



An Institution of
the Society for the Higher Education
of Women in India

Sophia College (Autonomous)

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Notification

In pursuance of the resolution passed by the Academic Council at its meeting held on August 25, 2022, it is hereby notified for information of all concerned that Sophia College (Autonomous), Mumbai has published the 'Sophia College Research Policy' document for the information to all concerned. The policy document has been drawn and compiled by the existing Research and Development committee which comprises,

1. Dr Trevor Allis, Associate Professor and Head, Department of Philosophy
2. Dr Roshan D'Souza, Associate Professor and Head, Department of Zoology
3. Ms Shraddha Prabhu, Assistant Professor, Department of Microbiology
4. Ms Nisha Yadav, Assistant Professor, Department of Economics
5. Ms Sandhya Kadiru, Assistant Professor, Department of Zoology
6. Dr Elwin Susan John, Assistant Professor, Department of English

The document mainly comprises of the following parts:

1. General background information
2. Research programmes and plans
3. Collaborations and Community
4. Finance and Infrastructure
5. Product development, monitoring and commercialization
6. IPR, Legal and Ethical Matters

This document will serve as a detailed guideline and will be useful to all concerned. This will come into force with immediate effect.

Date: 15th December, 2022



A. P. Patil
(Dr. Anagha Tendulkar Patil)
Principal

**PRINCIPAL SOPHIA COLLEGE
(AUTONOMOUS)**

Copy to:

1. All the Heads of Departments, Coordinators of self-financed programmes of study
2. IQAC Coordinator
3. Librarian, Sophia College
4. Controller of Examinations, Sophia College
5. Webmaster for uploading on the college website

SOPHIA COLLEGE RESEARCH POLICY

1. GENERAL BACKGROUND INFORMATION

1.1 INTRODUCTION

The “Sophia College Research Policy” is a collection of policies, guidelines and general information related to the research culture at Sophia College (Autonomous), Mumbai. The college caters to the research done by teaching faculty and students, by implementing intensive research programmes for the students as part of the curriculum, as there is an emphasis to nurture systematic research temperament through teaching practices. Contemporary teaching methods like active research-based enquiry and problem-solving practices enable a research culture at Sophia College. Well-equipped laboratories and experienced research guides have resulted in the college receiving regular research grants and opportunities for invited lectures from DST, DBT, RUSA, Asiatic Society of Mumbai, University of Mumbai and other national and international platforms.

The research highlight of Sophia College is the specialised research centres that are actively engaged in training students and facilitating research collaborations, publications and presentations on national and international platforms. From the Sciences, there is SumanTulsiani Research Centre, while, The Sophia Centre for Women’s Studies and Development (SCWSD) has been the vanguard of interdisciplinary research at the college since its inception in 2001. The newly established Sophia Centre for Humanities and Social Sciences encourages students to participate in national and international conferences. Experienced teaching faculty mentor interested students for a research career in future.

The college aims to encourage linkages with the industry for industrial research activities and the industrial services especially through the Science departments, Department of Information Technology and the BA SCJ programme offered by the college. The college currently has research collaborations with other reputed institutions

and organizations at local, regional and national levels. Keeping all the existing programmes of study at Sophia College, this document will serve as a policy statement to facilitate a responsible and ethical conduct of research at the college.

1.2 VISION AND MISSION

- To ensure that a viable and inclusive research ecosystem is enabled for faculty and students so that they can cross disciplinary boundaries in order to bring in innovative research.
- To formulate appropriate research policies and practices for faculty and students in order to facilitate internationally accepted quality of research.
- To transform the research ideas and endeavours into concrete innovations by establishing the incubation centre.

1.3 OBJECTIVES

- To create an organizational structure to the research culture in college and to sustain the implementation of efficient policies and practices which will ensure ethics in research as well as publication.
- To sensitise teaching faculty and students about the importance of conducting research and to identify potential areas of research.
- To encourage teaching faculty and students to be involved in research projects and to publish research papers in renowned journals.
- To create seed money or a research corpus to promote researchers especially, who are presently in Adhocpositions.
- To establish industry linkages in enhancing the employability of graduates.
- To facilitate collaborative research projects and activities with national and international institutions, industries and other professional bodies.
- To provide incentives, grants etc to students belonging to underprivileged backgrounds in order to establish an inclusive and equitable research culture.

