



UNIVERSITY OF THE  
WITWATERSRAND,  
JOHANNESBURG

## POLICY DOCUMENT

# RESEARCH INTEGRITY

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## WITS POLICY

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## 1. CONTEXT

The University of the Witwatersrand, Johannesburg (Wits, or the University), is a research intensive university that strives for excellence in research as part of the broader scope of scholarly endeavour. Research is understood to be the process of thorough investigation, systematic discovery and/or rigorous analysis that aims to uncover the truth, produce a deeper understanding and/or create new knowledge.

Importantly, research is inexorably intertwined with the principles of integrity, honesty and reliability. The aim of this policy is to influence the behaviour of individuals and the corporate University, and to get researchers to collectively commit to conducting research with the utmost integrity and ethics.

This commitment is made within the context of the full recognition that academic and intellectual freedom enables high quality research. This policy is to be read in conjunction with the *Wits Code of Conduct*<sup>1</sup>.

It is important to recognise too that breaches of research integrity norms and standards lead inevitably to the harm of participants and damage to the reputations of individuals and the University, which in turn impedes ongoing and future high quality research.

## 2. PURPOSE OF THE POLICY

This policy seeks to sustain an environment that supports vibrant research and scholarship by creating an enabling framework that guides the conduct of the *Wits research community*. Specifically, the purpose of the policy is to:

- Inspire the *Wits research community* to embrace the highest standards of research integrity and ethics;
- Engender respect for the dignity and rights of all *stakeholders*;
- Articulate *ethical* norms that transcend disciplinary boundaries;
- Describe the structures and mandates for the *ethical* review of research; and
- Ensure compliance with internationally accepted *ethical* standards, related University policy and pertinent South African law.

## 3. DEFINITIONS

For the purpose of clarity the defined words and phrases are written in italics indicating their specific meanings in the context of this policy.

<sup>1</sup> HRG/26, C2006/482, 8 December 2006 (<http://intranet.wits.ac.za/exec/registrar/Policies/HRG26%20-%20Code%20of%20Conduct.pdf#search=code%20of%20conduct>)

Research integrity involves “a commitment to intellectual honesty and personal responsibility for one’s actions and to a range of practices that characterize responsible research conduct” (The US Dept of Health and Human Services, 2018). These practices include but not limited to:

- Honesty and fairness in proposing, performing, and reporting research, which includes the practices related to authorship and acknowledging inputs that do not qualify for authorship<sup>2</sup>;
- Accuracy and fairness in representing contributions to research proposals and reports;
- Proficiency and fairness in peer review;
- Collegiality in scientific interactions, communications and sharing of resources including where appropriate research data, equipment, computer code, etc.;
- Disclosure of conflicts of interest;
- Ethical treatment of humans in the conduct of research;
- Humane care of animals in the conduct of research;
- Adherence to the mutual responsibilities of mentors and trainees; and
- Responsible use of University, donor and public funds.

Further pertinent definitions include, in alphabetical order:

- 3.1. ‘**Academic freedom**’ refers to ‘the right of scholars to pursue their research and teaching and to publish without control or restraint from the institution that employs them’ (Task Force on Higher Education and Society (TFHES), 2000).
- 3.2. ‘**Ethics**’ is a branch of philosophy that deals with moral issues and is concerned with “moral principles that govern a person’s behaviour or the conducting of an activity” (Anon., 2018). In the context of this policy, the word *ethics* (and its adjective) is seen as part of the broader concept of research integrity but is used here with a focus on the independent assessment and approval of research (conducted by *staff*, *students* and *researchers*) as ethical before the research is initiated.
- 3.3. ‘**External research**’ includes any research that may involve *staff* and/or *students*, be it on or off the Wits campuses, where the *Principal Investigator* is not a member of the Wits *staff* or *student* body.
- 3.4. ‘**Institutional research**’ includes research conducted by *staff* and/or *students*, be it on or off the Wits campuses, where the *Principal Investigator* is a member of the *staff* or *student* body at Wits.
- 3.5. ‘**Principal investigator**’ refers to the person who assumes responsibility for a research project, protocol or study – the project leader.
- 3.6. ‘**Research Ethics Committee**’ in the context of this policy refers to an independent review committee constituted with a reasonable number of members greater than

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<sup>2</sup> This policy should be read and implemented in conjunction with the URC Guidelines on Authorship available at <http://intranet.wits.ac.za/academic/uro/Pages/Research-Strategy-and-Policy.aspx>

nine, who collectively have the knowledge and experience to review and evaluate the *ethics* of proposed research.

