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## 1. Introduction

Universities are the knowledge creation units, incubators of innovation, and drivers of discovery. Quality and impactful research has been the prime concern and is strongly inscribed in the vision and mission of Woxsen University. To create an effective research-oriented research ecosystem, Research & Development Cell (RDC) is established at Woxsen University. The primary role of RDC is to establish as strong ecosystem with essential elements viz., generation of knowledge and facilitation of research, innovation, and technology development for industrial & societal benefits, are addressed by human resource, intellectual capital, governance and financial resources, information management system, research promotion & guidance, Integrity and ethics, capacity building and research monitoring.

RDC continuously strives to create a conducive environment for enhanced research productivity; to encourage collaboration across industry, government, community based organizations, and agencies at the local, national, and international levels and to facilitate greater access to research through mobilization of resources and funding.

The basic structure, objectives, functioning and activities of RDC is presented in this university approved policy in detail.

### 2. Vision & Mission

#### Vision:

To contribute impactful knowledge to theory and practice with rigorous research in allied emerging areas creating an impact on our society

#### Mission:

- Strengthen international collaborative research programs
- Foster an interdisciplinary research environment for the promotion of critical and creative thinking
- To be a hub of original productive research and their implementations
- To inculcate entrepreneurial attitude and values amongst learners
- Promote expert driven scientific research to meet the specific requirements of Industry, Government & Non-Government entities at national & global level.





## 3. Research Thrust Areas of Focus

The university would focus on the emerging thrust areas of research which are relevant, futuristic, and disruptive. Some of these areas as per the university vision are:

- Metaverse
- Global Pandemic Prediction and Management
- Nano Technology & Quantum Computing
- Cyber Physical Systems
- Data Science and Data Analytics
- Artificial Intelligence to Artificial Brain
- Industry 5.0, Web 3.0 and Education 4.0
- User Experience & Digital Transformation
- Clean Energy & Economics
- Robotics & Rapid Manufacturing Systems
- Ethics, Responsibility, and Sustainability (ERS)
- Environmental, Social, and (Corporate) Governance (ESG)
- Design for Well-Being & Sustainable Living
- Financial Technologies & Investment Management
- Architectural Novelties and Applications
- Entrepreneurship & Business Development
- Arts for Computational Creativity

## 4. Strategy

- Collaboration with international universities, eminent researchers, research labs/centres, and, practitioners.
- Establishing 'Centre of Excellence' on the thrust areas to drive research in those frontiers.
- Align corporate requirements to work on problem-based research with practical approach.





- Onboard the best of the intellectual capital to achieve excellence in specified research areas.
- Generating endowments from our international partners & corporates in terms of MOUs,
   MOAs for establishing Collaborative Research Labs at Woxsen University

# 5. Objectives

Woxsen University understand the need of promoting research and is committed in providing necessary ecosystem to the students, faculties, and staff of the university.

This document outlines the efforts and various approaches being undertaken by the university to strengthen the five pillars of success

- Internationalization
- Research
- Entrepreneurship
- Corporate Alignment
- Ethics, Responsibility, and Sustainability (ERS)

The core objectives defined for promotion of research are:

- Provide excellent research culture and infrastructure.
- Create the culture for inter-disciplinary/multi-disciplinary collaborations and a platform for knowledge sharing.
- Publish papers in high-quality journals of international repute, file patents and transfer technologies to relevant industries.
- Create quality human resources for scientific research.
- Promote industrial collaborations involving active and mutually beneficial R&D projects.
- Aim to stand among the top-notch Universities across the globe regarding quality research output.
- Promote globalization of research and education





#### 6. Functions

The RDC would help creating a research ecosystem for reliable, impactful, and sustained research output. The essential elements of such an ecosystem, viz., generation of knowledge and facilitation of research, innovation, and technology development for industrial & societal benefits, are addressed by human resource (researcher & faculty), intellectual capital (knowledge & skills), governance (regulation & policies) and financial resources (funding & grants).

The functioning of the RDC adhere to there to vision and mission of the university in creating impactful research output. It also ensures to align with the requirements and regulations of the concerned regulatory authorities and accreditation bodies.

#### 6.1. Governance

RDC at Woxsen University functions for an efficient governance mechanism, which ensures functional autonomy, transparency, accountability, adaptability by strengthening interlinkages to create a conducive research environment.

RDC fosters the human elements (faculty, staff, scholars, and students), logistics (land, buildings, and facilities), knowledge resources (research equipment, project utilities, and consumables), fund flow, etc. through a steady, proficient, effective governance (Rules, Norms, and Policies) and financial (Grants and Funds) management. Dedicated leadership and administrative structure for research, led by experienced researchers, are essential for establishing an effective and robust Research Governance in RDC at Woxsen University.

