

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Dr Priyanka Joshi
- **User Type:** Faculty
- **Institution Name :** Dept of Physics, Dibrugarh University
- **Institutional Contact No:** 9785341224
- **Research Topic:** Design and Development of MEMS Sensor System for Leakage Detection in Underground Pipelines
- **Software Request Details**
- **Software Name:** _____ Comsol Multiphysics 6.0 _____
- **Justification for Software Request:** The work involves multiphysics interactions including structural mechanics, piezoelectric effects, acoustic wave propagation, and fluid-structure interaction, all of which require an integrated simulation environment for accurate modelling and performance prediction. The MEMS Module will support structural and piezoelectric modelling of the sensor. The Acoustics Module is required to study wave propagation and leakage-induced signal behaviour. The CFD Module and Liquid & Gas Properties Module are necessary for analysing fluid flow patterns during leakage scenarios. The Material Library provides accurate material parameters, and the Optimization Module will help refine sensor geometry and operating conditions for improved sensitivity.

I request access to the following modules:

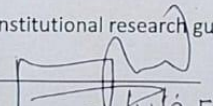
- MEMS Module
 - Acoustics Module
 - Liquid & Gas Properties Module
 - Material Library
 - Optimization Module
 - CFD Module
- **Guide/Supervisor Approval**

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: November 20, 2025


20/11/25