



# **BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT**

An Autonomous Institute Under VTU, Accredited by NBA and NAAC  
Yelahanka, Bengaluru-560119.

## **Club activities Template for the Website**

### **Name of the Club:**

Photonics Society.

### **Date of Formation:**

11/11/2024

### **Coordinators:**

Dr. Asha G Hagargund , ECE

### **Objective:**

To promote student engagement and innovation in photonics and optical technologies through workshops, research, and industry interaction.

### **Frequency of Meeting:**

The Photonics Society conducts meetings **twice every month**.

### **Social media link:**

#### **LinkedIn:**

**Instagram:** [https://www.instagram.com/ieee.photonics\\_bmsit?igsh=OTlrOHU0M3A1cGJh](https://www.instagram.com/ieee.photonics_bmsit?igsh=OTlrOHU0M3A1cGJh)

### **Roles and Responsibilities:**

The Photonics Society at BMS Institute of Technology & Management is dedicated to fostering a strong community of students passionate about light-based technologies. The society takes on the responsibility of organizing workshops, seminars, and hands-on sessions on cutting-edge topics such as lasers, fiber optics, LiDAR, and quantum photonics. It actively promotes student-led research, interdisciplinary projects, and innovative ideas by providing opportunities for collaboration with faculty and industry experts. The society also plays a key role in connecting students with real-world applications through academic-industry interactions, technical conferences, and competitions. In addition, it works to raise awareness about the impact of photonics in fields like communication, healthcare, and energy, while maintaining an active knowledge-sharing culture through newsletters, blogs, and outreach activities.

Through these efforts, the Photonics Society aims to cultivate technical excellence, curiosity, and leadership among its members.

## **One Year Activities conducted:**

### **IEEE open day**

On March 21<sup>st</sup> 2025, IEEE Communications Society BMSIT&M showcased its initiatives at the IEEE COMP-SIF 2025 Open Day at BMS Institute of Technology and Management. This event aimed to showcase the real-world applications of photonics through a vibrant exhibition of **interactive models, simulations, and games**, attracting students and faculty from various departments. Key highlights included the **IoT-Based LiDAR Drone – NaviDropper**, a smart agriculture drone equipped with LiDAR for terrain mapping and precision seed dropping, demonstrating the synergy of photonics and sustainability. Another exhibit, the **2D Crystal Waveguide Simulation**, visualized light propagation in photonic crystals using FDTD simulations. The **Sonic Beams** project demonstrated light-based audio transmission using laser diodes and solar panel receivers—a Li-Fi prototype. To make learning fun and hands-on, projects like **Light Pong** (a game using LDRs to control paddles via hand movement) and **Dino Jump** (based on Chrome’s Dino game, using LDRs for jump detection) were also featured. Over **200+ visitors** engaged with the exhibits, and the event sparked significant cross-disciplinary curiosity.

### **WOP ( Winter of Projects)**

Winter of Projects (WOP), held on **December 20th and 21st, 2024**, marked the debut technical event organized by the IEEE Photonics Society at BMSIT&M. The main goal of WOP was to introduce students to project-based learning in the field of photonics by engaging them in real-world challenges. Participants were invited to bid on and choose from two core project themes: Optical Communication and Self-Driving LiDAR Car. In the Optical Communication track, students created a working model where two Arduino boards communicated using an optical channel and a custom protocol, helping them understand the principles of light-based data transmission. In the Self-Driving Car track, teams built a prototype autonomous vehicle using LiDAR sensors, focusing on real-time processing and navigation. The event also featured a fun and educational Laser Maze setup in a dark room, where school children navigated through beams of light, making the event inclusive and engaging for younger audiences. Over the two days, students collaborated to build functional prototypes, enhancing their technical skills, creativity, and teamwork. The event concluded successfully with working models on display and strong participation, establishing WOP as a foundational event for the newly formed society.

### **Spark Trail (ONLINE)**

Spark Trail 2025 was a unique and engaging two-stage photonics-themed scavenger hunt organized by the IEEE Photonics Society to promote interest in light-based technologies in a fun and interactive way. Conducted in an Online format, the event began with an online round on April 4th, where over 250 students participated in a fast-paced digital scavenger hunt designed to test their problem-solving and reasoning skills related to photonics concepts.

## Spark Trail (On Campus )

The top 25 participants advanced to the on-campus final round on April 8th, where they formed teams and embarked on a thrilling clue-based adventure across the BMSIT&M campus. Each clue was carefully designed around fundamental photonics principles, encouraging participants to apply their logical thinking and basic understanding of optics to progress through different checkpoints. The top three teams were awarded cash prizes, adding a competitive and rewarding edge to the event. Spark Trail succeeded in attracting large-scale participation from students of various departments, fostering interdisciplinary engagement while introducing photonics in a creative, non-traditional format. The event received highly positive feedback for its originality and energy, further establishing the IEEE Photonics Society as a vibrant and innovative student group on campus.

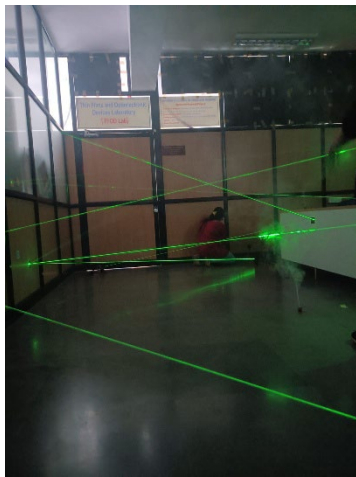
## Photos if required:

IEEE open day





### WOP ( Winter of Projects):



### Spark Trail (ONLINE WINERS)



### Spark Trail (On Campus )





## TEAM MEMBERS:

