

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Gautam Singh Majila
- **User Type:** Ph.D. Scholar
- **Institution Name :** Indian Institute of science Bengaluru
- **Institutional Contact No:** 8977968461
- **Research Topic:** Rheo-optical study of the lamellar phase of lyotropic liquid crystals.

Software Request Details

- **Software Name:** COMSOL multiphysics (basic + advanced modules).
- **Justification for Software Request:** COMSOL can model lamellar phases of lyotropic liquid crystals by combining phase-field methods to capture their layered microstructure with non-Newtonian flow modules to study anisotropic rheology. It enables multiphysics coupling and simulates how shear or external fields affect lamellar alignment. This allows performing virtual rheology experiments that can directly be compared with rheometer data.

Guide/Supervisor Approval

I, Professor V. Kumaran

Confirm that the above-mentioned researcher is affiliated with our institution and 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 and the request meets the institutional research guidelines

Guide/Supervisor Signature: V. Kumaran

Date: 16/09/2025

प्रोफ़ेसर / Professor

Official Stamp/Seal:

रासायनिक अभियांत्रिकी विभाग
Department of Chemical Engineering

Important Notes भारतीय विज्ञान संस्थान / Indian Institute of Science

बैंगलूरु - 560012 / Bengaluru - 560012

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