The Research Governance will have a University Research Advisory Council (URAC) headed by the Vice-Chancellor, his/her nominee as the apex body of RDC.

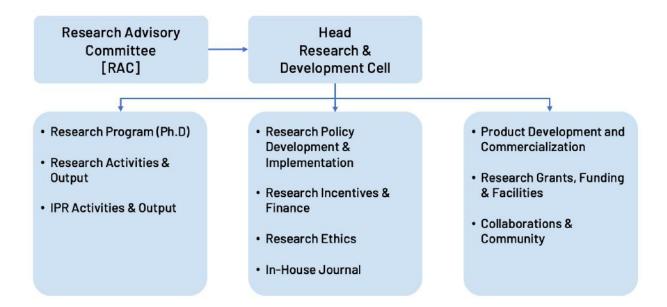
The RDC, will be responsible for specific functions as under:

- Research Program (Ph.D.)
- Research Policy Development & Implementation
- Research Activities & Output
- IPR activities & Output
- Collaborations & Community
- Product Development, Monitoring & Commercialization
- Research Grants, Funding & Facilities
- Research Incentives & Finance





- Research Ethics
- In-house journal



#### **6.2.** Administration

RDC will facilitate planning, implementation, and monitoring of research activities in HEIs, formulate rules, regulations, and policy frameworks for utilization of facilities and resources at HEIs. To ensure smooth functioning of the multiple units, RDC will establish organizational structure like chair, bodies, committees, or authorities.

RDC will develop a strategy under the guidance of URAC, which will integrate multiple functional units to support institutional research under a single-window operational system for effective administration.

RDC will mentor and monitor various committees/schools/activities for devising research models, technology, appraisal, foresight & review functions, mediating sectoral R&D progress, and IPR protection.

RDC will keep a close contact with International & Corporate partners; and Ministry Innovation Cell to make use of various innovative plans for facilitating the researchers.





## 6.3. Research Ecosystem/Collaboration

A vibrant research ecosystem in our university aims to provide meaningful thrust for sustainable research and innovation and promote collaboration between government, universities, research institutes and industries. RDC will build a sustainable research ecosystem that leads to consistent quality research outcomes and enhanced productivity.

RDC at the university level will act as a facilitator for networking and collaborative research with other national and international institutions working in interdisciplinary, trans-disciplinary, and multidisciplinary research areas. Reformed administrative structure at Woxsen University can reach out to key industry players, research organizations, institutions, associations, NGOs, government bodies to forge strategic partnerships.

RDC will establish collaborations, teams/consortia, partnerships, and combined ventures for joint research activities through clustering institutions and organizations to facilitate the exchange of students, scholars, and faculty to strengthen resource sharing in content and infrastructure both within the university and among universities, funding agencies, industries, corporate and government.

## **6.4. Information Management System**

RDC will collect and manage research-oriented information, databases, publications, research projects, fellowships, collaborations, patents, thrust areas, innovations etc. aligned with the institution's research policies.

A centralized repository will be maintained to collect, manage, and update the R&D related activities and outcomes. This will be furnished to the necessary authorities and the university and statutory level authorities as on when required.

RDC would also provide a platform for accessing resource-centric information pertaining to human capital (Expertise), physical capital (State- of-Art Research Laboratories and Sophisticated Instrumentation Facility), and knowledge capital (Digital Library & Information, Intellectual Property Facilitation, Quantitative Methods & Data Analysis, Analytical and Consultancy Services).

#### 6.5. Human Resources

The Director (RDC), members, and supporting administrative/technical staff would ensure smooth conduct of the research activities in the university.





Re-employing or designating superannuated faculty/scientists with exceptional research profiles and eminent faculty as Mentors/ Scientists/ Professor Emeritus on a selective basis will help to build a resilient research ecosystem. Distinguished faculties or research scientists grooming young talents can help replenish the void created as a result of superannuated faculty/researchers.

#### 6.6. Research Promotion & Guidance

Research Guidance from RDC will aim to encourage faculties to conceive ideas through enhanced industry-academia interactions and prepare research proposals for funding from various agencies. Organizing events like capacity- building programs (Research Methodology and Research Techniques) and specific research theme-based workshops and Research Internships will motivate the end-users (students, scholars, and faculties) to participate actively in the process of ideation and innovative research in emerging areas.

