

Research Integrity Policy for the Promotion of the Responsible Conduct of Research

Issued: Feb 2008
Last review: Mar 2018
Next review: Mar 2021

Access category: Public

1. Policy Statement

- 1.1 This policy serves to provide the framework for research integrity in NTU to ensure staff and students engaged in research will adhere to good research practices and to conduct research responsibly and with impeccable integrity.
- 1.2 This policy forms part of the [University's Code of Conduct](#).

2. Background and Rationale

- 2.1 This policy is in accordance with the [requirement by national research funding agencies](#) to ensure that institutions have a research integrity policy in place to serve as a guide for the responsible conduct of research and for responding to allegations of research misconduct.
- 2.2 It is a fundamental obligation of all concerned within NTU's research community to ensure that their actions are of the highest integrity.

3. Scope

- 3.1 This policy and its associated procedures apply to:
 - (i) all individuals directly or indirectly engaged in any research, research-training or research-related grant or cooperative/collaborative agreement at or for NTU.
 - (ii) any person paid by, under the control of, or affiliated with NTU, such as scientists, trainees, technicians and other staff members, students, fellows, guest researchers (including Visiting Professors), and collaborators at NTU or in any research collaboration arrangement with an external body.
 - (iii) all NTU Academic Organisation and Research Entities.
- 3.2 This policy covers awareness and training, practicing research integrity in the conduct of research and reporting research misconduct.

4. Definitions

- 4.1 The definitions of terms used in this document are as follows:

Academic Organisation: Colleges, Schools, Autonomous Institutes, Institutes and other academic units as defined under the NTU Statute 2.

Allegation: Any written or oral statement or other form of indication of possible research misconduct made to NTU.

Conflict of Interest: The real or apparent interference of a person's own interests with the interests of another person or NTU, or where potential bias may occur due to prior, existing or future personal or professional relationships and must be declared.

IACUC: Institutional Animal Care and Use Committee dealing with applications for and approval of research involving animals

IRB: Institutional Review Board dealing with applications for and approval of research involving human subjects

Research Entities: Research Institutes, College and School research centres as defined under NTU Statute 2.

Research Misconduct: Includes fabrication, falsification or misrepresentation of data, plagiarism, or other wrongdoing in printing, designing, performing, recording, supervising and reviewing research, or in reporting research results, or in breaching relevant national legislation, rules and guidelines concerning the ethical conduct of research in human subjects and animals. Plagiarism is as defined in the [Student Academic Integrity Policy and Procedures](#). Research Misconduct also includes self-plagiarism with the undisclosed publication of similar papers in different journals. It does not include honest error or honest differences in interpretations or judgments of data.

5. Policy

5.1 Principles

5.1.1 NTU is committed to the pursuit of research excellence and the maintenance of the highest standards of integrity and ethical behaviour in all its research endeavours, and does not tolerate any departure from these standards. NTU fully subscribes to the generally accepted international statements on research integrity, scientific freedom and responsibility, scholarly publications and guidelines including but not limited to the below:

- (i) [Singapore Statement on Research Integrity](#) (2010) and its constituent four principles of honesty, accountability, professional courtesy and fairness and good stewardship and the 14 responsibilities of a professional researcher which are set out in the Statement.
- (ii) [Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations](#) (2013) which outlines the responsibilities of collaborating partners at the individual and institutional levels, which are key to upholding integrity in collaborative research.
- (iii) [The Joint Statement on Scholarly Publications by A*STAR, NTU, NUS and SUTD](#) (2016).

- (iv) The [Vancouver Protocol on authorship](#) and the [Guidelines of the International Committee of Medical Journal Editors](#) (ICMJE).

- 5.1.2 Persons involved in research involving human subjects must obtain NTU-IRB approval prior to commencing work. Such work must adhere to the regulations outlined under the [Human Biomedical Research Act](#) (if applicable) and relevant NTU policies for research involving human subjects.
- 5.1.3 Persons involved in research involving live animals must obtain NTU-IACUC approval prior to commencing work on animals. Such work must adhere to the [NACLAR Guidelines](#) and to relevant NTU policies on the use of live vertebrate animals in research and teaching.
- 5.1.4 Persons involved in research should abide by all other legislation, regulations and policy, such as the [Conflict of Interest Policy](#) requiring declaration on possible conflicts, aimed at responsible conduct of research. This includes abiding by all Health and Safety regulations and procedures.
- 5.1.5 This policy should be read in conjunction with the [University Code of Conduct](#) for Faculty and Research Staff and the [Student Code of Conduct](#).

5.2 Roles and Responsibilities

5.2.1 The NTU Research Integrity Officer (RIO)

The NTU RIO is appointed by the Vice-President (Research) to oversee the development and implementation of the university's research integrity policy (compliance), relevant education and training programmes, as well as to receive and assess allegations of possible breaches of research integrity, determine when such allegations warrant an investigation or inquiry and to oversee such investigations and inquiries.

