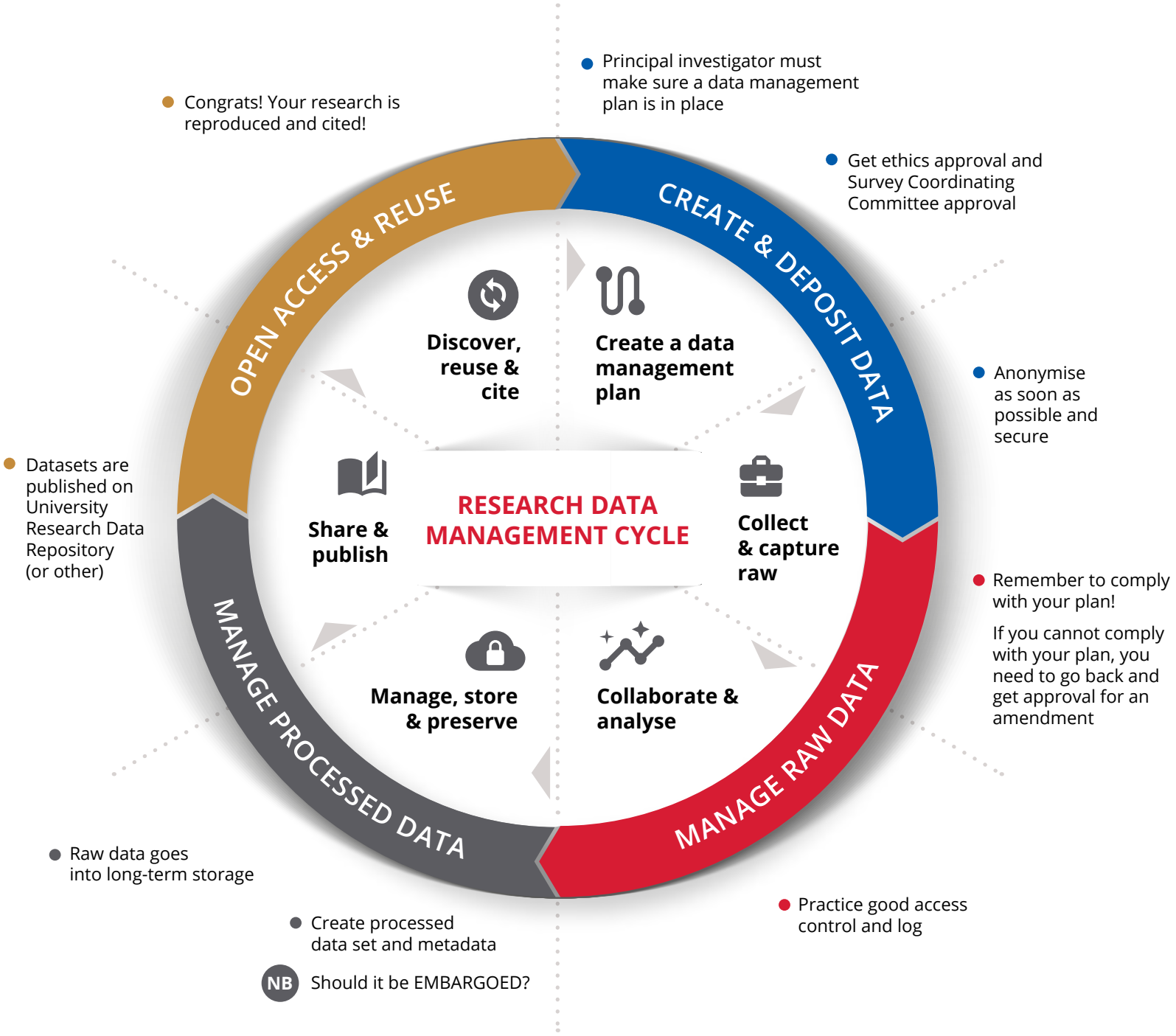
IMPORTANT: If you are generating or using research data, you must include a data management plan in your research proposal.

It is the principal investigator's responsibility to make sure that a data management plan is compiled and followed. The data management plan must accompany the research proposal through the relevant approval processes.

Your data management plan must cover the entire research data life cycle.

WHAT IS THE RESEARCH DATA LIFE CYCLE?

The process through which data flow from creation, to processing, analysis, preservation, distribution/sharing and reuse (UK Data Archive).



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WHAT DATA MANAGEMENT PLAN TEMPLATE SHOULD YOU USE?

HELP:

You can find guidelines on what your data management plan must include in the Library Services Research Data Management Guide or the Research Proposal and Approval Guideline.

Your faculty or department may have guidelines or procedures, or there may be subject-specific or discipline-specific standards which you must adhere to. Note that if you received funding, your funder may prescribe a data management plan template. Information specialists in the Department of Library Services are available for consultation and training on data management plans.

