

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Manish Kukreja
- **User Type:** [☒] Ph.D. Scholar [☐] Postdoctoral Researcher [☐] Bachelor's [☐] Masters
- **Institution Name** : National Institute of Technology Raipur
- **Institutional Contact No:** 7725037888
- **Research Topic:** Design and Synthesis of Metal Organic Framework and Their Composites: Supercapacitor, Sensing and Photocatalytic Degradation Application

Software Request Details

- **Software Name:** COMSOL
- **Justification for Software Request:** COMSOL Multiphysics is required to simulate electrochemical reactions, catalytic degradation processes, and sensing mechanisms in MOF-based materials. The software enables modeling of coupled phenomena such as reaction kinetics, ion transport, and diffusion within porous structures using finite element methods. Modules such as Chemical Reaction Engineering, Fuel Cell & Electrolyzer, and Porous Media Flow will allow analysis of electrochemical behavior, degradation pathways, and analyte transport in MOF frameworks. These simulations will complement experimental studies and aid in understanding mechanisms and optimizing material performance.

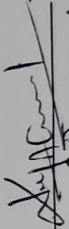
Guide/Supervisor Approval

I, **Dr. Kafeel Ahmad Siddiqui**

- 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: 21/3/2026

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

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