

# KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

INDIAN INSTITUTE OF SCIENCE CAMPUS, BENGALURU -560012

Telephone: 080 -23341652, 23348848, 23348849, Telefax: 23348840

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Website: [www.kscst.iisc.ernet.in/spp-biofuel.html](http://www.kscst.iisc.ernet.in/spp-biofuel.html) or [www.kscst.org.in/spp-biofuel.html](http://www.kscst.org.in/spp-biofuel.html)

and

## KARNATAKA STATE BIOENERGY DEVELOPMENT BOARD

Department of Rural Development and Panchayat Raj, Government of Karnataka  
#116, 8<sup>th</sup> Cross, Railway parallel Road, Kumara Park West, Bengaluru – 560 020

### STUDENTS PROJECT PROGRAMME - BIOFUEL / BIOENERGY PROJECTS

(SPP – 42<sup>nd</sup> SERIES : 2018 - 2019)

PROJECT PROPOSALS ARE INVITED FROM FINAL YEAR ENGINEERING

(BE / B. Tech), M. Tech AND MBA STUDENTS

Karnataka State Council for Science and Technology (KSCST) and Karnataka State Bioenergy Development Board (KSDBD) invites project proposals from the final year engineering, M. Tech, and MBA students for sponsorship, for the 42<sup>nd</sup> series of Student Project Programme, under three categories:

**STREAM A:** Improvement/ Further Development of Projects which are selected as “**Best Project of the Year Award**” by KSCST during Final Seminar and Exhibition of 41<sup>st</sup> Series of SPP.

The detail of the Awarded projects is hosted in the KSCST – SPP Website.

<http://kscst.iisc.ernet.in/spp-biofuel.html>

and the project details can be obtained from

<http://www.kscst.iisc.ernet.in/sppArchive/public/index.php>

**STREAM B:** KSCST has identified the following project areas for the student's project proposal for an Innovative Project:

#### B.E. and M.Tech:

- 1) Biodiesel production
- 2) Bioethanol production
- 3) Biogas production
- 4) Photobiotic reactors and fermentors
- 5) Algae for Biofuel
- 6) Applications of Nanotechnology
- 7) By-products applications
- 8) Seed decorticators / depulpers
- 9) Process controllers

**Stream C:** KSCST invites projects under any branch of the Engineering / Technology covering the following broad themes / categories.

#### B.E. and M.Tech:

- 1) Process control and automation of biodiesel production system
- 2) Biodiesel from dairy scum/slaughter waste/poultry waste and standard protocol
- 3) Automation of small scale blending process
- 4) Biofuel cells for power generation
- 5) Application of GPS technology for mapping and monitoring of Pongamiapinnata trees in villages
- 6) Bio plastics from glycerol
- 7) Value addition and application of by-product
- 8) Efficient and Economical Pongamia Seed harvester
- 9) Micro algae using photo bioreactor and waste water for biodiesel production
- 10) Design, Development and fabrication of decorticator / depulping for Neem and Simoruba seeds
- 11) SVO testing / applications

#### MBA:

- 1) Seed collection, handling and logistics: Inbound supply chain of biofuel seeds
- 2) Economic feasibility of biofuel production using different seeds, scaling up of biofuel production and sensitivity analysis
- 3) Procurement, packing and warehousing for biodiesel and by-products
- 4) Standard operating procedure for biodiesel production: seed quality parameters for procurement such as refraction (wastage), moisture, shelling percent, oil content, and recovery percent
- 5) Cost-Benefit analysis at different stages of operations like raw material procurement, processing, storage and distribution of Biodiesel and by-products
- 6) Financial analysis, capital on investment, operating cost, Interest on capital, depreciation, ROI, cash flow, funds flow etc., - project report
- 7) Marketing strategies, market trend analysis etc., in case of biofuels
- 8) Business Model for Biofuel Supply Chain
- 9) Successful case studies in Biofuel Supply Chain Management

The proposals needs to be of relevance to the Society / Industries / Institutions / Mankind and shall be a practical model that can be implemented.

A fee of Rs. 1000/- (Rupees one thousand only) will be levied towards

processing of proposals. Hence, while applying, each project proposals have to be accompanied with a Demand Draft for Rs. 1000/- favouring “**Secretary, KSCST**” payable at Bengaluru. The Demand Drafts to be obtained from Canara Bank / State Bank of India only payable at Bengaluru.