Regardless of which template you use, you should ensure that your data management plan describes the following:

- The study, the types of data you will be collecting and the format and scale of the data.
- The methodologies you will be using for data collection or generation.
- How you will control and document the consistency and quality of data.
- How you will store, back-up, manage and curate the data in the short to medium term (i.e., throughout the whole research data management life cycle).
- What security safeguards you will have in place to protect the research data from unauthorised access (pre-publication) and loss.
- What metadata and data documentation you will need to ensure that the research data can be used by others outside of the primary research team.

FAQ:

What is metadata?

It is 'structured information about the attributes of a dataset that enables the data to be identified, retrieved and managed over time' (University of Sydney RDM Policy, 2014). Metadata enables others (other researchers, bodies of experts, the broader research community, funding agencies and the public) to address questions relating to accuracy and authenticity of the research data or output and will also support the publication and re-use of the data generated from research activities. Read more about metadata here.

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- What your plans will be for long-term storage (e.g., beyond your studies or employ at the University), preservation and the planned retention period for the research data.
- The measures you will put in place to ensure the confidentiality of the information and information security.
- Research data must be securely destroyed.

IMPORTANT:

Read more about your information security responsibilities in the section about Keeping Research Data Secure.

- Whether the research data is suitable for sharing. If it is, you must indicate where your research data will be deposited and what you will do to make it accessible and findable. If there are restrictions (e.g., due to participant confidentiality, limited consent or intellectual property restrictions), you must indicate what they are and for how long they will be imposed.

IMPORTANT:

Is it compulsory to share research data?

The University requires that research data generated by means of public funding must be deposited in an accredited open access repository with a registered Digital Object Identifier.

The University recognises that a limited, defined period of exclusive use of data for primary research is reasonable. There may also be restrictions due to privacy concerns (participant confidentiality), limited consent or competing intellectual property rights. In such cases, researchers must consider anonymising or aggregating the research data, obtaining more comprehensive consent from research participants or gaining copyright permissions.

This is discussed in detail in the section about Publishing and Sharing your Research and Research Data.

- If your research will be shared, you must describe how you will govern access to the research data (who will determine whether a new user gets access?) and how you will regulate the responsibility of new users (e.g., data sharing agreements).
- The responsibilities of researchers, organisations or others who will have access to your research data in relation to research data management, metadata creation, data security and quality assurance of data.
- The relevant institutional, departmental or study policies on data sharing and data security that are applicable to your research.

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FAQ:

What if the research data cannot be shared due to others' intellectual property rights?

OR

What if publishing the research data infringes on a research participant's privacy rights?

If your research data belongs to someone other than the University, or if publishing your research data will breach an ethical or legal obligation, you should ensure that the research data is embargoed. This means that it is still placed in the Research Data Repository but that it is not accessible or that access to it is restricted. This is discussed in the sub-section about sharing and reuse of research data.

4. Managing research data that contains identifiable personal information

If your research data contains identifiable personal information of living individuals or existing organisations you must tread carefully because you are subject to POPIA or other privacy regulations. Non-compliance comes with serious fines and can damage your reputation as well as the reputation of the University.

IMPORTANT:

If your research involves living human participants or existing organisations (research participants for purposes of this Manual), it is extremely likely that POPIA applies. POPIA will apply if you:

- collect personal information from research participants directly (e.g., in an interview or a survey);
- observe research participants or monitor their behaviour;
- harvest the personal information of research participants from a publicly available source;
- reuse the personal information of research participants that was collected for another purpose; and
- obtain the personal information of research participants from another organisation.

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Here is a checklist to ensure that your research is POPIA compliant:

- ☐ Have you considered collecting the research data anonymously?
- ☐ If you cannot collect the research data anonymously, have you considered pseudonymising (i.e., masking) the identity of the research participants?
- ☐ Have you completed the POPIA self-assessment in the Research Proposal and Approval Guideline?
- ☐ Have you drafted and submitted a data management plan?
- ☐ Have you worked through the Information security checklist?
- ☐ Is everybody who has access to the personal information of the research participants aware of the risks and their responsibilities?

FAQ:

What is personal information?

This is the definition in POPIA. Personal information includes any information that relates to an identifiable, living individual or an identifiable, existing juristic person (e.g., a company or other type of organisation).

POPIA provides the following examples:

- information relating to the race, gender, sex, pregnancy, marital status, national, ethnic, or social origin, colour, sexual orientation, age, physical or mental health, well-being, disability, religion, conscience, belief, culture, language, and birth of the person
- information relating to the education or the medical, financial, criminal or employment history of the person
- any identifying number, symbol, email address, physical address, telephone number, location information, online identifier or another particular assignment to the person
- the personal opinions, views, or preferences of the person
- correspondence sent by the person that is implicitly or explicitly of a private or confidential nature or further correspondence that would reveal the contents of the original correspondence
- the views or opinions of another individual about the person
- the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person

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FAQ:

When is personal information considered identifiable?