In accordance with its mission, research promotional activities are organized around the following themes:

- 1. Organize research seminars, providing contexts for faculty and students to come together to do discuss current research topics.
- 2. Facilitate the publication of Working Papers & Cases-in-progress by faculty and students.
- 3. Facilitate the publication of papers in peer-reviewed quality indexed journals by faculty and students.
- 4. Organize workshops related to doing research and publishing for internal as well as external participants.
- 5. Support academic research conferences.
- 6. Facilitate funding to internal research projects
- 7. Facilitate Woxsen University SEED Research Grant, please refer SEED Research Grant policy for detailed regulations and operating procedure
- 8. Facilitate applications to externally funded research projects.





- 9. Encourage Quality Publication
- 10. Maintain and continuously update the Research Policy Document.
- 11. Promote and encourage faculties to develop Massive Open Online Courses
- 12. Facilitate patent processing from students, faculties, and staff. Refer Patent policy document for detailed regulations and guidelines
- 13. Encourage faculty members to undertake consultancy projects. In such an event, the faculty shall be incentivized as per the incentive policy
- 14. Facilitate faculty members to participate and make effective use of Faculty Exchange programs by partnering universities and also indulge in Faculty Internship program. For further guidelines please refer to the faculty exchange policy and faculty internship policy

#### A. Research Thrust and Clustered Areas

RDC has identified, underpinning the societal needs and the availability of key resources, including in-house human resources, faculty research competencies, and support systems. Based on the competencies, RDC has identified the Thrust Areas of Research for the Academic Year 2022-23 as:

- Metaverse
- Global Pandemic Prediction and Management
- Nano Technology & Quantum Computing
- Cyber Physical Systems
- Data Science and Data Analytics
- Artificial Intelligence to Artificial Brain
- Industry 5.0, Web 3.0 and Education 4.0
- User Experience & Digital Transformation
- Clean Energy & Economics
- Robotics & Rapid Manufacturing Systems





- Ethics, Responsibility, and Sustainability (ERS)
- Environmental, Social, and (Corporate) Governance (ESG)
- Design for Well-Being & Sustainable Living
- Financial Technologies & Investment Management
- Architectural Novelties and Applications
- Entrepreneurship & Business Development
- Arts for Computational Creativity

RDC identifies Research Clusters and/or Regional Research Consortia prompted/formed to bring all researchers, faculty, students, scholars, and Post-Doctoral Fellows for joint high value (interdisciplinary and trans-disciplinary) research projects to avail national and international funding opportunities. Shared infrastructure and expertise will enable cross-fertilization of ideas and mobilization of resources.

#### **B.** Research Incentives and Recognition

Incentives play a significant role in triggering and catalysing research interest among scholars and faculties. Incentivizing quality publications and patents by students and faculty will have an enduring positive impact.

RDC shall float the call for research requirements across the schools on timely basis in consultation with the presidents of the university. The RDC continuously strives to facilitate the latest and advanced software, instruments, and technology necessary to conduct research by various disciplines.

For conducting the research, the required database access like journals, data and technology is provided through subscriptions. Every individual student, faculty and researcher will have the access to these databases through proper channel.

Woxsen University recognizes the efforts of its students, staff and faculties towards their contributions, achievements in research excellences. Therefore, an incentive policy has been framed to incentivize such activities. Please refer the incentive policy for more details.





### C. Technology Development and Business Centered Facility

The Technology Development and business-centered facility will be a hub for strategic partnerships/ collaborations, industry-institute interface, sponsored or contract research, new knowledge generation, IPR, and patent services, venture capital, trade/market portfolio, technology transfer, and commercialization of research to facilitate innovation, incubation, entrepreneurship, and start-up ventures.

RDC would continuously strive to update and provide the latest technology in terms of software and hardware for better facilitations of resources.

#### D. Finance

As mentioned RDC would have an annual approved budget for R&D, which will be utilized in the form of funding, incentives, and grants for promoting research at university.

### 6.7. Integrity and Ethics

RDC will initiate and ensure that researchers understand the importance of integrity and ethics and comply with ethical codes of research and publishing practices at institutional, national, and global levels. A standard plagiarism check is mandatorily implemented and the requisite software in this regard made accessible to all researchers.

In addition, the RDC will sensitize the research community about dubious research and publishing practices and predatory journals.

## The University Academic Integrity Panel (UAIP) consists of

- Vice-Chancellor Chair
- Director R&D
- Dean's of Schools
- Chair CIR
- Registrar
- Nominee by Vice-Chancellor





The role of **UAIP** is to timely monitor the quality of research outputs across the University and take necessary actions as per UGC guideline when found any violations

Woxsen University believes in promoting ethical conduct in research. As a research intensive university, Woxsen values and protects academic freedom while safeguarding ethical principles in research such as respect for persons and their welfare and justice.

