Research Policy

Prof. Dr. Ganesh Dongre
Dean (R&I)

DIRECTOR
Vishwakarma Institute of Technology
Bibwewadi, Pune-411 037.

Research and Development Policy

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Research and Development (R&D) Policy:

Vishwakarma Institute of Technology is a well recognized and highly appreciated Institute imparting quality technical education since last three decades. For accomplishment of the Vision & Mission of the Institute laying foundation for high quality research and inculcating research culture among all the stake holders of the institute is necessary. The objective of Research & development initiatives undertaken by Vishwakarma Institute of Technology is to establish research culture and facilitate development of faculty and students.

Vishwakarma Institute of Technology (VIT), a hub of academic excellence and cutting-edge research. With a remarkable faculty strength of 252 members, we boast a dynamic team of 71 esteemed Ph.D. holders, each bringing their expertise to enrich our academic environment. Over 77 faculty members are currently on the path to achieving their Ph.D., actively pursuing groundbreaking research that will shape the future of technology and innovation. At VIT, we take great pride in our association with Savitribai Phule Pune University (SPPU), housing prestigious Ph.D. research centers in Computer Science and Engineering, Electronic and Telecommunication Engineering, as well as Mechanical Engineering. This collaboration fuels an atmosphere of intellectual curiosity and empowers our students and scholars to push the boundaries of their fields. Speaking of scholars, we nurture an impressive cohort of 88 Ph.D. candidates who are wholeheartedly devoted to their research pursuits, contributing to the ever-growing repository of knowledge in our institute. VIT also offers M.Tech programs in all three departments - Computer Science and Engineering, Electronic and Telecommunication Engineering, and Mechanical Engineering. With more than 18 ambitious M. Tech students enrolled, we strive to hone their skills and foster their passion for technology. Beyond research and postgraduate studies, VIT thrives as an academic powerhouse with an impressive strength of over 5600 talented and dedicated undergraduate students across ten diverse

departments. This vibrant community forms the backbone of our research workforce, creating a rich tapestry of ideas and innovation.

Improving high-quality scientific research is a necessary requirement for creating successful applications for society needs. All research and innovation of this Institute should aim to be of a high standard. The goal of creating technological and social innovations has emerged alongside R&D-based activities. Our relentless effort is always to foster research to contribute towards societal benefits. Following are some initiatives undertaken by the institute for strengthening research culture

- As part of local management committee Dean (Research and Development), Dean (Industry Relations) and Dean (Faculty Development) have been appointed for policy making and initiating various research and development related activities. To percolate the policies and vision related to research in every department of the institute, Assistant Head, Research has also been appointed.
- For development of the faculty, efforts such as deputing faculty for internship in industry, deputing for collaborative research, encouragement for PhD, facilitating for knowledge creation, trainings, organizing various faculty competitions are undertaken. Based on individual expertise every faculty is encouraged to generate funds through consultancy/research projects/training/patents.
- Faculty contributing in research is appreciated by the institute through awards and recognition.
- To bring out research potential of the students, institute is doing significant innovations in the Teaching – Learning process such as project centric learning, student conferences, technical activities, semester long internships to industry/research organizations.

The various components and processes of the research culture of the institute are described below

1. Establishment of Research Forum:

The Research Forum implements wide ranging activities such as promoting applied and basic research, technology development, establishing centers of excellence, honing and cultivating appropriate research skills within faculty by deputing for Ph.D. studies, Conferences, Workshops and Short Term Training Programs (STTPs), promoting faculties to submit research proposals for different funding agencies viz. Savitribai Phule Pune University, All India Council for Technical Education (AICTE), University Grants Commission (UGC), Department of Science & Technology (DST), Indian Space Research Organization (ISRO), Defense Research & Development Organization (DRDO), Council for scientific and Industrial Research (CSIR), Rajiv Gandhi Science and Technology Commission (RGSTC), etc.

Establishment of research forum for various activities such as

- Sharing of research by internal faculty members
- Arranging expert lectures by outside eminent personalities
- Developing training modules
- Arranging conferences and workshops
- Submitting research proposals for government and non-government funding agencies
- Pursuing consultancy work, developing incubation centers.
- Writing patents
- Established research steering committee to coordinate the activities of the research forum.
- Arranging Training/ Discussion Sessions for the research forum:
- Having a mentor from IIT for every department

- Formalizing the procedure for Departmental research data collection

- Formalizing Training need Identification, Deputation and Feedback Process

- Formalizing the Research Appraisal Scheme for faculty members

- Developing a policy for VIT Research Grant

- Developing Conference and Workshop Deputation Policy

- Conferences and workshops organized by research forum

Research Forum (2017_18)

S.N.	Name of the Member	Category	Designation
1)	Prof. (Dr.) R. M. Jalnekar	Director	Chairman
2)	Prof.(Dr.) Ganesh Dongre	Dean- Research & Development	Vice-Chairman
3)	Prof.(Dr.) G. D. Bhuthkar	Assistant Head _ Research (Computer Engineering Dept.)	Member
3)	Prof.(Dr.) S. P. Chippa	Assistant Head _ Research (Mechanical Engineering Dept.)	Member
4)	Prof. (Dr.) Sangeeta Kurundkar	Assistant Head _ Research (SY Common)	Member
5)	Prof. P. S. Dhabe	Assistant Head _ Research (IT and MCA Engineering Dept.)	Member
6)	Prof. (Dr.) Sachhitanand Satpute	Assistant Head _ Research (Chemical Engineering Dept.)	Member
7)	Prof.(Dr.) Medha Wyawahare	Assistant Head _ Research (E&TC Engineering Dept.)	Member
8)	Prof.(Dr.) V. N. Karandikar	Assistant Head _ Research (Industrial and Production Engineering Dept.)	Member
9)	Prof.(Dr.) Sachin Sawant	Assistant Head _ Research (DESH)	Member
10)	Prof.(Dr.) Mrs. Archana Chaudhari	Assistant Head _ Research (Instrumentation Engineering Dept.)	Member

