STANDARD GUIDELINES FOR THE INTEGRATED RESEARCH INTEGRITY MANAGEMENT SYSTEM OF THE NORTH-WEST UNIVERSITY

1 HISTORY

Since 2018 the North-West University (NWU), has managed to build up an effective *research ethics system* that consists of either Faculty Research Ethics Committees (FRECs) for the review of research with a minimal risk and five National Health Research Ethics Council (NHREC) registered RECS for the review of research that involves health or health-related research, animal research, research with vulnerable participants or research that has a greater than minimal risk. A formal research integrity (RI) system was however, still lacking. In the absence of a RI system to handle cases of potential 1) research non-compliance, 2) violation of good research practice and 3) research misconduct, these aspects were handled by the Executive Dean (ED), Deputy-Dean: Research and Innovation (DD: R&I) (in larger Faculties) or the Research Director (RD) but also differed amongst Faculties. As far as possible any potential conflict of interest was managed according to the case at hand. No standard guidelines or SOPs existed to handle these cases. The approach mostly followed was that if the actions of a researcher (academic or postgraduate student) involved potential research non-compliance and/or violation of good research practice, it was handled in the Faculty by the ED of the Faculty or the DD: R&I (in larger Faculties) or the Research Director (RD) or the Chairperson of a Faculty REC or the Head of the Ethics Office. This opened many potential risky areas in the management of breaches/transgressions in research integrity. In the case of potential research misconduct (fabrication, falsification, or plagiarism), or other breaches/transgressions in Responsible Conduct of Research (RCR)/research integrity (RI), the case was escalated to the Deputy Vice-Chancellor: Research and Innovation (DVC: R&I), the Registrar, or the Student Judicial Office should there be enough proof of potential research misconduct or other breaches. It would then be the DVC: R&I, the Registrar, or the Student Judicial Office that would launch a formal investigation into potential research misconduct or breaches in RCR, either going the route of disciplinary or legal action pending the nature of the case.

In 2018 two changes occurred: 1) the appointment of *Deputy Deans* in the five larger Faculties (FEDUC, FEMS, FHS, FHUM, and FNAS), and 2) the NWU approving a "*Policy on Academic Integrity (2018, revised 2021)*". The mentioned policy includes both *teaching-learning* and *research practices*. It provides guidelines on how the office of the Registrar or Student Judicial Office, not the DVC: R&I, will handle a formal internal and external investigation into potential academic (teaching-learning or research) misconduct of an undergraduate or postgraduate student or a staff member. These two changes, as well as an *increase in cases* of research non-compliance, violation of good research practice and research misconduct in Faculties, created a greater awareness of the importance of research integrity (RI) and the need to foster a climate of RCR, as well as the need to find more effective, comprehensive, standard ways to manage RI in the Faculties.

The management of RI was then delegated specifically to the DD: R&I (DD: R&I) in the five larger Faculties (FEDUC, FEMS, FHS, FHUM, and FNAS) but remained the responsibility of the EDs in the three smaller Faculties (FENG, FLAW, and FTHEO). In 2018 the Faculty of Health Sciences (FHS) took the first step to create a greater awareness of RI within the FHS. This was accomplished by presenting several two-hour training sessions in RI on all three campuses to both academics and postgraduate students. Since 2019 RI training became an integral part of the two-day Research Ethics Training course in the FHS with the first morning dedicated to an introduction to RI. Towards the latter part of 2019 it was decided to develop an extensive system called the *Integrated Research Integrity Management System (IRIMS), and its accompanying processes and procedures* during 2020 under the auspices of the DD: R&I and a dedicated Research Integrity Officer (RIO), envisaged to roll out in the FHS during 2021. The role out was completed in 2021 and IRIMS now fully incorporated into the functioning of the FHS. During 2020 a decision was taken by the Registrar and the DVC: R&I to hold back on a similar role out in other Faculties and first sort out potential problems with IRIMS in the FHS. Towards the end of 2021 it was decided to roll out an adjusted IRIMS in 2022 to the rest of the Faculties.

In February 2022 the guidelines and IRIMS SOPs were adjusted and roll out started in earnest in March 2022 and was completed in August 2022 with all the various Faculty Boards accepting and approving IRIMS and senate acknowledging this system in October 2022. Administrative systems to support IRIMS are being set up in all Faculties and continuous training provided to the deanery, RDs, academics, and postgraduate students. Attention is being given to fully integrate the system into the Faculties and staff internalizing the system as their own.

2 PURPOSE OF THESE GUIDELINES

These guidelines provide guidance (see webpage link https://www.nwu.ac.za/irims) to staff and students (undergraduate and postgraduate) on the "*Integrated Research Integrity Management System*" (IRIMS) of a Faculty. It provides an overarching document that will link the various processes and procedures to ensure:

1) The fostering of a climate of *Responsible Conduct of Research* (RCR) through the approved "*Framework for fostering Responsible Conduct of Research*" (See **Annexure A**).
2) The effective *management of potential breaches in RCR/RI* through acts of:

   i) Research non-compliance.

   ii) Violation of good research practice.

   iii) Research misconduct.

   (See IRIMS RI SOPs 1 to 7).
3) The effective management of possible *appeals* processes stemming from assessments on an *intra-faculty level*.

These IRIMS guidelines and accompanying SOPs are formulated with the understanding that *research ethics* and *research integrity* differ as constructs and in processes yet are closely linked. See **Annexure B** for a visual understanding of both these mentioned constructs and how they interlink in the *Tree Metaphor* created by Greeff (2021).

Research Ethics:

Research ethics refers to a set of rules based on specific *ethics principles* and governed by *norms and standards* of conduct for researchers on how research is performed and how it is disseminated (Wallace & Sheldon, 2015:272, Greenwood, 2016:514). These principles as well as norms and standard are reflected in the DoH, 2015 guidelines.

The three principles underlying research ethics:

- Beneficence and non-maleficence.
- Distributional justice (equality).
- Respect for persons (dignity and autonomy).

The eight key norms and standards:

- Relevance and value.
- Scientific integrity.
- Role-player engagement.
- Favourable risk-benefit ratio.
- Fair selection of participants.
- Informed consent.
- Ongoing respect for enrolled participants.
- Research competence and expertise.

Research Integrity:

Research integrity refers to the active adherence to specific *research integrity principles* and *responsibilities* that becomes visible in Responsible Conduct of Research (RCR). The principles and responsibilities are stated in the Singapore Statement for Research Integrity (2010).

The four principles:

- Honesty in all aspects of research.
- Accountability in the conduct of research.
- Professional courtesy and fairness in working with others.
- Good stewardship of research on behalf of others.

The fourteen responsibilities of research integrity:

- Integrity (trustworthiness).
- Adherence to regulations etc.
- Employ appropriate research methods, critical analysis, and report findings fully and objectively.
- Share research findings openly and promptly.
- Take responsibility for authorship. Include all those that should be included and only those who meet the criteria of authorship.
- Acknowledge those who made significant contributions.
- Ensure that peer review is fair, prompt, and rigorous. Respect confidentiality.
- Disclose all conflicts of interest.
- Limit professional comments during public communication to recognised expertise and not personal views.
- Report irresponsible research practices.
- Respond to irresponsible research.
- Create and sustain research environments that encourage integrity.
- Recognize ethical obligations to weigh societal benefits against risks inherent in the research.

3 ABBREVIATIONS AND/OR DEFINITIONS USED IN VARIOUS SOPs

Abbreviation	**Description**
DD: R&I	Deputy Dean: Research and Innovation
ED	Executive Dean
RD	Research Director
SD	School Director
RIO	Research Integrity Officer in the office of the DVC: R&I
RI	Research Integrity
SRIC	Standing Research Integrity Committee
ERIC	Empanelled Research Integrity Committee
DVC: R&I	Deputy Vice-Chancellor: Research and Innovation
REC	Research Ethics Committee
RCR	Responsible Conduct of Research
Concepts	**Definitions**
Research	Research includes the activities that are aimed at improving knowledge of any discipline through enquiry or systematic investigation. This applies to Research, whether in the public interest or not, or whether the Research is published or not. It refers to all academic Research conducted as part of any academic programme in any subject, including Agricultural Sciences, Earth Sciences, Economic 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 the 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). (Adapted for the ASSAF Draft POPIA Code of Conduct for research, 2022).
Larger Faculties	Faculty of Education (EDUC) Faculty of Economic and Management Sciences (FEMS) Faculty of Health Sciences (FHS) Faculty of Humanities (FHUM) Faculty of Natural and Agricultural Sciences (FNAS)
Smaller Faculties	Faculty of Engineering (FENG) Faculty of Law (FLAW) Faculty of Theology (FTHEO)
Research Ethics	Research ethics refers to a set of rules based on specific *principles* and governed by *norms and standards* of conduct for researchers on how research is performed and how it is disseminated (Wallace & Sheldon, 2015:272, Greenwood, 2016:514).
Research Integrity	The active adherence to specific *research integrity principles* and *responsibilities* that becomes visible in Responsible Conduct of Research (RCR).
Responsible Conduct of Research (RCR)	The act of making research integrity visible; refers to the practice of scientific investigation with *responsibility and integrity* through an awareness and application of established *professional research norms/standards* and *ethical principles* in the performance of all activities related to the research.
Breach in Research Integrity	The finding of a *formal intra-faculty research integrity assessment* (research non-compliance, violation of good research practice or plagiarism) or *preliminary intra-faculty research integrity investigation* (fabrication or falsification) that a researcher has transgressed/potentially transgressed in responsible conduct of research/research integrity based on the mentioned acts.
Academic misconduct	Conducting an act of fraud with intentional deception by a student or an academic.
Non-compliance	Any violation of: • Any institutional and/or REC *policies, procedures* and *regulation* governing human, animal, or environmental research or other types of research practices that might impact society. • Any *deviation* from the REC-approved *proposal/protocol*. Non-compliance varies in *nature, severity,* and *frequency* (adapted from UCT, 2013).
Minor Non-compliance	A non-compliant incident that *does not*:

	• Affect the safety of human participants, animals, or environment. • Affect the safety of society due to other types of research practices. • Compromise data integrity. • Violate participants' rights or welfare. • Affect participants' willingness to participate in research. Examples include but are not limited to: • Inadvertent errors due to inattention to detail ("*honest human errors*"). • Misunderstanding or oversight. • Missed deadline for a continuing review (adapted from UCT, 2013).
Serious Non-compliance	An activity that jeopardises: • The safety, rights or welfare of human participants or animals. • The environment. • The integrity of the data during research. Examples include but are not limited to: • Conducting research without Scientific Committee approval. • Conducting research with humans, animals, or the environment without REC approval. • Conducting any other type of research with an indicated risk factor without REC approval. • Not using approved REC documentation. • Using NWU student or staff data for research purposes without the necessary approval from specified structures i.e., RDGC (gatekeeper). • Inadequate training and supervision of researchers (academics and students). • Current REC-approved informed consent form describing all potential risks and alternatives to participants is not used. • Failure to obtain voluntary informed consent. • Enrolling human participants that do not meet the inclusion criteria or including those that meet the exclusion criteria. • Failure to follow accepted procedures to exercise due care in avoiding harm or discomfort to participants or research staff. • Deviation from or failure to adhere to the approved proposal/protocol without prior approval by the REC. • Implementing substantive modifications to REC-approved proposals/protocols without prior REC approval. • Activities that compromise the participants' privacy and confidentiality. • Continuing with research when REC approval has lapsed.