3.7. '**Research participants**' including:

3.7.1. '**Human participants**' that generally connotes individuals about whom an investigator conducting research obtains data through intervention or interaction with the individual or identifiable private information.

3.7.2. '**Animal participants**' (SANS, 2008) refers to "live sentient non-human vertebrate, including eggs foetuses and embryos that is: fish, amphibians, reptiles, birds and mammals, and encompassing domestic animals, purpose-bred animals, farm animals, wildlife and higher invertebrates such the advanced members from the *Cephalopoda* and *Decapoda*".

3.8. '**Stakeholders**' include all parties who have a vested interest in the implementation and outcome of research conducted at/or through Wits. They include at least the communities in which research is undertaken, specific participants in studies, sponsors, donors, alumni, etc.

3.9. '**Vulnerable Persons or Groups**' refers to individuals or groups who have "... substantial incapacity to protect their own interests owing to such impediments as lack of capability to give informed consent, lack of alternative means of obtaining medical or psychological care or other necessities, or being a junior or subordinate member of a hierarchical group". (Anon., 2017) Although vulnerability must be decided on a case by case basis by the research ethics committee some guidelines include:

3.9.1. Persons under the age of 18 years (children and adolescents)<sup>3</sup>;

3.9.2. Persons with mental or physical incapacity;

3.9.3. Persons traumatised due to exposure to physical, psychological and/or emotional abuse or trauma).

3.10. '**Wits research community**' consists of:

3.10.1. Wits '**staff**' members which refers to all categories of employees of Wits, including academic, professional and administrative, whether jointly appointed, permanently appointed, appointed on fixed term contracts or on a sessional basis, including postdoctoral fellows;

3.10.2. '**Students**' includes all persons registered full time or part time for a degree, diploma, licentiate or certificate of the University, which includes undergraduate and postgraduates; and

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<sup>3</sup> Even here the descriptor "under 18 years of age" should not be applied rigidly, but rather on a case by case basis. There are very often cases where minors are able to give consent independently of guardians, for instance, people under 18 who have no guardians.

- 3.10.3. **'Researchers'** who are people who undertake research at and/or through Wits and may include external researchers, external collaborators, partners, external supervisors, non-staff research associates, non-staff research assistants, and so on.

## 4. SCOPE

The scope of this policy includes all *institutional* and *external research* as defined above.

## 5. PRINCIPLES

It is acknowledged that the *ethics* of research are developed and refined within an ever-evolving societal, political and cultural context. Nonetheless, it is necessary that the *Wits research community* conduct research within the framework of internationally acceptable moral imperatives, *ethical* principles and the national legal framework. This policy is thus based on the guiding principles and legal imperatives of the following three documents and their amendments.

- 5.1. **The Constitution of the Republic of South Africa** (Act 108 of 1996): The Bill of Rights (Chapter 2 of the Constitution) enshrines the rights of all people and affirms the democratic values of human dignity, equality and freedom. Section 12(2)(c) specifies the right of the individual “not to be subjected to medical or scientific experiments without their informed consent”. Section 16(1)(d) states that individuals have the right to freedom of expression which includes “academic freedom and freedom of scientific research”. Section 24 refers to the rights of individuals “to an environment that is not harmful to their health or well-being; and to have the environment protected for the benefit of present and future generations ...”
- 5.2. **National Health Act** (Act 12 of 2013) as amended from time to time, specifically section 72, “National Research Ethics Council” and section 73, “Health Research Ethics Committees” which layout a framework for *ethical* research in South Africa and the Department of Health, *Ethics in Health Research: Principles, Processes and Structures*, 2<sup>nd</sup> ed. 2015 (“National Guidelines 2015”); and
- 5.3. **Singapore Statement on Research Integrity** (Anon., 2010): Since the University is a signatory to the Singapore Statement (see reproduction in the Appendix here attached) this policy conforms to its principles. These principles include:
- 5.3.1. Honesty in all aspects of research;
  - 5.3.2. Accountability in the conduct of research;
  - 5.3.3. Professional courtesy and fairness in working with others; and
  - 5.3.4. Good stewardship of research on behalf of others.

