



Centre for Research and Technology Developments (CRTD).

NBNC SOE, Sinhgad Institutes, Solapur.



Standard Operating Procedure (SOP)

Introduction:

Sinhgad Institute is one of the largest providers of quality in India. Prof. M. N. Navale, Founder President of Sinhgad Institute established these centers of excellence with the vision of bringing technical education to the masses. Today, Sinhgad Institute provides education from KG to PG and also runs doctoral programs. Starting with Sou. Venutai Chavan Polytechnic in 1993., today we have nearly 85 education institutes located at 12 campus, nurturing the dreams of over 86,000 students in various disciplines every year. As an extension *Savitribai Phule Shikshan Prasarak Mandal (SPSPM)* was founded in 2006 under the umbrella of Sinhgad Institutes with the goal of providing quality education in the field of Engineering, Management and School Education .

Considering the need of nation, the Sinhgad Institute Solapur has established “Centre for Research and Technology Developments”, at Sinhgad Institute, Solapur to meet the global needs. The centre has conducted the Multi Mega event on “Innovative Technologies for Rural Development & Their Commercialization ITRDC in 2017, in collaboration with BARC, Mumbai, to showcase the significant and promote the usage of innovative technologies for rural development that dreams come true of Mahatma Gandhi.

On the similar line, the CRTD has planned a International Conference on “Silk Fibroin and Seri cultural Resources” (IC-SFSR-24) on 16th to 19th Feb. 2024. It is a Multi Mega Event with emerging Trends on the development of Silk Fibroin technologies. The CRTD has launched a new programme for the development of young engineers as researchers by introducing the scheme of “UG research scholars”. There are 60 research scholars selected and engaged in development of emerging technologies based on Silk Fibroin. Related to the theme of International Conference. IC-SFSR-24.

There is necessity of Undertaking of CRTD project by faculties from every stream with the outcome in the of solutions, publications and patents. NAAC and other assessment agencies expects involvement each faculty of college in the research activities.

We hope that establishment of separate “**Centre for Research and Technology Developments (CRTD)**” for research will motivate. And guide faculties and students as well to undertake new projects resulting in quality.

Vision: “To make the Sinhgad Institutes a World Centre of Excellence in Research and Technology”

Mission:“Develop outstanding research talent capable of understanding and exploring the Development and Innovative Technology”.

“Develop outstanding research talent capable of understanding and exploring the Development and Innovative Technology”.

Research Objectives:To fulfill the vision for research, the college has identified the following major research objectives and strategies.

Objectives: 1. Scientists and Engineers from research areas, students and partner organizations work together to find answers to society’s most challenging questions.

2. Centre for research technology development most research initiatives in energy self sufficient infrastructure focus on a broad range of challenges involving energy production, conversion and efficiency, water resource management; infrastructure development; and the issues associated with a changing.
3. The CRTD researchers conducted basic and applied research to understand and develop innovative Engineering Material that hold great promise for improving daily living conditions around the Campus, ability to combine Sinhgad Institutes strengths in Engineering and Science.
4. The CRTD research policy activity encourages both faculty members and students in General Science and Engineering units to shape their research and collaborate on specific societal challenges such as Science, Technology, Engineering, and Mathematics
5. The CRTD has been heavily involved in renewable energies now focusing on solar energy (thermal and photovoltaic) and its integration in the home, batteries for electric vehicles, community kitchen, Biomass Energy conversion, and generation of bio-fuel supersonic and hypersonic wind funnels; The CRTD provides support to national industries, in partnership with other research organizations.

Strategies: In order to strengthen Research cultures following activities are proposed:

- Involvement of students in research activities.
- To apply for major / minor research projects to UGC, University and other Funding Agencies.
- Establishment new research centers and strengthening of the existing ones.
- Organization of training workshop for teachers.
- Establishments of multidisciplinary research Centre with central equipments facility.
- Provision of funding support for purchase of research equipment.
- Encouragement of faculty and student to attend national/international conferences.
- Organization of national/international conferences.
- Development of linkages with reputed industries and institutions.
- Encouragement for research paper publications.
- Emphasize on collaborative research.
- Provision of incentives to promote quality research outcomes.

Guiding Principles:

- Engaging students in research activities provides unique and relevant contextual learning and builds their research skills.
- Generate ideas to purchase both curiosity-driven and solutions-based research to address recent fields.
- Innovations in scientific, social and pedagogical areas through the development of new technologies.
- Research inspires creativity, inculcates scientific temper and supports the socio-economic, culture development of new technologies.
- Research and teaching-learning are intrinsically scientific temper and supports professional developments of faculty and helps them in curriculum development.
- Multidisciplinary research is s learning experience in which the researchers also learn from each other's fields.

Code of Ethics in Research:

Code of ethics in research involves the applications of fundamental ethical principles to be followed in research activities, including scientific research. Research, education and extension are integral parts of any higher education institute. The reputation of institution depends on quality of research and education. NAAC gives substantial weightage to quality and quantity of research undertaken by faculty and students of the Institute. UGC as well as Punysholk Ahilyadevi Holkar University, Solapur expects certain ethics followed by institution in their research activities. To fulfill these expectations the college has formulated certain code of ethics on the campus. These code of ethics are as follows:

Responsibilities of a Research Investigator:

A research investigator or guide must not only put together the research students but also try to assemble an adequate financial and administrative structure to support the research. A supervisor not only provides guidance and advice to individual students in the research but also make them aware of responsibility for the scientific integrity of the whole research activity.

