



# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad-500043

## STANDARD OPERATING PROCEDURE

for

## Summer Research Internship (SRI)

(Selection – Conduction – Evaluation – Report)

01 December, 2025

### I. Introduction

The **Summer Research Internship (SRI)** is a structured academic initiative designed to provide students with in-depth research exposure beyond regular classroom learning. In this program, students work under the guidance of a faculty mentor or industry expert, who assigns and supervises a research-oriented project. The internship emphasizes scientific thinking, where students are expected to identify research problems, review literature, apply appropriate methodologies, and analyze results critically. It is not just a routine internship but a comprehensive research experience that enhances analytical, technical, and problem-solving skills.

Through SRI, students develop the ability to design and conduct studies, interpret findings, and present their work effectively in both technical and general formats. It also involves evaluation by coordinators and reviewers to ensure academic rigor and quality. Overall, SRI aims to build strong research aptitude, encourage innovation, and prepare students for higher studies or research-based careers by fostering independent learning and critical inquiry.

### II. Learning outcomes

On completion of the project, the student should be able to:

- show a deep knowledge within the chosen field of study
- search and in a critical way interpret and compile relevant scientific literature
- in a creative way delimit a scientific problem, plan a scientific study, choose appropriate methods, carry out the study, interpret and evaluate the results and, if applicable, generate a hypothesis to explain the observations all within given time frames
- present the results in correct language for different target groups both in scientific and in popular form
- give constructive criticism on texts within the study field

Industry frequently see SRI reports as internships, but that's not the view of the Institute. In particular, goes beyond a simple internship. That doesn't necessarily mean that an internship can't form the basis of a SRI project, but it is not enough.

A good way to make clear both to yourself and to the reviewer that you are doing a scientific study is to write one or more clear research questions in the SRI project proposal, i.e. questions that should be answered by the project and where the answers give new knowledge.

### III. Supervisor / Mentor / Reviewer

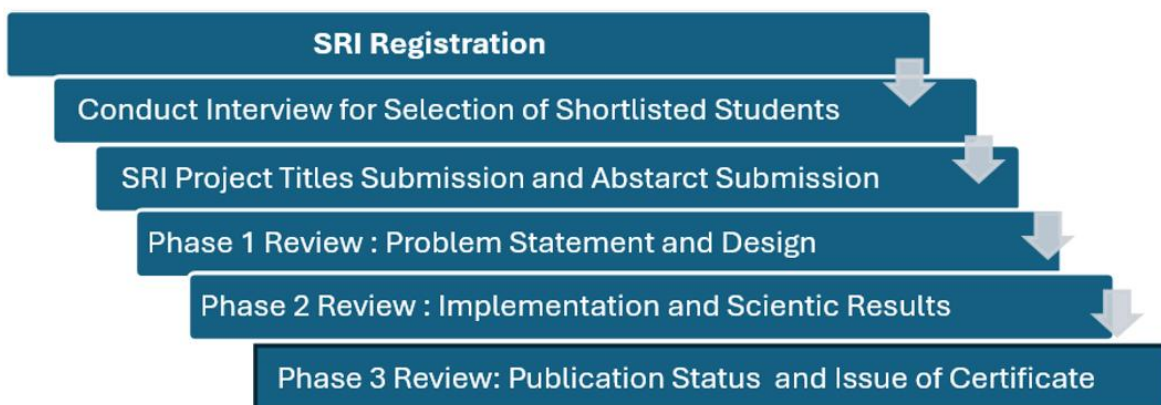
Supervisor is responsible for assigning SRI project and providing guidance and support to the students in order to help them achieve their project goals. A supervisor can be at a company or IARE. Reviewer can be from industry/company.

### IV. Project Coordinator of SRI Project

Responsible for scheduling / evaluating the student's work and determining if it meets the standards and requirements set by the institution or department. The Evaluator's role is to assess the student's performance and provide a fair and impartial evaluation of the project.

### V. SRI Project Process

The process consists of the following steps as detailed below and summarised here:



#### 1. Finding a project

##### Internally

Student should take the responsibility for taking ownership of the project, working diligently to complete it, and ensuring that it meets the academic standards and requirements set by the institution or the academic program. The student should demonstrate initiative, critical thinking, and problem-solving / research skills throughout the SRI project.

The SRI project coordinator and head of the department conducts SRI presentations for the selected interns in the following research areas:

- Quantum Machine Learning (QML)
- Quantum Optimization Techniques
- Quantum Error Correction and Fault Tolerance
- AI in System Development (AI Agents, and LLMs)
- AI in Software Development
- AI Agents
- Data Intense Computing

## Externally

If you are interested in a internship project in another department, another institute / University (domestic / abroad), or a company, make sure you have a CV and cover letter ready for submitting a project plan ([click for proforma](#)).

It is the responsibility of the student to find a suitable internship project. Please start applying for projects early as responses to Dean of Professional Training and Internship (PTI) from a supervisor / handled are at a company or university may take some time.

## 2. Throughout the project

Attend all scheduled meetings as announced by the Project coordinator of SRI / reviewer.

Submit written parts of the report so far before each meeting corresponding to your progress. Keep the subject reviewer informed on how the project progresses.

## Advice on writing

- The written report is very important. Consider that your report will be used as a personal merit and will be evaluated based on the metrics ([click here](#)).
- Start the writing process early. Don't leave it till the end, but do it continuously. It takes 15-20 days to write a good report.
- Remember that good language is important. The quality of the language is a learning outcome in the course so your report could be rejected due to bad language.
- The use of ChatGPT and other Large Language Model (LLM) Applications to write your report is left to the discretion of the examiner. Consult head of the department first before you use them.
- There are no rules about the size of a report, but a report shorter than 30 pages is probably incomplete. A report of 60 pages or more probably contains too much code or similar. In other words, a normal report is around 40 pages. Consult your head of the department / reviewers if you have further questions.
- For LaTeX templates, you can use the template provided by Dean of content delivery and publishing webpage ([click here](#)).
- [Here](#) is a document that contains advice for a SRI project report preparation.

## 3. Towards the end of the SRI project

Submit a draft version of the report to the project coordinator / supervisor / reviewer (normally two-three weeks) before the scheduled presentation date. An opponent will be assigned to you as well once a presentation is scheduled.

The finished version of the report will be sent to the assigned opponent and the examiner no later than a week before the scheduled presentation.

## 4. After presentation

Prepare the final version of the report based on feedback given during the presentation. Send the final version of the report to the project coordinator / supervisor / reviewer for final approval.

## 5. Publishing

When you've done with final presentation, you should publish the written report to IARE Samvidha.

- First you need to create a serial number for the front page.
- Then you can upload the final version of the report to Samvidha. In case the problem statement is provided by industry or If the SRI project needs secrecy or a delayed time for publishing the report shall be archived but not published in Samvidha.

**The SRI project is more likely to be published in conference proceedings than in journal titles.**