

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Samudra Bhaumik
- **User Type:** ☒ Ph.D. Scholar ☐ Postdoctoral Researcher ☐ Bachelor's ☐ Masters
- **Institution Name :** Indian Institute of Technology Hyderabad (IIT H)
- **Institutional Contact No:** 040 2301 6033
- **Research Topic:** Biocompatible transparent 3D-Printed Device for spheroid culture and mimicking hypoxic conditions.

Software Request Details

- **Software Name:** COMSOL Multiphysics (**Basic + Advanced Modules**)
- **Justification for Software Request:** The proposed microfluidic chip is designed to enable hypoxia induction and perfusion culture within a controlled microenvironment. To achieve this, it is essential to model and predict the interplay of multiple physical phenomena—fluid dynamics, mass transport, oxygen diffusion, and cellular microenvironment regulation. Access to COMSOL Multiphysics is indispensable for this project because it allows accurate simulation of fluid flow, oxygen transport, and multiphysics coupling within the microfluidic chip. This ensures that the design is scientifically validated, cost-effective, and optimized for both hypoxia induction and perfusion culture, thereby accelerating experimental success and translational impact.

Guide/Supervisor Approval

I, **Dr Lopamudra Giri** (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: Lopamudra Giri

Date: 12.02.2026

Official Stamp/Seal:

ASSOCIATE PROFESSOR
Dept. of Chemical Engineering
Indian Institute of Technology Hyderabad
Kandi, Sangareddy, Telangana-502284, India

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