	• Copyright infringement. • Negligent management of data security (adapted from the European Code of Conduct for Research Integrity (ECCRI), 2017 and UCT, 2013 and 2014). **Note:** Should a researcher conduct research with humans or animals without REC approval, the process will be escalated for disciplinary *action*. The right to escalate is retained even if it falls within the defined acts of non-compliance or violation of good research practice covered in the related SOP.
Continuous Non-compliance	A series of *more than one non-compliant or violating behaviour* in reasonably proximity (one year) that, if unaddressed, may compromise the research integrity. This can be due to lack of *knowledge* or *commitment* on the part of the researcher(s). The *conduct continues* after the researcher has explicitly been made aware of the first instance of non-compliant or violating behaviour and despite an attempt to assist the researcher in this regard, the conduct continues. Examples include but are not limited to: • Repeated failure to follow institutional and REC policies and procedures, particularly after the researcher has been informed of the problem(s) and that corrective action needs to be taken. • A researcher has a record of non-compliance, violations, or misconduct over a long period or in several existing or previously approved studies (adapted from UCT, 2013).
Violation of good Research Practice	Violations of good research practice that damage the integrity of the research process or researchers and that lead to "*questionable research practices*". Examples include but are not limited to: • Direct violation of good research practices set out in the *NWU Code of Conduct for Researchers* or other national codes of conduct for researchers and members of RECs and other regulatory requirements. • Manipulating authorship or denigrating the role of other researchers in publications. • Citing selectively to enhance own findings or to please editors, reviewers, or colleagues. • Self-citing to enhance own research index. • Deliberate misrepresentations in publications. • Expanding unnecessarily the bibliography of a study. • Establishing or intentionally supporting journals that undermine the quality control of research (predatory journals). • Using ghost writers to produce articles. • Incorrectly using university affiliation to gain access to subsidized funding. • Not following "good practice" guidelines in collaborative research.

	• Withholding research results. • Exaggerating the importance and practical applicability of findings. • Misrepresenting research achievements. • Inflating own research image during research assessment within the university or with external bodies or inflating own research profile. • Improper conduct in peer review. • Delaying or inappropriately hampering the work of other researchers (academics or students). • Allowing funders/sponsors to jeopardise independence in the research process or reporting of results to introduce or promulgate bias. • Accusing a researcher of misconduct or other violations in a retaliating, intimidating and malicious way. • Ignoring putative violations of research integrity by others or covering up inappropriate responses to misconduct or other violations by institutions. • Misusing seniority to encourage violations of research integrity (adapted from ECCRI, 2017 and UCT, 2014). **Note**: The right to escalate is retained even if it falls within the defined acts of non-compliance or violation of good research practice covered in this SOP.
Research Misconduct	Refers to the FFP categorisation: • Fabrication. • Falsification. • Plagiarism. In • Proposing. • Performing. • Reviewing research. • Reporting results.
• Fabrication	Making up of results and recording them as if they were real.
• Falsification	Manipulating research materials, equipment, processes, or findings, or changing, omitting, or suppressing data or results without justification.
• Plagiarism	• Using other people's work and ideas in research without giving proper credit to the original source, thus violating the rights of the original author(s) to their intellectual outputs. Or • Re-publishing substantive parts of one's own earlier publications, including translations, without duly acknowledging or citing the original (self-plagiarism), as well as copying text in various sections of a research report without referencing the earlier use. *Also see definition in the NWU Policy on Academic Integrity: Annexure 1.*
Copyright infringement	• The use of work protected by *copyright* law without permission.

	• *Infringing* certain exclusive rights granted to the copyright holder, such as the right to: o Reproduce the protected work. o Distribute the protected work. o Display the protected work. o Perform the protected work. o Make derivative work. *Also see definition in the NWU Policy on Academic Integrity: Annexure 1.*
Allegation	A report that represents an *unproven assertion*.
Alleger	The person (a researcher, any other member of a research team, a REC member, research participants or a community member) who raises awareness of possible research non-compliance, violation of good research practice, or research misconduct by a researcher (academic or student) as the alleged.
Alleged	The researcher (academic or student) accused of research non-compliance and/or violation of good research practice, continuous research non-compliance and/or violation of good research practice or research misconduct.
Informal Intra-faculty Research Integrity Assessment	An initial informal intra-faculty research integrity assessment process conducted by the DD: R&I (in the larger Faculties) or the ED (in the smaller Faculties) of the Faculty and the RIO linked to the office of the Deputy Vice-Chancellor: Research and Innovation (DVC: R&I) , into the *merits of the allegation* or *formal grounds* of potential 1) research non-compliance, 2) violation of good research practice, or 3) research misconduct before proceeding to the more formal intra-faculty research integrity assessment or preliminary intra-faculty research integrity investigation. The type of conduct will guide the process that follows and which RI SOP to follow.
Formal Intra-faculty Research Integrity Assessment	A formal intra-faculty research integrity assessment process into the allegations of 1) research non-compliance, 2) violation of good research practice, or 3) research misconduct (plagiarism). This process is conducted by the DD: R&I (larger Faculties) or ED (smaller Faculties) of the Faculty, as chairperson, the RIO in the office of the DVC: R&I and an Empanelled Research Integrity Committee (ERIC) consisting of the appointed Standing Research Integrity Committee (SRIC) and specified ad hoc members should the allegation seem to have merit and formal grounds.
Formal Intra-faculty Research Integrity Assessment (Acts of *Plagiarism*)	A formal intra-faculty research integrity assessment into the allegations of research misconduct through an act of *plagiarism*. This process is conducted by the DD: R&I of the Faculty (in the larger Faculties) or the ED (in the smaller Faculties), as chairperson, the RIO in the office of the DVC: R& I, the appointed Standing Research Integrity Committee (SRIC), and the appointed independent consulting attorney in the legal office when deemed necessary, should the allegation seem to have merit and formal grounds and if it justifies a formal investigation by the office of the Registrar or the student judicial office.
Preliminary Intra-faculty Research Integrity Investigation (Acts of *Fabrication or Falsification*)	A preliminary intra-faculty research integrity investigation into allegations of research misconduct through an act of *fabrication, falsification*. This process is conducted by the DD: R&I (larger Faculties) or ED (smaller Faculties) of the Faculty, as chairperson, the RIO in the office of the DVC: R&I, the appointed Standing Research Integrity Committee (SRIC), as well as specified independent ad hoc members (attorney in the legal

	office and two experts) should the allegation seem to indicate a breach in research integrity through acts of fabrication and/or falsification.
Disciplinary action	The formal departmental or university process of a disciplinary procedure taken against a staff member (involving People and Culture) or student (involving the student judicial office).

Escalation	The process of referring a "defensible" finding of *continuous* research non-compliance and/or violation of good research practice to:
	
	a) A disciplinary process for a staff member (See NWU Behavioural Manual).
	
	b) A disciplinary process for an undergraduate or postgraduate student (See NWU Policy on Student Discipline, 26 September 2019).
	
	c) A formal *investigation into academic misconduct* by the office of the Registrar of the University or the student judicial office (See the NWU Policy on Academic Integrity, 27 September 2018, revised October 2020).
	
	Or
	
	The process of referring a "defensible" finding of *potential research misconduct* for a *formal investigation into academic misconduct* by the office of the Registrar of the University or the student judicial office (See the *NWU Policy on Academic Integrity, 27 September 2018, revised 2021*). Always with cases of research misconduct (fabrication, falsification, plagiarism) and ccopyright infringement.
	
	However, other cases of serious breaches must also be referred to the office of the Registrar of the student judicial office.
	
	Examples:
	
	• Not obtaining Scientific Committee or Research Ethics Committee approval for any research (academics or students) at the NWU.
	• Using NWU student or staff data for research purposes without the necessary approval from specified structures i.e., RDGC (gatekeeper).
	• Inflating own research image during research assessment within the university or with external bodies.
	• Intentional publication in predatory journals.
	• Acts described in the Staff behavioural manual i.e.:
	  o Any act or behaviour which has an element of dishonesty and/or misappropriation which could cause/causes detriment to the University and/or other person.
	  o Any conduct that negatively affects the integrity, good name and/or public image of the University.
	  o Any violation of any regulation governing human, animal or environmental research or any deviation from the REC approved proposal/protocol.
	  o Insubordination and defying the authority.
	• Any act that caused reputational damage to the Faculty and/or the NWU.

Formal Investigation	The process of an investigation into research misconduct (fabrication, falsification, plagiarism) by the Registrar and people appointed by him/her to conduct the various phases of the investigation or the student judicial office (See the *NWU Policy on Academic Integrity, 27 September 2018, revised 2021)*.