2. Roles and responsibilities

Roles and Responsibilities of Dean (Research and Development)

1. To define various research quality policy and implement them time to time as per directives and recommendations of Academic Board and Board of Management.
2. To devise policies/ strategies and implement them for faculty for funded research projects and consultancy from funding agencies.
3. To increase Industry Institute Interactions (III) for meaningful collaborations in terms of projects, faculty training, guest lectures, student projects, student internships, etc.
4. Research Budget – Proposal and Implementation on approval. Distributing seed money for research projects. Planning of research infrastructure and optimum utilization.
5. To inculcate research culture in the institute by organizing seminars, workshops, conferences, etc.
6. Identification of thrust areas where faculty need training and implementation
7. PhD Program coordination and smooth conduction
8. Member secretary of the research board

Roles and Responsibilities of Research Forum

The Research forum is responsible for assisting the Dean (R&D) in the performance of the responsibilities in respect of the establishment and promotion of excellence in the Institute's research and development, and academic and research training activities. This includes the development, review and monitoring of achievements under the Research & Development, and those aspects of other university/Institute Plans.

To promote research amongst the faculty and students the institute has introduced the following initiatives:

- Developing the departmental centre of excellence activities also strengthens the R&D activity.

- Offering and conducting interdisciplinary workshops, seminars, training programs, and expert lectures for faculty and students

- Offering research facilities like research equipments, laboratories, access to online journals, etc. to facilitate a conducive research environment.

- Taking initiatives to establish collaborative relations with national, international and private research institutions.

- Setting up Industry Advisory Board (IAB) to help faculty interact with industry, present their work and projects, get their projects commercialized, fetch consultancy work or finding student internship opportunities.

- Having a mentor from reputed institutes like IIT, to guide faculty for their research work.

- Providing incentives, awards for excellent performance in research related activities such as fetching research grants, having consultancy projects, generating IRG, publishing high quality journal / conference publications, etc.

- Establishing research-based faculty appraisal policy.

- Establishing VIT research grant policy to encourage young faulty to pursue research work.

- Setting up liaisons at various government and non-government agencies to facilitate the smooth conduction of application procedures and maximizing the probability of success to fetch research grant.

- Developing IPR cell providing sponsorships to help faculty file patents and commercialize them.

- Deputing faculty for training relevant to their research and teaching areas.

- Developing incubation centre to encourage entrepreneurship activities and providing a fertile ground for students and faculty to cultivate new research ideas, developing prototypes, getting seed funding from investors to help them realize their dream products.

3. Norms and Standards for the Research Grant Policy

The Management of VIT has allocated budget to fund research projects to be undertaken by the faculty pursuing research in various areas. The aim of the scheme is to strengthen the research activity especially among the young faculty members which will act as a catalyst for them to apply to the various funding agencies for major grants.

The norms and guidelines of the scheme are given below to help the faculty in the preparation of the proposals.

1. The maximum grant available for each project is Rs. 3 lakhs and the duration of the project is for maximum two years.
1. Research proposals from faculty of Assistant professor cadre would considered for acceptance. The Professors or Associate Professors can be Co-PI/adviser with an Assistant Professor or lecturer's as PI.
2. Proposals written in collaboration with faculty from within and other Departments (intra and interdepartmental) involving interdisciplinary research areas are given preference.
3. Number of research proposals to be sanctioned per Department would be as per faculty strength of the Department on the prorata basis.
4. The selection of the projects will be based on peer review and presentation of short-listed proposals in front of Expert Committee.

5. All assets generated out of the fund for the project including equipment, books and journals will become the property of the institution and an entry in the dead stock / consumable stock / library is mandatory for sanctioning the bills.

6. A publication in the form of a research paper in an international peer reviewed conference or journal is mandatory. The affiliation of the institute and an acknowledgement therein is essential to be mentioned in the research paper. One copy has to be submitted to the Dean R&D office.

7. Two students of UG and/or 1 student of PG are required to be associated with the project

8. a)   A bound copy of the final report of the work done on the project in thesis form along with CD / Floppy must be submitted to Dean R&D office on completion of the research project.

   b) A copy of the "Final Report" of the work done should be kept in the Library of the respective department.

Guidelines for Research Proposal

Research proposal is an opportunity to faculty members to start or continue their research work in the Institute. The guidelines for the research proposal are as follows :

2. The proposal should clearly state the objectives, indicate current national and international status, methodology employed, plan of the research work, expected results and outcome of the project along with the budget estimate for two years.

3. The budget estimate should provide the details under different heads such as equipment, consumables / chemicals / reagents / supplies, contingency, books, etc.

4. For purchase of equipments, follow the procedure as per institute purchase procedure.

5. The Principal Investigator should present their project work six monthly in front of project evaluation committee.

6. The release of the funds as a second installment will depend on quality as well as the performance of the work done at first stage and also utilization of 75% funds released for the first stage.

