

SCIENTIFIC SOCIAL RESPONSIBILITY (SSR) EVENT

Development of a Polymer Nanocomposites-Based Rapid Malaria Sensing Device
Funded by SERB (SPG/2021/002668)

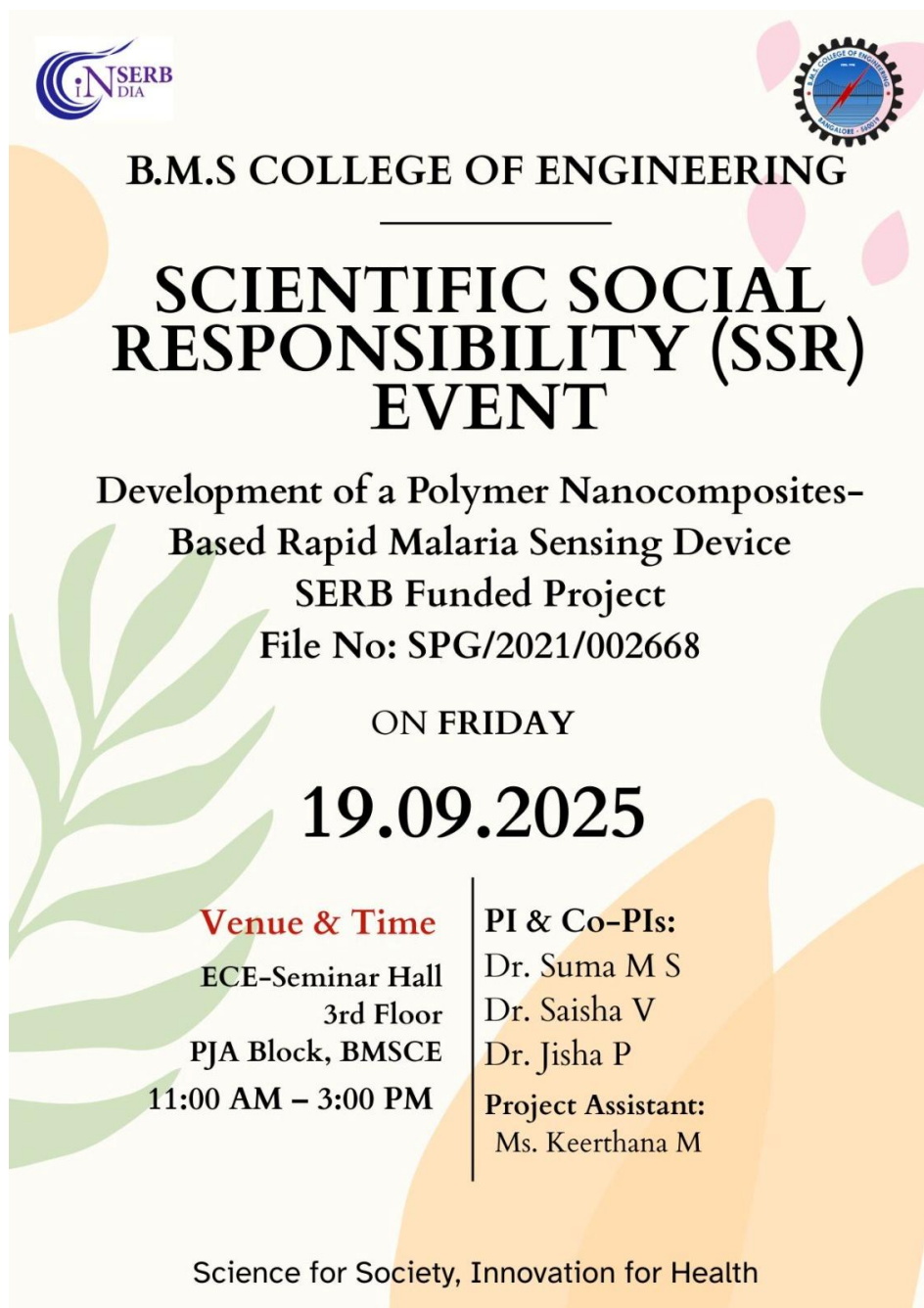
Proposed SSR activity: School/College Student's visit to the SERB funded project lab

Date: Friday, 19th September 2025

Time: 11:00 AM – 4:00 PM

Venue: ECE Seminar Hall, 3rd Floor, PJA Block, BMS College of Engineering (Morning Session)

& SERB Funded Lab, 5th Floor, PG Block, BMS College of Engineering (Afternoon Session)



B.M.S COLLEGE OF ENGINEERING

SCIENTIFIC SOCIAL RESPONSIBILITY (SSR) EVENT

Development of a Polymer Nanocomposites-Based Rapid Malaria Sensing Device
SERB Funded Project
File No: SPG/2021/002668

ON FRIDAY

19.09.2025

Venue & Time	PI & Co-PIs:
ECE-Seminar Hall	Dr. Suma M S
3rd Floor	Dr. Saisha V
PJA Block, BMSCE	Dr. Jisha P
11:00 AM – 3:00 PM	Project Assistant:
	Ms. Keerthana M

Science for Society, Innovation for Health

The SSR program followed a structured schedule with technical sessions and hands-on experiments. Students participated in demonstrations and practical activities, gaining both theoretical knowledge and practical skills. Below is the schedule table:

Time	Session
11.00 -11.30 AM	Registration and welcome tea
11.30 – 11.45 AM	Inaugural address • Welcome by event Co-ordinator • Introduction to SERB and SSR initiative
11.45 – 12.15 PM	Keynote talk • Nanotechnology for affordable Healthcare
12.15 – 1.00 PM	Technical session • Overview of Polymer Nanocomposites in Bio sensing • Introduction to Malaria Sensing Device
1.00 – 1.45 PM	Lunch Break
1.45 – 3.15 PM	Hands-on / Demonstration Session • Live demonstration of Malaria sensing device • Participant engagement and interaction with prototype • Q&A with research team
3.15 – 3.45 PM	Panel discussion • Science for Society: Translating lab research to field impact
3.45 – 4.00 PM	Closing Session • Feedback from participants • Vote of thanks

Registration

The program commenced with the registration of students and participants, followed by a welcome tea. This initial session provided an opportunity for interaction among the organizing committee, faculty, and students. Participants were registered, provided with event materials, and guided to the seminar hall for the formal proceedings.



Registration Session at BMS College of Engineering, Bengaluru (Seminar Hall, Department of ECE, 3rd Floor)

Inaugural Session

The event began with a warm welcome by the organizers, followed by the inaugural address by the Principal of BMS College of Engineering and Dr. K P Lakshmi, the Head of the Department of Electronics and Communication Engineering. Both speakers emphasized the importance of bridging academic research with societal needs and highlighted how initiatives such as Scientific Social Responsibility (SSR) play a vital role in motivating young students to appreciate the value of science and innovation. After the welcome, Dr. Suma M. S. (Principal Investigator) introduced the SERB-funded laboratory and explained the objectives of the SSR initiative. She highlighted how the funded project aims to create impactful healthcare solutions, particularly the development of a rapid malaria sensing device, and conveyed the importance of engaging school and college students in such outreach activities.



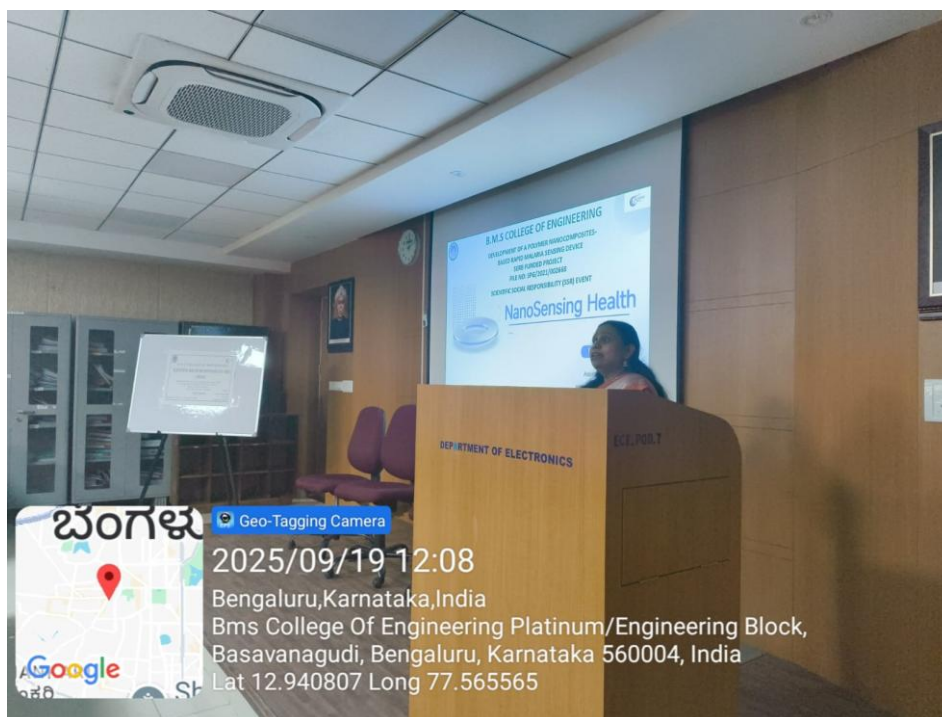
Inaugural Ceremony by the Principal of BMS College of Engineering, Bengaluru



Introduction to SERB-funded laboratory and SSR initiative by Dr. Suma M. S., Principal Investigator.

