

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Vasanth Kumar P
- **User Type:** ☒ Ph.D. Scholar [] Postdoctoral Researcher [] Bachelor's [] Masters
- **Institution Name:** Vellore Institute of Technology
- **Institutional Contact No:** 04162243091, 04162202382
- **Research Topic:** Green Hydrogen Production

Software Request Details

- **Software Name:** COMSOL Multiphysics [Required Modules: Liquid & Gas Properties Module, Optimization Module, Porous Media Flow Module, CFD Module, Fuel Cell & Electrolyzer Module, Heat Transfer Module]
- **Justification for Software Request:** COMSOL Multiphysics for the research allows me to effectively model and simulate both PEM and Alkaline electrolyzers. My research focuses on understanding how mass and fluid transfer occur within the electrolyser stack, especially under electrochemical and thermal stress conditions. Multiphysics coupling capability enables integration of electrochemical reactions, fluid dynamics, and thermodynamic studies in a single boundary environment. Its built-in material library and customizable physics interfaces also give us the flexibility to test and evaluate different materials under a variety of operating conditions.

Guide/Supervisor Approval

I, Dr. Arjun Singh K,

- 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: 06/08/2025

Arjun Singh K 06/08/2025

[Dr. ARJUN SINGH K]

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