When it is possible to identify the research participant either directly (e.g., because a name, identification number, online identifier, telephone number or email address is included in the dataset) or indirectly, by deduction or linking the information with other information that identifies the research participant. If the research participant's identity is masked or the research participant has been given a pseudonym or participant identification number, the research participant is still identifiable. So, although pseudonymisation is a very effective way to protect privacy and secure personal information, POPIA (and this section) still applies.

Only personal information that has been completely anonymised is no longer personal. However, be careful because it is very difficult to completely anonymise personal information. When in doubt, assume that it can still be re-identified.

K. KEEPING RESEARCH DATA SECURE

1. The importance of keeping research data secure

What happens if you do not keep research data (raw and processed), research findings and intellectual property secure? Imagine this scenario: Several postdoctoral fellows spend a year gathering research data in a community. They capture the research data on paper forms and then scan the forms onto a computer housed in a temporary centre built in the community. The paper forms, server and the external hard drives used to store the research data are stored in the centre. The centre burns down.

What was lost?

- Data; unique and valuable research data.
- Funding; the money spent on gathering the research data (e.g., to pay the postdoctoral fellows) was wasted.
- Time; it will take another year to gather the research data again.

This section of the Manual ensures that you adequately secure research data, research findings and intellectual property from:

- unauthorised access to research data, research findings or intellectual property, e.g., when someone 'hacks' the personal information of your research participants;
- research data becoming corrupted or out of date; and
- becoming lost as in the example above.

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2. Information security responsibilities

It is tempting to think that there is a team at the University's Information Technology Services that works to keep all of the information at the University secure. Still, the reality is that most security incidents are caused by the people who handle and work with that information. We are all responsible for keeping research data, research findings and intellectual property secure.

IMPORTANT: Information security is a large part of complying with POPIA. However, the University requires that all research data, research findings and intellectual property be protected, regardless of whether it contains personal information.

Role	The extent of the responsibility of the parties to keep research data, research findings and intellectual property secure
Researchers	All researchers at the University must ensure that their research data, research findings and the intellectual property they create, are kept secure.
Principal investigators (including supervisors)	Specific information security requirements are set out in research proposals (or protocols), data management plans, research contracts with funders, and the University's policies. Principal investigators must ensure that other researchers working with them are aware of their responsibilities and that they follow the approved research proposals, adhere to any research contracts that might apply to them and follow the University's policies.
Research Data Management Committee	**The Research Data Management Committee must:** • identify institution-wide research data management related risks; • create and co-ordinate working groups to manage institution-wide research data management risks; • make recommendations on the University's research data management strategy, priorities, and budgetary requirements to the Senate; • provide advice to the University on legal requirements that apply to research data management;

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	• co-ordinate responses to requests from information regulators and work with regulators during investigations into research data management practices; • evaluate the University's response to research data management-related incidents (Research Data Management Incidents) and make recommendations on actions that may prevent future incidents; and • monitor developments regarding any proposed legislation, subordinate legislation, or any proposed policy that may affect the research data management and recommend changes to the Research Policy and Research Compliance Regulation.

3. An information security checklist

If your research involves collecting, observing, generating or creating information to validate original research findings, you must submit a data management plan as part of your research proposal. If you followed the Research Proposal and Approval Guideline, you would have been asked to consider information security as part of your data management plan. This is an important safeguard.

IMPORTANT:

If your research data contains identifiable personal information, you are subject to POPIA. This means you must apply a higher level of security than would typically be the case. You should avoid collecting identifiable personal information if your research does not require it. If you must collect identifiable personal information, you should mask the identity of the individuals or organisations to whom the personal information relates. This is referred to as pseudonymisation. You must fully and permanently de-identify (sometimes called anonymisation) the personal information as soon as you can.

If you require advice, please contact the Research Data Management Committee at resdatacom@up.ac.za.

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This checklist ensures that you consider information security while you conduct your research:

Check	Some guidance
Do you comply with your data management plan?	Researchers must follow their approved data management plan. If the research methodology changes (it happens!), you must update your data management plan. In the case of material changes, you may need to get approval for those changes. You must follow the same approval process as you followed when the research was approved originally. It is also possible that further ethics approval may be required.
Does your research comply with the University's policies and all applicable laws, regulations, codes and other binding rules?	To find out more about the policies that apply to your research, visit the Research Resources Page. For information security, the most important policy is the University's Information Security Management Policy.
Does the University have contracts in place with external organisations (called 'third parties') who have access to your research data?	**Here are some examples of when a contract is required between the University and a third party:** • cloud service providers who store research data for you (e.g., Microsoft, Google, Dropbox) and other IT service providers (software, hardware or IT services) • research data repositories • service providers (e.g., other laboratories) • funders or other organisations with whom you share research data • organisations who have commissioned your research You must check whether the appropriate contracts are in place by contacting the Innovation and Contracts Management Office at icm@up.ac.za.