In case ethical issues are identified, pertaining to research conducted at Woxsen University will be identified to the **Ethical Research Committee (ERC)**.

The Ethical Research Committee (ERC) is comprised of

- Vice-Chancellor Chair
- Director R&D
- Dean of Respective Schools
- Chair CIR
- Nominee by Vice-Chancellor

## 6.8. Capacity Building

RDC would play a crucial role in building the capacity of faculty and students to undertake research problems in line with the latest advances in diverse disciplines to push the boundaries of knowledge through publications and contribute to technological developments relevant to societal needs.

It would also pave the way for university to attract more research grants under normbased funding, improve its accreditation ranking and enhance its brand image.

Regular events such as FDPs, workshops, trainings/internships, group discussions and seminars/conferences may be organized for capacity building.

## 6.9. Research Monitoring

The current policy environment in India encourages universities to be responsible and accountable for research development and innovation activities through the creation of infrastructure, generation of resources, promotion of business, and facilitation of policy framework to nurture the culture of quality research by adhering to ethical practices.





Among the standard functions, the RDC will monitor and oversee research progress, coordinate program, manage and facilitate optimizing resources, timely review of research activities for completion of the projects as per schedule.

RDC will formulate and adhere to specific quality benchmarks for research to meet the global/international standards. RDC will conduct a quality review (internal evaluation) of the research papers and suggest FT50, ABS, ABDC, Scopus Indexed, Web of Science (WoS), or UGC-CARE recognized journals for appropriate publications.

RDC will ensure that all the Research Labs in the institution fulfil the norms of Good Laboratory Practices (GLP) and Safety (Bio and Chemical) measures, recognized as QIP center and by the National Accreditation Board of Laboratories (NABL).

## 6.10. Plagiarism

Woxsen University follows the guidelines set by the University Grant Commission (UGC) notified on 6th August 2018 D.O.No. F.1-18/2010(CPP-II).

The students, staff and faculties are expected to meet the minimum Level 0 (up to 10%) as defined by UGC in Official Gazette of India notification (31st July 2018, No.287 J)

The university extends its support in this regard, by providing necessary software/tool facility to check the plagiarism for every faculty member. If any student, faculty, or staff is identified to exceed the plagiarism beyond the mentioned level, he/she shall be providing the necessary justification to the University Academic Integrity Panel (UAIP)

# 7. University Research Advisory Committee (URAC)

The University Research Advisory Committee (URAC) is established at university and across the schools operational in guiding the research projects being handled. The RAC meets on an annual cycle with a primary objective being to review the University research progress across the schools and provide recommendations on the proposed projects and the resources expansion.

- 7.1. Functioning: The primary function of the URAC is to make recommendations to the Dean on issues related to strategy & policy, and research program infrastructure.
- 7.2. Composition: The URAC shall include distinguished faculty/industry members with staggered, for a duration of two-year terms which can be extended with due approval from the Vice Chancellor. Members will be appointed by the Vice-Chancellor, who may solicit nominations





from the faculty at large. An effort should be made to make the URAC representative of different Schools and Centers over time.

The members are as follows:

- a. Vice-Chancellor (Chair)
- b. Vice-President (Special Invitee Advisor)
- c. Director, RDC (Secretary)
- d. Dean of School's
- e. RDC Committee members
- f. Internal Nominee by Vice-Chancellor
- g. Two Research Faculty from each school
- h. Two External Research-Expert members recommended by each school (appointed for 2-year term)
- 7. 4. Leadership: The URAC will be led by a Chair, normally organised by a Secretary.
- 7. 5. Meetings: The URAC shall meet twice a year, or as needed, preferably in the month of November, and May.
- 7. 6. The URAC should place a high priority on strengthening our research programs and ensuring that appropriate core facilities are available. On an annual basis, the URAC shall review the operations, administrative organization, and budgets of the research cores.
- 7.7. The URAC shall make recommendations on developing mechanisms to ensure more effective partnering and integration of basic, translational, and other research programs.
- 7.8. The URAC to identify areas for strategic investment, to address major institutional research initiatives, research areas.
- 7.9. The URAC to identify or evaluate areas for strategies, collaborations, and investments across grounds.





**Note:** Policies related to Faculty Internship & Exchange Programs, Ph.D. Program, Patent Policy, SEED grant are available separately. Kindly refer to some of those documents for details available at <a href="https://woxsen.edu.in/research/">https://woxsen.edu.in/research/</a>

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