



NETAJI SUBHASH ENGINEERING COLLEGE

Techno City, Garia, Kolkata – 700 152

RESEARCH AND DEVELOPMENT (R & D) POLICY

1. Preamble

Research and Development (R & D) is also known as Research and Technology Development (RTD) or simply as Sponsored Research, Industrial Research or more popularly as Sponsored Research and Industrial Consultancy (SRIC). In industry, it relates to work directed towards the innovation and improvement of products and processes.

In academic institutions, the terminology ‘research’ carries the meaning that it is an academic investigation whose outcome is new and innovative and scholastic idea(s). The ideas or findings will be appreciated by peer groups so that the investigator may be awarded a higher degree and the findings can be published in peer-reviewed journals or patented. On the other hand, SRIC activities may not be always innovative or scholastic and publishable. The work may be routine, improvement of existing services, processes or products. The ownership of the findings belongs to the sponsor i.e. industry or funding agencies. In scholastic research, the parties are the faculty, the research scholar and the institute. They are bound and regulated by academic issues. In R&D or sponsored activities, there is another party i.e. the sponsor. In these activities apart from academic matters, financial issues are also present.

Netaji Subhash Engineering College (hereinafter mentioned as ‘Institute’ or ‘NSEC’) has taken cognizance of the above differences between scholastic research and industrial research and formulated two separate policies, namely, Research Policy and R & D Policy. The two policies combined encompass the overall Research Policy of the Institute.

2. Objectives

Objectives of sponsored research are:

- Encouragement towards innovative research and development for real-life applications.
- Encouragement towards meaningful, technologically realizable research.
- Strengthening of the institute - Industry Partnership.
- Enrichment of Institute resources i.e. equipment, expertise and funds.
- Enrichment of research and knowledge base.
- Promotion and Management of Intellectual Property (IP) and Intellectual Property Rights (IPR)

3. Definitions

- 3.1. Dean (R & D) means Dean, Research and Development, Netaji Subhash Engineering College.
- 3.2. The sponsor is the funding agency that provides financial support for the successful completion of the job. It can be a government, non-government agency or even an institute.
- 3.3. Project is the assigned work or problem for which a solution has to be found. It can be an industrial consultancy or routine testing. When the project is sponsored by the Institute resources, it is known as an Institute project. Consultancy project means a consultancy job given by an outside agency to a faculty or a department of the Institute for working out within a mutually agreed scope.
- 3.4. The Principal Investigator (PI) is the leader of the team, a permanent faculty of the Institute with the necessary expertise and competence to conduct research and consultancy work.
- 3.5. Investigator means a member of the team led by the PI. The investigator may be a faculty, a student or a person appointed from the project fund, i.e. a project staff or a person nominated by the sponsor.
- 3.6. Overhead cost is expenditure incurred before, during or after execution of the project from the Institute resources like stationery, electricity, space, etc, and providing administrative, finance management, and managerial support.
- 3.7. Project Monitoring Committee (PMC) is a committee constituted by the Institute to monitor the progress of important projects or projects with considerably large funding.

4. Types of Projects

Four categories of sponsored projects are:

- 4.1. Research Projects sponsored by Government, non-government, industries, national/international agencies, autonomous bodies assigned to faculty or the Institute for investigation of specific scientific or technical problems within a specific time and a specified fund.
- 4.2. A Collaborative Project is a project jointly ventured by the Institute and one or more agencies – government departments, industry or educational / research institutions under mutually agreed upon terms in respect of sharing of responsibility, funds, and benefits of the project outcome like IPR.
- 4.3. Consultancy Project means consultancy agreement/job given by an outside agency to a faculty or department for finding the solution within a mutually agreed scope.
- 4.4. Routine Testing Project is the testing work done by a department using Institute resources for an external agency. The subject specialist faculty member with the approval from the Head of the Department will be the PI and the rates of testing will be fixed by the Institute.

5. Project Initiation and Management

- 5.1. Each project will have a PI who will be a permanent faculty member of the Institute. PI will be responsible for:

- (a) Formulation of the project i.e. planning of the work, deliverable(s), the timeline, manpower requirement, and estimated cost.
The project proposal will keep a provision of an OVERHEAD up to a maximum of 20% of the total budgetary cost. The funds generated from overhead will be collected by the Institute separately. Payment of overhead by the sponsor will not be treated as a condition for accepting the award of the project.
- (b) Selection of team members should be drawn from the faculty or research staff. Such members will be known as Investigators or co-PI. In case of non-availability of the PI, Dean (R & D) will appoint one of the co-PIs of the project as the PI.
- (c) Recruitment of sanctioned project staff as per guidelines of the Institute will be completed by the PI. Student/research assistants can be recruited by the PI for the project work and permitted to use the research results for furthering their academic qualifications (MS, M.Tech, Ph.D) with the permission of the sponsor. Compensation of the student/scholar appointed will be decided by the Institute in consultation with the PI commensurate with their qualification and experience.
- (d) Coordination and execution of the work.
- (e) Handling all communications with the sponsor and others if necessary.
- (f) Writing interim and final reports according to the progress of the work.
- (g) PI will ensure that utilization of head-wise allocated funds do not exceed the budgetary provision approved by the sponsor.
- (h) Purchase of equipment following Institute purchase rules and keeping a record of the equipment is the responsibility of the PI. All equipment purchased must be recorded in the department and institutional stock register.
- (i) Maintain research data in conformity with the requirements of IPR norms.
- (j) Submission of the project proposal through the Head of the Department and the Dean (R & D). The proposal must contain the following components or head of account:
- Equipment to be procured /fabricated.
 - Consumable materials and components required.
 - Travel expenses (domestic/international) in connection with the project.
 - Computational charges/testing or other charges payable to other agencies.
 - Expenses for manpower.
 - Contingency expenses like purchase of reference books, meeting expenses, report preparation, etc.
 - Institute overhead maximum of 20%.

The proposal must contain a timeline depicting the time taken to execute the project step by step.

- 5.2 Funds received from the sponsors will be in the name of the Institute. The accounts will be maintained by the Institute.
- 5.3 The project file will be closed after the submission of the final report and settlement of the final account. However, the reports and other documents

will be kept under the custody of the Dean (R & D) for at least 3 years from the date of closure of the file. Research records will be maintained till IPR issues, if any, are resolved.

- 5.4 Consultancy project proposals will also contain the Heads as cited above (5.1 (j)). The proposal will have to be submitted through the Head of the Department and Dean (R & D). The relevant reports will be kept under the custody of the faculty consultant for 3 years from the date of completion of the job. A copy of the report must be submitted to the Dean (R&D).
- 5.5 Testing projects will be taken up by the department following the laid down approved procedure. The said document will contain a procedure for acceptance of test samples, testing procedure, deliverables, charges, etc. PI will maintain the test results and keep them under his custody for 3 years and a copy has to be submitted to HOD and Dean (R&D). A concise report of tests conducted should be made available at the Dean (R&D)'s office every month.

6. Project Monitoring Committee (PMC)

For large projects or prestigious projects, a Project Monitoring Committee will be formed by the Director / Principal to monitor the progress of the project. The composition of the PMC will be as follows:

- Dean (R & D) – Chairman
- Head of the concerned department or his nominee – Member
- One faculty member having expertise in the field of the project – Member
- One external expert from the same field – Member
- One nominee of the sponsor (if applicable).
- Principal Investigator - Member Secretary

PMC will advise the PI appropriately as and when necessary.

7. Scholastic use of Research Projects.

Normally findings of a sponsored research project are owned by the sponsor. The problem is also formulated by them or in consultation with PI. Hence any use of the results other than what has been agreed upon will require prior permission of the sponsor. If the sponsor does not put any condition of maintaining confidentiality, the PI will have the liberty to include the findings in the dissertation for the award of a degree or publication in a journal.

The sponsored research project will be normally guided by the R & D policy of the Institute. However, if the PI desires to utilize the results or the findings for scholastic benefits like the award of an academic degree (MS, M.Tech, Ph.D.) or publication of the results in journals, such an activity will have to abide by, the beginning, the guidelines i.e. rules and regulations as stated in Institute Research Policy concurrently with the guide lines of R & D Policy i.e. guidelines of the sponsored project.

8. R & D Support

- 8.1. Institute will provide financial and logistic support to faculty for receiving sponsored projects.
- 8.2. Institutional overhead will be divided into three parts in the proportion of 30:30:40 for the following developmental activities sequentially
 - (a) Institute Research Development (IRD) fund for the enrichment of R&D activities at the Institute level. Seed money to individuals for taking up research projects will be provided from this fund. The fund will be operated by the Dean (R & D).
 - (b) Departmental Development (DD) fund to augment resources for research activities and facilities at the department level.
 - (c) Personal Professional Development (PPD) fund for carrying out the academic activity of the PI / Investigator of the research project. This amount can be spent by the PI for buying books, stationeries, travel/registration fees for attending conferences, etc. with the permission of the Dean (R & D).
- 8.3. During the filing of a patent by the PI and his / her team, the Institute will get the work evaluated by an expert team to find the patentability of the research results. On recommendation of the expert team institute may partially or in full support the cost of filing the patent, such as fees to the patent attorney or application fees.