Check	Some guidance
Do you control access to your research data?	While the University's Information Technology Services manage access to the University's systems and networks (see the IT User Access Policy), it is your responsibility to manage access to your research data, even when stored on the University's systems and networks. You should control access to your research data. You should only give access to your raw or unpublished research data to people who need access by virtue of their role (e.g., to edit research data instead of just viewing research data). This also applies to research data stored in a physical format. If you need advice, you should contact the Research Data Management Committee at resdatacom@up.ac.za or the Deputy Dean for Research of the faculty you are affiliated with.
Do you store your research data responsibly?	You must ensure that your research data is stored responsibly and that the University has access to it. For instance, you must use the University's Google Drive instead of your personal account to store research data. **Here are appropriate storage options:** • your University OneDrive account (recommended) • the University's Google Drive (you can ask the Unit for Academic IT for space) • a storage solution provided by your faculty (e.g., RedCap) • another cloud service provider with whom the University has an agreement • an access-restricted University-owned computer • an access-restricted physical location (for hard copies) The University is currently implementing a centralised storage solution. Always look out for announcements in this regard. **HELP:** You can contact the Unit for Academic IT at eresearchstorage@up.ac.za for advice on cloud computing and alternative infrastructure(s) for the management of large datasets.

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Check	Some guidance
Do you only use acceptable software?	Only use software that is acceptable to the University and use the University's licences when working with research data. If you must use software that the University does not already use, the software has to be vetted by the Unit for Academic IT. Contact the Unit for Academic IT at eresearchstorage@up.ac.za if you want to know whether the University uses the software that you must use for your research.
Do you use portable hardware and removable media responsibly?	Portable hardware and removable media include laptops, smartphones, tablets, USB flash drives, external hard drives, CDs (and other recordable or rewritable media), digital cameras or other hardware. You must comply with the University's Portable Hardware and Removable Media Policy.
Do you transfer research data securely?	Avoid sending research data containing identifiable personal information or confidential information by email. Always consider giving direct access to the research data without transmitting it. If research data must be transmitted, ask the Unit for Academic IT at eresearchstorage@up.ac.za for a safe way to transfer the information (e.g., a University-approved file-sharing site, encryption or using a secure file transfer protocol). The University of Pretoria can provide encryption of data on laptops through Microsoft Intune's BitLocker software and handles the management of keys for this software, but should you utilise your own encryption tools, you will have to take responsibility for the safeguarding of those keys for the decryption of the data.
Is the stored research data, research findings and other intellectual property backed up?	Principal investigators must put measures in place to protect data from being changed or lost, including from fires or other emergencies. This usually takes the form of a disaster recovery plan.

4. What to do when something goes wrong

IMPORTANT:

It is almost impossible to prevent information security incidents from happening. The consequences of information security incidents can be limited if you and the University respond to them quickly. You must report information security incidents as soon as you become aware of them or if you suspect that one has taken place.

IMPORTANT:

Information security incidents are a category of research data management incidents. Please review the Research Data Management Incidents section of this Manual. If you suspect that an incident has occurred, you must report it to the Research Data Management Committee at resdatacom@up.ac.za as soon as possible.

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L. PUBLISHING AND SHARING YOUR RESEARCH AND RESEARCH DATA

1. Publishing your research findings

IMPORTANT:

Research is usually informed by a multitude of sources and contributors. It is essential to acknowledge these sources and contributors when you present or publish your ideas. Presenting someone else's work as your own is a very serious form of academic misconduct.

As a researcher, you must:

- ensure that your work is original (i.e., not plagiarised) and that you properly acknowledge the work of others;
- not publish fabricated research results or omit or change information;
- ensure that your work is published in reputable publications;
- quote applicable data, including data that does not support your hypothesis;
- quote from other appropriate publications;
- get permission from the source if you quote from unpublished written material; and
- not submit extracts from research or reports to more than one publisher without the approval of the editors of each publication.

IMPORTANT:

You must avoid publishing your research findings in predatory journals. Predatory journals are an exploitative open-access academic publishing business model that involves charging publication fees to authors without providing the editorial and publishing services associated with legitimate journals. For further information, see the Library Services' webpage on Predatory Publications.

HELP:

You can find the list of accredited journals at the Library Services here.