## 6. The Wits Policy Statement on Research Integrity

The policy statement on research integrity which is presented as a template to be adopted by the *Wits research community* includes the following elements:

- 6.1. **Conflict of Interest:** Researchers should disclose financial and other conflicts of interest that could compromise the trustworthiness of their work in research proposals, publications and public communications as well as in all review activities.
- 6.2. **Respect:** This principle should permeate the conduct of all researchers and refers to operating in accordance with appropriate regulations, *ethically* accepted standards in relation to themselves, their colleagues, the wider scientific and academic community, their *research participants* as well as the environment and broader society. This includes respect for diversity and the specific responsibilities of researchers in their interaction with research participants of different languages, cultures and capacities/abilities, different species, and the environment.
- 6.3. **Free and Informed Consent:** Informed consent means that participants in research projects should understand what they are consenting to and should know that they are free (without coercion) to decide not to participate. Individuals are generally presumed to have the capacity and right to make these free and informed decisions.
- 6.4. **Vulnerable Persons or Groups:** It is particularly important to consider the *ethical* obligations towards *vulnerable persons or groups*. They are entitled, on grounds of human dignity, caring, solidarity and fairness, to special protection against abuse, exploitation or discrimination. By the same token, *animal participants* must be treated humanely because they cannot give consent.
- 6.5. **Respect for Privacy and Confidentiality:** Standards of privacy and confidentiality protect the access, control and dissemination of personal information and help to protect mental or psychological integrity.
- 6.6. **High Quality Peer Review:** Peer review plays an important quality assurance role in research. When asked to perform peer review the *Wits Researcher Community* should only do so if the material to be reviewed is within their field of expertise and then they should provide fair, prompt and rigorous evaluations. They should also respect confidentiality standards during and after such reviews.
- 6.7. **Public Communication:** Researchers should limit professional comments to their recognized expertise when engaged in public discussions about the application and importance of research findings and clearly distinguish professional comments from opinions based on personal views.
- 6.8. **Beneficence and Non-Maleficence:** Researchers have an obligation to do no harm (non-maleficence) as well as to ensure, as appropriate or possible, that their research endeavours aim at overall good (beneficence). In the planning and execution of a study, the researcher should always take into consideration the *ethical* acceptability and the foreseeable consequences of the research where this indirectly or directly affects human beings and animals. This implies a cost-benefit analysis to ensure a balance between risks and benefits. Such an

analysis needs to include human/animal discomfort/risks, and impact on the environment.

- 6.9. **Respect for Justice and Inclusiveness:** Justice connotes fairness and equity in terms of fair methods, standards and procedures. It is also concerned with the distribution of benefits and burdens/harms of research. On the one hand, this means that no segment of society should be unfairly burdened with the harms of research and on the other hand, imposes duties to neither neglect nor discriminate against individuals and groups who may benefit from advances in research.
- 6.10. **Reporting Irresponsible Research Practices:** Researchers should report any and all suspected research misconduct, including fabrication, falsification or plagiarism, and other irresponsible research practices that undermine the trustworthiness of research, such as carelessness, improperly listing authors, failing to report conflicting data, or the use of misleading analytical methods to the Research Integrity Officer either directly or preferably via the University Integrity Hotline (email: [Wits.Integrity@Wits.ac.za](mailto:Wits.Integrity@Wits.ac.za) or telephone: 082 938 45 59/69).
- 6.11. **Responding to Irresponsible Research Practices:** Research institutions, as well as journals, professional organizations and agencies that have commitments to research, should have procedures for responding to allegations of misconduct and other irresponsible research practices and for protecting those who report such behaviour in good faith. When misconduct or other irresponsible research practice is confirmed, appropriate actions should be taken promptly, including correcting the research record (see Sections 9.7, 9.8, 9.9 on page 13).
- 6.12. **Scientific Integrity:** Research undertaken should be sound in terms of methodology and scientific validity and be conducted by researchers who are technically competent. The highest standards of honesty and accuracy with respect to research data are expected at all times. This implies that experimental data should not be created, ignored or inappropriately manipulated. Researchers should keep clear, accurate records of all research in ways that will allow verification and replication of their work by others. Researchers should share data and findings openly and promptly, as soon as they have had an opportunity to establish priority and ownership claims.
- 6.13. **Authorship and Public Acknowledgement:** Researchers should take responsibility for their contributions to all publications, funding applications, reports and other representations of their research. Lists of authors should include all those and only those who meet applicable authorship criteria (see University Research Committee (URC) Authorship Guidelines<sup>4</sup>). Researchers should acknowledge in publications the names and roles of those who made significant contributions to the research, including writers, funders, sponsors, and others, but do not meet authorship criteria.

