

Academic Ethics Guidelines for Researchers by the National Science and Technology Council (NSTC)

Amended on July 28, 2022

- 1. Basic attitude of the researchers:** Researchers shall ensure that the research process (including research conception, implementation, and presentation of results) are conducted in an honest, responsible, professional, objective, stringent, and righteous manner while respecting the rights of the research subjects, and shall also avoid any conflict of interest.
- 2. Research misconduct:** The scope of improper conduct of research covers a wide area. These guidelines are mainly concerned with the primary issue of violations of academic ethics, namely: fabrication, falsification, plagiarism, duplicate publication of research results, improper citations, illegal or inappropriate means used to influence the scientific review of the paper, and listing the name of improper authors.
- 3. Collection and analysis of research data:** The researcher shall, to the greatest extent possible, collect and analyze research data or figures in an objective manner. The researcher may not fabricate or falsify data or subject them to selective processing. Any required raw data processing shall be disclosed completely to prevent misleading the reviewers. Researchers shall refer to the research contents to describe

the methodology and results, and shall not make any interpretation or deductions that are baseless and unrelated to the truth.

4. **Proper preservation and filing of research records:** Researchers shall ensure that their work are capable of being verified and repeated by others, and shall clearly, accurately, objectively, and comprehensively record all research methodologies and data. Raw data shall be retained properly for a reasonable period of time.
5. **Publication and sharing of research data and outcomes:** After having the opportunity in finalizing relevant priorities, researchers shall promptly and openly share research data and results. Any data collected by using the state's research grants and funding shall be openly shared with other academic groups.
6. **Acknowledgment of the contribution of others:** Where data or opinions provided by other parties were used, the researcher shall respect the intellectual property rights of the said parties, cite their sources, and avoid misleading others with respect to the originality of these data or opinions. Any substantial use of contents generated by other parties without proper citation and in a way that misleads the reviewers on the originality of the said contents shall be regarded as plagiarism. The following lists 4 supplementary points for this section:
 - (1) Where the plagiarism is not concerned with the core contents of the research, such as background, general description of research

methods, or where the plagiarism consisted of improper citations that does not mislead reviewers on the originality of the paper, the established rules of the field of research shall be used to determine the severity of such acts.

- (2) Failure to comply with academic rules or non-stringent citations may be a result of the author's negligence. Such acts shall be self-regulated by the academic community (or the related academic department of the Council can send official letters to rectify this issue). Although such acts may not necessarily be punished by the Council, they shall be avoided where possible, and authors shall learn and be familiar with academic rules and the proper methods of citation.
- (3) Research conducted by multiple individuals and published on the same paper can be regarded as the research outcomes of each individual. However, where research is conducted by multiple individuals were published separately (where multiple papers use the same research data but analyzed using different methods or perspectives), the contribution of other individuals shall be specified (for example, citing the source of the research data). Not specifying other's contribution may be suspect of misleading.
- (4) Jointly published papers, joint applications of research projects, integrated research projects and sub-projects can all be regarded as joint works (whether in whole or in part). Citations of joint works will not be regarded as plagiarism. If common rules adopted by the specific field require that papers authored by

students under a professor's instruction to be jointly published, the instructing professor may be regarded as the co-author of the paper. When citing such papers, however, the student's contribution shall be acknowledged.

7. **Constraint on self-plagiarism:** Research projects and papers shall not plagiarize the author's works that have already been published. Research projects shall not include research where the results have already been published. Authors shall not conceal research results that they have already published or attempt to mislead reviewers on their contributions or originality. The severity of self-plagiarism shall be based upon whether the plagiarized contents are the core contents of the work, and whether the plagiarized contents are misleading or exaggerates the original contribution of the paper. The following lists the two supplementary points for this section:

- (1) Certain works shall be regarded as the same work (conference papers or research results presentations that are later published in a journal) and not be regarded as plagiarism. Research projects and result reports shall not be regarded as formal publication, and would not require self-citation. Where conference reports are not regarded as a formal publication in the field, self-citation is not required as well.
- (2) Publication of identical research results in different languages may, according to the characteristics of the field of research, be regarded as papers written for different readers. However, the

published paper shall also specify the original paper. Failure to specify the original paper while listing it in the bibliography is a clear attempt to mislead that these two papers are independent research with their respective results, leading to double counting of research results. This act shall be avoided, but enforcement shall be carried out independently by the academic group.

