

RESEARCH POLICY

JAMIA MILLIA ISLAMIA (CENTRAL UNIVERSITY)
JAMIA NAGAR, NEW DELHI — 110025

1.0 PREAMBLE

Jamia Millia Islamia (JMI) is well known for its contribution in academic and research at national and international level. It has instituted the position of Director, Research established in the year of 2015 to facilitate and promote quality research. One of the major pre-requisite for quality research in any institution/University is the research policy. The research policy intends to establish conducive environment for academic staff and research scholars, to carry out their research work. It is a broad frame work for researchers for providing research-related procedures/guidelines within various Departments/Centers of the University. The main objective of this policy is to facilitate smooth functioning of research work and to assure researchers that it is to be conducted as per ordinances/regulations.

2.0 SCOPE OF THE POLICY

This research policy shall be applicable for all Departments and Centres of the Jamia Millia Islamia.

3.0 DIRECTOR, RESEARCH

The university has created honorary post of director research and has a full-fledged Office of Director Research to facilitate, promote and smooth Functioning research work at various Department and Centres. The research policy shall be implemented through the office of Director, Research with the proper approval of competent authority.

4.0 POLICY COMPONENTS AND GUIDELINES

4.1 Pre-requisite to Undertake Research

- (a) The scholar (Academic Staff) will carry out independent research or creative activities related to his/her area of specialization. He/she will, individually or in collaboration with colleagues/other institutions may:
 - (i) supervise M. Phil./Ph.D Scholar(s).
 - (ii) disseminate/protect his/her research findings.
 - (iii) be active within appropriate professional communities and external stakeholders.
 - (iv) contribute to the research environment of JMI through supervising, new sponsored/consultancy research projects and also strengthening of the research infrastructure.
 - (v) secure financial support (funding) for research activities from external sources such as government/non-government agencies and industries etc.
- (b) The research engagement(s) shall be balanced with the other responsibilities of the Department/Centre including teaching and administration.

3.2 STATUTORY OBLIGATIONS

- (a) Academic staffs, research professionals and research scholars shall require to carry out their research in compliance with the University's ordinances/regulations.
- (b) Research projects that involve human or animal subjects must be approved in advance from concerned regulatory bodies.
- (c) All Academic staff, research scholars, and visitors of the Jamia Millia Islamia are required to make themselves aware and follow the norms as provided in concerned laboratory.

3.3 MANAGEMENT OF RESEARCH

The research management at JMI is carried out through a team composed of Hony. Director Research and various research committees constituted at Department/ Centre level.

- (oJ) The Director, Research shall coordinate, supervise and recommend to the Vice Chancellor for the approval of the admission Committee, coordinate and facilitate for timely DRC/CRC meetings in various Departments/Centres/Faculties. He/she shall coordinate and facilitate submission of research project proposals to various funding agencies and provide necessary guidance and encourage teachers to write research project/proposals. He/she shall scrutinize and recommend research proposals received from various University Departments/Centres/Faculty and other related research programmes to the Vice Chancellor for approval. He/she shall be responsible for allocation and effective utilization of grant from Central/State agencies for development of research related infrastructure based on the University to various Departments/Centres through a committee formed by the Vice Chancellor as chairperson. He/she shall coordinate and facilitate the organization of seminars/conferences/workshop/summer/winter school, special lectures/talks and similar training programme. He/she shall coordinate and facilitate the consultancy services, know-how transfer, technology transfer, IPR, patent filling and promotion. He/she shall promote and provide opportunities to students and young teachers to undertake research projects by inculcating research culture among them for expression of academics talent.
- (b) Department/Centre/Faculty is required to establish Departmental Research Committee (DRC)/ Centre Research Committee (COS) to support the research activities of their staff and research scholars. Both committees are expected to comply with and monitor the implementation of ordinance/regulations. Faculty Committees operate at the faculty level, to advise the academic council/executive council on research matters related to their own faculty.
- (c) The planning and development office provides support services to researchers of sponsored and consultancy projects. These support services include:
 - (i) Assisting researchers in submission of research projects and fulfillment of necessary requirements/modalities.
 - (ii) This office acts as mediator between researcher and funding agency, and maintains all necessary records.
 - (iii) Manages the administrative and financial approvals of individual research project.
 - (iv) Manages and issues utilization certificate of each project after completion.

- (v) This office provides approval of consultancy projects and maintains all records.
- (v) Maintains the records of seminar/symposia/conferences and provide utilization certificates.

3.4 RESEARCH SUPPORTING RESOURCES

- (a) *University Research Grant*
 - (i) An appropriate amount of research fund is allocated to enhance and maintain the research in the departments and centres. This fund allocation is done from research grant received from the University Grant Commission for research through duly constituted committee.
 - (ii) A portion of this grant is also allocated to support early career researchers and staff at assistant professor level who are in their first five years at JMI who have not previously received external Research funding support.
 - (iii) A portion of this fund is also allocated to strategic support for external funding bids and partnerships.
- (b) *External Grant*
 - (i) The external funding/grant may be obtained from various government/non-government organizations and industries. All applications for any external research funding are to be submitted through the planning and development office/ Registrar's Office.
 - (ii) All research projects contracted by an external party are administered by the planning and development office.
 - (iii) The planning and development office will provide the financial and non-financial management services and utilization certificate on completion of project.
- (c) *Grant From Consultancy*
 - (i) Academic staffs are encouraged to provide consultancy services to industries. These services are regulated by established regulations laid down in the Ordinances.
 - (ii) The planning and development office provides the administrative and financial approval along with disbursement of funds.
- (d) A wide range of scholarships are available for research scholars including non-net fellowship, JRF/SRF and other.

3.5 MONITORING OF RESEARCH PROGRESS

- (a) The Internal Quality Assessment Cell (IQAC) is responsible for the evaluation of the University's research performance. University's IQAC forms various subcommittees for assessing the research outcomes of various Departments and Centres
- (b) The relevant DRC/CRC monitors the performance of research scholars in their respective departments/centres every six month.
- (c) Academic Staff are required to complete annual progress report and submit to IQAC for evaluation and further processing.
- (d) The IQAC is authorized to publish annual report which contains list of publications of individual faculty members.

3.6 PUBLICATION AND INTELLECTUAL PROPERTY

The University encourages faculty members to publish their work in high quality peer reviewed journals and also provides financial supports, if needed. The Academic Staff and Research Scholars are required to comply with the University's Intellectual Property Policy (IPR Policy).

4.0 RESEARCH CENTRES

Jamia Millia Islamia has established 29 Research Centres with the approval of Academic Council/Executive Council to enhance the research profile of the University. The research areas of individual Centre have been focused on applied research needed to societal as well as national development. In fact, these Centres are expected to promote the research excellence in various areas and build the University's research reputation at national/international level.

5.0 INTERDISCIPLINARY RESEARCH IN SCIENCE

The university's interdisciplinary research is a hallmark of nearly all its basic science departments, forging partnerships within and beyond the campus grounds. Notable units such as the Centre for Nanoscience and Nanotechnology, the Centre for Interdisciplinary Research in Basic Science, the Centre for Theoretical Physics, and the Multidisciplinary Centre for Advanced Research and Studies, alongside the Departments of Environmental Sciences and Biotechnology, spearhead interdisciplinary ventures that bridge fundamental sciences with life sciences, offering practical solutions to real-world challenges. Additionally, the engineering faculty spearheads pivotal projects in environmental sustainability, such as biodiversity conservation in the Delhi-NCR region (Government of India approved/awarded) and wastewater treatment (Government of Delhi initiatives), among others.



Beyond the departmental and center-specific facilities, the university boasts a Central Instrumentation Facility (CIF) housing cutting-edge, state-of-the-art instruments. Accessible to scientists, researchers, and faculty both within and outside the institute, the CIF features advanced

scientific infrastructure tailored to basic and applied life sciences, thereby bolstering interdisciplinary investigations. Rigorous research policies are in place to track the progress of researchers and their publications. Yearly data analysis, which includes metrics such as Q-factor, citation indices, h-index, and i-10 index, is conducted for the university as a whole and individually for each department, center, or research unit. These findings are compiled into the university's annual report.

Nanoscience and technology research at the university encompasses diverse objectives, ranging from semiconductor physics to solar energy applications, photovoltaics, sensor technologies, and environmental sciences. The integration with life sciences seeks to unravel lingering biological enigmas.

The CIF and departmental instrumentation facilities are equipped with a gamut of sophisticated instruments under one roof. Various laboratories specialize in material synthesis and characterization techniques, including vapor deposition, sputtering, chemical vapor deposition (CVD), low-pressure chemical vapor deposition (LPCVD), sol-gel methods, hydrothermal synthesis, photocatalysis, sonochemistry, and microwave-assisted fabrication. The CIF features a comprehensive suite of equipment, such as X-ray diffraction (XRD), ultra-high-resolution XRD, field-emission scanning electron microscopy (FE-SEM), high-resolution transmission electron microscopy (HR-TEM), differential scanning calorimetry (DSC), differential thermal analysis (DTA), thermogravimetric analysis (TGA), electrochemical analysis tools, Fourier-transform infrared spectroscopy (FTIR), Raman spectroscopy, UV-Visible absorption spectroscopy, fluorescence spectroscopy, time-resolved fluorescence with anisotropic measurements, inductively coupled plasma optical emission spectroscopy (ICP-OES), and liquid chromatography-mass spectrometry (LC-MS) for trace element detection. Moreover, facilities for Zeta potential measurement, surface energy (surface tension) analysis, dynamic critical micelle concentration (CMC) measurement, multi-angle scattering, stopped flow analysis, fluorescence-activated cell sorting (FACS), confocal microscopy, real-time polymerase chain reaction (RT-PCR), atomic force microscopy (AFM), and multimode plate readers are available to facilitate basic, applied, and interdisciplinary research. Gas sensing and biosensing capabilities, supported by instruments like electrometers and semiconductor parameter analyzers, further enhance the research landscape.

The university has established dedicated departmental instrumentation facilities across various departments and centers, in addition to the CIF. Each department and center is also equipped with a separate computer laboratory. These advanced computational labs enable molecular dynamics simulations, ab initio calculations, first-principles calculations for diverse applications, molecular docking, bioinformatics, drug design, network analysis, and differential calculus, among others. The CIF houses an array of research setups, ranging from basic to sophisticated instruments, tailored for studying bio-nano conjugates and newly synthesized pharmaceutical molecules. Specialized equipment such as circular dichroism (CD) spectrophotometers, low-volume/temperature differential scanning calorimetry-isothermal titration calorimetry (DSC-ITC) systems for biological molecules, and bioconjugates and protein research tools are also available.

Furthermore, a separate facility dedicated to artificial intelligence (AI) remote sensing within the engineering and technology domain complements the research ecosystem. The university's focus on bioinformatics, evident from its publications in renowned SCOPUS-indexed and SCI journals, reflects its commitment to national and international collaborations, enriching the knowledge base in this field.

The collaboration between computer science and life science faculty in bioinformatics, particularly in drug design, has led to the synthesis of novel molecules for various medicinal applications. Several of these newly developed molecules have been patented in India. The university offers a plethora of interdisciplinary programs and courses aimed at equipping students with essential basic and advanced skills, nurturing a mindset conducive to interdisciplinary research. These include MSc programs in Environmental Sciences, MTech in Environmental Science, MTech in Nanotechnology, MSc in Biochemistry, MSc in Biophysics, MSc in Virology, BSc in Biotechnology, MSc in Biotechnology, MTech in Energy Science and Technology, MSc in Bioinformatics, MSc in Artificial Intelligence and Machine Learning (AI and ML), MCA in Computer Applications, MSc in Disaster Management and Climate Sustainability Studies, MSc in Mathematics with Computer Science, and PG Diplomas in Disaster Management, Remote Sensing, and GIS Studies, as well as Molecular Diagnosis, among others. Additionally, each department offers courses aimed at enhancing both theoretical and practical skills.

To incentivize faculty endeavors, the university has instituted an Academic Performance Indicator (API) score system. This system, based on a range of key performance parameters, places specific emphasis on interdisciplinary and innovative research. Such research endeavors are further supported for potential patent filings at national and international levels. Research students engaged in interdisciplinary topics are encouraged to present their findings at various forums, fostering interactions with intellectuals from diverse backgrounds, including academic institutions and industries alike.

6.0 SIGNING OF MOU'S FOR RESEARCH COLLABORATION

Jamia Millia Islamia has clear provisions in their statutes to establish research collaboration with foreign Universities and Institutions. Presently, it has signed MoUs with several Foreign Universities/Institutions. It has also provisions of short term students/faculty exchange programmes from the Universities/Institutions of different Foreign Countries.