

## I-STEM Software Request - Guide Approval Form

### User Details

- Name of Researcher: S Sri Vaishnavi
- User Type: ☐ Ph.D. Scholar ☐ Postdoctoral Researcher ☒ Bachelor's ☐ Masters
- Institution Name: Indian Institute of Technology Indore
- Institutional Contact No: 731-660-5110
- Research Topic: Underwater Soft Robotics

### Software Request Details

- Software Name: COMSOL Multiphysics
- Justification for Software Request:

The development of an underwater soft robot requires Multiphysics simulation to model fluid-structure interaction, soft material behaviour, and actuation mechanisms. COMSOL provides an integrated platform to simulate the coupling between deformable structures and surrounding fluid, analyze nonlinear soft materials, and evaluate different actuation strategies such as pneumatic or smart material-based systems. Its CFD and optimization capabilities enable accurate prediction of swimming performance under realistic underwater conditions while reducing trial-and-error in prototyping. Thus, COMSOL is essential for efficient design and validation of the robot.

### Guide/Supervisor Approval

I, Prof. I. A. Palani (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: \_\_\_\_\_

Date: \_\_\_\_\_

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

