

Guidelines for the Application of Institute Post Doctoral Fellows

1. It is encouraged that the applicants first find a mentor or mentors (faculty member(s) in the department of Mechanical Engineering) based on the research area of their interest. This ensures that several of the key requirements for the award of the Institute post-doctoral position can be completed in an expediated manner. Once a mentor has been identified then the application will be processed within 3 months.

2. The applicant must prepare a research plan for their post-doctoral fellowship, possibly in consultation with a potential mentor. In the absence of the identification of the mentor(s) by the candidate, this research plan will be made available to all faculty members and the application will be processed only when at least one faculty member from the department agrees to mentor the project.

The research proposal should have clear milestone and timelines. It is preferred that the research proposal is made for a period of 2 years with a clear outline of the expectations in terms of the deliverables in case of a reduced duration of 1 year or an enhanced duration of 3 years. The advice is to plan the total research in a modular fashion such that the proposal is adaptable to varying situation on the part of the candidate. The research proposal should follow the sample template provided at the end of this document.

3. The applicant should upload the application and research plan in Pingala.

For this, the interested candidates should log into the portal <https://pingala.iitk.ac.in/IITKFR-0/login> and upload

(a) Complete CV,

(b) Cover letter mentioning preferred laboratory/faculty members, and proposed teaching activities (see below), and

(c) Detailed research plan along with filling the detailed desirable information on the portal.

The candidates are advised to furnish full details of all the required information like publication with the names of the various authors in the correct sequence, name of the journal, publications year, volume number etc.

It is **mandatory** that the candidate has defended his/her PhD thesis. It is **strongly recommended** that the candidate has at least one paper as a first author or a corresponding author in a reputed journal.

In the cover letter, the candidates are advised to identify some teaching related activities like conducting tutorials for specific courses or laboratory sessions.

4. A recommendation letter is needed from the mentor (if already identified).

Template for IPDF Proposals, Department of Mechanical Engineering, IIT Kanpur

Applicants are requested to use the following structure while preparing their IPDF proposal.

Page limit: 4 pages (excluding references). Single column; Margins: 1.27 cm on all sides; Font size: 10 pt.

Proposals should be organized as follows:

1. Project Overview

This will be the first—and potentially the most important—section of your proposal (maximum $\frac{3}{4}$ page). Clearly summarize the central idea of the project and the approach or strategy that you will use.

2. State of the Art

Place your research questions within the context of the existing literature. Clearly identify the current state of knowledge and explicitly highlight the gaps your work aims to address.

Recommended length: up to one page.

3. Project Objectives

List the specific objectives of the proposed research.

4. Methodology

Provide a detailed description of the proposed methodology. This section should demonstrate the depth of planning behind your research approach. Include schematics or diagrams of planned experiments, simulations, or analytical frameworks where appropriate. Also indicate:

- the resources required for the project,
- the facilities or expertise available through your host mentor, and
- potential technical risks and possible alternative strategies if initial approaches do not succeed.

Recommended length: up to 1.5 pages.

5. Timeline

Provide a tentative timeline for the project, assuming a duration of at least two years. A Gantt chart or tabulated plan with key milestones is encouraged. Kindly include journal publication schedule in the milestones.

6. Expected Outcomes and Impact

Describe the anticipated results and their potential impact on the field. Explain how the outcomes of the project could advance knowledge, technology, or practice.

7. References

Note: Proposals are expected to follow the above structure and remain within the specified page limit. Submissions that significantly deviate from these guidelines may be disadvantaged during evaluation.