St. Xavier's College (Empowered Autonomous College),

Mumbai

RESEARCH POLICY

Composition of the Research Committee

The Research Committee at St. Xavier's College, Mumbai, constitutes 6 faculty members, 2-3 from the Arts and 3-4 from the Sciences, one of whom will serve as the convenor. Among the Science faculty, at least one member will be from the bioscience department and one from the non-biology department. Among the Arts faculty, at least one member will be from the humanities and one from the social sciences. This committee and the principal will review proposals and promote research within the College.

Research Policy

SXCM is affiliated to the University of Mumbai and hence adheres to all the ordinances and regulations formulated by the University of Mumbai (No. Exam. Thesis/Univ./ VCD/947 of 2018).

St. Xavier's College, Mumbai encourages research by:

1. Providing facilities through research centres on campus - Blatter Herbarium, Caius Research Laboratory, Heras Institute, NSR laboratory.
2. Supporting Mumbai University-recognized research centres on campus, to conduct research in the various disciplines - Ancient Indian Culture, Botany, Biochemistry Biotechnology, Chemistry, Economics, Geology, Life Science, Microbiology, Physics and Zoology.
3. Encouraging faculty to apply for recognition as research guides for MSc by research and PhD.
4. Urging faculty to apply for Major and Minor research grants provided by Government organizations such as Mumbai University Teachers grant, UGC, DBT, SERB, ICHR, BIRAC, etc. with the support of the research committee.
5. Appointment of a Research Assistant to facilitate faculty who have received major research grants.
6. Supporting the BOS of every department that promotes the development of a research culture amongst students of the UG and PG programs. This is done by incorporating a research component in the syllabi of every subject with the active support and encouragement of the members of the BOS. Research programs are also offered under the aegis of the Honours program.

7. Showcasing research carried out by the student and the faculty through its registered peer-reviewed journal, Xplore with separate editions for Sciences and Humanities.
8. Engaging a research consultant to advise new researchers, assist those applying for grants in the biological fields and guide the Caius research lab-initiated collaborative projects with industry.
9. Prohibiting plagiarism at all levels and facilitating monitoring and mitigation of malpractices through online tools such as Turnitin. The college follows the plagiarism policy. The college follows the plagiarism policy issued by Mumbai University (No. Th./ICD/2018-19/558; 6th October 2018) adopting the Notification issued by the UGC, New Delhi (vide no. F-1-18/2010, CPP-II; 23rd July 2018) regarding the promotion of academic integrity and prevention of plagiarism in HEI.
10. For Intellectual Property, please refer to https://xaviers.ac/about-us/policies-procedures

Research Proposals

The norms for submission of a research proposal, by any staff member from the College, for funding from an outside agency including the University, Government, Industry, or Non-Government agency are as follows:

1. A Research Proposal from a faculty must be first passed via the Head and senior faculty members of the department
2. A summary of a Research Proposal passed through the Department Research Committee must reach all the College Research Committee members two to three–weeks before the deadline for submission to the Funding Agency. Proposals will not be accepted after this deadline.
3. The Committee will take up to 8 days to review the proposal and meet the researcher to clarify doubts or suggest any changes if needed. Inter-disciplinary issues will thus be considered adequately.
4. The faculty concerned then has 8 days to re-submit the Proposal to all the members of the Research Committee with the changes requested.
5. Studies involving biodiversity will need a Permission Letter from the Principal Chief Conservator of Forest & Head of Forest Force (PCCF), Nagpur
6. The principal will approve the proposal to be submitted.
7. Projects, especially Major Projects, should be submitted after some preliminary work. The first year cannot be proposed for a literature survey or preliminary work.

8. Advances Against Approved Proposals to Funding Agencies: The College will aid a faculty with an advance of 25% for any project formally sanctioned by any official funding agency (e.g., UoM, DBT, RUSA, UGC), or Rs. 2,50,000/-, whichever is less. This amount is to be returned when the project funds are received.

Bio-Safety Committee at SXCM

Work with Microorganisms:

General norms set by the Institutional Bio-Safety Committee (IBSC) of the college to help investigators working with microorganisms. Projects have been classified as under:

1. Prospect of working with hazardous micro-organisms and/or GMOs with no pathogenesis as Bio-safetyLevel 1 (BSL-1).
2. Prospect of working with micro-organisms and/or GMOs as BSL 2.
3. Working with pathogens and clinical samples is prohibited on the SXCM campus.

Norms to be followed:

1. The investigator/student working with micro-organisms must be assessed forproficiency in Good Microbiological Techniques, and to undergo training, if necessary. Without undergoing training and assessment, the work cannot be initiated. The faculty of the Department of Microbiology will conduct the training and evaluation of the skills learned. It is therefore not compulsory to have a trained microbiologist in a proposal, provided the investigator has undergone training and assessment before initiating the work.
2. The bio-safety equipment used for all manipulations should be checked every six months. A quarterly audit must be conducted.
3. The handling, storage, and waste disposal of all-biological samples must follow safety guidelines and good microbiological techniques should be practiced.
4. Genetic manipulation may be carried out by investigators at institutions where permissions and facilities (BL 3 and 4 levels) to carry out such work are available.
5. If the work is done in the college, procedures to meet the appropriate conditions and safety measures must be taken and proposals reviewed and passed by the Biosafety Committee before the proposal is submitted to the funding agency or before work begins.
6. Please refer to the following taken tables from the IBSC handbook. (https://ibkp.dbtindia.gov.in/)

TABLE 1. Categorization of GE Experiments and Approval requirements

S. No.	GE experiments on					Approvals
	Microorganism	Animals	Plants	Insects	Aquatic animals	
Category I	Insertions of gene into RG 1 microorganism having no adverse health, phenotypic or genotypic consequence. Experiments involving approved host/vector systems provided that the donor DNA is originated from RG 1 microorganism. Self-cloning, fusion of protoplasts between non-pathogenic RG 1 organism, etc.	Breeding, housing and experiments of gene 'knockout'. Breeding of GE animals transformed with sequences of viral vector belonging to RG 1. Research involving the introduction of nucleic acids into animals provided that the nucleic acid does not give rise to any infectious agent.	Research & development, and maintenance of GE plants harbouring DNA from Risk Group 1 microorganism. Working with plants for the development/improvement of transformation protocols. Genome editing leading to SDN1-type mutations.	GE arthropods with genes from RG 1 microorganisms and other non-pathogenic organisms provided the genetic engineering process has no, or only negative effects on viability, survivorship, host range, or vector capacity. Challenged or infected with GE microorganisms that fall under RG 1.	GE aquatic animals containing genes from RG 1 microorganisms. Challenged or infected with GE microorganisms that fall under RG 1.	An investigator should intimate the IBSC of the study objectives and experimental design along with organisms involved. IBSC should review the same as and when convened for record purpose, monitoring or action to be taken, if any.

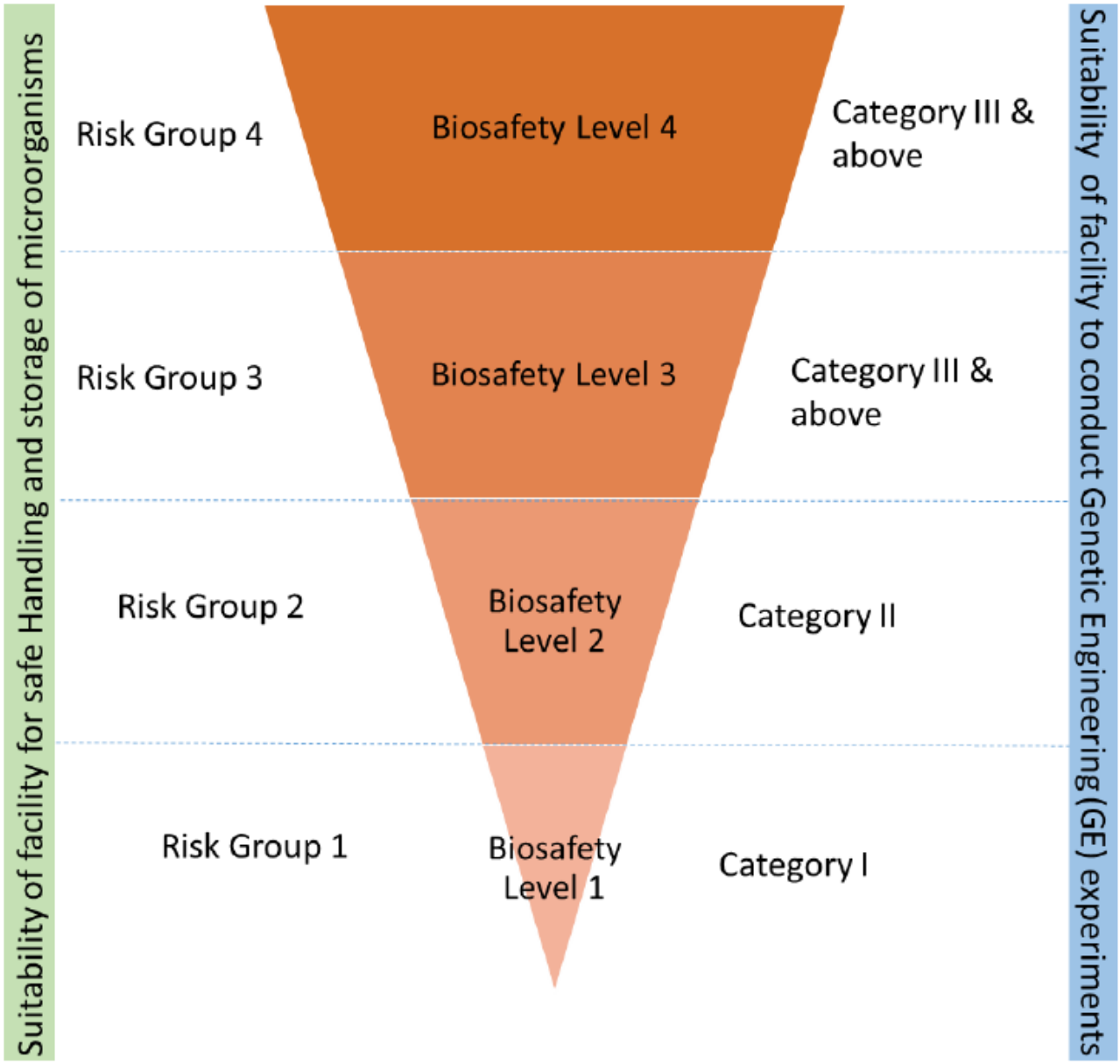
Category II	Work with non-approved host/vector systems where the host or vector does not cause disease in plants, humans or animals. Experiments with approved host/vector systems, in which the gene inserted is a pathogenic determinant. Experiments on RG2 microorganisms in the presence of helper virus Experiments in which DNA from RG 2 or 3 organism is transferred into non-pathogenic prokaryotes or lower eukaryotes host vector system.	Experiments with GE animal and associated materials, harbouring DNA from a RG 2 microorganism . Experiments with animals infected with GE microorganism (s) that fall under Risk Group 2.	Research & development, and maintenance of GE plants harbouring DNA from Risk Group 2 microorganism . Experiments on GE plants conferring herbicide tolerance or pathogen resistance. Genome editing leading to SDN 2 and 3 -type modifications.	GE arthropods with genes from RG 2 microorganisms and other non-pathogenic organisms provided the genetic engineering process has no, or only negative effects on viability, survivorship, host range, or vector capacity. Challenged or infected with GE microorganisms that fall under RG 2.	GE aquatic animals containing genes from RG 2 microorganisms and other non-pathogenic organisms provided the genetic engineering process does not increase virulence and environmental fitness of the organism. Challenged or infected with GE microorganisms that fall under RG 2	An investigator requires prior authorization from IBSC before the commencement of the experiments.
Category III and above	Experiments on RG 2 and RG 3 microorganisms where insertion of gene directly involved in production of toxin or allergen or antimicrobial compounds.	Experiments with animals infected with GE microorganisms that fall under RG 3. Experiments on animals using DNA which encodes a vertebrate toxin.	Growing genetically modified plants containing genes from microorganisms that fall under RG 3. Experiments involving GE plants containing genes directly involved in the production of toxins/allergens	GE arthropods with genes from RG 3 microorganisms and other pathogenic organisms. Challenged or infected with GE microorganisms that fall under RG 3.	GE aquatic animals containing genes from RG 2 microorganisms where the genetic engineering positively affects environmental fitness and virulence Challenged, infected with RG 3 microorganisms.	An investigator requires prior authorization from IBSC and subsequent approval from RCGM before the commencement of experiments.

Table 2. Category of experiments, GE organism involved and Biosafety Level Facility Requirements

Category	GE Microorganisms	GE Animals	GE plants	GE Insects	GE Aquatic organisms
Category I	BSL-1	ABSL-1	PBSL-1	IBSL-1	AqBSL-1
Category II	BSL-2	ABSL-2	PBSL-2	IBSL-2	AqBSL-2
Category III and above	BSL-3/BSL4	ABSL-3	PBSL-3	IBSL-3	AqBSL-3

TABLE 4: Risk Group (RG) classification

Risk Group (RG)	Description
RG 1 (no or low individual and community risk)	Microorganism that are unlikely to cause human/ animal/plant disease
RG 2 (moderate individual risk, low community risk)	Microorganism that can cause disease in human /animal/ plant. Laboratory exposures may cause serious infection, but effective treatment and preventive measures are available and the risk of spread of infection is limited
RG 3 (high individual risk, low community risk)	Microorganism that usually causes serious or lethal human/ animal/ plant disease but does not ordinarily spread from one infected individual to another. Effective treatment and preventive measures are available.
RG 4 (high individual and community risk)	Microorganism that usually causes serious human or animal disease and that can be readily transmitted from one individual to another, directly or indirectly. Effective treatment and preventive measures are not usually available.



Guide for selection of appropriate biosafety level laboratory for handling microorganisms and conducting GE experiment