8. Applicants are not allowed to repeatedly submit the same research proposal for a grant; applicants submitting the same paper to different journals, conferences, etc., shall comply with the relevant publication ethics policies of the publication units concerned:

(1) The same research proposal shall not be simultaneously or repeatedly submitted to the NSTC. In submitting the same research proposal to the NSTC and to other institutions for subsidies, the items and amounts sought as subsidy from the NSTC and the other institutions concerned shall be disclosed and listed clearly on the project application form. Applicants may not seek multiple subsidies for the same item and amount.

(2) Whether multiple submission of the same research paper be allowed shall be in accordance with the relevant publication ethics policies of the publication units concerned (e.g. journals and conferences).

9. **The co-authors' principles of listing and responsibility:**

Researchers can be listed as authors only if they had substantial

academic contribution to the paper (such as research conception, data collection and process, data analysis and interpretation, paper writing) to a considerable degree. According to the principle of sharing the honor and disgrace, once a researcher is listed as a co-author, he or she must be responsible for the parts what he or she has contributed to. The following provides suggestions and guidelines in principle; however, the rules of co-authors' listing varies depending on cases, characteristics of research fields and requirements of the journals be submitted:

- (1) Common principle: The co-authors' principles of listing, order of arrangement, responsibility attribution, etc. shall be subject to the norms or academic practices of the field of expertise to which the researcher belongs.
- (2) The principle of listing and the responsibility attribution:
 - A. Co-authors must participate in research or contribute substantially to the paper:
 - a. developing thematic concept, theoretical derivation, experiment design (or implementation), or collecting data, conducting analysis and interpretation;
 - b. writing paper or modifying the important content of the paper;
 - c. agreeing with the final version of the paper (subject to review the first draft);
 - d. agreeing with all the arguments in the study and ensure the correctness or completeness of the research materials and data.

- B. Co-authors can be listed only after stating each one's specific contributions and having agreed with each other the order of listing.
- C. Author order: according to the extent of contribution, or the mutual agreement.
- D. Attribution of responsibility: All the authors should bear the corresponding responsibility,
 - a. the first author (including the first co-author) and the corresponding author (including the co-corresponding author) are the main contributors who are fully responsible (or correspondingly responsible);
 - b. co-authors are responsible for the parts they contribute to.
- (3) Acknowledge: Other contributors, such as those who provide technical consultation, technical operators, simulation platforms, databases, etc.
- (4) Inappropriate authorship: including gift author, honorary author, guest author, prestige author, ghost author, coercion authorship, mutual support authorship, or those who merely provide research funding, conduct editing or proofreading of papers, or those staff who only provide general service and management or logistic support.

10.Constraint on peer review: Researchers may not carry out any illegal or improper acts to influence the peer review process of the paper. When researchers participate in peer review processes, they shall

maintain confidentiality and provide a prompt, impartial, and stringent review, and shall comply with the principles of recusal for conflicts of interest. Any research data acquired during the review process shall not be disclosed or used in their own research without prior agreement.

11. Recusal for conflicts of interest and disclosure: Researchers shall disclose any information that may affect the research project or reliability of the review process in order to comply with the principle of recusal for conflict of interest.

12. Report of research misconduct: Where any fabrication, falsification, plagiarism, or other conduct of research that violates academic ethics has been found by the researcher, the said researcher is responsible to report these violations to the relevant competent authorities.

13. Handling of research misconduct: Institutions, publishers, and professional organizations related to academic research shall establish a comprehensive mechanism for the handling of any allegation of misconduct in research. Such violations shall be handled promptly, impartially, professionally, and confidentially. Care shall be taken to provide proper protection and confidentiality of the informer.

14. Responsibilities of academic institutions for academic ethics: Academic institutions shall promote awareness for academic ethics

amongst their researchers in order to maintain the quality of research results and the high standard of ethics required of the academia.