

NCCS Guidelines on Academic Ethics

Preamble

The National Centre for Cell Science (NCCS), Pune, expects all its members to follow the highest standards of academic ethics. This document describes how these standards are to be implemented. It is advisable for all academic members (including faculty, postdoctoral, project researchers and students at all levels) to familiarize themselves with its contents. These guidelines apply in many possible contexts including teaching, conducting research, publishing papers, training and administration. Attention is given to a variety of situations where accidental or deliberate misconduct can occur. In the event of any allegation or possibility of misconduct having occurred, the appropriate remedial and/or disciplinary procedures are described herein.

Several sections of this document are reproduced verbatim, or with only minor changes, from the documents “Guidelines on Academic Ethics” of The Indian Institute of Science Education and Research (IISER), Pune, "Guidelines on Academic Ethics", Tata Institute of Fundamental Research, and “Scientific Values: Ethical Guidelines and Procedures” of the Indian Academy of Sciences. Other sections have drawn upon the above documents more indirectly. Kind permission of IISER, Pune has been sought for using their documents.

1. Teaching & Training

1.1 Student recruitment and evaluation

Recruitment of students at the PhD level at NCCS should involve a just and fair procedure that is explicitly spelt out in advance. During the Ph.D. student selection, it has to be accepted that subjective academic judgment are involved. However, care must be taken to avoid considerations unrelated to the student's merit, as well as conflicts of interest.

1.2 Ethics in teaching and learning

A course work is mandatory for all the PhD students at NCCS, according to the guidelines of Savitribai Phule Pune University (SPPU) / University Grants Commission (UGC). During the course work, NCCS members should aim for the highest quality in their course content and teaching methodology. The procedure by which a course will be assessed should be made clear to students at the outset. For evaluation of the progress based on seminars/interviews conducted, subjective academic judgments are inevitable but, as above, care must be taken to avoid introducing extraneous considerations. Sensitive student-related issues including records and communications should be shared only out of academic necessity and only with the appropriate persons. The dignity of the

classroom or laboratory environment must be maintained at all times. Students, on their part, are expected to dedicate themselves to each course with complete honesty as well as a sincere effort to participate and learn. Assignments, tests, exams and related activities must be carried out strictly in accordance with the provided guidelines. Attempting to use any unauthorized materials or information, or copying or stealing from another student or any other source, is ethically unacceptable. Attendance during the course work is mandatory, and it is advised that students should give priority to their classes and assignments during this period. It is not mandatory to do bench work in the laboratory during the course work. As per the UGC guidelines, a student needs to qualify the course work exam in order to obtain PhD. If a student is unable to qualify course work exams in two consecutive attempts, his/her PhD tenure will be terminated and he/she will have to leave the institute. A minimum 70% attendance is also essential to qualify the coursework examination.

1.3 Ethical training to students

Students at NCCS should receive ethical training, including a mandatory ethics module at the time of joining as part of the orientation. Additional ethical training customized to specific research or study activities shall also be imparted wherever appropriate.

2. Conduct of Research

2.1 Violation of the Code

Violations include but are not limited to:

- A. Cheating in coursework examination
- B. Plagiarism
- C. Misrepresentation or falsification of data
- D. Theft of research work
- E. Unauthorized communication
- F. Knowingly allowing another student to represent your work as his or her own
- G. Forgery, alteration of official records of documents including lab notebooks
- H. Altering or destroying another student's work or records.
- I. Violations of the rules governing teamwork
- J. Attempting improperly to influence the award of any credit, grade or honor
- K. Falsification of statements or information in verbal or written form to any committee including to the Academic Affairs Committee.

2.2. Ethical responsibilities

In experimental research projects there is usually a Principal Investigator (PI) or a set of co-PIs who lead the project. They should monitor the experimental procedures and formulate policies for recording data and compiling results. These policies should be made known to all collaborators. The PI should specially ensure the supervision and appropriate mentoring of young researchers including students and postdoctoral fellows.

Despite the above, all individuals participating in a research project are responsible for their own actions and should make sure these are consistent with, and uphold, high ethical standards. In particular, younger researchers including students and postdoctoral fellows have their own obligations to carefully follow ethical principles in their research. Unethical behavior on their part cannot be justified by the claim that they were following a mentor's instructions.