9. General Limitations

- 9.1. No research project of any type will be permitted to be pursued by an employee at the cost of his / her Institute duties.
- 9.2. Time spent on consultancy projects should be restricted to a maximum of 1 working day per week.
- 9.3. Head of the Department will ensure that testing-type projects are not pursued at the cost of the academic activities.
- 9.4. Though no limit to time to be devoted to research projects by faculty is cited, it is expected that the PI and his / her team members will not engage themselves in the project activities at the cost of academic activities in the Institute. In case of excesses committed as observed by the Head of the Department, he/she will bring it to the notice of the Dean (R & D) for necessary action after discussion with the faculty concerned.
- 9.5. Fund distribution for involvement in sponsored projects amongst non-project staff like ministerial staff, and administrative staff will be met from the contingency head and it will be limited to 30% of their gross salaries.
- 9.6. The equipment purchased from the project fund will be Institute's property and PI will have to account for them.
- 9.7. For Any instrument/equipment damaged during project work, the PI must take responsibility.

10. Ethical Issues

- 10.1. The PI and his / her team are bound by the following ethical issues:

- Maintenance of Confidentiality. If the sponsor desires to maintain the confidentiality of the research project or its findings, the same shall be honoured. Under any circumstances, the results will not be shared with another agency.
- The research results and conclusions will be a faithful production. It shall not be manipulated.
- Expenses and accounts shall be maintained correctly and misappropriation of funds in any form shall be considered as misconduct.
- At the time of application for IPR, the ownership of the IP will automatically belong to the sponsor and the institute jointly.
- Similar permission is to be sought from the sponsor during the technology transfer of the IP generated out of the research results.

10.2. If a prima facie case of malpractice and/or misconduct is established by a fact-finding committee against an employee of the Institute in connection with R & D projects, the institute will take adequate action based on the recommendation approved by BOG.

11. Settlement of Disputes

- 11.1. Any disagreement within the Institute the matter will be resolved by the Dean (R&D) / Director / Principal through discussions and negotiations.
- 11.2. In case of any dispute arising at any stage of the project work between the PI / Investigator(s) and the sponsor(s), the investigator(s) will be responsible for settling the dispute through negotiations seeking advice from the Dean (R & D).
- 11.3. All legal actions will be subject to Jurisdiction of Courts in Kolkata.

12. Exception Clause

The rules provided under the R & D policy are normally applicable to all sponsored projects. However, any change required or any new clause to be included without changing the policy may be incorporated with the approval of the Director / Principal on recommendation of the Dean (R&D).

13. Review

These rules may be reviewed in 3 years or as per needs.



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RESEARCH POLICY

1. Scope and Features of Research

- 1.1. Netaji Subhash Engineering College, Garia, Kolkata (henceforth referred to as 'Institute' or 'NSEC') considers research as an integral part of its vision and mission. The objective of research is not only for the creation of knowledge but also for the elevation of teaching standards through innovation and new ideas.
- 1.2. The Institute believes in openness in research i.e. all data, processes and research findings of the research conducted in the Institute will be accessible to the persons interested without violating IPR, if applicable.
- 1.3. The Institute encourages academic freedom in thoughts and research provided it does not involve political or constitutional controversy or does not generate conflict of interest and policy of the Institute. If a researcher feels infringement by the Institute on his / her academic freedom he/she will have the right to approach the competent authority for redressal. On the other hand, if the action of the researcher generates political or constitutional controversy, or conflict of interest and policy of the Institute, and if it is found to be influenced by personal gain, the Institute may take disciplinary action against him/her.

2. Research Support

- 2.1. Obligation of the Institute: The Institute is committed to providing space, funds, facilities like equipment, library, internet, and assistance to manpower recruitment, etc. to faculty and researchers permitted by its budget, declared policy and available resources. The institute will also encourage student research activity either individually or in a group.
- 2.2. Funding from external agencies (from public/ private sectors, international organizations) will be encouraged by the Institute on a case-to-case basis. Negotiation for any such funding has to be moved through the Institute administration.
- 2.3. Activities related to publication of research results, participation and presentation of papers in conferences/seminars in the country and abroad will be encouraged. The support will be limited to budgetary provisions available in the Institute.
- 2.4. The Institute is also committed to providing special incentives, recognitions, awards, etc., to promote and sustain a very conducive research climate.

- 2.5. In addition to the above research support, the Institute will have the provision of supporting research through sponsored projects (R & D Support) from the funds for sponsored research.
- 2.6. The Institute will render support to patent applications based on the research results as per the established Intellectual Property (IP) policy of the Institute.
- 2.7. During the filing of a patent by the supervisor and his/ her scholar, the Institute will get the work evaluated by an expert team constituted for this purpose to find the patentability of the research results. On the recommendation of the expert team, the Institute may partially or in full support the cost of filing the patent, such as fees to the patent attorney or application fees.
- 2.8. The institute may permit a faculty to carry out research in another academic institution or research laboratory, for which prior permission is to be taken from the Principal through the Institute's R&D cell. For such research activity, the faculty may be permitted provided it does not disturb his institutional, academic and administrative responsibilities. The faculty concerned will apply for permission in the form given in Appendix B.