5.2.2 Research Integrity and Ethics Office (RIEO)

The Research Integrity and Ethics Office (RIEO), under its Director, supports the RIO and provides the framework for research integrity and ethics in NTU, and is responsible for promoting and ensuring the responsible and proper conduct of research amongst faculty, research staff and students.

5.2.3 NTU Research Integrity Committee (RIC)

The Research Integrity Committee (RIC) consisting of representatives from Academic Organisation and Research Entities, advises on policy development and helps to ensure the successful implementation of this policy across NTU, and to educate those they represent on matters related to research integrity.

5.2.4 Academic Organisation and all Research Entities

Academic Organisation and all Research Entities are responsible for ensuring the responsible conduct of research under their domains including the promotion of

education and training on research integrity amongst their research faculty, staff and students through on-line Research Integrity Courses, promoting good research practices through face-to-face training sessions, and reporting concerns related to deviations from such practices and allegations of breaches of research integrity to the RIO.

5.2.5 Principal Investigators (PI)

Principal Investigators (PI) are all faculty members leading research projects and groups. They take ultimate responsibility for the integrity and responsible conduct of research by all members (themselves, research staff, research students and visiting collaborating researchers) of their research groups, including adherence to all legislative guidelines and regulations.

5.3 **Awareness and Training**

5.3.1 NTU Codes of Conduct

Persons associated with the University are required to read, understand and abide by the Codes of Conduct [the [University Code of Conduct](#) and the [Student Code of Conduct](#)] upon commencement of appointment / studentship. Each of these Codes reinforce the University's commitment to upholding the highest standards of integrity and ethics in all dealings and outline the role of persons appointed / enrolled in upholding these values.

5.3.2 Declaration to abide by NTU Policy on Research Integrity

All faculty, research staff and research students, on appointment to NTU, will be required to sign a declaration that they have read and agree that they will abide by this policy, as well as the principles and 14 core responsibilities outlined in the Singapore Statement on Research Integrity.

5.3.3 Research Integrity Course

NTU has developed a research integrity online course catered to informing and assessing researchers on key areas such as data management, conflict of interest, publications, and is tailored to the requirements of different disciplines. The course comes in 5 separate programmes for (i) *Arts & Humanities*, (ii) *Biomedical Sciences*, (iii) *Engineering & Technology*, (iv) *Natural & Physical Sciences* and (v) *Social & Behavioural Sciences*.

The following categories of researchers are required to take this course:

- (i) All Postgraduate research students must complete the Research Integrity Course before they are allowed to sit for their Qualifying Examinations (QE).
- (ii) All Research Staff (including post-doctoral research fellows, research and project officers, etc.) are expected to complete the Research Integrity Course prior to the end of their probation period (or annual review/reappointment, whichever is earlier).

- (iii) All Faculty are expected to complete the Research Integrity Concise Course. This is to be completed within 6 months of appointment for new faculty, and for existing faculty, within a year of implementation.

The Research Integrity Courses certification has a validity period of **3 years**; researchers and faculty are expected to renew their certification every 3 years through the completion of the Research Integrity Concise Course. This is to remain updated on the latest development and best practices in this area.

5.4 Research Integrity and the Responsible Conduct of Research

5.4.1 Research Data Management

Proper management of research data at NTU refers to adherence to the processes and actions outlined in the [NTU Research Data Policy](#) so as to ensure that data generated through research work at NTU is made available for current and future research purposes and users.

All researchers, including consultants and visiting researchers involved in research under the purview of the University, should adhere to their Data Management Plan (DMP) and practice proper data retention and deposition. All PIs are required to submit a Data Management Plan (DMP) prior to the commencement of a funded project, both internal and external. Compliance checks may be conducted to check that the filed DMP is being adhered to.

In line with NTU's Open Access Policy, the University requires that peer-reviewed manuscripts of journal articles and conference papers be submitted to the institutional repository, [DR-NTU](#); this is also applicable to higher degree theses / dissertations obtained. By enabling easy access of research publications, DR-NTU aims to ensure the continuity of such research leading to the advancement of science.

NTU requires that research output be stored and maintained at NTU for a minimum period of **10 years** after publication or patenting, including PhD data and laboratory notebooks.

5.4.2 External Research Collaborations

All new external research collaboration agreements now include an added clause that requires the commitment of all involved parties to ensure that they maintain the highest standard of integrity in their research, and will cooperate with all collaborating parties in any investigations of allegations of breaches of research integrity that may arise.

The full form of the above clause can be accessed [here](#).

5.4.3 Publications and Theses / Dissertations

5.4.3.1 Plagiarism

The University takes a serious view of plagiarism, and research project supervisors are required to run theses / dissertations through University-approved electronic text-matching software to assess each thesis / dissertation on levels of plagiarised

content, if any. Project supervisors are required to be familiar with the types of plagiarism and the methods to effectively isolate and handle relevant cases.

A certificate signed by the submitting student and the supervisor must be produced before a thesis / dissertation can proceed for external examination. [Refer to the [Guidance Note on the use of the TurnItIn plagiarism checker](#) and [additional recommendations](#) for evaluating results generated by TurnItIn.]

5.4.3.2 Image Manipulation

When using image manipulation tools, it is essential that the manipulation carried out is described when presenting the data. Many journals now require such image manipulations to be described and for the 'raw' pre-enhanced data to be made available.

NTU's [Guidance Note on Image manipulation](#) covers the imagery policy implemented by *Nature*, describing the standards to be met by authors when including images in their submissions. It also includes guidelines on the presentation of images acquired using microscopy and electrophoretic gels and blots.

5.4.3.3 Declaration

All theses / dissertations by students should include a statement on originality and authorship and a declaration signed by both supervisor and student that the material has been subjected to plagiarism.

5.4.4 Authorship and Acknowledgement Policy

A*STAR, NTU, NUS and SUTD issued a Joint Statement on scholarly publications in November 2016 which outlined the 6 key principles guiding research publications. These are: Leadership, Honesty, Reproducibility, Citation, Acknowledgement and Reporting. [Access the [Joint Statement](#) issued by participating research institutes to learn more about how these 6 principles can be applied.]

[NTU's Authorship Guidelines](#) and the supplementary [Acknowledgements in Research Communications](#) serve to define the varying types of contributions by individuals and outline the corresponding categories of acknowledgement in both publications and grant applications. Research personnel should ensure that all who have contributed to or are quoted in research work done, are given appropriate credit and acknowledgement. At the same time they are reminded that *gift authorship*, i.e. the addition of names of those who took little or no part in the research, is viewed as possible research misconduct. Supervisors and Chairs who have made no intellectual input to a paper should not be co-authors although they may feature in acknowledgments. All funders of published research should be acknowledged to ensure that any conflict of interest has been declared.

5.4.5 Misrepresentation of Credentials

Honesty and professional behaviour are part of research integrity and come under the Singapore Statement on Research Integrity to which NTU adheres. Therefore, it is essential that there is no misrepresentation of personal credentials which may mislead or give the wrong impression.

5.5 Reporting Research Misconduct

Breaches of NTU's research integrity standards are considered disciplinary matters and individuals conducting research at NTU must accept this obligation.

5.5.1 Reporting Obligations

All research faculty, staff and students have an obligation to report observed, suspected or apparent misconduct, malpractices and/or non-compliance with the University's codes of conduct and discipline, promptly and in good faith.

If any researcher is found to be aiding, abetting or wilfully suppressing information on cases of research misconduct, he/she may be subject to disciplinary procedures.

5.5.2 Reporting Allegations of Research Misconduct

If any suspected case of research misconduct is reported within the academic organisation or any research entity, such concern must be promptly brought to the attention of the NTU RIO who will then commence investigatory proceedings. For the avoidance of doubt, the NTU academic organisation and research entities are not permitted to investigate allegations of research misconduct raised to them without the approval of the NTU RIO.

Allegations of research misconduct, including areas of research involving human subjects and animals, are to be reported to the NTU RIO in writing via email to the following email address: nturio@ntu.edu.sg.

Alternatively, anonymous reporting can be done via the [Research Integrity website](#) or by mailing the report, in a sealed envelope, to:

**Research Integrity Officer
President's Office / Research Integrity and Ethics Office
Nanyang Technological University
50 Nanyang Avenue**

Cases of possible research misconduct reported to the Whistle Blowing Committee will be referred to the RIO.

If any person is unsure whether a suspected incident constitutes research misconduct, he may consult the RIO and will be counselled about appropriate procedures for reporting allegations. Alternatively, persons can also consult RIEO and RIC members who can offer advice. If the circumstances described by the person do not constitute research misconduct, the RIO may refer the person or allegation to the appropriate office to consider the matter.

Researchers should familiarize themselves with what reports constitute a legitimate whistle blowing complaint, as outlined in the [Whistle Blowing Policy](#).

All allegations, whether anonymous or not, will be investigated. Complainants are encouraged to identify themselves to provide legitimacy to the allegations and to facilitate and expedite investigations. The workflow for handling allegations of research misconduct is outlined in the [Responding to Allegations of Research Misconduct Procedure](#).

5.5.3 Cooperation with Committees of Inquiry and Investigations

All NTU personnel have a duty to cooperate with the RIO, RIEO, and other employees or officers of NTU or other persons engaged by NTU in the review of allegations and the conduct of investigations and preliminary investigations and with formal disciplinary Committees of Inquiry. Employees have an obligation to provide relevant evidence to the RIO or other persons authorised by NTU in relation to Preliminary Investigations or Committees of Inquiry.

6. Implementation

- 6.1 The procedure related to this Policy is **Responding to Allegations of Research Misconduct**. It can be accessed via the NTU Policy Portal at: <https://ts.ntu.edu.sg/sites/policyportal/new/Policies2/ResearchAndInnovation/Pages/ResearchConduct.aspx>

7. Consulted Parties

- 7.1 The following have been consulted in the drafting of this document.

Name	Designation	College/School/Department
Prof Timothy John White	Research Director	President's Office
Prof Theng Yin Leng	Research Director	President's Office
Mr Tony Mayer	NTU RIO	President's Office
A/Prof Roderick Bates	NTU RIO	President's Office
Prof Soh Wai Lin, Christina	Associate Provost (Faculty Affairs)	President's Office
Prof Tjin Swee Chuan	Associate Provost (Graduate Education)	President's Office
Ms Tay Hsiu Chieh	General Counsel and Chief	Legal and Secretarial Office
Mr Choy Kam Luen	Deputy Director	Plans Office / Corporate Governance

8. Related Legislation, Policies, Procedures and Guidelines

Type	Document Title
Legislation	Human Biomedical Research Act
Legislation	Animals and Birds Act
Policy	University Code of Conduct
Policy	Student Code of Conduct

Policy	NTU Research Data Policy
Policy	Conflict of Interest Policy
Policy	Care and Use of Live Vertebrate Animals in Research and Teaching
Policy	Student Academic Integrity Policy and Procedures
Policy	Whistle Blowing Policy
Policy	NTU Open Access Policy
Procedure	Responding to Allegations of Research Misconduct
Guidelines	Singapore Statement on Research Integrity
Guidelines	Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations
Guidelines	AAAS Statement on Scientific Freedom and Responsibility
Guidelines	NTU Authorship Guidelines
Guidelines	Joint Statement by A*STAR, NTU, NUS and SUTD on Research Integrity Relating to Scholarly Publications
Guidelines	NACLAR Guidelines
Guidelines	Research Integrity Grant Conditions
Guidelines	Guidance Note on the use of the TurnItIn plagiarism checker
Guidelines	Further Guidance on Anti-Plagiarism Checks on Masters and PhD Theses
Guidelines	Guidance Note on Image manipulation
Guidelines	Acknowledgements in Research Communications
Guidelines	Guidance Note on External Research Collaborations
Guidelines	Vancouver Protocol on authorship
Guidelines	Guidelines of the International International Committee of Medical Journal Editors

9. Responsible Parties and Contacts

Policy Owner: Vice-President (Research)

Responsible Office: Research Integrity and Ethics Office (RIEO)

For clarification on this policy, please contact:

Name	Designation	Email	Telephone
Assoc. Prof Roderick Wayland Bates	NTU RIO	nturio@ntu.edu.sg	-
Dr Willie Koh	Director, RIEO	d-rieo@ntu.edu.sg	6904 7038

10. Revision History

Version	Approved By	Approval Date	Effective Date	Sections Modified
1		28 February 2008	28 February 2008	New Release
2	President's Coordinating Group and the Provosts and Deans Group	23 June 2012	23 June 2012	Addition of Introduction to reflect alignment of policy with the Framework for Investigation and Disciplinary Proceedings for Research and Faculty Staff, the Academic Honour Code and the addition of the Singapore Statement on Research Integrity, along with the

				<p>addition of Ethical Guidelines for IRB and IACUC.</p> <p>Section 2 of University Policy modified to include storage of data in NTU for at least 10 years, and the Whistle Blowing Procedure.</p> <p>Signing of declaration added to Section 3 of University Policy.</p> <p>Removal of definition of "Office of Human Resources" from Section 2 of Procedures for Responding to Allegations of Research Misconduct.</p> <p>Roles Rights and Responsibilities of RIO has been revised in Section 3 of Procedures for Responding to Allegations of Research Misconduct while part F has been removed.</p> <p>Modifications to Section 5 of Procedures for Responding to Allegations of Research Misconduct</p>
3			December 2013	<p>Addition of new Section 2 under University Policy.</p> <p>Modification to Section 3 of University Policy titled Responsible Conduct of Research.</p> <p>Removal of definitions.</p> <p>Addition of new Section 4.</p>
4	President's Council	27 Mar 2018	27 Mar 2018	<p>Policy content translated to latest version of NTU policy template.</p> <p>Overall policy revision to reference relevant legislation, policies and guidelines and incorporation of guidance notes.</p>

Acknowledgement: NTU is grateful for the advice of Professor Nick Steneck, University of Michigan, in the original preparation of this Policy.