



Project Proposal for Ph.D.

Project Details (The research problem must clearly indicate the need for an interdisciplinary approach)

Project Title	Policy changes and the competitiveness of the Indian Medtech sector
Project Summary (Minimum 500 and maximum 2000 characters)	India’s medical technology (MedTech) sector spans medical devices (including dental, orthopaedic, and patient monitoring systems), imaging diagnostics, and surgical instruments, contributing approximately 37%, 35%, and 25% of the market, respectively. Valued at USD 11–18 billion in 2024, the sector is growing rapidly at an estimated CAGR of ~19%, driven by rising chronic disease burden, expansion of healthcare infrastructure—particularly in tier-2 and tier-3 cities—and increasing adoption of digital health and AI-enabled diagnostics. To strengthen domestic capabilities, India has introduced key policy interventions. The Production Linked Incentive (PLI) scheme aims to enhance local manufacturing and reduce import dependence. The National Medical Devices Policy (2023) promotes investment, 100% automatic FDI, R&D development, and public–private partnerships under the Make in India initiative. In parallel, the Digital Personal Data Protection (DPDP) Act establishes a framework for data governance, with implications for AI-driven diagnostics. However, the combined impact of these policies on innovation, competitiveness, and market structure remains inadequately understood. This study evaluates the effects of these policy interventions across three sub-sectors—devices, imaging diagnostics, and surgical instruments. Specifically, it assesses (i) the impact of PLI-induced foreign competition on domestic productivity and import dynamics, (ii) the influence of the DPDP framework on innovation and new product development, and (iii) the role of the National Medical Devices Policy in moderating PLI outcomes. A mixed-methods approach is employed, combining econometric analysis of secondary industry, trade, and firm-level data with qualitative insights from semi-structured interviews of ~50 firms. This enables both causal inference and contextual understanding of firm responses and constraints. The study will generate evidence to inform policy design, strengthen domestic manufacturing and innovation, and support equitable access to affordable healthcare in India.

Ph.D. Supervisors*
(Supervisor 1 and Supervisor 2 cannot be from the same department of IITD)

Role	Name of Faculty	Academic Unit in IITD/Institute/University	Email ID (Official)
Supervisor 1*	Prof. Suma Athreye	School of Public Policy	suma@iitd.ac.in
Supervisor 2	Prof. Ravikrishnan Elangovan	Department of Biochemical Engineering & Biotechnology	elangovan@dbeb.iitd.ac.in

Project requirements (Student qualifications, experience required, etc)
*The candidate will be shortlisted based on common shortlisting criteria decided by ScRC (SIRe)

- MTech/MBA/MPP equivalent with knowledge of both quantitative and qualitative methodologies
- 60% through the career
- Some background/ experience in Bioengineering/Bioscience policy is desirable

Source of fellowship/funding and project number
(CSIR/UGC/DBT/ICMR/ICAR/NEET-PG/DST-INSPIRE/IRD/FITT Project details, if any)

Institute fellowship/project fellowship. If student has own fellowship it will be desirable.

Role of Faculty Members involved:

Supervisor-1	To provide academic guidance and practical support from the inception of the project to the submission of the thesis.
Supervisor-2	To provide academic guidance and practical support from the inception of the project to the submission of the thesis.

Note :-

- 1. Approval from the respective DRC/CRC/ScRC of your Department/Centre/School will be required for using the "Full-time Institute Assistantship (Category-wise) (FIA)" for selecting the students in SRe.
- 2. Declaration:- Faculty members, please ensure that you have at least 3 years of service left before superannuation along with adequate sitting space & lab facilities for the SRe student.
- 3. PI/s are also encouraged to submit joint proposals with AIIMS, NII, JNU and institutes with which IITD has an existing MoU. If the Co-PI (Supervisor 2) is from outside IITD, kindly share his/her detailed CV.
- 4. If a research scholar is to be considered for selection under the project fellowship, then the project should have a minimum of two-year duration remaining.
- 5. A candidate applying with a valid JRF/INSPIRE/any national level fellowship should have at least two-year validity from the date of joining the Ph.D. program.
- 6. The third supervisor's name (if required) can be added only after the formation of Student Research Committee (SRC) subject to a strong recommendation of SRC and subsequent approval from the competent authority.
- 7. If Institute fellowship is being sought, then DRC approval of the parent department of Supervisor 1 is required at the time of selection.