Finding of a Breach in Research Integrity	A result concluding that an allegation of 1) research non-compliance and/or violation of good research practice, 2) continuous research non-compliance and/or violation of good research practice or 3) research misconduct is true based on the preponderance of the evidence.
Finding of a Breach in Research Misconduct	A result concluding that an allegation of research misconduct (fabrication, falsification and/or plagiarism) is true based on the preponderance of the evidence.
Research Integrity Officer (RIO)	A person appointed in the office of the DVC: R&I to facilitate research integrity (RI) within the Faculty through various functions, i.e. expanding the development of IRIMS, supporting the development and maintenance of processes, procedure and SOPs related to research integrity on Faculty level, as well as managing RCR/RI within the Faculties through guidance of how to foster a climate of Responsible Conduct of Research (RCR), as well as handling reported breaches/transgressions in RI/RCR. Also acts in an advising capacity to the DVC: R&I, ED, and DD: R&I. The person is not appointed in a research management position to ensure no potential conflict of interest.
Standing Research Integrity Committee (SRIC)	A Standing Research Integrity Committee (SRIC) appointed in the Faculty and consisting of specific members. **In the five larger Faculties:** • Chairperson: DD: R&I. • Research Integrity Officer in the office of the DVC: R&I. • Chairperson of the Faculty Research Ethics Committee (Faculty REC) or if such a person exists within the Faculty, the Head of the Ethics Office. • An elected Research Director in the Faculty (*appointed for three years*). • Secretariat provided by the Faculty (to sign a confidentiality agreement). In cases of *plagiarism* a consulting attorney in the legal office may be included. In cases of *fabrication and falsification* the following independent ad hoc members are included: • Consulting attorney in the legal office. • Two subject experts appropriate to the case at hand. **In the four smaller Faculties:** ***Faculty of Engineering:*** • Chairperson: ED: R&I. • Research Integrity Officer in the office of the DVC: R&I. • Chairperson of the Faculty Research Ethics Committee (Faculty REC). • An elected Research Director in the Faculty (*appointed for three years*). • Secretariat provided by the Faculty (to sign confidentiality agreement). ***Faculty of Law:*** • Chairperson: ED.

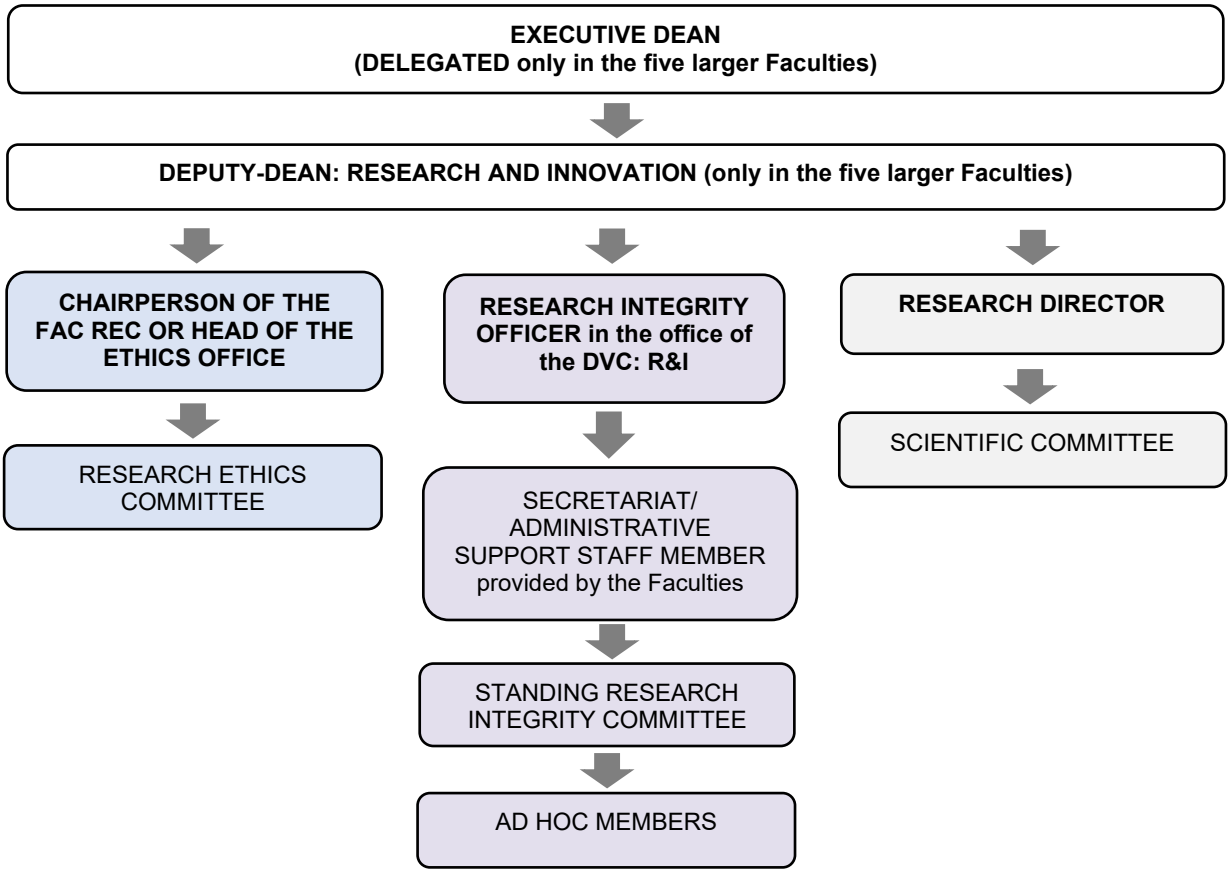
	• Research Integrity Officer (in the office of the DVC: R&I). • Chairperson of the Faculty Research Ethics Committee (Faculty REC). • The Research Director in the Faculty. • The Postgraduate Director. • Secretariat: Provided by the Faculty (to sign confidentiality agreement). ***Faculty of Theology:*** • Chairperson: ED. • Research Integrity Officer in the office of the DVC: R&I. • Research Directors of the research entities in the Faculty. • Secretariat provided by the Faculty (to sign a confidentiality agreement). In cases of *plagiarism* a consulting attorney in the legal office may be included. In cases of *fabrication and falsification* the following independent ad hoc members are included: • Consulting attorney in the legal office. • Two subject experts appropriate to the case at hand.
Empanelled Research Integrity Committee (ERIC)	A research integrity committee specifically empanelled and chaired by the DD: R&I (larger Faculties) or ED (smaller Faculties) for a specific formal intra-faculty research integrity assessment of an alleged research integrity breach. The composition varies in each case and is made up of the appointed Standing Research Integrity Committee (SRIC) and specific ad hoc members that will differ according to each new case at hand. **Members:** Standing Research Integrity Committee (SRIC). And Ad Hoc Members: • Research Director (RD) (unit in which the alleged resides). • School Director (SD) (school in which the alleged resides). • An independent person (expert on the required research integrity issue at hand).
Restorative Actions	Specific corrective measures under an appointed mentor and time frames prescribed by the DD: R& I (in larger Faculties) or the ED (in smaller Faculties) and the RIO in the office of the DVC: R&I to correct the consequences of a breach in research integrity by the researcher and to prevent future reoccurrences and ensure responsible conduct of research by him/her. The actions expected from the researcher falls within a specific time frame and are aimed at specific research knowledge, skills, and capacity development under the mentorship of an appointed mentor. The approach by the DD: R& I (in larger Faculties) or the ED (in smaller Faculties) and the RIO in the office of the DVC: R&I is supportive, educative, and restorative, with a growth experience as the result. **Note:** Under no circumstances does this include any disciplinary measures.
Mentor	An appropriately knowledgeable and skilled senior person appointed by the DD: R& I (in larger Faculties) or the ED (in smaller Faculties) and the

	RIO in the office of the DVC: R&I to mentor a researcher found in breach of RCR. Mentorship will be for a specific identified period with specific responsibilities expected of the person and regular reporting to the RD.
Appeal	A request lodged by an alleged after an assessment finding of a potential breach in research integrity on an *intra-faculty level*. The request is made to the DD: R&I (FEDUC, FEMS, FHS, FHUM, and FNAS) and the RIO in the office of the DVC: R&I or the ED (FENG, FLAW, and FTHEO) and the RIO in the office of the DVC: R&I to alter some of the content of the letter written to him/her, or to question some aspects of the process, or part of the decision made. **Note:** This does not apply to cases escalated to the Registrar or the student judicial office.
Appeals panel	A group of people empanelled by the ED with the support of the RIO in the office of the DVC: R&I for the purpose of handling a research integrity appeals request. The appeals panel consists of: • Chairperson: ED (for FEDUC, FEMS, FHS, FHUM, and FNAS) or an appointed ED from another Faculty (for FENG, FLAW, and FTHEO). • Research Integrity Officer in the office of the DVC: R&I. • The RD of the research entity in which the alleged resides. • Two independent expert panellists knowledgeable about the specific RI issue at hand. • Secretariat provided by the Faculty.
Integrated Research Integrity Management System	The integrated system used by the Faculty to manage research integrity in such a way that it: 1) Fosters a climate of *Responsible Conduct of Research* (RCR). 2) Effectively manages potential breaches in RCR/RI through acts of: i) Research non-compliance. ii) Violation of good research practice. iii) Research misconduct. 3) Effectively manages possible appeals stemming from research integrity assessments or investigations on an intra-faculty level.

4 SCOPE OF THE GUIDELINES

The responsibility of the execution of the *Integrated Research Integrity Management System* (IRIMS) of the Faculty is vested in the office of the Deputy Dean: Research and Innovation (DD: R&I) as a delegated function of the Executive Dean (ED) in the FEDUC, FEMS, FHS, FHUM, and FNAS and the ED in the FENG, FLAW, and FTHEO. A Research Integrity Officer (RIO) appointed in the office of the Deputy Vice-Chancellor (DVC: R&I) supports the functioning of the system. Two *linked systems* provide the full spectrum of research integrity within the Faculty: 1) the Research Ethics Committee or the Research Ethics Office if such a system exists, as well as 2) the various Scientific Committees in the Faculty.

Figure 1: Organisational structure for research integrity



Overarching IRIMS guidelines.

Various Standard Operating Procedures (SOPs) describe the functioning of the system:

1) SOP_NWU Research Integrity_1. Management of Research Non-compliance and/or Violation of Good Research Practice.
2) SOP_NWU Research Integrity_2. Management of Continuous Research Non-compliance and/or Violation of Good Research Practice.
3) SOP_NWU Research Integrity_3. Management of Research Misconduct.
4) SOP_NWU Research Integrity_4. Management of the Research Integrity Appeals Process.
5) SOP_NWU Research Integrity_5. Management of Plagiarism and/or Copyright Infringement by External Authors.
6) SOP_NWU Research Integrity_6. Management of a Referral Received from the Registrar as a Breach in Research Integrity.
7) SOP_NWU Research Integirty_7. Management of Whistleblowing Pertaining to Research Ethics and Research Integrity.