The Project Proposals should be prepared as per SPP proposal format. Applicants are requested to download the relevant word file of the SPP proposal and fill the same (Hand written proposals will not be accepted). The hardcopy of the proposal along with Demand Draft have to be submitted to KSCST, in a sealed envelope super scribing “**Project Proposal for 42<sup>nd</sup> series of Student Project Program**” addressed to **The Secretary, Karnataka State Council for Science and Technology, Indian Institute of Science campus, Bengaluru - 560 012.**

**The last date for receipt of Project Proposal is 18<sup>th</sup> January 2019.**

The list of KSCST sponsored project from 2012-13 to 2016-2017 information is available online in the KSCST website as “**SPREAD Online**”. The abstract and full report of 5 years starting from 35<sup>th</sup> series is available for reference. This also provides students information on completed projects and problems/gaps in technology to develop a project proposal, references and avoid duplication.

The Project proposals will be evaluated by a panel of experts for consideration for sponsorship by KSCST. The amount sponsored will be sent to the Principal by Cheque. The project guide should take necessary steps to utilise this amount for the project work and submit the utilisation certificate and statement of expenditure through the Principal of the institution.

Mid-term evaluation of the projects will be done at the identified nodal centres or on video conferencing mode. The students need to demonstrate their project when invited to do so. Selection of projects for Seminar and Exhibition will be based on this evaluation.

It is mandatory for the project team to exhibit / demonstrate their project in the nodal centre and in the final seminar and exhibition (if selected). The final Seminar and Exhibition will be held during **July / August 2019.**

For information on Student Projects Programme (SPP) and for downloading the project proposal format and guidelines, please visit our website:

<http://www.kscst.org.in/spp-biofuel.html>

<http://www.kscst.iisc.ernet.in/spp-biofuel.html>

<http://www.kscst.iisc.ernet.in/sppArchive/public/index.php>

Students may send the “**hardcopy of the project proposal**” with due approval of the college to:

**The Secretary**

**Karnataka State Council for Science and Technology**

**Indian Institute of Science Campus, Bengaluru –560012**

**For further details you may contact**

**SPP Helpdesk : 080 – 23600978**

**Email: [spp@kscst.iisc.ernet.in](mailto:spp@kscst.iisc.ernet.in) , [biofuelcell.kscst@gmail.com](mailto:biofuelcell.kscst@gmail.com)**

#### DATES TO REMEMBER

Last date for receipt of hardcopy of the project proposal as per the SPP format	18 <sup>th</sup> January 2019
Project approval by KSCST	March 2019
Evaluation of Projects at Nodal Centre and selection of projects for Seminar / Exhibition	May - June 2019
2 Pages synopsis and Final Project Report submission along with softcopy in a CD & by Email ( <a href="mailto:spp@kscst.iisc.ernet.in">spp@kscst.iisc.ernet.in</a> )	20 <sup>th</sup> June 2019
Seminar and Exhibition of selected projects	Last week July 2019 or August 2019

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## Guidelines for Project Proposal Submission

1. Students studying in final year engineering are eligible to apply.
2. The Project Guides / HODs need to critically evaluate the project proposals and select the best project proposals before sending them to KSCST.
3. Each project proposal needs to be enclosed with a processing fee of Rs. 1000/- (Rupees one thousand only) in the form of a Demand Draft favouring "Secretary, KSCST". The Demand Drafts to be obtained from Canara Bank / State Bank of India only payable at Bengaluru. Without processing fee, project proposals will not be considered for the evaluation.
4. The college shall nominate the SPP Co-ordinator with whom KSCST can interact regarding evaluation of sanctioned projects, funding, project synopsis, report submission, participation in Seminar / Exhibition, etc. Please contact the Principal for the same.
5. The project team (batch) can have up to a maximum of **FOUR** students.
6. The team shall submit the hardcopy of the project proposal in the prescribed SPP format only (available in website also), duly signed by their Project Guide, Head of the Department and Principal of the institution and it shall reach KSCST on or before **18th January 2019**. Project proposals sent after this date will not be entertained.
7. KSCST sponsored project details from 2012-13 to 2016-2017 information is available online in the KSCST website as "**SPREAD Online**". The abstract and full version of 5 years reports are also available. This provides students, information on completed projects, and problems / gaps in technology to develop a project, references and avoid duplication.  
<http://www.kscst.iisc.ernet.in/sppArchive/public/index.php>  
The details of the Awarded projects are hosted in the KSCST – SPP Website.  
<http://www.kscst.iisc.ernet.in/spp-biofuel.html>  
The project report details can also be obtained from  
[http://www.kscst.iisc.ernet.in/spp/42\\_series/biofuel/41S\\_Biofuel\\_awarded\\_further\\_devpt\\_projects.pdf](http://www.kscst.iisc.ernet.in/spp/42_series/biofuel/41S_Biofuel_awarded_further_devpt_projects.pdf)
8. Each Project team should send **ONLY ONE** proposal.
9. The project team **SHOULD NOT** change the topic of the project after the project has been selected and sponsored by KSCST and should not deviate from the identified objectives. In the event of any such changes, the project will be treated as cancelled and the college should refund the sanctioned amount to the Secretary, KSCST, Indian Institute of Science Campus, Bengaluru - 560 012.
10. The SPP Co-ordinator of the college needs to inform the students who are submitting the project proposal to KSCST that they complete the proposal in all respects duly certified by the HOD / Project Guide and Principal of the institution.
11. After sending the filled project proposal to KSCST, it is mandatory to fill the google form about the project information by Project Team leader and submit without fail. (Photocopy of the filled project proposal to be kept ready for filling the Google form)
12. The link for google form is :  
<https://goo.gl/forms/RNUUYdx3aPsqs8In1> (only for Biofuel Projects)
13. Project proposals will be reviewed and evaluated by a team of experts and those selected will be announced in the **KSCST website** - [www.kscst.iisc.ernet.in](http://www.kscst.iisc.ernet.in) or [www.kscst.org.in](http://www.kscst.org.in)
14. The project sanction letter will be sent to the Principal of the institution with copies to the Project guide