2.3 Data management

In both independent and collaborative research, every effort must be made to ensure that data are collected and computations performed with complete honesty. Fabrication, falsification or improper manipulation of data are highly unethical and must not be resorted to. Researchers have a duty to familiarize themselves with the methods of handling, processing and storing data that are considered acceptable/unacceptable in their own field. They should be aware that the correctness and originality of a research publication could be questioned, even long after publication.

Particularly with experimental work, defending the publication requires properly recorded raw data to be produced. Its absence will typically be treated as suspicious. A well maintained lab notebook provides not only a permanent record of results and protocols for future publications, but also serves as critical evidence for a claim of priority in the case of patent applications and as proof of adherence to appropriate ethical standards. Tampering with or manipulating records in a laboratory notebook is unacceptable. It is recommended that research related data, lab notebooks and material be stored in a secure but accessible manner.

PI is responsible to explain and familiarize the importance of an up-to-date lab notebook to their students. The notebook should be made available as and when need arises.

2.4 Ownership

Physical materials including lab notebooks, data sets etc arising out of research performed at NCCS, will remain the property of NCCS unless explicitly decided otherwise. The same holds for software and processes having commercial value. Guide and students should have equal access to laboratory and research records as and when required until the formal completion of training/degree.

2.5 Responsible use of funds

The management of research funds requires adherence to NCCS financial policies and regulations as well as policies of other funding agencies. This is applicable to both funds received from NCCS and from external granting agencies. Efforts should be made to ensure reasonable and efficient use of resources following transparent and fair processes.

2.6 Sharing of facilities

Equipment installed at NCCS are expected to be shared in a collegial spirit with colleagues who require access for their own research, as long as such access does not

impede the original purpose for which the equipment was purchased. In such situations, the PI can decide on details such as who actually operates the equipment and at what times, as long as sharing is willingly facilitated and transparent procedures are in place.

2.7 Experiments involving human beings or animals

All experiments that involve use of animal and human research subjects require ethical permission and approval. Experiments involving animals come under the purview of the NCCS Institutional Animal Ethics Committee (IAEC), which functions based on the guidelines of CPCSEA (Committee for the Purpose of Control and Supervision of Experiments on Animals, <http://cpcsea.nic.in>). Experiments involving human subjects come under the purview of the NCCS Institutional Human Ethics Committee (IHEC) which functions based on the guidelines of ICMR (Indian Council of Medical Research; www.icmr.nic.in/human_ethics.htm).

2.8 Safety and environment

Research activity must not endanger other people or the environment in any way. NCCS expects all its members to incorporate safety and environmental concerns into their research practices. Environmental guidelines, regulations and laws must be followed and appropriate licenses/permits and clearances obtained for the handling, storage or disposal of hazardous material. Within experimental laboratories the Institute and PIs have joint responsibility for ensuring that the work area is safe, and that research practices of the group do not endanger the research team, visitors or the public. In this regard the PI is expected to encourage team members to undergo appropriate training to maintain safety and environmental standards, and also to advise the Institute about any safety measures that need to be put in place. Specifically, every laboratory should have an environmental and biological safety manual that a student could use as a reference. Additional guidelines to maintain a safe working environment are available in the NCCS Pune Safety Manual.

2.9 Responsibilities of a Research Supervisor

Research supervisors should display the highest ethical standards when dealing with students. Conflicts between students and others in their group, or between students and guides, are not uncommon in academia. Supervisors should be aware of the potential for this type of problem. Potentially troublesome issues should be identified and dealt with as soon as possible, ideally before they graduate into full-blown conflicts. Claims and counter-claims about relative contributions are a particularly problematic area, which supervisors need to handle with manifest fairness and clarity. It is recommended that graduate students meet regularly with their doctoral thesis committee, whose role is to monitor the progress of the student's thesis work, to ensure the student and thesis advisor work efficiently to meet the relevant deadlines, and to mediate resolution of disputes should they arise. The progress should also be monitored through regularly maintained lab notebook. The supervisor should sign documents and letters being forwarded by the student to the concerned departments/organizations. In no situation, the signature should be denied and if needed appropriate comments can be put in by the supervisor.