3. Dissemination of Research Results

- 3.1. Research results are permitted to be published in academically accepted formats, such as, in thesis, research journals, conference proceedings, books, printed media, electronic sites or media, subject to confidentiality related to funding agency or sensitivity of research results and IP protection requirements. A copy of the research publication must be submitted to the Institute's R&D cell for documentation.
- 3.2. Research personnel are not permitted to issue press statements regarding their research results without the prior permission of the Director/Principal.

4. Academic Authorship

- 4.1. In the case of multi-investigator research works, due recognition is needed to be given to the investigators based on the weightage of the contribution from the individuals participating in a specific piece of work. This is especially true for the publication of papers, books, reports or filing applications for granting IPR. Different multi-investigator groups may comprise supervisor-student, multi-faculty teams, interdisciplinary investigator teams, or teams of investigators drawn from collaborative organizations. However, where the Principal investigator is a faculty, his / her name comes as the first author.
- 4.2. In a teacher-student team, the student may be the first author, if his / her contribution to the work is maximum. The dissertation/thesis submitted by the student is in his / her name irrespective of the weightage of work put forth by the researcher.
- 4.3. In case of an independent piece of research work carried out by the researcher, he/she is permitted to publish the work in researcher's name.

However, prior written permission for publication will have to be obtained from the guide and Principal.

- 4.4. It is expected that the manuscript authored in the name of multiple investigators will be shown to individuals and their concurrence (at least verbal) must be taken.
- 4.5. Non-recognition of the contribution of co-investigators in published papers/reports is likely to be considered misconduct and/or an offense equivalent to plagiarism.
- 4.6. The copyright in theses, dissertations, term papers, laboratory records and other documents produced by the students in the course of study will belong to the students.
- 4.7. Any other industrial property other than the copyright of the dissertation, etc. (such as patent, industrial design) generated out of the student's work that may have commercial value, the ownership of the IP will belong to the Institute individually or in case of any sponsorship it will be jointly with the sponsor.

5. Research Misconduct

- 5.1. Research misconduct implies a violation of research ethics as listed below:
 - Fabrication: Intentional making up of data, and results and use them in the report.
 - Distortion: Purposeful manipulation of research data, equipment, process, graphs, and computation to infer research results in a specific way.
 - Plagiarism: Violation of copyright or patent right i.e. appropriation of another person's ideas, processes, or results without formal permission. Publishing /communicating the same content to multiple journals/conferences amounts to self-plagiarism.
 - Breach of Confidentiality: Making public data confidential, especially applicable to sponsored projects or research related to the country's security.
 - Interference: Creation of intentional hurdles to other person's research process and damaging equipment, experimental setup, etc.
- 5.2. Research misconduct does not include honest error or honest judgment of data. Individual errors, experimental errors or programming bugs are not considered to be research misconduct.
- 5.3. If by a complaint by an individual or otherwise research conducted is stated to be different from normally accepted practice, and the difference is likely to be due to one or more of the above-mentioned malpractices deliberately committed, the case will be first investigated by an internal committee constituted by the Institute. The committee consists of the Dean (R&D), two senior Professors and the concerned Head of the Department. Depending on seriousness of the offence, Director / Principal may appoint

an external committee to recommend the actions to be taken by the Institute.

6. Obligation of a Faculty Member and a Researcher

- 6.1. Research by a faculty member or a researcher must not be conducted at the expense of his / her primary duties and allegiance to the Institute.
- 6.2. No researcher shall use confidential information of the Institute for any purpose other than what he/she is permitted to use for the research work.
- 6.3. Research data must be preserved at least for three years or as long as it is necessary. In the case of IP the data are to be kept till it is demanded by IP rules. For students, the data are to be preserved till the degree is awarded.
- 6.4. Faculty members or researchers must abide by the safety norms of the Institute.
- 6.5. Mandatory Acknowledgement. Research results based on work done by a faculty member or researcher with support (notional or real, partial or whole) from the institute, or carried out during his / her service period in the institute must be duly acknowledged. Natures of acknowledgment are separate citations, mention of affiliation of the faculty or researcher to the Institute or in any appropriate form. Failure to comply with it will be considered as a grave offense that may invite disciplinary action, such as (1) non-recognition of the piece of research work for reward (ex. Ph.D. increment) or career development of the faculty or researcher, (2) reprimand or (3) any other form of action.
- 6.6. Research work carried out with support from external agencies or collaboration with other organizations must be duly acknowledged.

7. Dispute Resolution

Disputes arising out of actions taken by the Institute will be resolved by the BOG, for which the aggrieved party will have to appeal in writing.

BOG decision will be final.