7. The Principal Investigator should submit annual progress report along with the statement of accounts (Annexure-I) and utilization certificate (Annexure-II) at the end of financial year for the release of the subsequent grant to the to the Dean R&D office.

8. All Principal Investigators are supposed to publish their work in an international peer reviewed conference or journal of repute.
9. Every bill must be signed by HOD of the concerned department and the Principal before submission of Research projects **for audit.**
10. Expenditure towards the purchase of air-conditioners, or renovation of laboratories or the purchase of Mother Board, DVD writer, Hard Disk, RAM, Antivirus, Pen drive, Computer, Laptop, Mobile, DVD, Steam Oven, Home Theatre, Mixer, Handy cam, Printer, Scanner, Fridge, Cupboard, Books rack, Furniture, stationery item, etc. will be not allowed.
11. Dead stock/consumable stock entry is necessary for purchase on Research project.
12. Library's Accession No. is important on purchased books
13. Travelling expenditure will not be sanctioned. from this grant. Air ticket & other expenditure like food items, beverages, snacks, meals, local travel will not be sanctioned for attending National & International conference from this grant
14. Two students of UG and 1 student of PG for the project
15. The final report of research project should include
    (i)   Technical Report along with conclusions (two hard bound copies) / and published, presented, accepted paper(s) (A soft copy)
    (ii)   Statement of accounts
    (iii) Utilization certificate
16. The central audit will be organized at the end of financial year for financial assessments of research projects.
17. In spite of these guidelines, any additional thing which will help in strengthening the research culture in Institutes shall be allowed after due sanction from the Honorable Director.

4. Faculty Deputation and Sponsorship Policy

Deputation Training/ STTP/ Workshops/ Seminar:

The departments are allotted a budget of Rs. 5000 * n, where n is the number of faculty members working in that department. Head of the Department can use this budget for the departmental faculty. This cost includes registration, travel, and other expenses, if any for the faculty training.

No students will be sponsored for attending conferences, workshops, trainings, seminars, etc.

1. For deputation to training for STTP/ Workshops/ Seminar the departments are allotted a budget on prorata basis.

2. The deputation cost includes the registration, travel, and other expenses, if any, for the faculty training.

3. The Head of the Department can use this budget to recommend departmental faculty for deputation by considering the training needs identified by the faculty.

For faculty deputation following are the norms:

1. For events within India the faculty will be considered for providing TA/DA at actual according to the college norms along with the On-Duty leave for the days required.

2. For the events outside India the faculty will be granted On-Duty leave. But, no registration charges, VISA/ passport fees, TA/ DA, insurance charges will be borne by the institute. The faculty can apply for the international travel grants to take care of these expenses. On-Duty leave will be sanctioned only when the faculty provides the proofs of the theft and medical insurance taken.

3. Students will be sponsored for any events only when the institute deputes them for the same.

4. For deputation of all the events the faculty needs to apply for the deputation and/or sponsorship. The director will approve expenses after considering recommendation by the Head and the Dean R&D.

Apart from the above norms following are the norms which are more specific to the event of deputation:

I] Publications:

1. **For a faculty publishing a paper in a journal having non-zero impact factor provided by Thompson Reuter's Journal Citation Index (JCI):** Publication charges at actual or up to Rs. 10,000 per financial year, whichever is less, will be considered for sponsorship by the college

2. **For a faculty publishing a paper in a journal or a conference cited by Scopus:** Publication / registration charges at actual or upto Rs. 5,000 per financial year, whichever is less, will be considered for sponsorship by the college

For the above the faculty must be:

i) The first author, with VIT affiliation. OR

ii) If the faculty is not the first author; then the first author must be a registered student of VIT and the paper is published with VIT affiliation. OR

iii) If the faculty affiliation is not VIT then the faculty must be the first author and he or she must be a research scholar deputed by VIT officially.

II] Patent:

1. For filing a patent 50%-100% charges will be considered to be sponsored by the college.
2. Depending on patent quality and significance, 0-50% charges will be equally shared by the inventors.

The patent has to be filed with VIT as the owner of the patent.

5. Policy for Research Expenditures for funded projects

I] Research Projects:

The faculty will be deputed for presenting the shortlisted research proposals only if the faculty has applied to the research grant scheme through VIT with VIT as affiliation on the proposal.

II] Publications:

1. For a faculty publishing a paper in a journal having non-zero impact factor provided by Thompson Reuter's Journal Citation Index (JCI): Publication charges at actual or upto Rs. 10,000, whichever is less will be provided by the college per financial year

2. For a faculty publishing a paper in a journal cited by Scopus: Publication charges at actual or upto Rs. 5,000, whichever is less will be provided by the college per financial year

3. For a faculty publishing a paper at a conference within India cited by Scopus: TA/ DA as per the college norms will be provided along with On-Duty leave for the days required to attend the conference. The registration changes have to be provided by the faculty.

For conferences outside India no sponsorship will be provided by the college. The faculty can apply for the international travel grants.

For all the 3 above the faculty should be the first author with VIT affiliation.

III] Patent:

1. For filing a patent 50%-100% charges will be considered to be sponsored by the college.
2. Depending on patent quality and significance, 0-50% charges will be equally shared by the inventors.

The patent has to be filed with VIT as the owner of the patent.

III] Research Projects:

For presenting the shortlisted proposals the faculty will be paid TA/DA at actual according to the college norms along with On-Duty leave for the days required.

