

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Nithin Krishna S
- **User Type:** ☐ Ph.D. Scholar ☐ Postdoctoral Researcher ☐ Bachelor's ☒ Masters
- **Institution Name:** Lovely Professional University
- **Institutional Contact No:** 0182 450 6100
- **Research Topic:** Advanced Aerodynamics

Software Request Details

- **Software Name:** COMSOL Multiphysics 6.0 (Basic + Advanced Modules)
- **Justification for Software Request:** My research on Advanced Aerodynamics requires high-fidelity computational tools to model complex aerodynamic phenomena that cannot be addressed with basic software. COMSOL Multiphysics with its advanced modules is essential for the following reasons:
 - CFD Module – For simulating turbulence, flow separation, shock waves, and vortex dynamics in both compressible and incompressible flows.
 - Structural Mechanics & Heat Transfer Modules – To study fluid-structure interaction (aeroelasticity, flutter) and aerothermal effects, especially in high-speed and hypersonic regimes.
 - Optimization Module – For aerodynamic shape optimization and parametric studies to improve efficiency and performance.
 - Academic Output – These modules provide the accuracy and multiphysics coupling required for peer-reviewed publications and advanced research in aerodynamics.

In summary, the advanced COMSOL modules are indispensable for capturing turbulence, aeroelasticity, and thermal effects, enabling high-quality research outputs that cannot be achieved with basic functionality.

- **Guide/Supervisor Approval**

I, Dr. Amit Thakur (Guide/Supervisor Name),

- Confirm that the above-mentioned researcher is affiliated with our institution
- Have reviewed the software request and its relevance to the researcher's academic work
- Approve the software request for research purposes

Approval Confirmation

- I approve the software request
- The software aligns with the researcher's research objectives
- The request meets the institutional research guidelines

Guide/Supervisor Signature: 

Date: 8/9/2025

Official Stamp/Seal:

Lovely Professional University
Phagwara (Punjab)

Important Notes:

1. This form must be signed and scanned
2. The scanned copy must be uploaded with the software request
3. Electronic signatures are acceptable if from an official institutional email.