2.10 Student's Progress

The candidates for a PhD would be admitted on a probationary basis subject to their registration for PhD thesis. The process of registration will be followed as per SPPU/UGC rules. Post-registration, each student at NCCS will be evaluated at every 6-months of their fellowship tenure.

A student should meet with his/her supervisor regularly, and keep them informed of their progress. If the student is experiencing problems with the work then he/she is expected to discuss these with the supervisor without delay. The student should perform his/her lab. work as agreed with the supervisor, and should produce progress reports and training log if and when required by the Academics section.

At any point during the tenure of PhD, if a supervisor has any concerns about the research progress or any reasons that hamper the working abilities, he/ she is required to submit a supervision report along with sufficient supporting evidences to the Academic Affairs Committee (AAC)/appropriate bodies. A meeting may be called with the committee members, supervisor, Dean and the student. The student will be made aware of the concerns at this meeting, and possible remedies explored. A written record of the meeting, including any agreed action, will be given to the student. If deadlines have been set for completion of the work or improving the situation or any other requirements stated, these would be specified in writing. The consequences of non-compliance with these requirements will be made clear to the student - these may range from discontinuation of PhD under the existing supervisor, through to the possibility of his/her removal from the Institute, depending on the nature and severity of the problem.

If a student is experiencing difficulties with his/her supervisor, the student is expected to raise this with the Dean and AAC without delay and take appropriate action so that any difficulties can be resolved as soon as possible.

3. Publications

3.1 Authorship

The authorship of scientific publications is a very important issue, since it is the way in which scientists receive credit for their contributions. All listed authors of a publication should have contributed significantly to it. It is inappropriate to offer "guest authorship" to anyone who has not made any significant contribution. Likewise, it is wrong to exclude from authorship anyone who deserves to be an author. It is unethical to include anyone as an author of a paper without his or her knowledge and clear consent. Depending on the field, the order of authorship can also be important.

Because community standards vary widely from subject to subject, there cannot be any universal recommendation on how fair authorship is to be achieved. Researchers should familiarize themselves with the standards in their field and the criteria laid down by the

journal to which their work is submitted. Failure to follow these criteria would be treated as ethical misconduct, not only towards the journal but also towards NCCS.

3.2 Plagiarism

The Oxford Dictionary defines plagiarism as “*the practice of taking someone else’s work or ideas and passing them off as one’s own*”. In the context of scientific research, it can involve unattributed lifting of textual material or scientific ideas or actual research results. The most extreme example would be a deliberate attempt to pass off someone else’s entire research project as one’s own. However, it can also involve (deliberate or unintentional) incorporation of some ideas or results of other researchers, without proper attribution, within one’s own research publication. Though the degree of severity can vary, plagiarism always amounts to ethical misconduct and requires redressal. The use of someone else’s work in one’s own is not by itself unethical. A limited amount of textual material in someone else’s paper can be copied if it is clearly marked as a quote (typically by enclosing it within quotation marks) *and* the source is explicitly cited where the quote starts or ends. Alternatively, text may be paraphrased with a general indication of where the concepts originated. Occasional re-ordering or substituting of words is not sufficient to count as paraphrasing: the recommended procedure is to read and understand the source material, then put it away and express the idea in one’s own words. Besides textual material, the incorporation of ideas, figures, graphs, etc., from other sources in a manner that conveys a false impression that they are original amounts to plagiarism.

Taking one’s own published results and reproducing them in another work as if they were new is “self-plagiarism”. “Duplicate publication” – submitting the same research results to two or more journals and treating them as separate publications – is also a form of self-plagiarism and must be avoided.

Plagiarism is an issue not only for scientific publications but also internal reports, textbooks, monographs and grants proposals. The considerations above apply equally in all these cases.

3.3 Thesis writing

A thesis typically involves collecting a large amount of material, both previously established and original. The manner of presentation must be such as to make clear what has been taken from other sources with appropriate acknowledgement and permissions if required, and what is the original content. For a student, thesis writing is often the first major occasion that requires taking personal responsibility to handle ethical issues. Guidance should be imparted by the supervisor to make sure that data is presented appropriately and plagiarism, even inadvertent, is avoided.

