

## **Guidelines for Code of Conduct and Ethics for Responsible Research**

### Introduction

The purpose of these guidelines is to provide a set of practical suggestions for maintaining unique & integrity in research. Not only does the ethical conduct of science and engineering to satisfy a scientific moral code, it also leads to better scientific results in the field of technological applications. Because, the commitment to ethical research practice leads to more attention to the details of scientific and technological research including qualitative analysis, quantitative & statistical techniques and more thoughtful collaboration among the researchers. Also, the credibility of science and technology with the general public depends on the maintenance of the highest ethical standards in the field of research.

Execution of these guidelines will help a researcher to avoid egress from accepted ethical research practice and prevent those most serious discrepancies that constitute research misconduct. **Research misconduct** is defined as falsification, fabrication, or plagiarism including misrepresentation of credentials in proposing, performing, or reviewing research or in reporting research results. It excludes honest error or differences of opinion. Misconduct as defined above is viewed as a serious professional deviation that is subject to sanctions imposed by the institute and in the case of funded research, the respective funding agency and also other professional bodies.

This procedure can be used as a common repository of generally accepted practice for all researchers for their virtuous career. Although some of these principles may apply to all fields of research including scientific and technological research, social and behavioural sciences that involve collection and interpretation of data. These materials can be adapted or specified in a more particular form of appropriate for all disciplines. When in doubt about the accepted ethical standards in a particular case, a researcher should discuss the matter on a confidential basis with an academic supervisor, another respected colleague, or the Dean of Research of the Institute.

Matters of ethical concern in research

### **1. Plagiarism**

Researchers who present the ideas, words or data of others with the consequence that they own the same, without attribution in a form appropriate for the medium of presentation, are committing theft of intellectual property and may be guilty of plagiarism and thus of research misconduct. This statement applies to reviews and methodological and background/historical sections of research papers as well as to interpretations or original research results. If there is a word-to-word copying beyond a short phrase or eight or nine words of someone else's text, that

section should be referenced and indented, at the location in the manuscript of the copied material, to the source. The same rules may apply to the grant applications and proposals and student papers or projects submitted for academic credit.

The work of others should be cited or credited, whether unpublished or published and it had been an oral presentation, written work, or material on a website. Each publisher or journal may specify the particular form of appropriate citation. One need not provide citations, however, in the case of well-established concepts that may be found in common textbooks or in the case of phrases which describe a commonly-used methodology.

## **2. Ownership of Access the Data**

Research data obtained in studies performed by employees of the Institute are not the property of the researcher who generated or observed them or even of the principal investigator of the research group. They belong to the Institute, which can be held accountable for the integrity of the data even if the researchers have left the Institute. Another reason for the Institute's claim to ownership of research data is that the Institute, not the individual researcher or the grantee of sponsored research projects/awards. Reasonable access to the data, however, should normally not be denied to any member of the research group. If there is any possibility that copyright or patent application might emerge from the group project, a written agreement within the group should specify the rights, if any, of each member of the group to the intellectual property.

A principal investigator who leaves the Institute is entitled to make a copy of data to take to another institution to be able to continue the research or in some cases, to take the original data, with a written agreement to make them available to the Institute on the request within a stated period. A formal agreement on the disposition of research data should be negotiated in such cases through the Dean – Research & Development. Each student, postdoctoral fellow, or another investigator in a group project should come to an understanding with the principal investigator, preferably in writing, about which parts of the project he/she might continue to explore after leaving the research group. Such an understanding should specify the extent to which a copy of research data may be taken. Co-investigators at another institution are entitled to access the data which they helped to obtain. Other virtues of sharing data include the facilitation of independent confirmation or refutation of reported outcomes. It is accepted that the data underlying a research publication should be made available to other responsible investigators upon request after the research results have been published or accepted for publication.

## **3. Publication and Authorship Issues**

Publication of research results is important as a means of communicating to the scholarly world. So that reader may be informed of research results and other researchers may establish on the reported findings. The reported data and methods should be sufficiently detailed so that other researchers could attempt to replicate the results. Publication should be timely but should not be expedited improperly if premature publication involves a risk of not subjecting all results to adequate internal confirmation or of not considering sufficiently all possible interpretations.

A commercial sponsor of a research project may not have a veto over a decision to publish, but a delay of publication for an agreed period, not to exceed six months, may be allowed to permit the filing of a patent application.

### **i. Authorship Policy**

Since academic work is informed by a multitude of sources offering concepts and information, it is essential to emphasize rightful acknowledgement in the presentation of ideas and the publication of manuscripts. Authorship should be awarded only to those persons who have made an original and significant contribution to the formulation, design, execution and interpretation of the work.

Individuals who have made smaller contributions such as giving advice, performing analyses or providing subject material, or who have supported the research in some other way, should also be acknowledged. The principal author should determine whether or not these individuals should be included as authors. Sometimes written permission has to be obtained for acknowledgement in work to be published and even the format thereof is prescribed by the party concerned.

In the case of co-authorship, questions arise as to the criteria for inclusion as an author, the ability of each author to evaluate all aspects of the study and the sequence of the list of authors. Authors should discuss these questions openly and should make appointments before undertaking a co-author project. The author submitting the work, or the principal author, is responsible for coordinating the completion and submission of the work and for ensuring that all the contributions and all the collaborators are given proper acknowledgement. All authors should approve the final version of the manuscript and should be prepared to accept responsibility for the same.