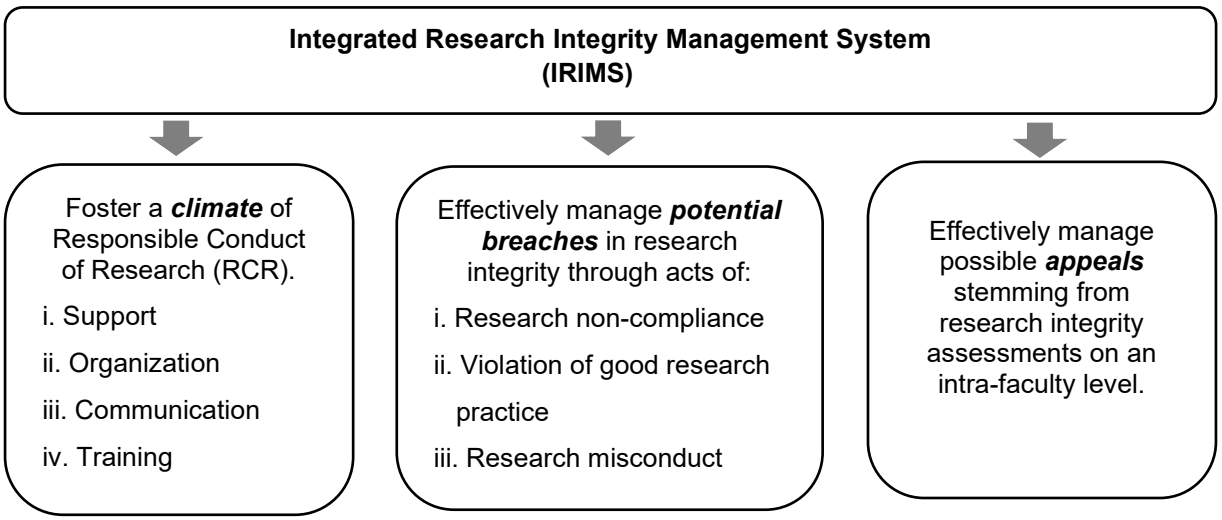
5 RESPONSIBILITIES

The responsibilities of the various role players in each of the processes of the *Integrated Research Integrity Management System (IRIMS)* are clearly spelled out in the various SOPs indicated under section 4.

6 THE INTEGRATED RESEARCH INTEGRITY MANAGEMENT SYSTEM

The Integrated Research Integrity Management System (IRIMS) adopted by the North-West University is built on the belief that such a system should be: 1) conducive to creating and fostering a climate of Responsible Conduct of Research (RCR), but also 2) take full responsibility to act should any researcher (staff or student) fail to follow good research practices that could lead to: a violation of professional responsibilities; damaging the research process; degrading relationships amongst researchers; undermining trust and the credibility of the research; wasting resources; and exposing research participants, users, society or the environment to unnecessary harm.

Figure 2: Integrated research integrity management system



6.1 Fostering a climate of responsible conduct in research

The value and benefits of research are vitally dependent on the integrity of research (Singapore Statement, 2010). The practices of a scientific community should promote confidence and trust in their research findings through Responsible Conduct of Research (RCR). This will become possible if a scientific community builds its practices on sound *ethical and research integrity principles* and adhere to specific accepted *ethical norms and standards* as well as *professional responsibilities.* Both the individual and the institution should accept accountability for this.

The North-West University strives to foster such a climate of RCR through the following actions:

6.1.1 Formulating the principles of research, we will follow

The North-West University adapted the four research integrity principles described in the Singapore Statement on Research Integrity (2010) as supported by the NWU Code of Conduct for Researchers.

- ***Honesty*** in all aspects of research.
- ***Accountability*** in the conduct of research.
- ***Professional courtesy and fairness*** in working with others.
- ***Good stewardship*** of research on behalf of others.

6.1.2 Defining the criteria for proper research behaviour

The behaviour of all researchers (staff and students) is defined by the 14 responsibilities of researchers described in the Singapore Statement on Research Integrity (2010) and the 8 practice guidelines described by the European Code of Conduct (2017).

6.1.3 Maximising the quality and robustness of our research

The Faculty adheres to the Integrated Research Integrity Management System (IRIMS) described in this document. It further maximises the quality and robustness of our research through two further well-managed and linked systems:

1) The *Scientific Committee System* for the review and approval of all future studies (for academics and students) to ensure the quality and integrity of science conducted in the Faculty.
2) The *Research Ethics System* managed by the Chairperson of the Faculty REC or the Head of the Research. The Faculty strives to develop a strong sense of ethical responsibility in each of its researchers.

6.1.4 The framework for fostering a climate of responsible conduct of research

The Faculties have accepted the "*Framework for fostering a climate of Responsible Conduct of Research (RCR)*" indicating the essential ***four areas*** (support, organization, communication, and training) and their accompanying ***15 elements*** (indicated below) to ensure such a climate. It includes the *created environment*, as well as the *everyday practice of research*.

It is believed that effective:

- **Support** (The research environment, research study supervision, and mentoring).
- **Organization** (The research ethics structure, scientific committee structure, IRIMS, data management system and management practices, and fair research assessment practices).
- **Communication** (Research collaboration, declaration of interest, stakeholder/external organization communication, publication and communication, and research ethics and research integrity webpage).
- **Training** (Research ethics and research integrity training to both academics and postgraduate students).

Will

- Prevent.
- Discourage.
- Stop any questionable research practices.

See **Annexure A** for the detail "*Framework for Fostering a Climate of Responsible Conduct of Research*" developed by Greeff (2021, revised 2022).

6.2 Management of potential breaches in research integrity

The NWU strongly believes and supports the notion of an adequate response to any threats to, or violations of, RCR/RI and will not hesitate to do so. *Section 6.2* gives direction on which research integrity SOPs to consult and follow. Each SOP gives a detailed clear layout of the processes and procedures to follow to ensure *consistency* and *transparency* for these processes and procedures.

For purposes of making research integrity manageable, acts of potential breaches/transgressions are placed on a *continuum of seriousness*. Although there is this suggested continuum, the Faculty views all these acts as harmful to maximising the quality and robustness of our research and as such will act appropriately to manage and ameliorate the effects of such acts. However, even if an act is placed on the less serious side of the continuum, with specific standard operating procedures of how to handle it, it may in some instances be justified to immediate escalate it to *disciplinary action involving people and Culture* or even *escalate it to the office of the Registrar (for an academic) or student judicial office (for a student) for a formal investigation.*

Figure 3: Continuum of breaches in responsible conduct of research/research integrity

6.2.1 Structures used in the Integrated Research Integrity Management System

There are *four* important structures that become active in various processes or phases of managing potential breaches in research integrity.

- **The DD: R&I (in the five larger Faculties) or ED (in the three smaller Faculties) and RIO (in the office of the DVC: R&I)**
  For any initial informal intra-faculty assessments.

- **The Standing Research Integrity Committee (SRIC):**
  A Standing Research Integrity Committee (SRIC) appointed in the Faculty and consisting of the following members in the ***larger Faculties*** (FEDUC, FEMS, FHS, and FHUM):
  - Chairperson: DD: R&I (larger Faculties) and ED (smaller Faculties).
  - Research Integrity Officer (in the office of the DVC: R&I).
  - Chairperson of the Faculty REC or the Head of the Ethics Office.
  - An elected Research Director in the Faculty (*appointed for three years*).
  - Secretariat appointed by the Faculty.

  In the case of *plagiarism* an independent consulting attorney in the legal office may be added.

  In cases of *fabrication or falsification* the following independent ad hoc members are included:
  - Consulting attorney in the legal office.

  Note: In the smaller Faculties (FENG, FLAW, and FTHEO) the composition differs as indicated in the definitions section.

- **Empanelled Research Integrity Committee (ERIC):**

  For research non-compliance and/or violation of good research practice, as well as continuous research non-compliance and/or violation of good research practice:

  A research integrity committee specifically empanelled and chaired by the DD: R&I (in the five larger Faculties) or the ED (in the three smaller Faculties) with the support of the RIO (in the office of the DVC: R&I) for a specific formal intra-faculty research integrity assessment of an alleged responsible conduct of research/research integrity breach. The composition varies in each case and is made up of the Standing Research Integrity Committee (SRIC) and specific ad hoc members that will differ according to each new case at hand.

  Standing Research Integrity Committee (SRIC).

  And

  Ad Hoc Members:

  - Research Director (RD) (unit in which the alleged resides).

- School Director (SD) (school in which the alleged resides).
- An Independent person (expert in the required research integrity issue at hand).

Or

For research misconduct (fabrication, falsification, or plagiarism):

A Standing Research Integrity Committee (SRIC) appointed in the Faculty.

And

In cases of *plagiarism* an independent consulting attorney in the legal office may be included.

In cases of *fabrication and falsification* the following independent ad hoc members are included:

- Consulting attorney in the legal office.
- Two subject experts appropriate to the case at hand.

- **Appeals panel:**

  A group of people empanelled by the ED with the support of the RIO in the office of the DVC: R&I for the purpose of handling research integrity appeals request for intra-faculty processes.

  The appeals panel consists of:

  - Chairperson: ED (in the five larger Faculties) or an appointed ED of another Faculty (in the three smaller Faculties to prevent any potential conflict of interest).
  - Research Integrity Officer in the office of the DVC: R&I.
  - The RD of the research entity in which the alleged resides.
  - Two independent expert panellists knowledgeable about the specific RI issue at hand.
  - Secretariat provided by the Faculty.