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The following principles apply when you are a co-author of a publication:

- The principal author should award authorship to researchers who have made an original and significant contribution to the conceptualisation, design, execution, and interpretation of the publication. The principal author must also decide on the sequence of the list of authors.
- Researchers who made smaller contributions (e.g., giving advice, performing analyses or providing subject material) should also be acknowledged.
- The principal author must ensure that these issues are discussed openly and that they are decided before undertaking a co-authored project.
- The principal author remains responsible for coordinating the work's completion and submission and ensuring that all contributions are properly acknowledged.
- All co-authors should approve the final version of the manuscript and should be prepared to publicly accept responsibility for the work. Co-authors are responsible for the verification of their parts of the manuscript.

2. Publishing your research data

The University is committed to providing open access to research data (where appropriate). Open data refers to research 'data that can be freely used, reused and redistributed, without any restriction other than to provide attribution and to share alike.' – Open Data Handbook.

The University also subscribes to the FAIR principles. This means that research data must be:

Findable **A**ccessible **I**nteroperable **R**eusable

You can read more about the FAIR principles and how to implement them on the Force11 website.

IMPORTANT:

When is it not appropriate to give open access to research data?

Principal investigators must consider whether giving open access to research data could cause any harm to research participants. For instance, if the research data contains identifiable personal information, giving true open access (e.g., subject to no restrictions) may infringe on the research participants' right to privacy unless the researcher has obtained a specific, informed consent of the research participants to give open access. In other instances, the research data might belong to someone other than the University (e.g., a funder). In those instances, the holder of the intellectual property rights must decide how to publish the research data.

Before you graduate or publish your research findings, you must publish your research data and accompanying metadata in the Research Data Repository. If there are ethical or legal restrictions, you can ask that your research data be embargoed. If you are required to publish your research data in another accredited open-data repository or an accredited or trusted discipline-specific repository, you must inform the Department of Library Services at rdm@up.ac.za.

Researchers must publish their research data under the least restrictive licence possible, for example, a Creative Commons licence.

HELP:

You will find information on uploading your research data to the Research Data Repository by visiting the Research Data Management Guide.

THINK ABOUT IT:

What does the Research Compliance Regulation say?

The University balances the public interest in research activities and open access with intellectual property and privacy rights when it decides to share, publish or reuse research findings and research data.

Researchers must:

- disseminate their research findings (whether positive or negative) in a timely, accessible, responsible and competent manner within the bounds of what is possible and appropriate from an ethical, regulatory and contractual perspective; and
- ensure that their research proposal accurately describes any planned sharing, publication or reuse of research data.

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3. Sharing and reuse of research data

It is your responsibility as the researcher to determine whether it is appropriate to share your research data.

WHAT IS SHARING?

For purposes of this section of the Manual, sharing refers to when you:

- share research data with other researchers who do not participate in the research;
- share research data with external organisations who collaborate with the University;
- share research data with service providers who assist you in your research;
- publish research data in a repository; and/or
- share research data with a research participant.

Use these principles to help you decide if sharing is appropriate:	
Is the University aware of the sharing?	You must declare any future sharing or publications of your research data and research findings in your research proposal or inform the University when you become aware of the intended sharing or publication.
Is a research participant or other individual or organisation asking for access to their own personal information?	Individuals or organisations have a right to their personal information; however, there are exceptions, such as where sharing the information would compromise someone else's privacy or intellectual property rights or disclosing the information would be detrimental to the research participant. If you do not want to provide access to the information, you must refer the research participant to informationofficer@up.ac.za.

Does the research data that you want to share contain identified or identifiable personal information of research participants or other individuals or organisations?	You must always anonymise any personal information before sharing your research data or research findings. **In instances where this is not possible, you must evaluate sharing the personal information and determine the following:** • whether consent from the research participant is required; • whether adequate safeguards are in place to protect personal information; • which contracts (e.g., data sharing agreements) must be concluded before the personal information is shared; and • whether it is necessary to seek further advice from the Research Data Management Committee. You may also approach the Unit for Academic IT to perform a risk assessment of any external organisation to ensure that any research data concerning identifiable human research participants will be secure.
Does the research data that you want to share include human biological materials or animal materials?	You must consult with the Innovation and Contracts Management Office and ensure that a material transfer agreement, data sharing agreement or other applicable agreements are concluded before the research data or research findings are shared.
Is the research data subject to a confidentiality agreement?	You must always determine whether the research data is subject to a confidentiality agreement. If this is the case, you must ensure compliance with the confidentiality undertaking.
Does the research data contain valuable intellectual property?	If the research data contains valuable intellectual property, it may infringe upon intellectual property rights or jeopardise intellectual property filings. Therefore, you must obtain permission from the Innovation and Contracts Management Office before you can share the research data to ensure that the University has the right to share the personal information and that all intellectual property rights are protected.

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Generally, researchers may only use research data for their original intended purpose. However, the University acknowledges that there could be compelling practical, ethical and scientific reasons for reusing research data.