6. Policy for Distribution of Overhead Charges by VIT

Based on individual expertise every faculty is encouraged to generate funds through consultancy. To network with industries and create opportunities for obtaining consultancy projects Dean (Industry Relations), Dean (R &D) are appointed. Every department has formulated Industry Advisory Board to bridge the gap between academia and industry. Also faculty contributing in revenue generating through consultancy is appreciated by the institute through awards and recognition. The policy for sharing the revenue generated after deducting all expenses from sanctioned consultancy grant is as follows.

1. 30% to the Institute.
2. 70% of the surplus amount to the coordinator/ Activity owner/ Principal

7. Purchase Procedure for funded projects and consultancy grants

Requirement should be forwarded to Dean, Research & Development through Head of Department.

This requirement should be forwarded with recommendation to Director through Dean, Finance for approval.

The requirement of all such items should be as per the approval of the Funding Agency (Attach Funding Agency approval letter)

The procurement of all these items / services shall be carried out as per the following details :

1. **All equipments :**

    (a) PI should call minimum 3 quotations based on the required specifications and make minimum 3 vendors.

    (b) PI should call minimum 3 quotations based on required technical specifications. In case the item is of proprietary nature only one quotation will suffice. Due justification for the item being proprietary should be attached.

    (c) PI should prepare comparative statement including special technical basic price, taxes, freight charges, installation, training charges, payment and delivery terms, inspection terms, etc.

    (d) This comparative statement should be forwarded to Dean, Research & Development through Head of Department.

    (e) Dean, Research & Development should forward above document with recommendation to Director though Dean, Finance.

    (f) Comparative statement approved by Director shall be forwarded to the Trust Office though Dean, Finance.

    (g) PI should arrange a meeting of vendors with Institute and Trust Authorities for negotiations and finalization of other purchase terms and conditions.

    (h) After approval of the vendor from Trust Authorities the PI should prepare Purchase Order in triplicate with due terms and conditions.

(i) The Purchase Order should be forwarded to Dean, Research & Development through Head of Department.

(j) Dean, Research & Development should forward above Purchase Order to Director though Dean, Finance.

(k) The copy of Purchase Order duly signed by the Director should be issued to the vendor and Office copies of the same should be retained with PI and Department.

(l) PI should do necessary follow up for procurement of the equipments and ensure that entire transaction is done as per terms and conditions of Purchase Order.

(m) PI should further carry out the bill settlement process as per the Institute procedure.

2. <u>Computer and IT related products</u> :

(a) PI should workout required technical specifications for Computer and IT related products.

(b) This requirement should be forwarded to Dean, Research & Development through Head, Systems.

(c) Dean, Research & Development should forward above requirement to Director through Dean, Finance.

(d) PI should forward approved Computer and IT related requirement to Head, Systems.

(e) PI should call minimum 3 quotations based on the required specifications and make minimum 3 vendors.

(f) PI should call minimum 3 quotations based on required technical specifications. In case the item is of proprietary nature only one quotation will suffice. Due justification for the item being proprietary should attached.

(g) PI should prepare comparative statement including special technical basic price, taxes, freight charges, installation, training charges, payment and delivery terms, inspection terms, etc.

(h) This comparative statement should be forwarded to Dean, Research & Development through Head of Department.

(i) Dean, Research & Development should forward above document with recommendation to Director though Dean, Finance.

(j) Comparative statement approved by Director shall be forwarded to the Trust Office though Dean, Finance.

(k) PI should arrange a meeting of vendors with Institute and Trust Authorities for negotiations and finalization of other purchase terms and conditions.

(l) After approval of the vendor from Trust Authorities the PI should prepare Purchase Order in triplicate with due terms and conditions.

(m)The Purchase Order forwarded to Dean, Research & Development through Head of Department.

(n) Dean, Research & Development should forward above Purchase Order to Director though Dean, Finance.

(o) The copy of Purchase Order duly signed by the Director should be issued to the vendor and Office copies should be retained with PI and Department.

(p) PI should do necessary follow up for procurement of the equipments and ensure that entire transaction is done as per terms and conditions of Purchase Order.

(q) PI should further carry out the bill settlement process as per the Institute procedure.

3. <u>Stationery Items</u> :

(a) PI should workout required stationery purchase of the Institute. The co-ordinator should arrange procurement and handover to the PI.

(b) This requirement should be forwarded to Dean, Research & Development through Head, Systems.

(c) Dean, Research & Development should forward above requirement to Director through Dean, Finance.

(d) PI should forward approved stationery requirement to Head, Systems.

(e) PI should call minimum 3 quotations based on the required specifications and make minimum 3 vendors.

(f) PI should call minimum 3 quotations based on required technical specifications.
In case the item is of proprietary nature only one quotation will suffice. Due justification for the item being proprietary should attached.

(g) PI should prepare comparative statement including special technical basic price, taxes, freight charges, installation, training charges, payment and delivery terms, inspection terms, etc.

(h) This comparative statement should be forwarded to Dean, Research & Development through Head of Department.

(i) Dean, Research & Development should forward above document with recommendation to Director though Dean, Finance.

(j) Comparative statement approved by Director shall be forwarded to the Trust Office though Dean, Finance.

(k) PI should arrange a meeting of vendors with Institute and Trust Authorities for negotiations and finalization of other purchase terms and conditions.

(l) After approval of the vendor from Trust Authorities the PI should prepare Purchase Order in triplicate with due terms and conditions.

(m)The Purchase Order forwarded to Dean, Research & Development through Head of Department.

(n) Dean, Research & Development should forward above Purchase Order to Director though Dean, Finance.

(o) The copy of Purchase Order duly signed by the Director should be issued to the vendor and Office copies should be retained with PI and Department.

(p) PI should do necessary follow up for procurement of the equipments and ensure that entire transaction is done as per terms and conditions of Purchase Order.

(q) PI should further carry out the bill settlement process as per the Institute procedure.

4. <u>Consumables / Hiring Services</u> :

(A) <u>Similar type of consumables worth more than Rs. 20,000/- per project</u> :

(a) PI should call minimum 3 quotations based on the required specifications and make minimum 3 vendors.

(b) PI should call minimum 3 quotations based on required technical specifications. In case the item is of proprietary nature only one quotation will suffice. Due justification for the item being proprietary should attached.

(c) PI should prepare comparative statement including special technical basic price, taxes, freight charges, installation, training charges, payment and delivery terms, inspection terms, etc.

(d) This comparative statement should be forwarded to Dean, Research & Development through Head of Department.

(e) Dean, Research & Development should forward above document with recommendation to Director though Dean, Finance.

(f) Comparative statement approved by Director shall be forwarded to the Trust Office though Dean, Finance.

(g) PI should arrange a meeting of vendors with Institute and Trust Authorities for negotiations and finalization of other purchase terms and conditions.

(h) After approval of the vendor from Trust Authorities the PI should prepare Purchase Order in triplicate with due terms and conditions.

(i) The Purchase Order forwarded to Dean, Research & Development through Head of Department.

(j) Dean, Research & Development should forward above Purchase Order to Director though Dean, Finance.

(k) The copy of Purchase Order duly signed by the Director should be issued to the vendor and Office copies should be retained with PI and Department.

(l) PI should do necessary follow up for procurement of the equipments and ensure that entire transaction is done as per terms and conditions of Purchase Order.

(m) PI should further carry out the bill settlement process as per the Institute procedure.

(B) Consumables less than Rs. 20,000/- per project :

(a) PI should workout required technical specifications for Computer and IT related products.

(b) This requirement should be forwarded to Dean, Research & Development through Head, Systems.

(c) Dean, Research & Development should forward above requirement to Director through Dean, Finance.

(d) PI should forward approved Computer and IT related requirement to Head, Systems.

(e) PI should call minimum 3 quotations based on the required specifications and make minimum 3 vendors.

(f) PI should call minimum 3 quotations based on required technical specifications. In case the item is of proprietary nature only one quotation will suffice. Due justification for the item being proprietary should attached.

(g) PI should prepare comparative statement including special technical basic price, taxes, freight charges, installation, training charges, payment and delivery terms, inspection terms, etc.

(h) This comparative statement should be forwarded to Dean, Research & Development through Head of Department.

(i) Dean, Research & Development should forward above document with recommendation to Director though Dean, Finance.

(j) Comparative statement approved by Director shall be forwarded to the Trust Office though Dean, Finance.

(k) PI should arrange a meeting of vendors with Institute and Trust Authorities for negotiations and finalization of other purchase terms and conditions.

(l)   After approval of the vendor from Trust Authorities the PI should prepare Purchase Order in triplicate with due terms and conditions.

(m) The Purchase Order forwarded to Dean, Research & Development through Head of Department.

(n) Dean, Research & Development should forward above Purchase Order to Director though Dean, Finance.

(o) The copy of Purchase Order duly signed by the Director should be issued to the vendor and Office copies should be retained with PI and Department.

(p) PI should do necessary follow up for procurement of the equipments and ensure that entire transaction is done as per terms and conditions of Purchase Order.

(q) PI should further carry out the bill settlement process as per the Institute procedure.

7.   Review and research audits

Review OF Ph.D. scholar's work will be done on continuous basis i.e. once in semester for this review committee chairman will be Director Sir, Secretary is Dean (R&D), Head and Assistant research will be committee members. Similarly review of all funded projects will be carried out once in semester and guidelines will be given for future course of action.

8. Responsibilities of a Research Investigator

An investigator who leads a research group has leadership and supervisory responsibilities with respect to 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. A supervisor 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 project. He or 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

10. Research Ethics

10.1 Policy of the College to check malpractices and misconduct in research

The college has a research steering committee (research forum) at Institute level and Department research committee to monitor the progress of research work. The candidates are counseled for the consequences of malpractices and misconduct in research. The final submission of Ph.D thesis is approved and forwarded to university only after the satisfactory presentation before institute level committee (with one external subject expert) and publications based on the study carried out as per norms of Savitribai Phule Pune University (SPPU). Publications in peer reviewed journals are mandatory and thereby check any possible malpractice and misconduct in research. As well as all research guides has access to "Turnitin" software for checking of plagiarism of thesis and research papers. Further, the research work is extensively guided by the faculty. Even the dissertation works of PG students are monitored and evaluated by a departmental post graduate committee.

The purpose of this policy is to set of guidelines is to provide a positively oriented set of practical suggestions for maintaining integrity in research. Not only does the ethical conduct of science satisfy a scientific moral code; it also leads to better scientific results because the adherence to ethical research practices leads to more attention to the details of scientific research, including qualitative analysis and quantitative and statistical

techniques, and to more thoughtful collaboration among investigators. Also, the credibility of science with the general public depends on the maintenance of the highest ethical standards in research.