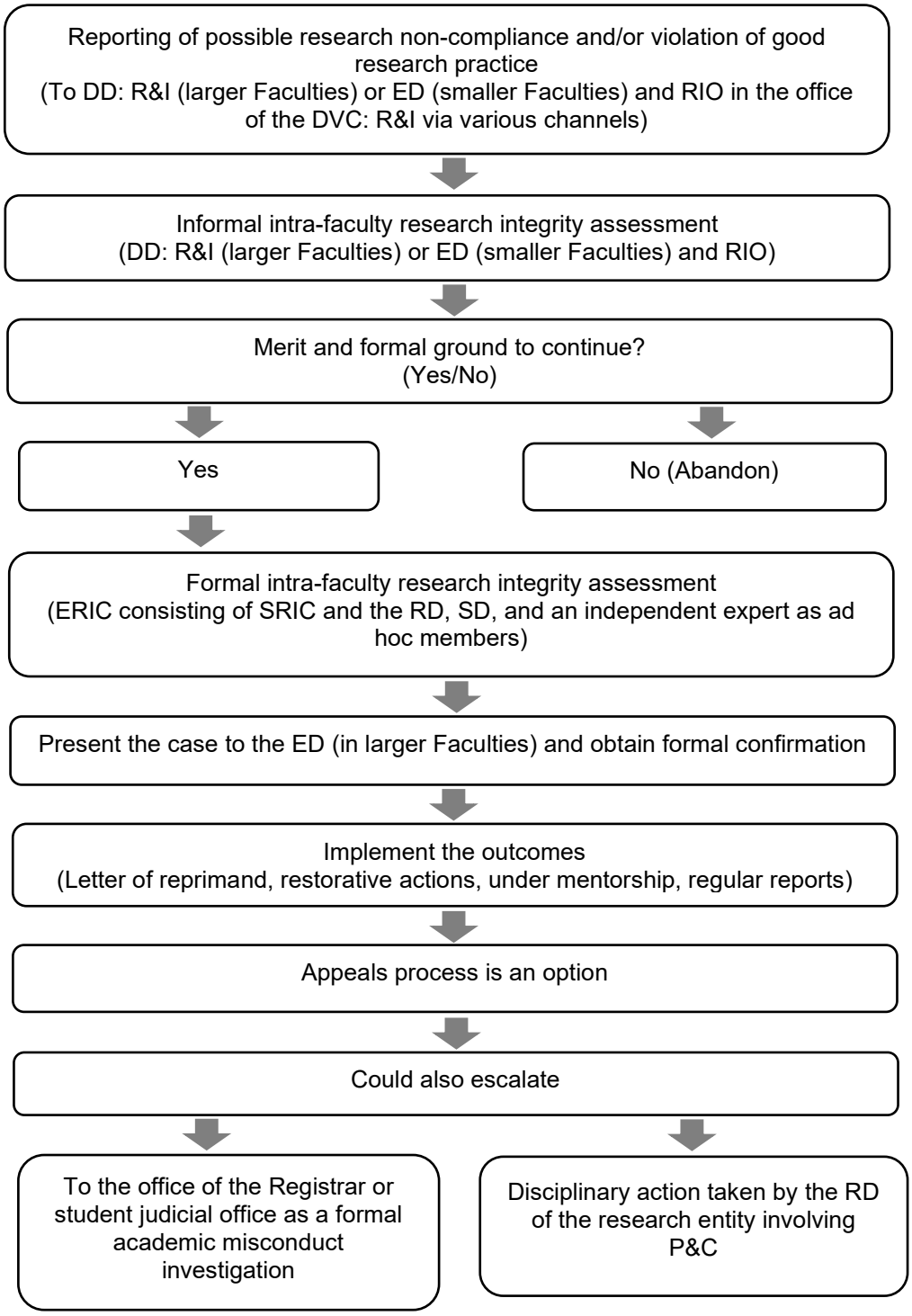
6.2.2 Various forms of breaches in research integrity

The *various processes and procedures* to follow during a potential breach through acts of 1) *research non-compliance and/or violation of good research practice*, 2) *continuous research non-compliance or/or violation of good research practice*, or 3) *research misconduct* (fabrication, falsification, or plagiarism) is displayed separately by only referring to the applicable SOP and providing a flow diagram.

6.2.2.1 Research non-compliance and/or violation of good research practice

Applicable SOP: SOP_NWU Research Integrity_1. Management of Research Non-compliance and/or Violation of Good Research Practice.

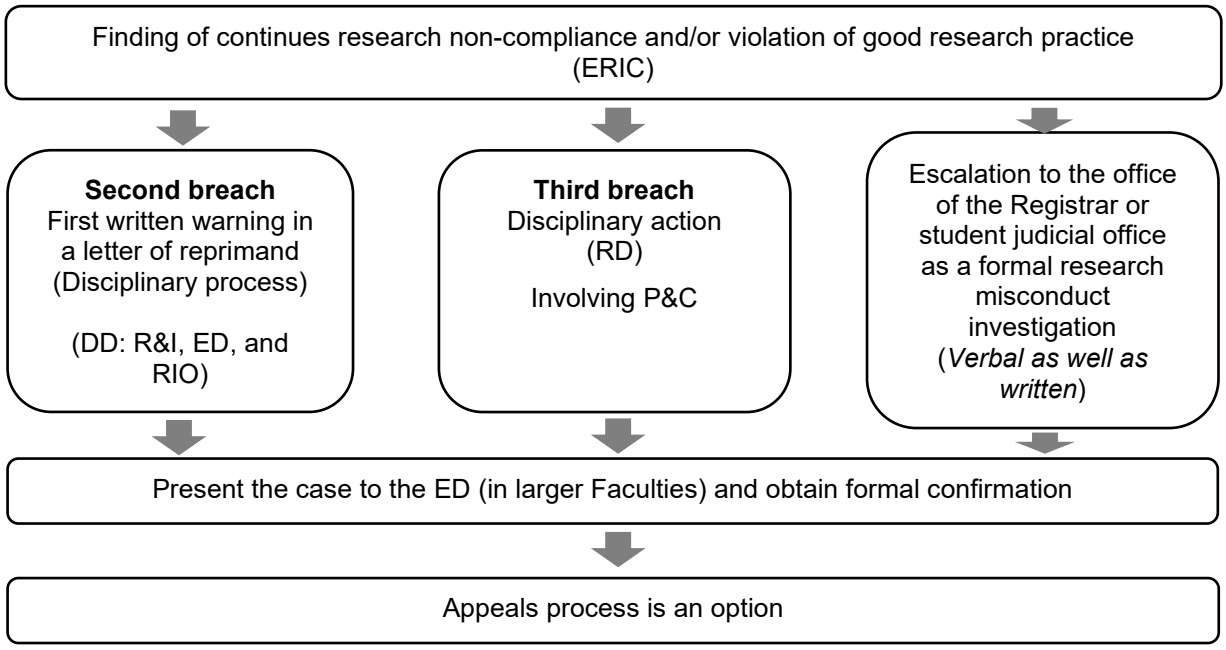
Diagram 1: Processes and procedures for the management of research non-compliance and/or violation of good research practice



6.2.2.2 Continuous research non-compliance and/or violation of good research practice

Applicable SOP: SOP_NWU Research Integrity_2. Management of Continuous Research Non-compliance and/or Violation of Good Research Practice.

Diagram 2: Processes and procedures for the management of continuous research non-compliance and/or violation of good research practice



6.2.2.3 Research misconduct

Applicable SOP: SOP_NWU Research Integrity_3. Management of Research Misconduct.

Diagram 3: Structure for the management of research misconduct

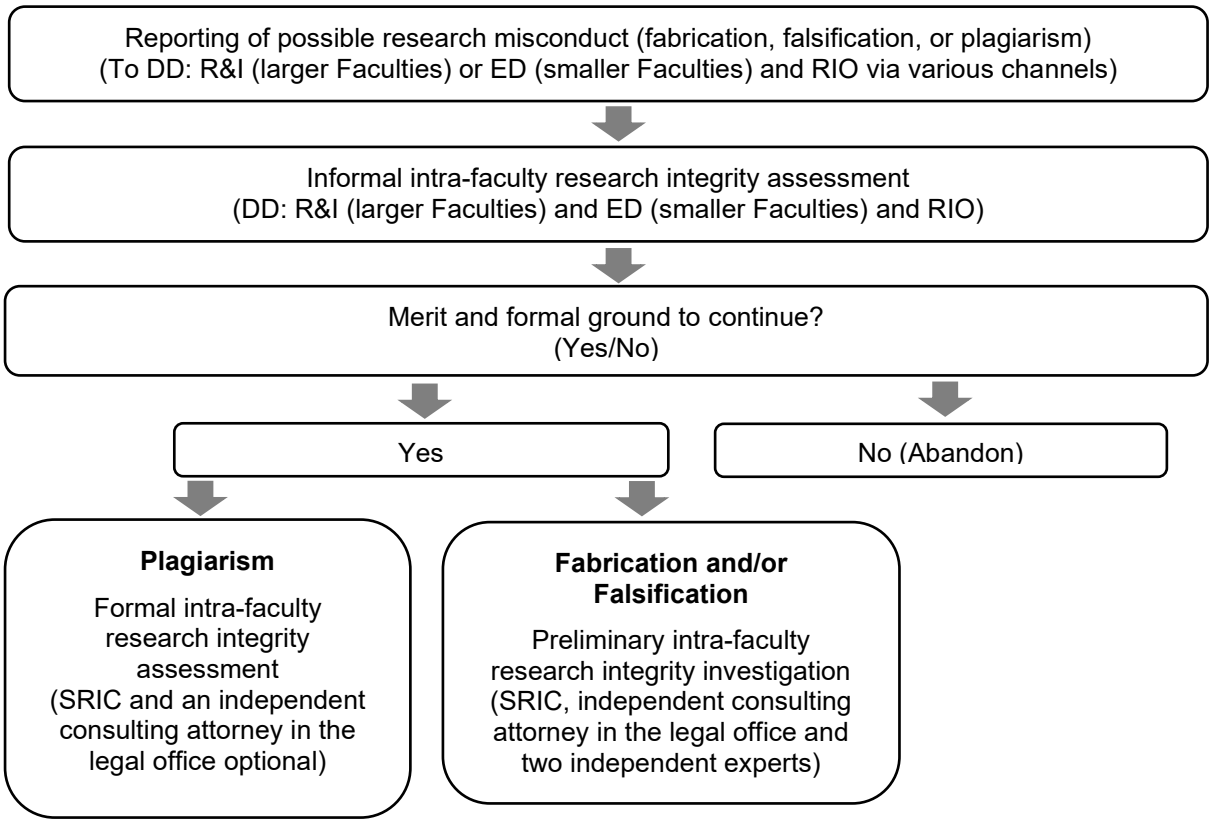


Diagram 3a: Processes and procedures for the management of research misconduct (plagiarism)