The principles set out below apply when:

- personal information of prospective research participants is collected from sources other than the research participant (e.g., a University database or public record) for recruitment purposes;
- research data is collected by other researchers at the University; and
- research data was collected by an external organisation or researcher for previous research.

You must follow these principles to determine whether it is appropriate to reuse research data:	
Has the University approved the reuse of the research data?	You must set out the reuse of research data in your research proposal, or you must amend the research proposal and have it re-approved as soon as you decide to reuse research data. You must also ask for approval to reuse the research data from the Innovation and Contracts Management Office.
If the data is identifiable, have you completed the POPIA assessment?	You must complete the POPIA self-assessment if you intend to reuse the research data of human participants in an identifiable format. The assessment has been incorporated into the Research Proposal and Approval Guideline.
Have the research participants given consent that you may reuse the research data?	Although consent is not always legally required, the University encourages you to obtain consent from research participants before reusing data. You must set out how you will obtain consent in your research proposal.

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M. PRESERVING A RECORD OF YOUR RESEARCH

1. The University keeps a record of research for at least 10 years

All primary research materials and data created, collected or generated by students, employees and affiliates of the University belong to the University unless the intellectual property rights have been assigned to someone else (e.g., a funder) in terms of a contract. This is because the University is publicly funded and subject to the Intellectual Property Rights from Publicly Financed Research Act of 2008. Also, see the Intellectual Property section of this Manual.

IMPORTANT:

This means that even when the researcher leaves the University, the research data must still be preserved. In the case of students, it is the responsibility of the supervisor to ensure that the research data is preserved. When an employee of the University leaves, it is the responsibility of the Head of Department to ensure that the employee's research data is preserved. All research data which is in digital format must be uploaded to the University's Research Data Management Repository once the research is concluded unless an exception has been granted by Library Services. This is discussed in the section about Publishing and Sharing your Research and Research Data.

THE DEFAULT RULE:

Research data must be stored for a minimum of 10 years after the completion of the original project. However, if intellectual property is involved, or if there are statutory or contractual requirements, a longer period may be required. In some cases, particularly where research involving human subjects is concerned, funding bodies may require that all raw data be kept indefinitely.

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IMPORTANT:

Research data that contains personal information must be de-identified as soon as possible. If there is a persuasive reason why it cannot be de-identified, the principal investigator must record that reason in the POPIA self-assessment. If the personal information has been de-identified, the principal investigator must maintain a log containing the following metadata:

- when the personal information was de-identified
- how the personal information was de-identified
- under which conditions the personal information can be shared on open access platforms

Apart from having to keep a record of the research data, you as the researcher or principal investigator **must also retain the following research administration information:**

- research proposals and research protocols
- correspondence between researchers and approval bodies (e.g., feedback from research ethics committees or advice from Deputy Information Officers)
- research-related contracts
- disclosures made to research participants (e.g., information sheets)
- a record of informed consent (including the procedure and documentation used)
- progress or other reports

Who is responsible to make and document research records retention rules?

The principal investigator must determine for how long the research data and research administration information must be kept.

Deputy Deans must maintain a research records retention schedule when there is a departure from the 10-year retention period. This record retention schedule must state:

- when the record was created (e.g., when the research is concluded, when the research proposal is approved, when the informed consent is obtained)
- for how long the record must be retained (e.g., indefinitely, at the conclusion of research + 10 years)
- why the record must be retained (e.g., for proof, to comply with specific legislation (name the relevant Act and section)

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FAQ:

What if I leave the University? Am I entitled to take my research data with me?

Remember that in many instances the University will be the owner of the research data that you generated during your studies, research training or employment. This means that the University must have control over that research data, even after you leave. You are, however, entitled to request permission from your supervisor and Head of Department to retain a copy of your research data. The recommendation must be referred to the Research Data Committee for a final decision.

2. How long must I store my research data?

Research data retention periods may be determined by various factors:

- Agreements or contracts with funders, research and industry partners
- Regulatory requirements for statutory retention periods

At the University of Pretoria, the research data retention periods are as follows:

- Research data must be stored for a minimum of 10 years after the completion of the original project.
- Raw data of undergraduate research projects must be stored for 3 years after the completion of the project.

3. Destruction or disposal of research data

At the end of the retention period, the research data should be considered for destruction.
The relevant principal investigator and Head of Department should request the secure disposal of the research data housed in the University's Research Data Repository by contacting Library Services.
Library Services will obtain permission to destroy the research data from the Research Data Committee.

