

I-STEM Software Request - Guide Approval Form

User Details

- Name of Researcher: Mulka Madhav
- User Type: ☐ Ph.D. Scholar ☐ Postdoctoral Researcher ☒ Bachelor's ☐ Masters
- Institution Name: National Institute of Technology Warangal
- Institutional Contact No: 7671847031
- Research Topic: Microchannels

Software Request Details

- Software Name: COMSOL

- Justification for Software Request:

My research on microchannel heat sinks requires precise simulation of microscale fluid flow and conjugate heat transfer, which cannot be accurately performed using conventional CFD tools. COMSOL Multiphysics with the CFD, Heat Transfer, Optimization, and Microfluidics modules is essential because it offers specialized microscale physics, reliable CHT modelling, and automated parametric optimization for evaluating Nusselt number, pressure drop, and thermal performance. These capabilities enable realistic modelling of low-Re flow, temperature-dependent properties, and geometry variations fundamental to my study. Access to COMSOL through I-STEM will significantly enhance the accuracy, efficiency, and quality of my microchannel research and resulting publications.

Guide/Supervisor Approval

I, KARTHIK B (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: B. K.

Date: 10.12.2025
Associate Professor
Department of Mechanical Engineering
National Institute of Technology Warangal
Official Stamp/Seal: [Space for Institutional Stamp] - 506 004.

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