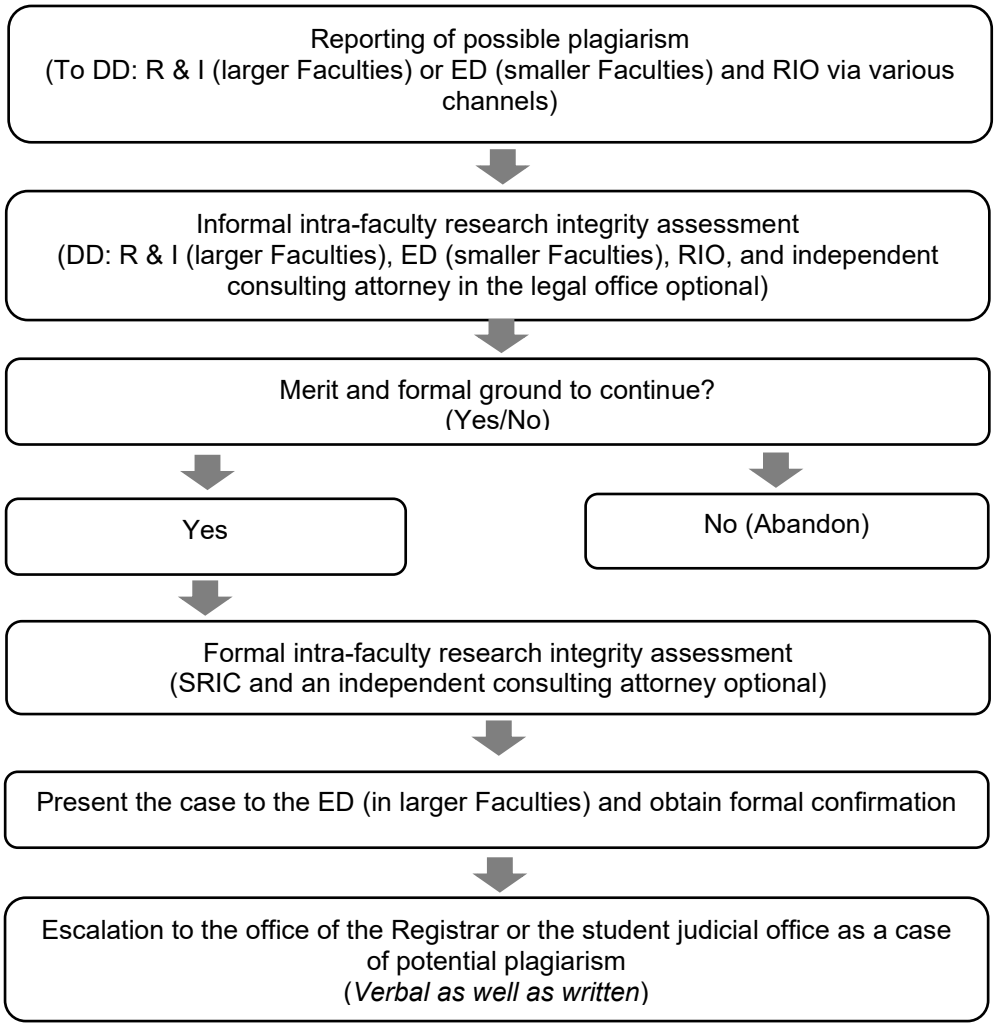
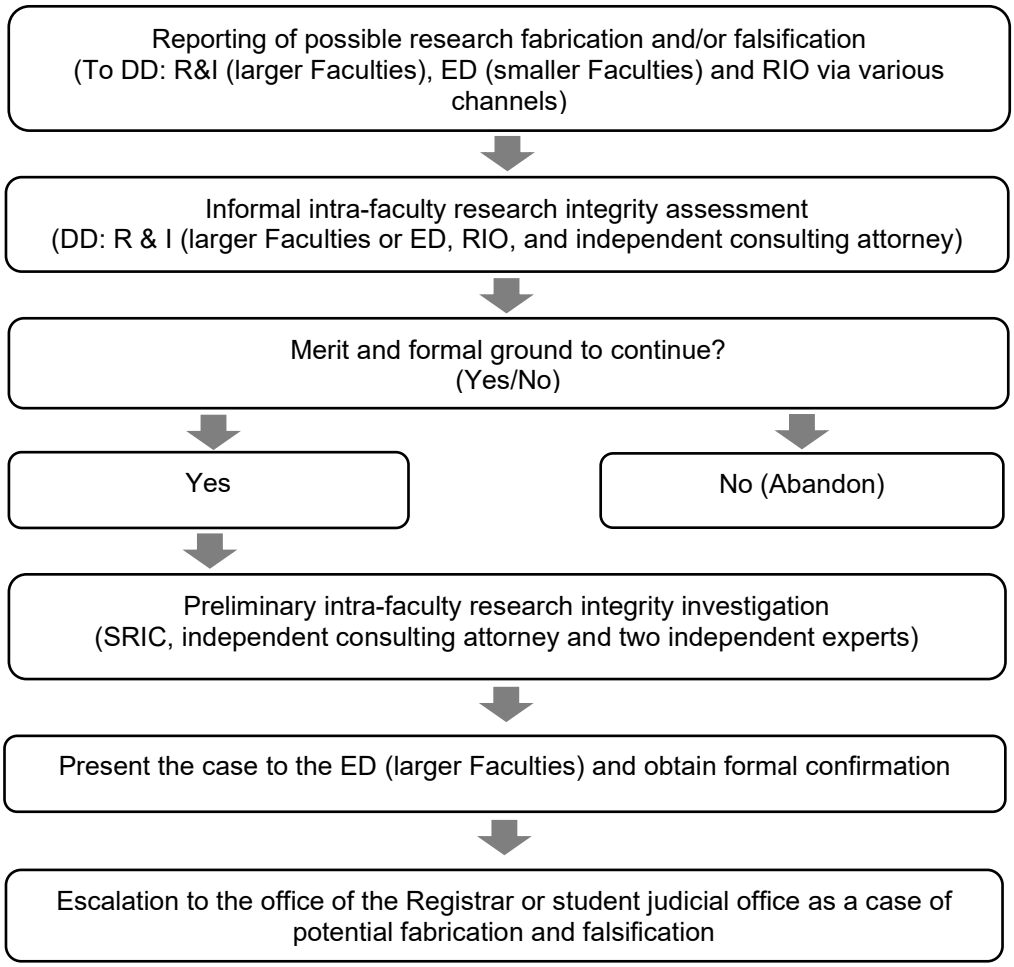


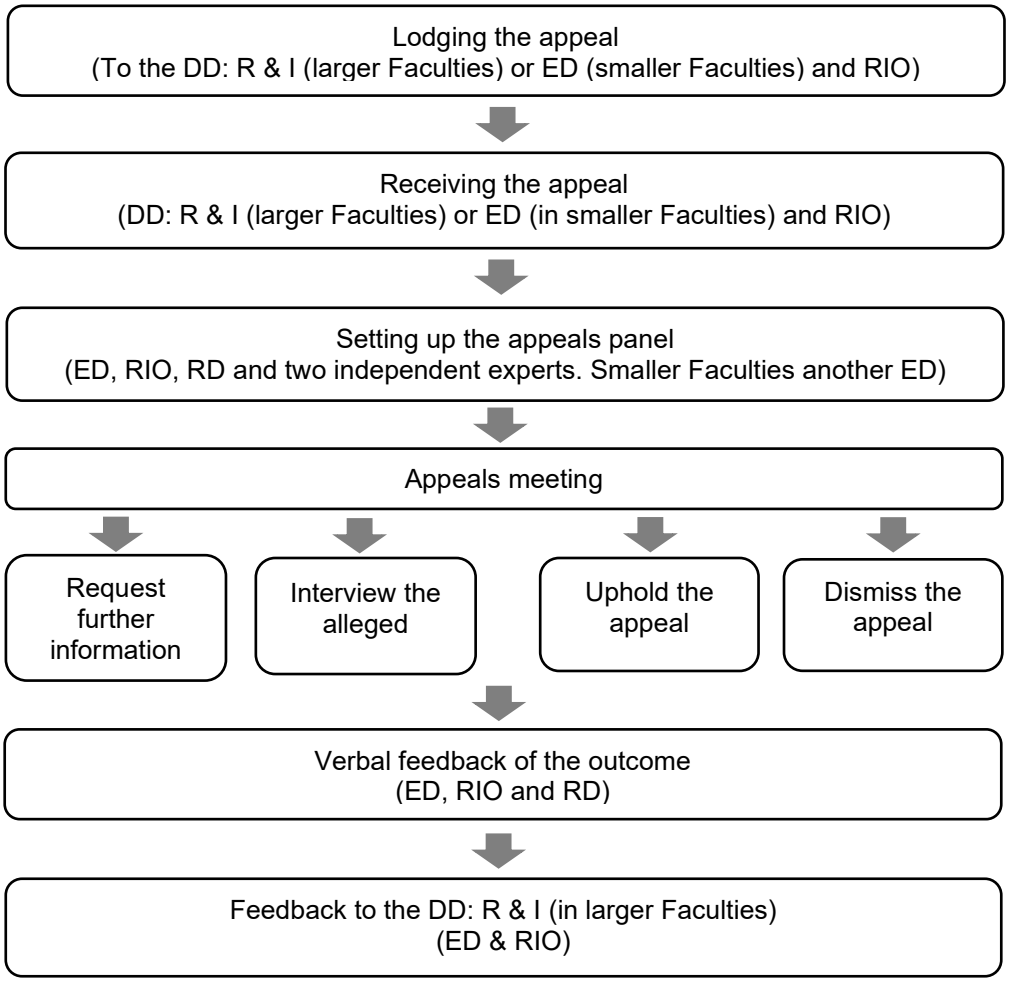
Diagram 3b: Processes and procedures for the management of research misconduct (fabrication and falsification)



6.2.3 Research integrity appeals process

Applicable SOP: SOP_NWU Research Integrity_4. Management of the Research Integrity Appeals Process.

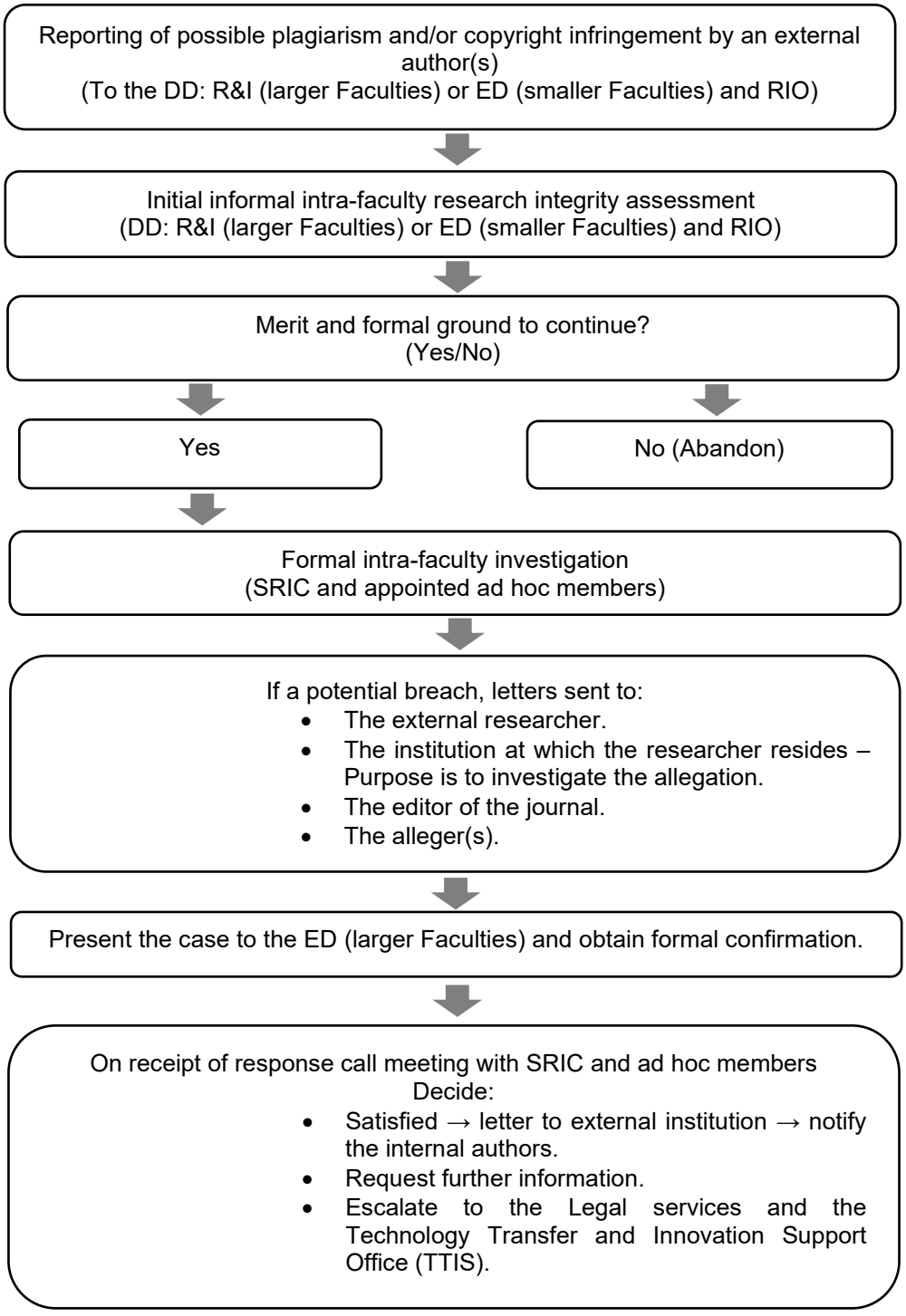
Diagram 4: Processes and procedures for the management of the appeals process



6.2.4 Plagiarism and/or copyright infringement by external authors

Applicable SOP: SOP_NWU Research Integrity_5. Management of Plagiarism and/or Copyright Infringement by External Authors

Diagram 5: Processes and procedures for management of plagiarism and/or copyright infringement by external authors



6.2.5 Referral received from the Registrar

Applicable SOP: SOP_NWU Research Integrity_6. Management of a Referral Received from the Registrar as a Breach in Research Integrity.

Diagram 6: Processes and procedures for managing referrals from the Registrar of an alleged breach in research integrity against an NWU Researcher by an external source

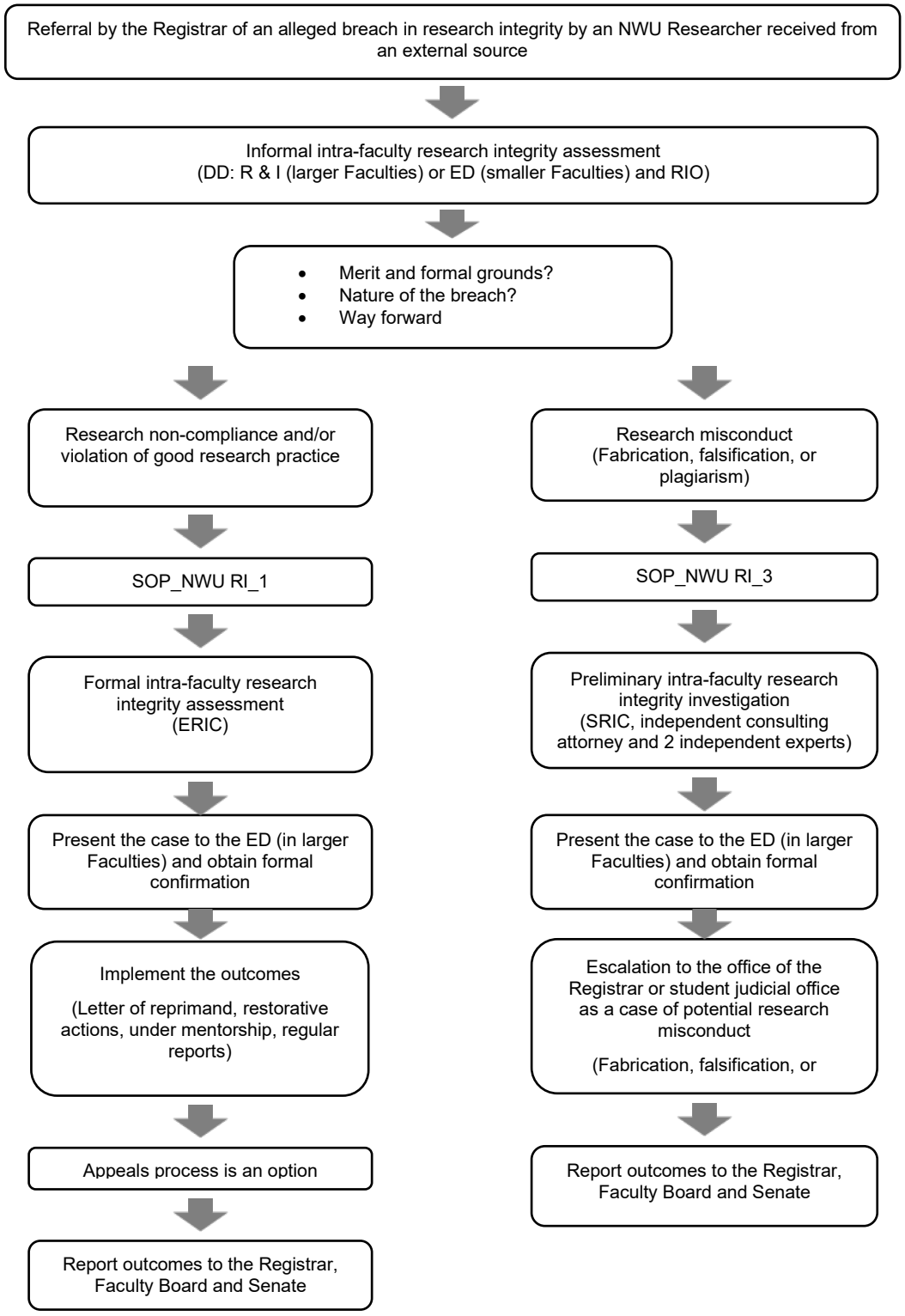
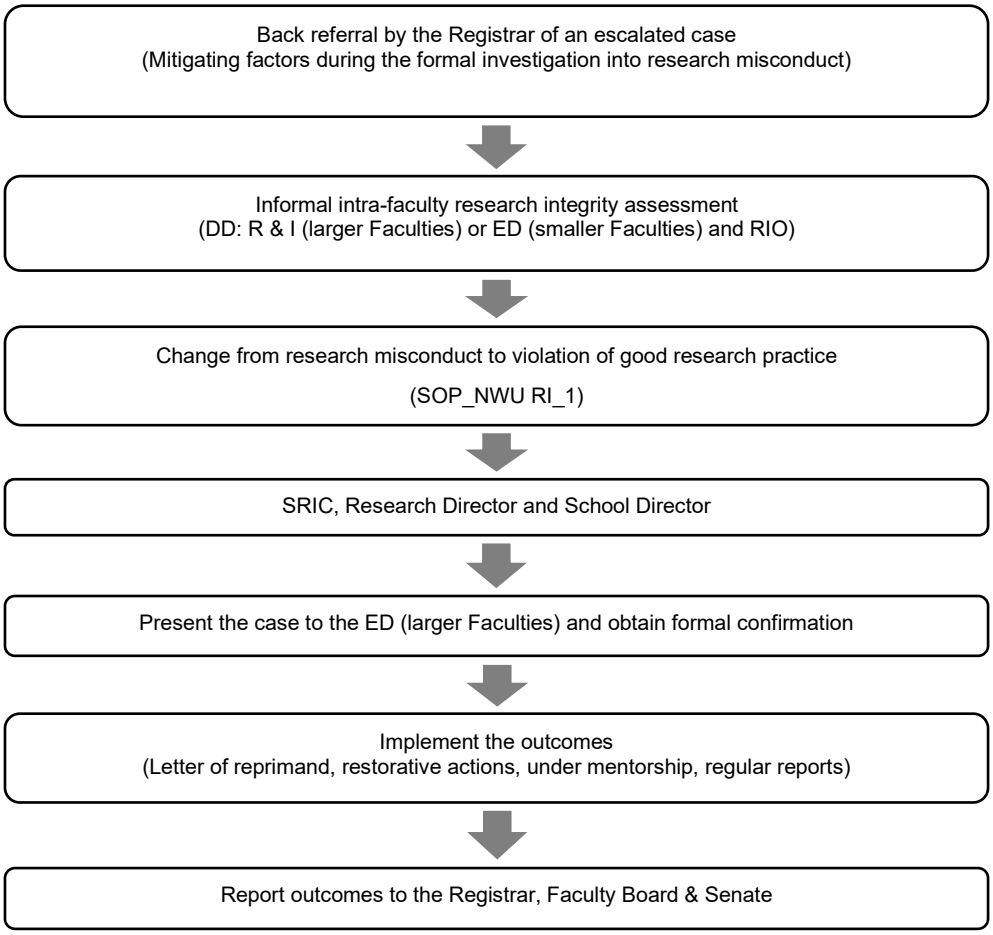


Diagram 7: Processes and procedures for managing a back referral from the Registrar of an escalated research misconduct case



6.2.6 Whistleblowing pertaining to research ethics and research integrity

Applicable SOP: SOP_NWU Research Integrity_7. Management of Whistleblowing pertaining to Research Ethics and Research Integrity

** No flow diagram as it is just another form of reporting. Important however, is the specific form that should be completed.*

7 REFERENCE DOCUMENTS

- The Singapore Statement on Research Integrity, 2010.
- The European Code of Conduct, 2017.
- The National Health Act, No. 61 of 2003.
- Ethics in Health Research: Principles, Processes and Structures (Department of Health, 2015).
- South African National Standard: The Care and Use of Animals for Scientific Purposes (SANS 10386:2008).
- The NWU research ethics policy, 2018.
- The Rules for the Management of Research Ethics at the North-West University, 2018.
- All the SOPs linked to the Ethics Office of the Faculty of Health Sciences for Research, Training and Support.

8 ADDENDA

No	Document name
1	NWU Code of Conduct for Researchers.
2	NWU Policy on Academic Integrity, 2018 revised 2021.
3	SOP_NWU Research Integrity_1. Management of Research Non-compliance and/or Violation of Good Research Practice.
4	SOP_NWU Research Integrity_2. Management of Continuous Research Non-compliance and/or Violation of Good Research Practice.
5	SOP_NWU Research Integrity_3. Management of Research Misconduct.
6	SOP_NWU Research Integrity_4. Management of the Research Integrity Appeals Process.
7	SOP_NWU Research Integrity_5. Management of Plagiarism and/or Copyright Infringement of by External Authors.
8	SOP_NWU Research Integrity_6. Management of a Referral Received from the Registrar a Breach in Research Integrity.
9	SOP_NWU Research Integrity_7. Management of Whistleblowing pertaining to Research Ethics and Research Integrity.

Developed by: Prof Minrie Greeff, February 2022, revised November 2022.

Approved: August 2022 by the Faculty Boards of the Faculties.

Guidelines for the Integrated Research Integrity Management System of the Faculty of Health Sciences, April 2022, revised November 2022.

File reference:

Annexure A:

A FRAMEWORK FOR FOSTERING A CLIMATE OF RESPONSIBLE CONDUCT OF RESEARCH (RCR)

Area	Element
Support	**Research environment:** • Research Director specific management activities: ➢ Culture building. ➢ Diversity issues. ➢ Entity specific education and training. ➢ Fair, transparent, and responsible assessment procedures during 1) task agreements, 3) appointments, and 3) promotions. ➢ Managing competition and publication pressure. ➢ Supporting RCR on and entity level i.e., administrative support, support in generating Turnitin reports and interpretation, critical readers etc. • Faculty consultation services on *research ethics* and *integrity* related matters for researchers.
	Research study supervision: • Clear guidelines for study supervision and postgraduate students i.e., Higher degrees manual and Faculty specific additional guidelines. • Annual study supervisor- postgraduate student contract. • Recording contact sessions and specific session outcomes. • Skills training for study supervision.
	Mentoring: • Postgraduate students. • Young scientists through formal programs. • Ongoing throughout the career of a researcher by appointed long term mentors. • Mentorship on research integrity related matters for researchers after a breach.
Organization	**Research ethics structure:** • Establish and maintain a research ethics structure and clearly described SOPs. • Provide high quality ethics review processes by dedicated Faculty RECs and NHREC registered RECs. • Provide clear review guidelines for REC members and researchers. • Provide training for REC members on review and governance of research ethics. • Provide training for researchers on research ethics and administration.
	Scientific committee structure: • Establish and maintain a scientific committee structure and clearly described SOPs. • Provide high quality scientific review processes by research entity scientific committees. • Provide clear review guidelines for members and researchers. • Provide training for committee members on the review process. • Provide training for researchers on scientific review and administration.
	Integrated Research Integrity Management System (IRIMS): • Foster Responsible Conduct of Research (RCR) practices. ➢ Clear and effective practices to enhance *support, organizational* structures, *communication* and facilitate *training* opportunities for both academics and postgraduate students. • Management of integrity breaches through the offices of the deanery:

	➢ Formalized transparent procedures and processes for both *restorative intra-faculty* processes and *escalated disciplinary* processes. ➢ Appointment of a Standing Research Integrity Committee (SRIC). ➢ Protect whistle-blowers. ➢ Fairly handle those accused of breaches. ➢ Mentorship for breaches handled on an intra-faculty level (restorative actions). ***Intra-faculty:*** • Restorative. • Appeals process. • Intra-faculty disciplinary process moved from IRIMS and involving People & Culture. ***Institutional:*** • Disciplinary or legal. • Registrar (academics) and student judicial office (postgraduate students). • May be referred back to IRIMS in the Faculty.
	Data management system and management practices: • Data management system (infrastructure) for secure data collection, storage, retention, archiving, and sharing. • Data management plan. • Curate and share according to FAIReR principles. (FAIR = findable, accessible, interoperable, reusable, and responsible).
	Fair research assessment practices: • Clear examination guidelines. • Clear peer review guidelines.
Communication	**Research collaboration:** • Establish sound rules for transparent working agreements. • Have MOUs in place. • Have MTAs/DTAs in place for samples or data. • Ensure that collaborators all have practices for protection of personal information in place (POPIA).
	Declaration of interests: • Clear guidance on the university's approach to declaring interest and handling of conflict of interest. • Ensure transparent declarations of interest (financial e.g., funding, personal interests, or professional activities e.g., per review, evaluation, assessment, promotion, and collaboration). • Ensure that conflicts are handled adequately. • Clear guidelines for contract research.
	Stakeholder/external organization communication: • Clear guidelines available on the research integrity processes of the Faculty.
	Publication and communication: • Clear which guidelines for authorship are being used i.e., COPE. • Clear guidelines for publication practices e.g., entity/faculty specific plagiarism guidelines. • Ensure openness and clarity in public engagement. • Base dissemination or public speaking on scientific grounds
	Research ethics and research integrity webpage: • Enhance communication with academics and postgraduate students. • Provide resources on research integrity.
Training	**Research ethics and research integrity training**
	Academics | ***Postgraduate students***

	• Introduction to research ethics (including review and administration). • Introduction to research integrity and Responsible Conduct of Research (RCR). • Research related policies, guidelines, and SOPs National and institutional). • Refresher courses on research methodology. • Moral character development. • Research project planning and management. • Latest trends on plagiarism. • On being a "good" scientist. • Study supervision: How to become an effective study supervisor. • Mentorship: How to be a mentor. • Faculty Research Mentorship Program. • Future Professors' Program for Mid-level Academics. • How to do effective peer review for: ➢ Publications. ➢ Post graduate examination (Guidelines on how to examine). ➢ A scientific committee. ➢ A research ethics committee. ➢ Promotion. ➢ Grant/funding applications. ➢ Appointments. ➢ Etc. • Effective publication practices: ➢ Publication ethics. ➢ Authorship. ➢ Writing for publication. • Data management. • How to engage with the public on sharing research results.	• Introduction to research ethics (including review and administration). • Introduction to research integrity and Responsible Conduct of Research. (RCR). • Research related policies, guidelines, and SOPs (National and institutional). • Introduction to research methodology. • Moral character development. • Research project planning and management. • Plagiarism. • On being a "good" student in research. • Scientific writing skills development.

Greeff, 2021 (revised 2022).

Additional notes on the element "Research environment" (under the first area – Support) referring to management activities for a supportive research environment by specifically the Research Directors:

These notes come from various documents provided in the ***toolkit of sop4ri.eu****.*

1. Culture building

Research culture encompasses the *behaviours, values, expectations, attitudes,* and *norms* of our research communities.

Culture building thus refers to community building for *positive research* where the environment is *collaborative, positive, inclusive,* and *enriching* by focussing on *inclusivity, support, performance management and well-being.*

Culture building further focusses on *inclusive excellence*. On how you can *promote the cultural conditions* that will best enable excellent research and researchers in your faculty or entity and

elsewhere to flourish in the future. The focus is on the *assessment of research and researchers, researcher career development,* and *open science*

Five common themes of culture building (1):

1.1 Recognition and Esteem

Current measures of recognition and esteem in the academic environment are disproportionately based on *quantitative metrics* such as *grant income; citation counts* and the *impact factor of the journals* in which they published.

1.2 Setting Culture

"Cultures are not set by policy statements or by distributing a leaflet, but through the people with whom we meet in thousands of seemingly insignificant interactions on perfectly ordinary days. We should all ask ourselves whether we display the characteristics that we value and want to see embedded within the cultures in which we work. Some people are more visible than others, but none of us are invisible and we all have a part to play in developing an inclusive and supportive research culture for all."

(Professor Tom Welton OBE).

1.3 A Culture of Mobility

Mobility refers to the ability of individuals in the research community to *move between roles and careers*.

1.4 Open Science

Open science encompasses research that is *accessible to all*, as discussed in the Royal Society's previous report. Science as an open enterprise. This includes making *research papers available at zero cost* to the reader. Openness also requires ways of enabling the public and other *non-academic audiences such as decision-makers, to understand and engage with research*.

1.5 Fostering Scientific Leadership

Leading scientists are described in terms of individuals *pushing the boundaries* of research in academia and industry.

By contrast, *scientific leaders* of research groups, programmes and institutions are identified as having a *responsibility to advocate for the researchers of the future and develop the talents and skills* of their research teams.

2. Diversity issues

Research institutions should foster *diversity, equity,* and *inclusion*.

"*Diversity is being crushed by narrower and narrower criteria for assessing success*."

(Dame Ottoline Leyser FRS).

3. Entity specific education and training

A list is provided in the framework but there could also be an *entity specific need for training*.

4. Fair, transparent, and responsible assessment procedures during 1) task agreements, 2) promotions, and 3) appointments

The Hong Kong principles: The Hong Kong principles (HKPs) aim to *recognize and reward researchers who commit to robust, rigorous, and transparent research practices*.

Not only based on research metrics and indicators.

Ensuring the use of FAIReR = FAIR (*Findable, Accessible, Interoperable, Reusable*) + *Responsible*.

5. Managing competition and publication pressure

There is wide range of influences effects scientific research:

- Funding mechanisms.
- Publishing models.
- Career structures.
- Governance processes.

6. Supporting RCR and a responsible research process

Looking at available *codes of conduct* and *guidelines.*

It could also include *more direct support* from the Research Director:

- Administrative support.
- Support in generating Turnitin reports and interpretation.

Critical readers etc.

Annexure B: Research Ethics and Research Integrity Tree (Greeff, 2021)