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N. REPORT RESEARCH DATA MANAGEMENT INCIDENTS

1. What constitutes a research data management incident

Here are examples of incidents that must be reported:

- Lost or stolen research data (e.g., when hackers steal or ransom research data when unencrypted devices are lost or stolen, or when hard-copy records are lost).
- Not backing up research data or not regularly checking that research data can be retrieved from backups.
- When someone external or internal to the University gains unauthorised access to systems, hardware or software that contains research data.
- Accidentally or deliberately sending research data to a University employee or an external individual who is not authorised to receive it (e.g., accidentally sending a spreadsheet with research data to the wrong email address).
- Disposing of research data insecurely (e.g., dumping hard copies in waste bins without shredding or not removing information from a device before dumping or reselling it).
- Information security incidents that occur at external organisations that had access to research data (e.g., collaborators or service providers).
- When an external organisation shares or publishes research data without the University's written permission.
- Not de-identifying personal information when it is possible to de-identify it (i.e., not making research data anonymous before publishing or sharing it).

WHAT IS A RESEARCH DATA MANAGEMENT INCIDENT:

For the purposes of this Manual, an incident includes:

- contraventions of any legislation, regulation, code, contract or other binding rule that relates to research data management; or
- information security incidents, such as breaches of confidentiality, failures of integrity or interruptions in the availability of research data.

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- Obtaining personal information from unlawful sources (e.g., obtaining research data from a source without the agreement or permission of the custodian of that information).
- Not obtaining informed consent when it is required.
- Not notifying research participants on how and why their personal information will be processed.
- Not ensuring that personal information is complete, accurate, not misleading and updated when necessary (e.g., failing to update personal information everywhere it is stored when a research participant updates the information).

2. How to report an incident and how it will be managed

IMPORTANT: If you suspect an incident has occurred, you must report it to the Research Data Management Committee at resdatacom@up.ac.za as soon as possible.

The Research Data Management Committee will manage research data management incidents in consultation with:

- the relevant Deputy Dean and research ethics committee;
- the Deputy Information Officer Committee if the incident involves personal information; and
- the Information Technology Cyber Security Incident Response Team if it is a significant cybersecurity incident or if the incident threatens the University's information technology infrastructure.

The Research Data Management Committee must:

- take immediate action to contain the incident and mitigate any risks created by the incident;
- assign the relevant Deputy Dean as incident owner;
- engage with and notify external and internal stakeholders of an incident that affects them;
- identify, collect and preserve information that can serve as evidence;
- analyse incidents;
- recommend disciplinary action if the incident was caused or exacerbated by research misconduct;
- adjust procedures to mitigate the risk of future incidents and to improve the responses to future incidents; and
- ensure appropriate follow-up reports.

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O. RESOURCES

Rules that apply to your faculty

You can consult the Research Resources Page for a list of the legal rules that apply to your faculty or for your type of research. Note that these pages may not be complete or may not cater to your specific research; you should also check whether any other legal rules apply to you.

When you need a contract

You can contact the Innovation and Contracts Management Office for assistance at icm@up.ac.za.

Learn more about research data management

If you want to learn more about research data management and how to upload your research data to the Research Data Repository, visit the Research Data Management Guide. The Data Repositories page contains the procedure for uploading research data.

The Department of Library Services will provide consultation and training services for researchers on research data management, e.g., compiling data management plans, metadata standards, reference support for finding and citing data sets, and data publishing. You can contact Library Services at rdm@up.ac.za.

Advice on cloud computing and alternative infrastructure(s) to manage large datasets

You can contact the Unit for Academic IT at eresearchstorage@up.ac.za for advice on cloud computing and alternative infrastructure(s) for the management of large datasets.

Accredited journals

You can find the list of accredited journals at the Library Services here.

How to upload your research data to the Research Data Repository

You will find information on uploading your research data to the Research Data Management Guide.

P. A GLOSSARY OF TERMS

Term	Definition
Intellectual property	**Intellectual property means all outputs of creative endeavour in any field, including all:** • forms of copyright and copyrightable works (e.g., a thesis, dissertation or article); • design rights, whether registered or unregistered; • patents or patentable material; • trademarks; • know-how and trade secrets; • rights in databases, information and research data; • biological organisms and material, and reagents; • discoveries, mathematical formulae, specifications, diagrams and drawings; • algorithms; • expertise, techniques, research results and inventions; • integrated circuit chips, computer software and programs; • laboratory notebooks; • business and research methods; • actual and potential teaching and distance-learning material; • the University's name, badge and other trademarks associated with the operations of the University; and • any other items that the University may from time to time specify in writing. Intellectual property means any creation of the mind that can be protected by law from use by any other person, whether in terms of South African law or foreign intellectual property law. It includes statutory inventions, patent applications and registrations as defined in the Patents Act 57 of 1978, copyrighted works as defined in the Copyright Act 98 of 1978, plant breeders rights as defined in the Plant Breeders Rights Act of 1999, designs, design applications and registrations as defined in the Designs Act 195 of 1993, trademarks, trade mark applications and registrations as defined in the Trade Marks Act 194 of 1993, confidential or proprietary information, know-how, and trade secrets.

