

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Mrs. P. Soujanya
- **User Type:** Ph.D. Scholar
- **Institution Name:** Koneru Lakshmaiah Education Foundation
- **Institutional Contact No:** 08645-350200
- **Research Topic:** Computational Spintronics

Software Request Details

- **Software Name:** Comsol Multiphysics (Basic + Advanced Module)
- **Justification for Software Request:** We will be using the tool to analyze spin transport across magnetic tunnel junction devices by coupling multiple physical phenomena. We will be modelling spin transport using custom physics and by combining existing modules (Semiconductor, AC/DC and PDE). AC/DC Module will be used to simulate magnetostatics in ferromagnetic layers. Semiconductor module will be used to model charge transport considering carrier density and current. Coefficient Form PDE module will be used to include custom spin diffusion and spin transport equations. Heat transfer module will be used to study spin-seedback or thermal effects on spin transport.

Guide/Supervisor Approval

I, Dr. Debajit Deb,

- 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: 12/06/2025

Official Stamp/Seal:

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

Assistant Professor
Department of ECE
K L E F
VADESWARAM.
Guntur Dt., A.P., India