Each author or co-author is responsible for the compilation, revision and verification of those parts of the manuscript, publication or presentation representing his/her contribution. All co-authors are entitled to making their own copies thereof, including figures and attached documents. In factual or scientific reports, authors should go out of their way to quote applicable data, including those data not supporting the hypothesis proposed. It is the responsibility of the

author(s) to be familiar with other appropriate publications and to quote from them. It is unethical, and harmful to the academy, to present as one's own the work of others, whether in part or in full, to fabricate research results or to omit or change information. Authors who wish to quote information obtained at a personal level or from unpublished written material should obtain written permission from the source.

It is inappropriate and unacceptable to submit extracts from research, or reports on the same research, to more than one publisher, unless such action has been approved by the editors of each publication or multiple submissions is the acceptable standard practice in the specific discipline or field. In the complete report on the work in question, reference should be made to preliminary extracts from work that has already been published.

## **ii. Order of Authors**

Approach regarding the order in which co-authors' name(s) appear may vary with the discipline. Whatever the discipline, it is important that all co-authors should understand the basis for assigning an order of names and agree in advance to the assignments.

A corresponding or senior author (usually the first or last of the listed names in a multi-authored manuscript) should be designated for every paper. He/she will be responsible for communicating with the publisher or editor of the journal, for informing all co-authors of the status of review and publication, and for ensuring that all listed authors have approved the submitted version of the manuscript. He/she has a greater responsibility than other co-authors to vouch for the integrity of the research report and should make every effort to understand and defend every element of the reported research work.

## **iii. Duplicate Publication**

Researchers should not publish the same article/abstract in two different places under any circumstances. If there is an unexplained duplication of publication without proper citation, sometimes referred to as self-plagiarism, it may be deceived as to the amount of original research work done. It is unacceptable to allow the same manuscript to be under review by more than one journal at the same time. An author should not divide a research paper that is a self-contained integral whole into some smaller papers merely for the sake of expanding the number of items in the author's bibliography.

## **iv. Self-citations**

In citing one's unpublished work, an author must be careful not to involve an unnecessary status of a manuscript. A paper should not be listed as submitted, in anticipation of expected submission. A paper should not be listed as accepted for publication or in the press unless the author has received galley proof or page proof or has received a letter from an editor or publisher stating that publication has been approved, subject perhaps only to copy-editing.

#### **4. Conflict of Interest**

Teaching staff may not allow other professional or outside activities to distract their attention from their primary responsibilities towards the Institute. They should maintain a significant and professionally acceptable presence on campus during each semester in which they are on active duty. Holidays and leaves should be by the Institute's rules and regulations. They should create an atmosphere of academic freedom by promoting the open and timely disclosure of the results of their academic activities, by ensuring that their advice to students and postdoctoral associates is not influenced by personal interests, and by disclosing external activities that could affect the free flow of academic information between themselves, students and colleagues. Researchers may use Institute resources, including facilities, staff, equipment, information or confidential information as part of contract work, provided that the Institute will be compensated in terms of the provisions of the Rules for Contract Work of the Institute. Researchers may not use Institute resources for any purpose other than purposes related to tuition, research or service by the Institute, unless prior permission has been obtained by the head of the department and/or the director. Researchers should disclose in good time all potentially patentable inventions that have been discovered or created in the course and within the ambit of their service to the Institute. Faculty may be allowed to engage in outside professional activities such as consulting or service on a scientific advisory board, but approval of each such activity from the Director must be obtained in advance.

#### **5. Obligation to Report**

Reporting suspected research misconduct is a shared and serious responsibility of all members of the academic community. Any person who suspects research misconduct must report the allegation to the head of the department in which the suspected misconduct occurred or to the Dean of Research and development. Allegations are handled as per the Institute Policy. All reports are treated confidentially to the extent possible, and no adverse action will be taken, either directly or indirectly, against a person who makes such an allegation in good faith.

If a finding of error, either intentional or accidental, or of plagiarism should be made after publication, the investigator must submit a correction or retraction in a form specified by the editor or publisher.

## **6. Responsibilities of a Research Investigator**

An investigator who leads a research group has leadership and supervisory responsibilities concerning the research performed by members of the group. A principal investigator must not only put together the research group but also arrange for the assembly of an adequate financial and administrative structure to support the research. He/she not only provides guidance and advice to individual members of the group in the responsible conduct of the research but also has ultimate responsibility for the scientific integrity of the whole research work. He/she should thus take all reasonable steps to check the details of experimental procedures and the validity of the data or observations reported by members of the group, including periodic reviews of primary data in addition to summary tables, graphs, and oral reports prepared by members of the group.

An investigator serves not only as a research manager with respect to members of the research group but also as a mentor responsible for the intellectual and professional development of graduate students, research fellows, and faculty in the group, including awareness and sensitivity to issues in the research ethics. A researcher should be open to collaborate with investigators having complementary skills at the Institute.

## **7. Responsibilities to Funding Agencies**

An investigator should be aware that the same standards of accuracy and integrity pertain to grant applications and proposals as to manuscripts submitted for publication. Reporting of results of experiments not yet performed as evidence in support of the proposed research funding. The same definition of plagiarism applies to an application or proposal, including background and methodological sections, as to publication. An investigator must submit progress and final research reports to a sponsor at times specified in the award. He/she must authorise expenditures in a manner consistent with the approved budget and should review financial reports carefully. Investigators, who enter into agreements with commercial sponsors of research, as negotiated by the funding agency, should familiarise themselves with the special terms of such agreements.