

FOREWORD

The Karnataka State Council for Science and Technology (KSCST) was established in 1975 with the aim of harnessing the scientific and technical expertise of numerous scientists, technologists, and engineers in the state to enhance the quality of life for people and offer solutions through science and technology interventions. Key sectors such as Education, Water, Energy, Housing, Geospatial Technologies, and Natural Resource Management have been identified by KSCST for conducting research, development, and dissemination of ideas, products, services, and technologies with the support of the State and Central government.

Some notable successes resulting from KSCST's initiatives include:

- Design of innovative biogas plants, solar collectors, solar pond, gasifiers, and alternative building technologies
- High-efficiency cooking stove design (ASTRA Ole)
- Establishment of rural energy centers
- Creative utilization of the sisal plant

Recent significant endeavors by KSCST for societal benefits encompass:

- Geospatial action plan for informed decision-making
- Rainwater Harvesting
- Revitalization of traditional water harvesting systems
- Development of the Karnataka Geoportal
- Village mapping
- Faculty Project Program
- Patent Cell
- Watershed management and digital mapping of heritage sites
- Renewable energy-related activities
- Implementation of virtual classrooms in high schools
- Science and Technology outreach activities

In addition to catalyzing the adoption of sustainable technologies for society-centric challenges, KSCST actively promotes research, development, and innovation in universities and institutions throughout the state. Recognizing the importance of fostering innovation to create new products and services, KSCST launched the Student Project Program (SPP) in 1977 to nurture talent and innovative thinking among young engineers graduating from colleges across Karnataka.

Under the 47th Series of SPP, KSCST approved a total of 1530 projects for sponsorship across 200 institutions. Noteworthy collaborations include:

- AI and Robotics Technology Park (ART-Park) at the Indian Institute of Science (IISc) supporting selected projects focused on AI, Machine Learning (ML), and robotics - 124 projects sponsored by ART-Park, IISc

- 57 projects supported by the Karnataka State Bioenergy Development Board, Government of Karnataka under the 47th Series of the Student Project Program.

47th Series of SPP – Annual State-Level Poster Presentation and Exhibition

The 47th edition of the Student Project Program (SPP) – Poster Presentation and Exhibition has been held without interruption since its inception. Former seminar projects have now been rebranded as Poster Presentation projects, requiring students to showcase their project highlights through posters and engage in discussions about their projects. This year, we are pleased to announce that Sharnbasva University, Kalaburagi, is hosting this significant event, and the Council expresses its gratitude to them for their support.

Under the 47th Series of SPP, KSCST has chosen 354 projects for poster presentation and exhibition. Within these projects:

- 153 projects have been selected for poster presentation
- 201 projects have been chosen for exhibition

It is our hope that this annual state-level poster presentation and exhibition will motivate students to be more innovative and contribute to building an entrepreneurial ecosystem. KSCST aims to support projects with the potential for commercialization.

We extend our thanks to the Department of Science and Technology, Government of India, and the Department of Science and Technology, Government of Karnataka for their ongoing support in organizing this program. Additionally, we express our gratitude to the AI and Robotics Technology Park (ART-Park) at the Indian Institute of Science for supporting AI and ML-related projects, as well as to the Karnataka State Bioenergy Development Board for their support with bioenergy-related projects for undergraduate and postgraduate engineers. We also appreciate the unwavering support from the engineering colleges and institutions in our state for their continuous support of the student project program since its inception.

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