Data and report:

Research guide should take all reasonable steps to check the details of experimental procedures and the validity and authenticity of the data of observations reported by research scholars, including periodic reviews of primary and secondary data as well as reports prepared by scholars. The reports of research outcome must be based on accurately recorded data or observations. If it will be considered as a breach of research integrity if the reported data fail to support of original activities of researcher and not from other sources. Any intentional or reckless disregard for the truth in reporting observations may be considered to be an act of research misconduct.

Ethical policy of UGC on dissection of animals:

Every researcher must follow ethical policy on animal dissection given by UGC.

Originality and acknowledgement of sources:

The research work that must be original and come from research outcome of researchers. If help is taken from other sources, should be acknowledged properly.

Duplication of Publication:

Research articles must be published in UGC notified journals. Researchers should not publish the same research outcome in two different places. If published very good reason must be given and appropriate citation must be made in the later publication to the earlier one and if required, the editor must be explicitly informed.

Disclosure and conflicts of interest:

Researchers may use Institution resources such as staff, equipment, information or confidential information with prior permission of principal or head of the department. Researchers may not use Institution resources for any purpose other than purpose related to teaching, research or services by the Institution, unless prior permission has been obtained by the head of the department and/or the Principal.

Plagiarism Policy:

We follow the plagiarism policy decided by UGC and Punyshlok Ahilyadevi Holkar University, Solapur. This policy is given in following link.

[IPR-Policies.pdf \(sinhgadsolapur.org\)](https://www.sinhgadsolapur.org/PR-Policies.pdf)

The college research committee aware researchers about these policies. According to the guidelines mentioned in Punyashlok Ahilyadevi Holkar University, Solapur.

IPR:

The aim of the Institute's policy on patents, copyrights, and other Intellectual Property is to make available Institute technology to Industry and others for the public benefit, while providing recognition to individual investors and encouraging the prompt and open dissemination of research results. The Committee on Intellectual Property recommends policy guidelines to the administration Individuals who may be in a position to make, conceive or reduce to practice inventions or otherwise develop intellectual property under sponsored research or other projects (whether or not salary or other support is received from such projects) or through the use of significant administered funds or facility must sign the Invention and Proprietary Information agreement. This requirement applies to all employees, students, and stakeholders.

When Intellectual Property is developed by faculty, students, staff, visitors or others participating in programs using significant funds or facilities. College will own the Intellectual Property. If the material is not subject to a sponsored research or other agreement giving a third party rights, the issue of whether or not a significant use was made of college funds or facilities will be reviewed by the inventor's/author's laboratory director or department head, and a recommendation forwarded to the Coordinator of Research Committee and CRTD. The Principal of the college will make the final decision on this issue and on any dispute or interpretation of policy relating to Intellectual Property.

Initiatives for research:

The Principal of the College, IQAC, CRTD and Research Committee of the Sinhgad Institutes, Solapur, keenly involved and proactive to promote research culture amongst the faculty and students. College has CRTD and research coordination committee which along with the IQAC looks after all the requirements for the research work carried out in which along. The CRTD and research work, improvement of existing research facilities, purchase of instruments as well as journals and books, besides publish research compendium for inculcating research culture in college.

- a) CRTD encourages every department of the college to submit project proposals to funding agencies. The teachers are encouraged to take up research projects and provided support for applying to different funding agencies as well as for effective implementation of the sanctioned research projects. College facilities timely auditing and submission of utilization certificate to the funding authorities.
- b) Research ambiance is upholding via establishing the linkages and collaborations with academic and research institutes.
- c) College is attentive for starting as well as smooth running of the recognized research centers in respective departments by fulfilling all administrative procedures as per P. A. H. University, Solapur. Norms for maintaining the research culture.
- d) CRTD has taken efforts for submitting the proposals to various funding agencies including UGC, PAHUS, DBT, SERB and DST.
- e) College also provides all the infrastructural support as well as seed money to PG Students for conducting mini research projects.

- f) College encourages and sponsor the faculty as well as students to attend research events and to publish research articles in peer reviewed journals.
- g) Separate Financial support policy is available on the college website.
www.sinhgadsolapur.org.
- h) College aids the faculty, research scholars and project students for their research analysis and guidance from various reputed national institutes, industries and universities.
- i) College also organizes scientific events viz. conferences, seminars and workshops to acquire updated knowledge and skill of the researchers. Regular lectures of well-known experts are arranged and staff and students are stimulated to interact with them.
- j) Teachers and students are encouraged and motivated by to undertake research activities like projects and participation in AVISHKAR. AVISHKAR activity is coordinated by ARC of the college. SKILLATHON, IDIATHON, MALKATHON, etc.
- k) The college felicitates achievers in the research field FIP, duty leave for presenting research papers; attending workshops, etc. are provided. College promotes the faculty as well as students to attend conference, seminars; encourage them to publish research articles.
- l) College organizes scientific events viz. conferences, seminars and workshops to provided sound platform to researchers of the college to update their skills, present their findings and interact with external experts and participants.
- m) Various activities including 'Science Exhibition', workshop on 'Research Methodology' are organized regularly by the college.
- n) The college has formed separate MOU committee, which provides adequate support to student and faculties.

Research Themes for CRTD:

- I. Energy:
- II. Environment:
- III. Water Resources:
- IV. Health Care:
- V. Food & Agricultural Technology: