

## I-STEM Software Request - Guide Approval Form

### User Details

- **Name of Researcher:** SUDHEER P N
- **User Type:** [ ☒ ] Ph.D. Scholar [ ] Postdoctoral Researcher [ ] Bachelor's [ ] Masters
- **Institution Name :** Manipal Institute of Technology, Manipal.
- **Institutional Contact No:** 0820 2571060
- **Research Topic:** Multiphase Flow and Droplet Microfluidics

### Software Request Details

- **Software Name:** COMSOL
- **Justification for Software Request:** COMSOL Multiphysics supports multiphase flow and droplet microfluidics through its specialized interfaces, like the Two-Phase Flow and Multiphase Flow modules. These tools enable the simulation of interactions between different phases (liquids, gases, solids) using methods like the Volume-of-Fluid (VOF) technique for tracking free surfaces, and Level Set for capturing interface dynamics. This is particularly useful for applications like lab-on-a-chip devices and droplet-based microfluidics, where the behaviour of small, interacting droplets is crucial.

### Guide/Supervisor Approval

I, **Dr. Chandrakantha Bekal** (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: 7/03/2025



### 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