Keynote Address

The keynote talk was delivered by Dr. Jisha P. (Co-Principal Investigator) on the topic “Nanotechnology for Affordable Healthcare.” In her session, Dr. Jisha presented an overview of nanotechnology and its diverse applications in the medical field. She explained how nanomaterials can be engineered to develop advanced diagnostic tools and treatment methods that are both cost-effective and efficient. The emphasis was on affordability, which is crucial in developing countries where access to healthcare is limited. By sharing real-world examples and research case studies, she illustrated how nanotechnology can revolutionize public health by enabling early diagnosis and personalized medicine at reduced costs. The session inspired the students to think critically about how advanced technology can be leveraged for solving pressing healthcare challenges.



Technical session on “Nanotechnology for Affordable Healthcare” delivered by Dr. Jisha P.,
Co-Principal Investigator

Technical Session

Following the keynote address, Ms. Keerthana M. (Project Assistant) gave a detailed technical presentation. She began with an overview of polymer nanocomposites in biosensing, explaining their structural, chemical, and electrical properties, which make them suitable for developing highly sensitive detection platforms. She also provided insights into the integration of these materials in real-time sensing devices. The second part of her talk focused on the malaria sensing device under development in the SERB-funded project. She explained the working mechanism of the device, its prototype design, and how it can detect malaria in a rapid, reliable, and affordable manner. The presentation helped students connect theoretical knowledge with its practical application in solving a significant health problem.



Technical session on “Polymer Nanocomposites in Biosensing and Malaria Sensing Device” presented by Ms. Keerthana M., Project Assistant.



Participants of the Scientific Social Responsibility Event at BMS College of Engineering, Bengaluru - Seminar Hall, Department of ECE, 3rd Floor

Hands-on Demonstration

In the afternoon session, Dr. Jisha P and Ms. Keerthana M. conducted a hands-on demonstration of the malaria sensing device prototype. Students were guided step-by-step through the device operation and were encouraged to interact with the experimental setup. A total of 40 students were divided into 4 smaller batches to ensure effective participation and personalized guidance. This practical exposure enabled participants to better understand the application of nanomaterials in real-world diagnostics. Each batch rotated through different workstations, where they were introduced to various aspects of research work carried out in the SERB lab:

- Synthesis of Polymer Nanocomposites – Students learned the step-by-step process of preparing nanocomposites using controlled chemical methods.
- Vacuum Filtration – A practical demonstration of how nanomaterials are filtered and purified for experimental use.
- Sensing Mechanisms – Students were shown how the prepared nanocomposites are integrated into sensing devices for malaria detection.
- Spin Coating Process – A demonstration of coating synthesized polymer nanocomposites onto a PCB substrate using the spin coating technique, which is a crucial step in device development.

The hands-on session was highly interactive, with students engaging directly in the procedures, asking questions, and gaining a deeper understanding of laboratory practices. This practical exposure was widely appreciated as it transformed theoretical concepts into tangible experiences.



Hands-on demonstration session conducted by Ms. Keerthana M., explaining synthesis of polymer nanocomposites, vacuum filtration, sensing, and spin coating to student participants- SERB Funded Lab, 5th Floor, PG Block, BMS College of Engineering, Bengaluru

Closing Session

The day concluded with a closing session where feedback was collected from the participating students through structured feedback forms. Students expressed that the sessions were insightful, highly engaging, and motivated them to consider research as a career path. Many noted that the hands-on demonstration was the highlight of the program. Finally, Dr. Suma M. S. delivered the Vote of Thanks, acknowledging the contributions of the Principal, HOD, faculty, resource persons, and participants for their involvement and support. She also appreciated the enthusiastic participation of the students, which contributed to the success of the event.



Group Photo of Participants in front of the SERB-Funded Laboratory after the Closing Session – Scientific Social Responsibility Event, BMS College of Engineering, Bengaluru

The SSR activity was highly successful in achieving its intended objectives. It provided students with meaningful exposure to cutting-edge research in nanotechnology and biosensing while also demonstrating the societal relevance of affordable healthcare innovations. The combination of talks, technical presentations, and practical demonstrations ensured that participants not only gained knowledge but also developed curiosity and interest in research. Overall, the initiative reinforced the importance of Scientific Social Responsibility by encouraging the younger generation to connect science, technology, and society.