

CHRIST (Deemed to be University), Bengaluru

Department of Mathematics

Research Code of Ethics

Research and teaching form the backbone of Department of Mathematics. Accordingly, Department of Mathematics assumed a responsive role in order to promote academic research in diversified disciplines in Mathematics through the establishment of Research Development Cell. The Department of Mathematics provides faculty members, post graduate students and M Phil and Ph D scholars an opportunity to further deliberate and expand their ideas and views through projects at PG level, paper publications in refereed journals, participation and presentations in National/International conferences.

The Research Development cell has the following specific objectives;

- To promote and facilitate advanced research among faculty members of the Department.
- To serve as a resource center providing professional guidance and technical support.
- To carry out independent research of significance on topics of academic and professional interest.
- To develop and provide relevant data base support to faculty members and post graduate students pursuing doctoral research.
- To identify research areas and specify research topics of academic and practical significance.
- To develop & promote Consultancy Projects for application of knowledge for the advantage of the end users.
- To facilitate the review of reports submitted by the research scholars
- To organize such of the activities which directly or indirectly **facilitate** the research and consultancy activities

The activities of Research Development Cell are:

- *bi-annual reviews with external experts,*
- *presentations at seminars/conferences,*
- *involvement/engagement of students,*
- *discussion with colleagues,*
- *interaction with experts*
- *Involvement of departmental/deanery colleagues in projects.*

Research Development Cell comprises of four members head of Department, Coordinator for PG programs and two senior researchers. They represent three major areas of Mathematics research namely, Fluid Mechanics, Graph Theory and Riemannian Geometry. RDC committee will have regular meetings (once in a semester) to enhance research. Sub-committees shall be formed to look into various aspects of research in postgraduate/M Phil/Ph D curriculum. The recommendations of subcommittee shall be validated in the Department meeting and CDC shall forward it for final approval in BOS.

The department of Mathematics follows Institution policy of code of ethics.

Policy:

The department will encourage publication of all material outputs of its Researchers irrespective of whether they support or contradict the Research outcome(s). There shall be adequate and effective mechanism set by department to ensure regular check on the compliance of the prescribed codes and guidelines throughout the Research process from the start till the delivery of its final output.

Regulations:

1. The entire research process at the department including the outputs thereof in the form of publications, research reports(Minor and Major research projects, Monographs and working papers), Academic and consultancy research, formal and informal research programs and any such research activities will be covered under this policy and Regulation which will apply to all approved Researchers at the university including but not limited to University teachers, Staffs, students, Post Doctoral Fellows and Emeritus Fellows.
2. Externally funded research projects shall be additionally guided by specific instructions if any of the concerned funding agency as long as they do not contradict with the provisions contained in this regulation.
3. Code of Research conduct and the research ethics herein stated are inter-related and complementing to each other(may be overlapping as well) and hence must be applied carefully with due regard to the research problem. These are not administrative rules and therefore the conscience of researchers may be the best guide to ensure that conduct of research is not entirely left to the discretion of individual researchers while addressing the ethical dilemmas that may crop up.

Code of Research Conduct

1. Everyone involved in research (Sponsors, Investigators, Associates, assistants, Supervisors and any others generally referred to herein individually and collectively as researchers) in the Department owes a duty of accountability to society, to their profession, to the university, to all participants in the research and to its funding agencies. Hence no one shall embark on any Research Activity without acquiring adequate theoretical and practical knowledge about the process and conduct of research.
2. Researchers should undertake only such research that according to their understanding will be useful to society or for the furtherance of knowledge on the subject.
3. Researchers must accept full responsibility for their research conduct and for the activities of all persons involved under their direction or supervision.

4. Researchers must be honest and lawful in respect of their own actions in research and in their responses to the actions of other researchers. This applies to the whole range of research work, outputs and deliverables, including applying for funding, research design, generating and analyzing data, publishing results, and acknowledging the direct and indirect contribution of colleagues. Collaborators and others.
5. Any Research must have a clearly defined objective and must be done meaningfully with full adherence to quality aspects. Research for research sake without creation of new knowledge or new dimension to existing knowledge will be considered unsatisfactory with reference to this code.
6. Researchers must encourage peer review as an essential part of every research endeavor and must take into consideration all valid comments thereof at different stages of research process may be deemed relevant and appropriate. However the reviewer chosen must be able to do the task objectively, impartially and constructively.
7. Researchers must ensure integrity of financial management of research project to provide the optimum value for the public or private funding agencies with appropriate quality standards, as well as timely delivery of any scheduled tangible outcomes.
8. Researchers must ensure that all personal records of research progress, including books, are maintained to the recommended or required standards, and that the falsification of results does not occur.
9. All research data must be in a durable form with appropriate references. All such data must be retained intact for a period of at least seven years from the date of any publication which is based upon them. Data should be there in their original form, i.e, tapes/discs, etc., and should be deleted and reused, but kept securely as per approved procedure as may be prescribed by the center for research of the university. These procedures must be made known to and complied by all the members of the research team.
10. Researchers must ensure that the participants are allowed to participate voluntarily without any fear or favour and absolutely free from coercion in an environment of least harm or risk to all living beings and to property.

RESEARCH ETHICS GUIDELINES

General guidelines for Research Ethics are as follows:

1. Research must not cause harm to the participants in particular and to people in general.
2. Research should as far as possible make a positive contribution towards the welfare of people.
3. Researchers have a right , as well as a responsibility, to refrain from undertaking or continue undertaking any research that contravenes ethical guidelines, violates the integrity of research and/or compromises their autonomy in research, including design methodology, analysis and interpretation of findings and publication. If they

- feel that their rights are being violated, or that the study is unethical, they should make all possible efforts at making corrections. In the event of failure of remedial measures they should exercise their right to terminate the study or to opt out of it.
4. Research must respect and protect the rights and dignity of participants.
 5. The benefits and risks of research should be fairly distributed among people.
 6. All information and records provided by participants or obtained directly or indirectly on/about the participants are confidential. For revealing or sharing any information that may identify participants, permission of the participants is essential.
 7. All research must take adequate precautions towards minimizing and mitigating risks if any involved in the research process or in the delivery of its output.
 8. The relationship within the research team, including student and junior members, should be based on the principle of non-exploitation.
 9. Researchers have a responsibility towards the interest of those involved in or affected by their own work. They should make reasonable efforts to anticipate and to guard against possible misuse and undesirable or harmful consequences of research.
 10. Researchers should take reasonable corrective steps when they come across misuse or misrepresentation of their own work.
 11. Contribution of each member of the research team should be properly acknowledged.
 12. The conduct of research must be fair, honest and transparent. It is desirable that the researchers are amenable to social and financial review of their research.
 13. Researchers must ensure respect, protection and promotion of rights of participants. Criteria for the selection of participants of research should be fair, besides being scientific.
 14. The principal researchers should delegate to the juniors, assistants, students and trainees only those responsibilities that they are reasonably capable of performing on the basis of their education, training or experience, either independently or under supervision.
 15. All members of the team on a research project have a right to know and document all aspects of research including ownership of data. This will also apply to the participation of students doing their own research in a project team.