

I-STEM Software Request - Guide Approval Form

User Details

- Name of Researcher: Poojitha G
- User Type: ☒ Ph.D. Scholar ☐ Postdoctoral Researcher ☐ Bachelor's ☐ Masters
- Institution Name : Manipal Institute of Technology
- Institutional Contact No: 0820 2925624
- Research Topic: Investigation on the thermoelectric performance of chalcogenide-based materials

Software Request Details

- Software Name: COMSOL Multiphysics 6.2
- Justification for Software Request: Our research focuses on developing and optimising thermoelectric materials, particularly chalcogenide-based compounds known for their superior thermoelectric properties. We aim to investigate and enhance these materials' thermoelectric performance - their Seebeck coefficient, electrical conductivity, and thermal conductivity - to achieve high figures of merit (ZT). After material-level optimisation, we will assess their applicability in real-world thermoelectric device configurations, specifically generators and coolers. We utilise COMSOL Multiphysics to simulate device performance under varying geometrical and operational conditions. The Multiphysics simulation capability allows us to analyse coupled heat and charge transport phenomena, essential for understanding device behaviour and optimising design parameters like leg dimensions, contact resistance, and thermal boundary conditions. These simulations bridge the gap between material-level research and developing efficient thermoelectric devices for industrial, automotive, and energy-harvesting applications. Given the importance of COMSOL Multiphysics in our research objectives, we request that ISTEM grant us access to the COMSOL software for our ongoing and future research.

Guide/Supervisor Approval

I, Dr. Ashok Rao (Guide),

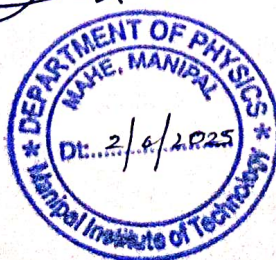
- Confirm that the above-mentioned researcher is affiliated with our institution
- Have reviewed the software request and its relevance to the researcher's academic work
- Approve the software request for research purposes

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: 02/06/2025



Official Stamp/Seal: [Space for Institutional Stamp]

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