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Term	Definition
Metadata	Metadata is 'structured information about the attributes of a dataset that enables the data to be identified, retrieved and managed over time' (University of Sydney RDM Policy, 2014). Metadata enables others (other researchers, bodies of experts, the broader research community, funding agencies and the public) to address questions relating to accuracy and authenticity and will also support the publication and re-use of the data generated from research activities. Read more about metadata here.
Personal information	According to the University's Information Governance Policy, personal information means any information relating to an identifiable individual (living or deceased) or an existing organisation (a company, public body, university, etc.). This includes the personal information of research participants, members of the public or other individuals (living or deceased), or organisations. As UP's Information Governance Policy applies to living and deceased identifiable individuals and POPIA only applies to living individuals, you must think carefully about whether you are under an ethical obligation to protect the dignity of the deceased or their next of kin. **Examples of personal information include:** • identifiers, such as a name, identity number, student number, staff number, account number, customer number, company registration number, tax number, photos, videos, or any other unique information that can be used to identify a person • demographic information, such as race, gender, sex, pregnancy, marital status, national or ethnic or social origin, colour, sexual orientation, age, religion, conscience, belief, culture, language and birth • information relating to physical or mental health, well-being or disability • background information, such as education, financial, employment, medical, criminal or credit history • contact details, such as physical and postal address, email address, telephone number, online identifier (e.g., a person's Twitter, now known as X, handle) or location information • biometric information: this refers to techniques of identification that are based on physical, physiological, or behavioural characterisation such as blood-typing, fingerprinting, DNA analysis, retinal scanning, and voice recognition • someone's opinions, views, and preferences

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Term	Definition
	• private or confidential correspondence and any further correspondence that would reveal the contents of the original correspondence • views or opinions about a person, such as interview notes and trade references • the criminal behaviour of a data subject to the extent that such information relates to the alleged commission by a data subject of any offence or any proceedings in respect of any offence allegedly committed by a data subject or the disposal of such proceedings
Research	According to the Research Policy, research is 'any activity aimed at generating or improving knowledge in any discipline (or across disciplines) through enquiry or systematic investigation'.
Research data life cycle	The process through which data flows from creation, to processing, analysis, preservation, distribution or sharing and reuse (UK Data Archive).
Research data management incident	**For the purposes of this Manual, an incident includes:** • contravention of any legislation, regulation, code, contract or other binding rule that relates to research data management; or • information security incidents, such as breaches of confidentiality, failures of integrity or interruptions in the availability of research data.
Sharing	**For purposes of this Manual, sharing refers to when you:** • share research data with other researchers who do not participate in the research; • share research data with external organisations who collaborate with the University; • share research data with service providers who assist you in your research; • publish research data in a repository; and • share research data with a research participant.

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SOCIALISATION PLAN
iGaPP RESEARCH DATA MANAGEMENT RESOURCES

In order to raise awareness, improve buy-in and compliance with the University of Pretoria Research and Intellectual Property policies and regulations and legislation on research conduct and research data management across the university, the resources developed to guide researchers and the Research Resources microsite will be introduced and shared as follows:

University committees

The contents of the research manual, procedures and research resources microsite (comprehensive one-stop portal) will be shared for noting with the following committees:

- Deans Committee
- Academic Planning Committee
- Senate Research and Postgraduate Education Committee
- Senate Research Ethics and Integrity Committee
- Senate Internationalisation and Global Engagement Committee
- Directors Management Committee
- Senate

University wide email

A campus wide email will be sent out announcing and alerting the university community to the research resources website and resource documents.

Webinar

Novation Consulting and the Department of Research and Innovation will host a webinar focusing on the resource materials and e-learning modules. The recorded webinar will be available on the Research Resources microsite.

Faculty roadshows

Following the webinar and campus wide announcement, Novation Consulting and the Department of Research and Innovation will have virtual/hybrid roadshows with all the faculties.

Training Workshops and Information Sessions

The Department of Research and Innovation in partnership with Library Services and Faculties will run several workshops for academic researchers, postgraduate students and the UP postdoctoral forum members. The information and resources will be shared with participants in the various workshops and sessions.

Academic Induction and Researcher Engagement Workshop

The information will be shared at the biannual academic induction sessions and the planned researcher engagement sessions hosted by the Departments of Research and Innovation

and Finance (research funding and procurement) for new and current academic researchers.

Graduate Hub, Faculty Research Hubs and Library Research Commons
Bookmarks and cards with information and links to the resources will be provided and available at these various gathering sites and displayed on monitors and in information sharing spaces.

ClickUP
The E-learning modules and links to manuals and resources will be on ClickUP.