I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher**: Anuradha Gupta
- **User Type**: [✓] Ph.D. Scholar [ ] Postdoctoral Researcher [ ] Bachelor's [ ] Masters
- **Institution Name:** Advanced Centre for Treatment, Research and Education in Cancer (ACTREC), Mumbai, India
- **Institutional Contact No:** +91-22-2740 5000
- **Research Topic**: Bioheat distribution photothermal agents in orthotopic breast cancer
- **Software Request Details :**
- **Software Name**: COMSOL Multiphysics

  Justification for Software Request: Our work focuses on studying cancer targeting and treatment using photothermal therapy (PTT) agents. COMSOL can be used to model tumor targeting and heat distribution by creating a three-dimensional representation of the tumor and surrounding healthy tissue. After laser irradiation, the absorbed electromagnetic energy is converted into heat, which can be analyzed using the Pennes bioheat equation. This approach helps examine the spatial and temporal accumulation of heat across orthotopic breast cancer tissue, making it easier to optimize treatment conditions and evaluate the effectiveness of photothermal therapy.

Guide/Supervisor Approval

I, Prof. Abhijit De,

- 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: 29-06-2026

डॉ. अभिजीत डे / Dr. Abhijit De
प्राध्यापक, एवं वैज्ञानिक अधिकारी 'एच'
Professor & Scientific Officer 'H'
एक्ट्रेक-टीएमसी, खारघर, नवी मुंबई-410210
ACTREC-TMC, Kharghar, Navi Mumbai-410210.

Official Stamp/Seal: [Space for Institutional Stamp]

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