1.4 STRATEGIES

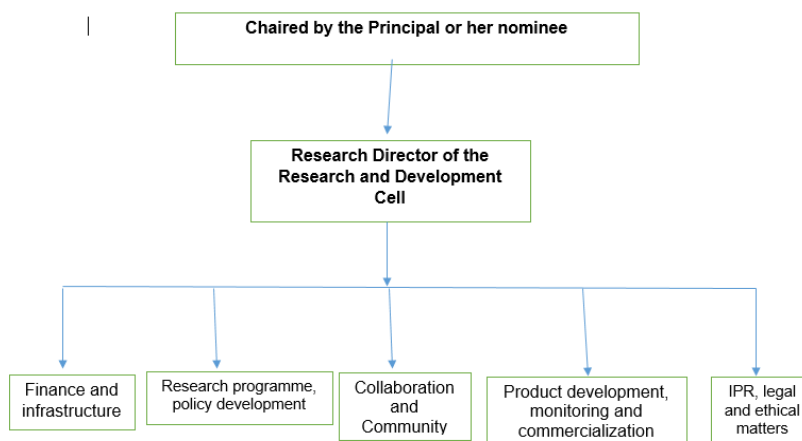
In order to strengthen the research culture at Sophia College, the following activities are proposed:

- Encourage UG &PG student involvement through research driven activities.
- Redirect research interests to align with the annual college theme.
- Organise foundational activities like conferences, interactive workshops, lectures etc on the importance of research in the 21st century.
- Apply for research grants to various national and international organisations.
- Establish specialised sub-units under the existing research centres.
- Create a research interface with reputed organizations, industries and institutions.
- Emphasize interdisciplinary research and quality publications.
- File patents and disseminate research findings on national and international forums.
- Update research policies with the social, cultural, scientific, and environmental challenges of our times.

1.5 COMPOSITION AND ORGANOGRAM

The Research and Development Cell consists of the following units:

RAC Council - Chaired by the Principal or her nominee



1.6 SCOPE AND APPLICABILITY OF THIS POLICY

This policy will be applicable to all research activities including projects and dissertations carried out at Sophia College (Autonomous). This policy is also applicable to all collaborative research and industrial research services conducted by the college. The policy will be binding on all members of the faculty, staff, research students, research fellows, interns and alumni who are involved in research activities and projects/dissertations at the college. All collaborators in research projects, all industrial research services and all research consultancies provided by the college or its faculty will have to adhere to the guidelines of the Sophia College Research Policy.

2. RESEARCH PROGRAMMES AND PLANS

The existing research programmes and plans for conducting research in future at Sophia College cater to both students' and faculty research. Faculty members are continuously encouraged to submit research projects on problems of regional and global importance, especially on matters that require a multidisciplinary deliberation. The larger context of society and community is always kept in mind while facilitating and mentoring research of the students at Sophia College. Faculty members are not only provided with special leave facilities but also encouraged to attend the national and international seminars, workshops and conferences. Academic achievements of the staff are encouraged by providing publicity and recognition. Some of the research highlights include the DBT Star Status, EXSP, EXAP, in-house journals for students and faculty, PhD programmes, MRPs and the publications and presentations by the faculty.

2.1 DBT STAR STATUS

Star College Scheme is a unique programme sponsored by DBT to strengthen the academic and physical infrastructure for achieving excellence in teaching and training at Undergraduate level across the country. This programme also aims to enhance the quality of the learning and teaching process to stimulate original thinking through 'hands-on' exposure to experimental work and participation in diverse academic and research activities.' Sophia College was selected under the Star College Scheme of the

Department of Biotechnology, Government of India in the year 2015. Students under this program were able to present their research work at university level and state level in 'Avishkar' and other national and international conferences. An in-house science newsletter, *Spectrum*, is published in collaboration with the Department of Life Sciences and Biochemistry, St. Xavier's College. After the successful completion of 'Star College Scheme' Sophia College has been awarded the 'Star Status' grant in the year 2020. The Star College scheme has been further granted to four Science Departments viz Chemistry, Life Science, Microbiology and Composite department comprising Biochemistry, Physics and Zoology.

2.2 EXSP and EXAP

The Education to Excellence in Sciences Programme (EXSP) was instituted in 1991 and this was followed by initiating the Education to Excellence in Arts Programme (EXAP) in 1993. Learners who are chosen for the EXAP and EXSP undergo rigorous training that prepares them for pursuing the quest for excellence and nurtures their research aptitude, right at the undergraduate level, along with their regular academic requirements. The EXSP programme is open to First year BSc and BSc-IT students. The EXAP programme is open to the first year BA students of the college.

The programme structure lays emphasis on motivation, creativity and independent thought. The first part of the programme includes a creative aspect, i.e., writing an article, organizing a seminar or paper presentation. This leads progressively to more complex tasks e.g. an extensive literature survey and mini research project.

2.3 MINOR AND MAJOR RESEARCH PROJECTS

Faculty members will be encouraged to pursue higher studies including PhD and post doctoral research positions within and outside the country. As a stepping stone towards this proposition, faculty members are encouraged to take up minor and major research projects. Several faculty members continue to pursue Major and Minor Research Projects with the financial aid from Mumbai University, ICSSR and UGC.

2.4 PhD PROGRAMMES

The college runs PhD programmes in the Department of Microbiology and in the Department of Zoology. More faculty members are encouraged to apply for guide-ship.

2.5 RESEARCH PUBLICATIONS

2.5.a IN-HOUSE JOURNALS FOR FACULTY

The college will continue to encourage faculty initiatives in research and facilitate efforts of the faculty members in conducting research. As part of this policy, initiatives towards publications at college level and departmental levels in online or offline modes will be promoted. The Research & Development Cell under the guidance of IQAC of the college will ensure the quality checks with regard to the inhouse publications. The Editors and the Editorial teams along with the Peer Review Committees will ensure the originality of the content and quality of research articles published in the inhouse publications. With due diligence to the intellectual property rights policy, the copyright of the articles published in the journals will remain with the journals concerned and proper permissions need to be obtained for any form of re-publication.

2.5.a.i URDHVA MULA: *UrdhvaMula* (Roots Upwards) is an Interdisciplinary Women's Studies Journal published by our Sophia Centre for Women's Studies and Development. UrdhvaMula is committed to providing a democratic space for feminist scholarship and invites researchers in academic and research institutions, freelance scholars, public intellectuals and feminist activists to contribute research articles, book reviews, documents of historic and contemporary relevance and statements regarding women's studies and women's rights movement.

2.5.a.ii SCRIBE: *Science Chronicles in Research and Investigation Based Education* (SCRIBE) is our Annual In-house Peer-Reviewed Interdisciplinary Science Journal, supported by DBT Star Status.

2.5.a.iii SOPHIA LUCID: *Sophia Lucid* is our Annual National Level Multidisciplinary Peer-Reviewed In-house Journal, established in 2020 by IQAC

Sophia College for encouraging and for providing a platform for research publications to teaching and research faculty across institutes, colleges and universities in India. Each issue of this journal takes up current and relevant issues that require a multidisciplinary deliberation.

2.5.b IN-HOUSE JOURNALS FOR STUDENTS

SOPHIA LUMINOUS: *Sophia Luminous* is a national level, multidisciplinary online students' research journal published by IQAC Sophia College (Autonomous), Mumbai. The journal aims to encourage and publish students' research across subjects and study areas. We hope to add and provide knowledgeable insights into various academic developments through a double-blind review of research papers and articles. Therefore, we encourage all students interested in developing their research skills to submit papers to this journal.

2.5.c FACULTY PUBLICATIONS IN EXTERNAL SOURCES

All faculty members are encouraged to publish original research papers in edited volumes, books, peer-reviewed journals, journals that are part of the UGC-CARE list and other indexed lists of national and international repute. Periodic Faculty Development Programmes are organized by departments and IQAC, to guide faculty members towards research and publication.

2.5.d PAPER PRESENTATIONS

All departments are encouraged to participate in conferences both online and offline and are motivated to present research papers in them. In order to facilitate active research, eligible faculty members will be able to avail duty leave for presenting papers.

3. COLLABORATIONS AND COMMUNITY

3.1 CONSULTANCY

Based on their individual expertise, all faculty members are encouraged to generate funds through consultancy, research projects, training, and patents.

3.2 INCUBATION CENTRE AND INDUSTRY LINKAGES

The college envisions establishing industry linkages for contextual research, training, campus interview and consultancy. Such industry linkages will further bolster the incubation centre at the college.

3.3 RESEARCH MENTORS

All students are encouraged to present papers at national and international conferences and faculty members mentor those interested students. Faculty members conduct lectures on research methodology as part of the curriculum and as part of research mentorship in order to train them for systematic research in future.

3.4 ECOSYSTEM FOR INNOVATION

In association with the Entrepreneurship and Skill Development Hub at Sophia College, several initiatives will continue to be in place. Some of the proposed activities include workshops on funding opportunities, start-up ecosystem, and incubation and services.

4. FINANCE AND INFRASTRUCTURE

4.1 RUSA

The RashtriyaUchchatarShikshanAbhiyan or RUSA is a scheme devised by the central government to provide funding to boost infrastructure at autonomous educational institutes across the country. So far, institutes from five states, namely, Maharashtra, Tamil Nadu, West Bengal, Karnataka, and Bihar have received RUSA grants. Key criteria include a score of 3.5 by the National Assessment and Accreditation Council (NAAC), a good academic record, and autonomous status. In Maharashtra, twelve institutes were selected in 2018, eight of them from the Mumbai region.

Sophia College was one of the eight colleges in Mumbai which was selected for the funding in 2018. The focus continues to be on improving the research facilities for students and faculty. Under the aegis of RUSA grant, an entrepreneurship cell and skills

hub was set up in 2020, apart from the many other academic opportunities and facilities made possible through the RUSA grants. The college is now in the term of RUSA 2.0

4.2 DBT-STAR STATUS

The Star College scheme was launched to improve critical thinking and encourage 'hands-on' experimental science at undergraduate level in basic science subjects. Sophia College has been a part of this journey since 2015 and achieved the prestigious Star Status in 2020. Our students have benefitted immensely from this program as we have been able to upgrade our laboratories under this grant and promote research for undergraduate students. The students have gone for study visits and carried out minor research projects. The college has organized conferences and webinars with the help of this grant. The support obtained from this programme has helped in

- Laboratory skill enhancement of the Undergraduate Science students
- Academic enrichment of students and staff
- Improved social interaction and environmental awareness
- Innovative research activities
- Communication skill development

The beneficiary departments have made extensive plans to augment the Star College programme especially to strengthen the existing outreach programmes/activities and to create resource material for e-learning.

4.3 IN-HOUSE CORPUS FUNDS

Some of the existing grants to facilitate the research of faculty members include:

1. The Smt. Dhandevi Mahindra Scholarship Award
2. The Dr (Mrs) Barbara Naidu Memorial Scholarship for any kind of research or social work.
3. The Lobo Dubey Research Scholarship to either a staff member or a post-graduate student for a Research project, preferably from Science.
4. The Smt. Sumitra Devi Jatia research award
5. The M. M. John Memorial Scholarship for research in Language /Literature.

The adhoc faculty members who are availing the in-house research grants will have to sign a contract with the college stating that they will stay employed with the college till the completion of the project. If the research work is included as a part of comprehensive or larger work in the future, due acknowledgement may be given to Sophia College (Autonomous).

4.4 LABORATORY FACILITIES

The following specialized laboratory facilities are available for staff and student research work.

4.4.a.Suman Tulsiani Research Centre:This Centre in the Science building houses a well-equipped facility for cell culture, molecular and microbiological experiments with biosafety cabinets, advanced microscopes and sub-zero deep freezers.

4.4.b. Zebrafish facility: The CPCSEA registered temperature controlled zebrafish housing facility can be used for breeding and holding zebrafish larval and adult stages. A microinjector and puller is available in the SumanTulsiani Research Centre for micromanipulation of the fish embryos.

4.4.c. Behavioral Lab Facility: This lab is primarily used for Culturing wild type and transgenic Drosophila flies. The facility is also used to conduct behavioral experiments on other model organisms.

4.5 E-JOURNAL SUBSCRIPTIONS

The college library has subscriptions to several e-journals catering to the research interests in Physical Sciences, Social Sciences and Humanities through the National Library and Information Services Infrastructure for Scholarly Content (N-LIST). The subscriptions are open to both students and teaching faculty.

4.6 SPECIALIZED RESEARCH CENTRES

Sophia College has been inclined to strengthen a sustainable research culture and towards this cause, specialised research centres have been established. From the Sciences, the research centre is recognized for Ph.D. in Applied biology, Microbiology

and Zoology, while, The Sophia Centre for Women's Studies and Development (SCWSD) has been the vanguard of interdisciplinary research at the college since its inception in 2001. The newly established Sophia Centre for Humanities and Social Sciences will also promote interdisciplinary research.

4.6.a SUMAN TULSIANI RESEARCH CENTRE: Here we have research cubicles for Chemistry, Microbiology, Zoology and Life Science. Most of the laboratory equipments have been purchased through extramural project funding from DBT, UGC, LTMT, BRNS as well as DST-FIST grants. Besides, other Institutional Facilities include library facilities, water, electricity, computers and internet. The SumanTulsiani Research Centre (STRC) has cubicles for Ph.D. Research scholars.

4.6.b THE SOPHIA CENTRE FOR WOMEN'S STUDIES AND DEVELOPMENT (SCWSD): The Centre was launched in 2001 and has proven to be a stimulating and engaging centre with multidisciplinary activities happening throughout the year. SCWSD conducts multiple courses throughout the academic year, all of which are designed to address the needs of a diverse set of students. Hence, while the emphasis of some was on the acquisition of skills, others focused on the acquisition of knowledge. Annually, the centre conducts five Certificate courses in Women's Empowerment, Social Work Focusing on Issues Related to Women and Girls, Basics in Baking, Social Research Methods, and Food and Nutrition. It continues to collaborate with prestigious national organisations like the IAWS (Indian Association of Women's Studies) and international bodies like Friedrich Ehrlich Stiftung (FES), Germany, apart from other collaborations for outreach programmes with several organisations including UNICEF, MAVIM, YWCA, Akshara, Akanksha, StreeMuktiSanghatana, Navjeevan Trust, CEHAT, CCDT, AAMRAE, VACHA, Silver Innings, MAVA, Young Star Trust, etc. The centre functions as a referral centre and the staff of the centre has provided consultancy services to several organisations.

4.6.c CENTRE FOR HUMANITIES AND SOCIAL SCIENCES: This proposed centre intends to manage research-oriented information, databases, publications, research projects, fellowships, collaborations etc within Humanities and Social Sciences. The

Centre will focus on collaborative projects and MoUs with national and international institutions for exchange programmes and sharing of resources.

4.7 E-LIBRARY

The college library aims to extend the access to the library resources to the community outside Sophia College. There will be a minimum membership fee for researchers outside Sophia College, which has to be paid to the college library, and a set of rules, (which will be available at the library) to be followed before issuing books from the college library. The books catalogue can be accessed outside the college enabling researchers to identify the possibility of availing a certain book of interest at the Sophia library.

4.8 KINDLE CORNER

The Kindle corner available at the Sophia library will enable students to access books that are available only in the e-format.

4.9 AUDIO VISUAL LIBRARY

The AV library at the Sophia Library is equipped with original copies of more than 500 movies and documentaries. They are purchased by splicing the requirements of the syllabi of various courses, co-curricular and research programmes of the college.

4.10 SOPHIA STUDIO

The RUSA sponsored Sophia Studio encourages faculty members to create MOOCs and podcasts for their courses which could promote e-learning in future. The development of e-content will also serve as a platform for the teaching faculty to share their research findings and other academic interests with the global research community.

5. PRODUCT DEVELOPMENT, MONITORING AND COMMERCIALISATION

5.1 RESEARCH ADVISORY COMMITTEE

This committee will be composed of external subject experts who will function in an advisory role to redirect the nature and reorient the course of research taken, if required. The committee will meet annually to develop and deploy innovation capabilities, to evaluate performance and to advise faculty research which will meet global standards.

5.2 SCRUTINY & MONITORING COMMITTEE

This committee will play a key role in the advancement of qualitative research and innovation at the college. This will be an internal committee which may meet once in every semester and the primary responsibility of the committee will be to scrutinise and monitor the ongoing research and projects at the college. The committee will comprise of two sub-committees one for the Sciences and the second one for Humanities and Social Sciences. This committee will encourage and share ideas to promote innovative research in emerging areas. The committee will also organise an annual work-in-progress session for faculty members where teachers will be encouraged to present their recent research work.

5.3 ETHICS COMMITTEE

This committee will review research proposals involving model animals and/or human participants and their data to ensure that they agree with ethical guidelines as per the rules and regulations set by the authority bodies of Govt. of India. Research proposals will have to be approved in advance by the 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. It may also be binding on the researchers to get the Human Ethics Committee clearance in such related research work.

5.4 INSTITUTIONAL ANIMAL ETHICS COMMITTEE (IAEC)

The institution has constituted the IAEC as per the CCSEA guidelines. It monitors the zebrafish maintenance facility which is registered with CCSEA having registration

number 1936/PO/re/S/17/CPCSEA for the purpose of 'Research for education purpose on small animals.

6. IPR, LEGAL AND ETHICAL MATTERS

6.1 PATENTS

Student researchers and faculty members will be encouraged to file patents and commercialize them. The college will financially support the registration of patents actively. The patent has to be filed with Sophia College as the owner of the patent. If there is any possibility that a 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.

6.2 PLAGIARISM CHECKER

Sophia College uses "Turnitin Similarity Checker" as the in-house plagiarism detection software. This is to ensure that documents such as thesis, dissertation, reports, publications etc are free of plagiarism at the time of their submission. It is mandatory to submit the report of plagiarism check, as appropriate. The Sophia College Research policy on plagiarism is rigid and it mandates a resubmission of the entire work if established as a plagiarised submission.

6.3 DATA ETHICS

Falsification and fabrication of data, research results etc are strictly prohibited under the Sophia College research code of ethics. A researcher must not report anticipated research results that had not yet been observed at the time of submission of the report. Specific policies and rules will be laid down by each department or research centre. Research in social sciences and in some clinical biomedical fields might have human subjects for acquiring primary data. Therefore, in order to abrogate any 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.