10.2 Plagiarism:

An author should cite the work of others even if he or she had been a co-author or editor of the work to be cited or had been an adviser or student of the author of such work. The work of others should be cited or credited, whether published or unpublished and whether it had been written work, an oral presentation, or material on a website. A charge of plagiarism in the proposal or protocol on grounds that such members are not

later included as part of the research team that conducts the approved or funded research.

At VIT, we are using "Turnitin" software to ensure that documents such as thesis, dissertation, reports, publications are free of plagiarism at the time of their submission.

As per guidelines of UGC following similarity checks for exclusion from Plagiarism

i.   All quoted work either falling under public domain or reproduced all necessary permission and/or attribution.

ii. All references, bibliography, table of content, preface and acknowledgements.

iii. All small similarities of minor nature.

iv. All generic terms, laws, standard symbols and standards equations.

In case Plagiarism is established in the core work claimed then Plagiarism Disciplinary Authority (PDA) of the VIT will impose maximum penalty in accordance with UGC norms. The core work shall include abstract, summary, hypothesis, observations, results, conclusions and recommendations.

Levels of Plagiarism

VIT will quantify plagiarism levels using standard software and databases and levels in ascending order of severity for the purpose of its definition:

Similarities upto o% .- excluded

Level 1: Similarities abole 10% to 40%

Level 2: Similarities above 40% Io 60%

Level 3: Similarities above 60%

Academic Misconduct Panel (AMP) of the Department will submit a report to the Plagiarism Disciplinary Authority (Research Steering Committee). Based on the observations of AMP Plagiarism Disciplinary Authority (PDA) will take appropriate decision after giving a hearing to the accused person. The penalties will be inline with UGC norms.

(a) Penalties for Students

i. Level 1: Similarities above 10% to 40% - Such student shall not be given any mark and/or credit for the plagiarized script and shall be asked to submit a revised script within a stipulated time period not exceeding 6 months.

ii. Level 2: Similarities above 40% to 6)% - Such student shall not be given any mark and/or credit for the plagiarized script and shall be asked to submit a revised script after a time period of one year but not exceeding eighteen months.

iii. Level 3: Similarities above 60% -Such student shall not be given any mark and/or credit for the plagiarized script and his/her registration for that course to be cancelled.

* Penalty on repeated plagiarism- Such student shall be punished for the plagiarism of one level higher than the previous level committed by him/her. In case where plagiarism of highest level is committed then the punishment for the same shall be operative.

*Penalty in case where the degree/credit has already been obtained – If plagiarism is proved on a date later than the date of award of degree or credit as the case maybe then his/her degree or credit shall be put in abeyance for a period decided by the AMP and PDA.

(b) Penalties for faculty, staff, researcher of the Institute

(i) Level 1: Similarities above 10% to 4o% - Shall be asked to withdrawn' manuscript Submitted for publication and shall not be allowed to publish any work for a minimum period of one year.

(ii) Level 2: Similarities above 40% to 60% - shall be asked to withdraw' manuscript submitted for publication and shall not be allowed to publish any work for a minimum period of two years and shall be denied a right to one annual increment and shall not be allowed to be a supervisor to any UG, PG, Master's, M'Phil., Ph.D' student/scholar for a period of two years.

(iii) Level 3: Similarities above 60% - shall be asked to withdraw manuscript submitted for publication and shall not be allowed to publish any work for a minimum

period of three years and shall be denied a right to two successive annual increments and shall not be allowed to be a supervisor to any UG, PG, Master's, M. Phil., Ph.D. student/scholar for a period of three years.

*Enhanced penalty on repeated plagiarism - shall be punished for the plagiarism of one level higher than the lower level committed by him/her. In case where plagiarism of highest level is committed then the punishment for the same shall be operative. In case level 3 offence is repeated then the concerned person shall be dismissed.

*Penalty in case where the benefit or credit has already been obtained - If plagiarism is proved on a date later than the date of benefit or credit obtained as the case may be then his/her benefit or credit shall be put in abeyance for a period decided by the AMP and PDA on recommendation of the AMP.

* If there is any complaint of plagiarism against the Head of an Institute, a suitable action, in line with these regulations, will be taken by the Competent Authority/Governing Board/Governing Council as the title may be.

10. 3 Data

a. Integrity of Data

Fabrication and falsification of research results are serious forms of misconduct. It is a primary responsibility of a researcher to avoid either a false statement or an omission that distorts the research record. A researcher must not report anticipated research results that had not yet been observed at the time of submission of the report. In order to preserve accurate documentation of observed facts with which later reports or conclusions can be compared, every researcher has an obligation to maintain a clear and complete record of data acquired.

In many fields of laboratory research, it is standard practice to record data in ink in an indexed permanently bound laboratory notebook with consecutively numbered pages. Research methods, including statistical treatments, should be either described in the e-record, notebook or referenced by citation to some other primary or secondary source. Information on materials used, along with their sources, should be recorded. Entries should not be erased or white out. If mistakes are to be corrected, a thin line should be drawn through the erroneous entry so as not to obscure it and an initialed dated correction written separately, along with an explanatory note, near the original entry or in the margin. Inspection and or calibration report is required.

All data should be recorded contemporaneously with the production or observation of the data. If some data are obtained as printouts from instruments or computers, these printouts should be appropriately labeled and pasted into the notebook or, if pasting is not possible, stored securely and referenced in the notebook as to storage location. If unique critical materials, such as cell lines, archeological artifacts, or synthetic chemical intermediates, are prepared or discovered, they should be preserved and appropriately labeled, and explicit instructions should be written in the notebook as to where they are stored. Extensive data sets may be stored either as hard copy or on disks. In such cases,

carefully documented definitions for codes should be included, together with rules for applying them to the experimental, clinical, or field data and notes.

Research in social sciences and in some clinical biomedical fields poses specific problems with respect to the availability of primary data for use by other researchers or by reviewers of allegations of possible scientific misconduct. The protection of human subjects requires that data be used, stored, and disclosed in a way that ensures the privacy of individual research subjects. Furthermore, while for purposes of analysis these data are frequently coded and entered into computer files with only code numbers identifying the individual subjects, there is often an interest of the researcher in reviewing the coding procedures in order to identify either random or systematic mis-entry of data into files. To satisfy these guidelines fully, the primary data - clinical or laboratory records, questionnaires, tapes of interviews, and field notes - should be available for review. (In some research areas, anthropology for example, field notes are viewed as the product of the researcher rather than as data, and are thus customarily not made available to others.) Where possible, questionnaires should be stored without identifiers, using only code numbers to link them to computerized files. Records, including transcripts of taped interviews, can be redacted to remove names and other key identifiers. The rules and procedures for carrying out such redactions should be available to anyone who reviews the data

b. Use and Misuse of Data

Researchers should acquaint themselves with the relevant quantitative methods available for processing data, including graphical and tabular methods of presentation, error analysis, and tests for reliability. Research integrity requires not only that reported conclusions are based on accurately recorded data or observations but that all relevant observations are reported. It is considered a breach of research integrity to fail to report data that contradict or merely fail to support the reported conclusions, including the purposeful withholding of information about confounding factors. If some data should be

disregarded for a stated reason, confirmed by an approved statistical test for neglecting outliers, the reason should be stated in the published accounts. A large background of negative results must be reported. Any intentional or reckless disregard for the truth in reporting observations may be considered to be an act of research misconduct. Special care must be taken in the use of photo-images not to misrepresent the underlying data.

When using imaging-processing software, like Adobe Photoshop, for example, in preparing a blot for viewing it is improper to add or delete a band, to differentially adjust the intensity of one or more bands, to label an image from one experiment as representing a different experiment, to splice lanes without using a line indicating the deletion, or to juxtapose pieces from different gels onto a single image.

Modifying an approved protocol in the midst of a clinical or epidemiological study or changing the character of an approved study (e.g., from an exploratory to a confirmatory study) without prior approval is improper and could be viewed as research misconduct.

Expenditure of government grant funds for fabricated or falsified research is not only a violation of research ethics but also a federal crime, and those responsible may be subject to prosecution for fraud with the possibility of a demand for restitution of funds to the government, a fine, and/or imprisonment.

c. Ownership of and Access to Data

Research data obtained in studies performed at VIT, Pune and/or by employees of the VIT 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 VIT, 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, is the grantee of sponsored research awards. Reasonable access to data, however, should normally not be denied to any member of the research group in which the data were collected. If there is any possibility that a 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 researcher who has made a finding which may be patentable should file an Invention Disclosure with the IPR Cell of VIT.

d. Storage and Retention of Data

Data should be stored securely for at least seven years after completion of the project, submission of the final report to a sponsoring agency, or publication of the research, whichever comes last. Some agencies that sponsor research may specify a longer period for which data must be retained. Some types of data are expected to be deposited in a Institute library.

10.4. Authorship and Other Publication Issues

Publication of research results is important as a means of communicating to the scholarly world so that readers may be informed of research results and other researchers may build on the reported findings. In fact, it is an ethical obligation for an investigator at the Institute to make research findings accessible, in a manner consistent with the relevant standards of publication. 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 hastened unduly if premature publication involves a risk of not subjecting all results to adequate internal confirmation or of not considering adequately 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 in order to permit filing of a patent application.

a. Criteria for Authorship

Publication must give appropriate credit to all authors for their roles in the research. If more than one person contributes significantly, the decision of which names are to be listed as co-authors should reflect the relative contributions of various participants in the

research. Many professional associations and research journals have specified criteria for authorship. One common standard appearing in many of these statements is that each author should have participated in formulating the research problem, interpreting the results, and writing the research paper, and should be prepared to defend the publication against criticisms.

b. Order of Authors

Customs regarding the order in which co-authors' names appear vary with the discipline. Whatever the discipline, it is important that all co-authors 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, who will be responsible for communicating with the publisher or editor, 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. This person 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.

c. Self-citations

In citing one's own unpublished work, an author must be careful not to imply an unwarranted 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 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.

d. Duplicate Publication

Researchers should not publish the same article in two different places without very good reason to do so, unless appropriate citation is made in the later publication to the earlier one, and unless the editor is explicitly informed. The same rule applies to abstracts. If

there is unexplained duplication of publication without citation, sometimes referred to as self-plagiarism, a reader may be deceived as to the amount of original research data. It is improper in most fields to allow the same manuscript to be under review by more than one journal at the same time.

e. Reporting Suspected Misconduct

Reporting suspected research misconduct is a shared and serious responsibility of all members of the academic community. Any person who suspects research misconduct has an obligation to report the allegation to the Dean (R&D). Allegations are handled under procedures described in the Institute's Research 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.

f. Special Obligations in Human Subject Research

Research protocols involving human subjects must be approved in advance by the Institute and University Ethics committee, which determines whether risks posed to subjects are acceptable and whether information describing risks and benefits of subject participation is conveyed to subjects in an accurate and intelligible manner.

11. Extension activities for neighboring community

Faculty is continuously encouraged for submission of research projects on problems of regional and global importance which will satisfy the needs of neighboring community.

Faculty is not only provided with special leave facilities but also encouraged to attend the national and international seminars, workshops and conferences.

Ph.D. students are provided monthly fellowship and contingency grant.

Academic achievements of the staff are encouraged by providing publicity and recognition.

The Institute has established an Institute Industry Linkage Centre for contextual research, training, campus interview and consultancy.

The guidelines are prepared for sharing the revenue earned through consultancy on 30:70 basis. The sharing policy as 30% to the Institute and 70% of the surplus amount to the coordinator/ Activity owner only for consultancy work. The college share will be used for infrastructure development of the concerned faculty laboratories.

12. **Institution has created an eco system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge**

The seed of the innovation ecosystem at Vishwakarma Institute of Technology Pune was sown in 2013 with formation of **Entrepreneurship Development Centre (EDC)** with the active support college management. The aim of the EDC is to build a successful and profitable business, the incubatees will be working with various partners (such as investors, industries and research labs) and service providers (such as industry, corporation, hospitals, consultants, IT, HR etc.). In this regard, centre has conducted several workshops for students to make them aware about funding opportunities, start-up ecosystem, and incubation and services.

EDC invites new ideas and proposal from students for incubation. After screening of proposals they are processed for further evaluation. Finally, identified and evaluated based on their potential, feasibility, value proposition and market assessment. In essence, these activities will trigger Innovation & Entrepreneurship ecosystem in the region. Various initiatives and activities undertaken so far are summarized below:

• Entrepreneurship Awareness Drive with e-Cell, IIT Kharagpur
• Workshop on Business & Wealth
• Seminar by Niranjan Yadav , CEO, Switch Idea

- Internship Mela – I, A Platform in the form of exhibition for interaction between 40 startups and 1000+ students
- Guest Lecture by Mr. Baldev Singh Rawat, Founder, Resume It up
- General Enterprising Tendency Test (GETT) by Prof. Rajesh Dhake
- Lecture on Basic Economics for Entrepreneurs by Shubham Pansare
- National Ideation Boot Camp in Association with NIT Trichy
- Global Students Entrepreneur Awards in Association with Entrepreneurs Organizatio
- Women's Day Celebrations by : Ms. Manjiri Prabhu (Author, Dubbed as Agatha Christie of India & Director of Pune International Literary Festival)
- Guest session by Mr. Jatin Bhatia, Co-Founder, Brisky on Entrepreneurship and guidance on Business Plan
- Finance Sense for Engineers Workshop by Prof. Rajesh Dhake
- Internship Mela – II, 1950+ students
- Case Study on Brexit, Entrepreneur of Your Choice & EDC's Across the World
- Design your Own future by Prof. Parimal Merchant of Asian Institute of Family managed Business
- Fresher Introduction Meet and Lecture my Mr. Laxmikant Kole
- Understanding Financial Statements (Advanced) by Prof. Rajesh Dhake
- Building Sustainable Successs with Digital Technology: Digital Marketing By- Mr. Krishan Mitral
- New Age Entrepreneurship: Why and How. By- Mr. Ajinkya Shaurya
- Comprehensive Case Study-based B-plan Exercise
- Internship Mela for 55 Registered Startups 1500+ Students

With this philosophy various startups initiated by the EDC in last 4 years are as follows:

SpoFit, Team: Rathod, Hirde, SpoFit is experts dedicated to take Sports and Fitness industry

Home seeker.com, Chincholkar, Provide customers hassle free flats on rents

Mother's Masala, Chatopadhyay, It is a social startup which aims to empower women and provide a platform to showcase their skills which in-turn benefit the society

directOdoctor: Bipin Mandge (T.Y. B-Tech Industrial Engineering), Aditi Katare (T.Y. B-Tech Computer Engineering) and Shubham Kurkure (T.Y. B-Tech Computer Engineering, Mumbai) started startup in domain of "Internet of Things and data analytics", which provides value for everyone in the healthcare system- Patient and Doctors. This venture cares for Patients by finding a right doctor for them, save time by helping to book appointment online, maintain their health records, set medicine reminders and deliver the best service of medicine delivery at the doorstep. Also, they work for doctors by helping them to reach new patients by listing them, increase patient retention by regular follow-ups and maintaining clinical records.

Inphinity Products: Pratik Rokade (CEO) , Priyanka Palshetkar (MD) (Alumni batch 2013-2017), Inphinity Products started as a company which made customized A-4 notebooks for Engineering students keeping in mind the trends. Today, Inphinity Products is entering the Technology space by making applications which contribute to easing out people's life.

Unithing Technologies LLP: Suyash Inamdar (B-Tech), Siddhant Kulkarni (B-Tech), Ram Dhobley (B-Tech), Internet of Things and data analytics, Startups deals with the Internet of things and data analytics and provide services for the same.

Prof. Dr. Ganesh Dongre
Dean (R &I)

DIRECTOR
Vishwakarma Institute of Technology
Bibwewadi. Pune-411 037.