3.4 Responsibility of referees

Scientists who are asked to review a manuscript or a research proposal have a responsibility to ensure they do not misuse their advance access to the information and ideas in these documents. The use of such advance access to publish a competing work, or carry out research that pre-empts the proposed project, would be highly unethical.

4. Confidentiality

Several aspects of academia require maintaining of strict confidentiality. The proceedings and Minutes of certain meetings, assessments for hiring and promotion are not to be discussed publicly. It is particularly important for the health of the Institute that candidates about whom positive or negative comments are made in confidence by specific members should not hear about these in a way that can create resentment or an inappropriate sense of obligation. Unauthorized circulation of confidential Minutes or other privileged communications, within or outside the Institute, amounts to a serious breach of academic ethics. For this purpose it is best to consider all official emails and communications to be confidential unless it has been explicitly clarified to the contrary.

5. Science management

5.1 Evaluations: hiring, promotion, awards

In a research institute, the assessment of candidates for hiring, granting of tenure, promotion and awards is a regular activity. While this necessarily involves some degree of subjective judgement, it is essential that an assessor take great care to eliminate personal biases and extraneous considerations and proceed in a manner that is timely, visibly fair and balanced. The general criteria for hiring, assessment and awards should, as far as possible, be laid down in advance. It is inappropriate to introduce new criteria, not previously agreed upon, during an assessment process purely for the purpose of favouring or disqualifying specific candidates. When referee evaluations are used, they should be sought in writing.

5.2 Technology and materials transfer

Research conducted at NCCS is based on the principle of the free dissemination of scientific knowledge, and this also applies to collaborative research between NCCS and industry. NCCS subscribes to the principle that inventions and discoveries emerging from publicly funded research should be made available for public benefit through appropriate technology transfer. Whenever inventions are patented or technology emerging from NCCS research is licensed for commercial use, care must be taken that the principle of free dissemination of scientific knowledge remains paramount.

When conducting research activities supported by external granting agencies or jointly with other research institutions, NCCS members must consider entering into clear agreements (formal or informal but explicit) which cover the nature of the collaboration, materials and technology transfer (whenever relevant), authorship of resulting publications and ownership of patentable inventions. These agreements must be consistent with the principles enunciated above.

Memorandums of Understanding (MOUs) are essential for collaboration with industry and for certain public institution-funded research. They should clearly state the manner of

sharing of proprietary data, time lines to avoid delay of publications and procedures to be followed for patentable data. Potentially patentable inventions that arise from collaborative research with industry carried out at NCCS are to be subjected to stipulations of the MOU between the industry and NCCS, set in place prior to the commencement of the research. Detailed guidelines for NCCS members engaging in partnerships with industry are set down in the Office Memorandum “Industrial Research and Consultancy Rules” available on the Intranet.

5.3 Bias and discrimination

The NCCS academic community is enriched by the presence of people of different ethnicities, socio-economic strata, genders, ages, affiliations, backgrounds and sexual orientations. There must be no direct or indirect bias or discrimination against any individual based on the above categories. NCCS aims for the full and equal participation of women in all academic activities. It is everyone's responsibility to foster a gender-neutral and supportive environment to achieve this goal.

5.4 Bullying and harassment

In academia it is essential to promote an atmosphere of free and frank debate and exchange of ideas. In this context, any form of bullying or harassment by individuals or pressure groups is not acceptable. Ragging of students, whether by other students or any NCCS staff, is strictly prohibited and will invite punishment in accordance with Government of India and Supreme Court guidelines. For more information, see the University Grants Commission page: <http://www.ugc.ac.in/page/Ragging-Related-Circulars.aspx>.

5.5 Interaction with public and media

Statements made to the media should be as objective, fair and balanced as possible. The same holds for scientific information conveyed to the public. Scientists/staff are expected not to use the media to promote their own personal image or create a false or exaggerated impression of their achievements.

