

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Ms. Rithika Guttapalli
- **User Type:** ☐ Ph.D. Scholar ☒ Postdoctoral Researcher ☐ Bachelor's ☐ Masters
- **Institution Name** : Jain deemed to be University
- **Institutional Contact No:** 9880075377
- **Research Topic:** Design Strategies for Increasing MEMS Acoustic Sensor Bandwidth

Software Request Details

- **Software Name:** COMSOL

Justification for Software Request: The software COMSOL Multiphysics plays a key role in this research by enabling efficient modeling and analysis of the MEMS acoustic sensor. It allows the sensor design to be tested virtually, reducing the need for repeated physical fabrication.

Using COMSOL, important parameters such as diaphragm dimensions and material properties can be adjusted to study their effect on bandwidth. Its multiphysics capability helps simulate the interaction between structural vibrations and acoustic waves, which is essential for understanding sensor behavior.

The software is also used for frequency analysis to identify resonance and bandwidth limits, and for parametric studies to optimize the design. Overall, it improves accuracy, saves time, and supports better design decisions.

Guide/Supervisor Approval

I, Dr. Vasudha Hegde),

- 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: 10.04.2026

Official Stamp/Seal:

HEAD
Department of Electrical & Electronics Engineering
FACULTY OF ENGINEERING & TECHNOLOGY
JAIN UNIVERSITY
Jain Global Campus, Jakkasandra Post
Kanakapura Taluk, Ramanagara District - 562112