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<sup>4</sup> The URC Guidelines on Authorship available at <http://intranet.wits.ac.za/academic/uro/Pages/Research-Strategy-and-Policy.aspx>



- 6.14. **Academic Bullying:** It is recognised that in unequal power relationships that may involve supervisor and *student* or senior academic and junior academic that academic bullying, especially involving matters of authorship, is a risk and should be guarded against.
- 6.15. **Respect for the Environment:** It is acknowledged that research can impact on the natural and created environments and thus the *Wits research community* should evaluate the potential impact of their research on the environment, and declare the possible impact, however unlikely. Where remedies are required, such plans should form part of the research design and execution.
- 6.16. **Responsible use of University, Donor and Public Funds in Research Activities:** Internal and external funding is an important factor in the research process. The *Wits research community* undertake to use these funds in such a manner that is compliant with University policy, funder agreements and national law.

## 7. RESPONSIBILITY FOR ETHICS

It is the responsibility of individual *staff*, *students* and *researchers* to ensure they uphold the principles of research integrity described in this policy. Part of this commitment is to have all research that directly or indirectly, deliberately or accidentally involves *human* and/or *animal participants*, especially *vulnerable people and groups*, considered by a *research ethics committee* and approved as *ethical* before it is implemented and / or conducted. Unethical research must not be conducted under any circumstances.

It is the responsibility of the University to ensure that there is an accredited structure in place to promptly and independently review research that directly or indirectly, deliberately or accidentally involves *research participants*, especially *vulnerable people and groups*, to declare it *ethical* in accordance with the above principles and relevant legislation. Although the University retains responsibility the task of assessment is delegated to the *Research Ethics Committees* by the Deputy Vice-Chancellor for Research and Postgraduate Affairs (DVC-R&PGA). The administration supporting the *Research Ethics Committees* is managed normally by the University Research Office. To this end, the University Research Office has a dedicated function called the Office of Research Integrity, headed by the Research Integrity Officer, which is responsible for the stewardship of research integrity and *ethical* approvals in the University.

The University is further responsible for providing a mechanism that allows appropriate and relevant training in respect of *staff* and *students* and members of the *research ethics committees*. Provision of this means of training does not remove the responsibility of the individual for breaches or violations of research integrity.

## 8. ORGANISATIONAL STRUCTURES AND THEIR RESPONSIBILITIES

In order for the University to fulfil its responsibilities regarding the *ethical* conduct as described in this policy and, in particular, the formal review of the *ethics* of proposed

research studies, the University constitutes the following committees which are appointed and are answerable to the URC:

**8.1. The Advisory Committee on Ethics (ACE):** This committee has a threefold responsibility:

- 8.1.1. It provides knowledgeable advice to the DVC-R&PGA on all matters related to maintaining *ethical* standards for research and scholarly endeavour at Wits. The ACE reports to the Senate Graduates Committee for *student* related matters and to the URC for research related matters or both when *student* related matters cannot be separated from *research* matters.
- 8.1.2. It considers and pronounces on appeals raised against the decisions of the *Research Ethics Committees* brought by aggrieved *staff, students, researchers*, or external parties; and
- 8.1.3. When requested it will provide support for the *Research Ethics Committees* in the form of providing scholarly, legal and philosophical inputs into their deliberations.
- 8.1.4. The ACE is normally constituted with a suitably qualified lawyer; philosopher; bioethicist; sociologist; a representative from one of the humanities; the Head of the Research Integrity Office; and one external person and the DVC-R&PGA who chairs the ACE or his/her delegated representative. Decisions should preferably be made on the basis of consensus but where this is not possible they will be based on a simple majority of the quorum (75% of membership). The Chair can break deadlocks with a casting vote. The ACE will meet quarterly or as necessary with special meetings called by the Chair giving members a notice period of at least five working days.

**8.2. Research Ethics Committees:** Four independent *Research Ethics Committees* are responsible for the review of the *ethical* considerations related to *institutional* and *external research* involving the *Wits research community*. The committees and their sub-committees are listed below:

- 8.2.1. Human Research Ethics Committee (HREC) focused on '**Medical**' matters (**HREC-M**) assumes responsibility for the review of the *ethical* considerations related to medical processes—including basic scientific research of human anatomy, physiology and pathologies and clinical research and clinical trials—which investigate *human participants* including *vulnerable groups*. The HREC-M has one sub-committee, namely:
  - 8.2.1.1. The Biobanks Ethics Committee (**BEC**) that considers the ethical principles of storing biological samples and associated biological data sourced from *human participants*; and the ethical principles of sharing of biological samples and biomedical data for collaborative research;
- 8.2.2. Human Research Ethics Committee (HREC) focused on '**Non-Medical**' matters (**HREC-NM**) assumes responsibility for the review of the *ethical*

considerations related to research involving *human participants* in all non-medical situations, more specifically in research in social, behavioural, economic and educational situations. As an illustrative example, research conducted in government and a non-governmental medical facility that does not involve in-patients should be referred to the HREC-NM. HREC-NM has several sub-committees, which may change from time to time, namely:

- 8.2.2.1. CLM – School of Accountancy
- 8.2.2.2. CLM – School of Economic and Business Sciences
- 8.2.2.3. CLM – School of Law
- 8.2.2.4. CLM – Wits Business School
- 8.2.2.5. CLM – Wits School of Governance
- 8.2.2.6. EBE – Architecture and Planning
- 8.2.2.7. EBE – Chemical and Metallurgical Engineering
- 8.2.2.8. EBE – Civil and Environmental Engineering
- 8.2.2.9. EBE – Construction Economics and Management
- 8.2.2.10. EBE – Electrical and Information Engineering
- 8.2.2.11. EBE – Mechanical, Industrial and Aeronautical
- 8.2.2.12. Humanities – Wits School of Arts
- 8.2.2.13. Humanities – Wits School of Education
- 8.2.2.14. Humanities – School of Human and Community Development
- 8.2.2.15. Humanities – School of Literature, Language and Media
- 8.2.2.16. Humanities – School of Social Sciences
- 8.2.2.17. Sc – School of Statistics and Actuarial Science
- 8.2.2.18. Sc – School of Animal, Plant and Environmental Sciences
- 8.2.2.19. Sc – School of Geography, Archaeology and Environmental Studies
- 8.2.2.20. Sc – School of Molecular and Cell Biology

8.2.3. The Animal Ethics Control Committee (**AECC**) that oversees all *ethical* decisions related to the use of *animal participants* in research. It has one subcommittee:

- 8.2.3.1. The Animal Research Ethics Committee (**AREC**) is charged with monitoring the treatment of *animal participants* used in research and teaching at Wits, reviewing all protocols involving animal use in order to ensure that they are in accordance with acceptable ethical standards, and ensuring that all aspects of the care and use of animals in research and teaching comply with national and international standards and norms and relevant national laws.

8.2.4. Institutional Biosafety Committee (**IBC**) focused on all issues related to the identification of risks related to bio-hazards.

8.3. The ACE and the four *Research Ethics Committees* are organised and administered at the central University level while some of the sub-committees are administered at the School level. Each committee has its own terms of reference, which defines its

mandate, purpose and scope arising out of this Policy. The procedures of these committees are defined in appropriate standard operating procedures.

- 8.4. During the review of *ethical* considerations a *research ethics committee* may make recommendations to the *Principal Investigator* with a view to strengthening the scientific quality or selected methodology of a proposed study. However, these recommendations that are unrelated to *ethical* considerations should not be converted into mandatory instructions nor should they prevent the research from being undertaken through the withholding of an ethical clearance certificate.

## 9. PROCESS

The responsibility for obtaining *ethics* clearance is described by the following statements:

- 9.1. *Ethics* clearance is required for all *institutional* and *external* research through the appropriate structures outlined above prior to the commencement of data collection and cannot be issued retrospectively<sup>5</sup>. This assessment process by definition introduces a bottleneck to the research process and therefore the *Research Ethics Committees* commit to a four week turn around assuming that the application is fully compliant.
- 9.2. All research proposals/protocols and treatises/dissertations/theses should include a section on ethical considerations, where appropriate.
- 9.3. In line with the mandates and the terms of reference of the four *Research Ethics Committees*, researchers are required to adhere to the procedures set out by these structures and provide all relevant documentation to inform the review of an application for *ethics* clearance.
- 9.4. The responsibility for the submission of an application rests with the *Principal Investigator*. A *student* supervisor may submit an application for an overarching project involving a number of student participants. However, on occasion the *student* can fulfil the role of *Principal Investigator*. In such cases the *student* supervisor bears responsibility for making the *student* (as *Principal Investigator*) aware of the policy and procedures for obtaining the necessary *ethics* clearance for research to be undertaken.
- 9.5. The *Principal Investigator* is responsible for completing and submitting the relevant documentation as per the rules and procedures with the approval of the research supervisor. The *Principal Investigator* is furthermore responsible for his/her conduct in relation to the final implementation of the research process for which approval has been granted.
- 9.6. In the event of any material deviation from the approved protocol or research project that impacts on the ethical nature of the proposed research, it is the responsibility of the *Principal Investigator*, or in the case of a *student* as *Principal Investigator* the

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<sup>5</sup> See section 1.6.9 of DOH2015 which states that “Ethics Retrospective review and approval or clearance is not permitted” <http://www.nhrec.org.za/index.php/grids-preview>

joint responsibility of the *student Principal Investigator* and supervisor to bring such amendments to the attention of the relevant *Research Ethics Committee* as soon as possible.

- 9.7. Suspected breaches of research integrity must be reported to the Research Integrity Officer either directly or preferably via the University Integrity Hotline (email: [Wits.Integrity@Wits.ac.za](mailto:Wits.Integrity@Wits.ac.za) or telephone: 082 938 45 59/69).
- 9.8. The Research Integrity Officer will take all such reports seriously and investigate them thoroughly using the resources available with the University, including but not limited to: the ACE, the Legal Office, the Employee Relations Office, the Gender Equity Office, the Senate and Faculty committee structures and the University Research Office.
- 9.9. Should the principles of research integrity described in the policy be breached or violated then the Research Integrity Officer will invoke the University disciplinary procedures.

## 10. ACKNOWLEDGEMENTS

Many people have read drafts of this policy and have offered their criticisms and advice willingly and meaningfully. These contributions are gratefully acknowledged.

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## Appendix: Singapore Statement on Research Integrity

**Preamble.** The value and benefits of research are vitally dependent on the integrity of research. While there can be and are national and disciplinary differences in the way research is organized and conducted, there are also principles and professional responsibilities that are fundamental to the integrity of research wherever it is undertaken.

### 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

### RESPONSIBILITIES

**1. Integrity:** Researchers should take responsibility for the trustworthiness of their research.

**2. Adherence to Regulations:** Researchers should be aware of and adhere to regulations and policies related to research.

**3. Research Methods:** Researchers should employ appropriate research methods, base conclusions on critical analysis of the evidence and report findings and interpretations fully and objectively.

**4. Research Records:** Researchers should keep clear, accurate records of all research in ways that will allow verification and replication of their work by others.

**5. Research Findings:** Researchers should share data and findings openly and promptly, as soon as they have had an opportunity to establish priority and ownership claims.

**6. Authorship:** Researchers should take responsibility for their contributions to all publications, funding applications, reports and other representations of their research. Lists of authors should include all those and only those who meet applicable authorship criteria.

**7. Publication Acknowledgement:** Researchers should acknowledge in publications the names and roles of those who made significant contributions to the research, including writers, funders, sponsors, and others, but do not meet authorship criteria.

**8. Peer Review:** Researchers should provide fair, prompt and rigorous evaluations and respect confidentiality when reviewing others' work.

**9. Conflict of Interest:** Researchers should disclose financial and other conflicts of interest that could compromise the trustworthiness of their work in research proposals, publications and public communications as well as in all review activities.

**10. Public Communication:** Researchers should limit professional comments to their recognized expertise when engaged in public discussions about the application and importance of research findings and clearly distinguish professional comments from opinions based on personal views.

**11. Reporting Irresponsible Research Practices:** Researchers should report to the appropriate authorities any suspected research misconduct, including fabrication, falsification or plagiarism, and other irresponsible research practices that undermine the trustworthiness of research, such as carelessness, improperly listing authors, failing to report conflicting data, or the use of misleading analytical methods.

**12. Responding to Irresponsible Research Practices:** Research institutions, as well as journals, professional organizations and agencies that have commitments to research, should have procedures for responding to allegations of misconduct and other irresponsible research practices and for protecting those who report such behavior in good faith. When misconduct or other irresponsible research practice is confirmed, appropriate actions should be taken promptly, including correcting the research record.

**13. Research Environments:** Research institutions should create and sustain environments that encourage integrity through education, clear policies, and reasonable standards for advancement, while fostering work environments that support research integrity.

**14. Societal Considerations:** Researchers and research institutions should recognize that they have an ethical obligation to weigh societal benefits against risks inherent in their work.

*The Singapore Statement on Research Integrity was developed as part of the 2nd World Conference on Research Integrity, 21-24 July 2010, in Singapore, as a global guide to the responsible conduct of research. It is not a regulatory document and does not represent the official policies of the countries and organizations that funded and/or participated in the Conference. For official policies, guidance, and regulations relating to research integrity, appropriate national bodies and organizations should be consulted. Available at: [www.singaporestatement.org](http://www.singaporestatement.org)*