6. Conflict of interest

Several types of situations can arise in academia where a person experiences a conflict of interest. Reviewers of manuscripts may find that the contents of the manuscript have a potential impact on their own research or financial interests. Assessors for a hiring/promotion/award may be personally related to a candidate. Researchers who are also shareholders of a company may find themselves in a situation where their research could impact the company's financial situation. In all such cases it is essential for researchers to promptly disclose foreseeable conflicts of interest. It is not sufficient for the researcher to decide on their own, how to handle the matter objectively. The decision on whether the conflict of interest requires definite action (such as the researcher

withdrawing from a committee) has to be taken by other responsible colleagues. Foreseeable research conflicts at NCCS should be reported to the Director NCCS, while potential conflicts while reviewing manuscripts should be reported to the journal editor. In case an assessor has a personal relation to a candidate in a hiring/promotion/award interview, this fact should be communicated to the committee Chair (or if the assessor in question is the Committee chair, then to the appointing authority of that Committee).

7. Reporting of misconduct

Suspected ethical misconduct at NCCS must be reported to the Director. There will be no reprisal for complaints made in all sincerity and good faith, even if they later turn out to be unfounded. However, complaints that turn out upon investigation to have been falsely made with deliberate intent to malign the accused will be treated as a serious form of ethical misconduct.

Complaints can be made by anyone, not necessarily an Institute member. The complaints must be signed and carry the full name and address of the complainant. Some relevant documentation must be supplied along with the complaint in order for the Director to be able to decide whether there is a *prima facie* case. The complainant should not give wide publicity to the complaint at this stage. Such publicity, if it occurs, can be treated as ethical misconduct even if the complaint is found to have merit and continues to be investigated.

8. Mechanism to address complaints

The Director will appoint a standing Committee on Academic Ethics for a pre-determined duration whose task is to investigate ethical complaints and also impart ethical training from time to time. The Director may also consult a broad-based Advisory Committee on ethical issues that involves Deans, Chairs and other faculty members.

8.1 Course of action

Upon receiving an ethics complaint, the Director NCCS should decide whether there is *prima facie* merit in the allegations. Finding such merit does not imply that the complaint has been upheld but only that it has not been found obviously invalid or frivolous. To decide this, the Director may consult the Ethics Committee.

At this stage, if appropriate, the Director may, in consultation with the Ethics Committee, explore the possibility of an amicable solution through mediation. If this is successful the complainant will modify or withdraw the complaint in writing. However, the complainant should not be coerced to accept mediation.

If the Director is satisfied that the complaint merits investigation, it should be passed on in full, including supporting documents, to the Ethics Committee. Simultaneously the Director should communicate it to the subjects of the complaint, informing them that an investigation will take place with which they are required to cooperate fully. Their response to the complaint should be invited and passed on to the Ethics Committee. The Director should also inform the complainant that the complaint has been referred to a Committee for investigation.

During the investigation period, both the complainant and the subjects of the complaint may submit information or documents to the Director, who shall forward these (if relevant) to the Ethics Committee. During this period they should not communicate with the Committee except when invited to do so, and should also minimize their communications with the Director on this matter.

The Ethics Committee should investigate the complaint carefully and with due discretion. During this period it should try to hold a face-to-face meeting with both the complainant and the subjects of the complaint if possible. At the end of its investigations, it will submit a written report to the Director, NCCS, indicating the extent to which merit has, or has not, been found in the complaint, and suggesting remedial action, if any required. The Committee must not publicize the report at this stage.

On receiving the report, the Director should communicate it in full, both to the complainant and to the subjects of the complaint, and invite their response. Thereafter, the Director may decide to accept the report in full and implement it, or accept it partially, or reject it totally. In each case, this decision should be communicated to the Ethics Committee. The final verdict on the case, including any redressal required, will take the form of a written statement by the Director communicated to the complainant, the subjects of the complaint and the Ethics Committee. The Ethics Committee report may be attached to this statement in full or part, if relevant.

Any attempt to interfere with the functioning of the Ethics Committee in any manner, or refusal to cooperate with the investigation, constitutes an ethical violation by itself. This should be reported by the Committee to the Director for appropriate action.

8.2 Time frame

The investigation of an ethics complaint cannot easily be assigned a time-frame. However, for relatively simple cases, it is desirable that the first report be submitted within 1-2 months. More complex cases, particularly those requiring detailed investigation of scientific issues, can take as long as six months to a year or even more.