and Head of the Department.

15. The evaluation of projects will be conducted only at nodal centres. The students need to demonstrate their project in the nodal centre. The sponsored projects will be short-listed for Seminar and Exhibition during the evaluation. It is mandatory for the project team to exhibit / demonstrate their project in the nodal centre and also in the seminar and exhibition (if selected). The seminar and exhibition will be held during **July / August 2019**. Venue will be intimated to the college.
16. **The amount sponsored will be sent to the college account in the name of the Principal by A/c. Payee Cheque.** The project guide shall take necessary steps to utilise this amount for the project work and submit the utilisation certificate duly certified by CA of the institution and statement of expenditure through the Principal of the institution.
17. Every sanctioned project will be given a unique Project Reference Number. Please use the same reference number while corresponding with KSCST by E-mail: [spp@kscst.iisc.ernet.in](mailto:spp@kscst.iisc.ernet.in), [biofuelcell.kscst@gmail.com](mailto:biofuelcell.kscst@gmail.com)
18. The nodal evaluation of sponsored projects will be conducted during **May - June 2019** and the projects will be short-listed for annual Seminar and Exhibition. The Juries will be selecting best projects for the awards at seminar and exhibition.
19. It is mandatory for the project team (one student and Project Guide) selected for Seminar and Exhibition to participate in the event. This will be organised in one of the engineering colleges in the state. (Previous Seminar and Exhibition (41<sup>st</sup> Series) was hosted by Bapuji Institute of Engineering and Technology, Davangere on 10 - 11th August 2018).
20. It is mandatory for the project team to send the project synopsis (2-3 page write-up) of the completed project for publishing in the form of digital / hardcopy of the SPP compendium which will be brought out during Seminar and Exhibition.
21. It is also mandatory for the project team to submit one copy of the final project report along with a CD containing the final report (including cover page, initial pages, Contents, Abstract) in .pdf format to KSCST.
22. During the Seminar and Exhibition, "**KSCST Best Project of the Year Award**" will be presented to the **outstanding projects** with a cash prize (for both Students and Project Guides) and certificates to all participants of the Seminar and Exhibition in a function organized for the occasion.
23. Kindly visit our website [www.kscst.iisc.ernet.in/spp-biofuel.html](http://www.kscst.iisc.ernet.in/spp-biofuel.html) for further details and announcements.

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(SPP – 42<sup>nd</sup> SERIES : 2018 - 2019)

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Karnataka State Council for Science and Technology (KSCST) and Karnataka State Bioenergy Development Board (KSBDB) invites project proposals from the final year post-graduate students (M.Sc) for sponsorship, for the 42<sup>nd</sup> series of Student Project Programme, under three categories:

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**STREAM B:** KSCST has identified the following project areas for the student's project proposal for an Innovative Project:

- 1) Biofuel plantation and nursery
- 2) Tissue culture for quality planting material
- 3) Bioethanol production
- 4) Morphological study on biofuel species
- 5) By-products applications
- 6) Grafting for high yielding varieties using mother tree
- 7) Study and prevention of plant diseases in *Pongamia pinnata* (Honge) and *Azadirachta indica* (Neem) trees

**Stream C :** KSCST invites projects under any branch of the Engineering / Technology covering the following broad themes / categories.

- 1) Bioethanol from coffee pulp waste, agro waste, waste fruits pulp and sugar molasses
- 2) Morphological studies of biofuel species
- 3) Quality planting material production technology (including grafts)
- 4) Germination for quality planting material / elite clones
- 5) New / novel / additional species to biofuel feed stock production
- 6) Protein marker assisted Genetic analysis of the variation among the traits of the native biofuel species for improved varieties
- 7) Bio-plastics from glycerol

The proposals needs to be of relevance to the Society / Industries / Institutions / Mankind and shall be a practical model that can be implemented.

A fee of Rs. 1000/- (Rupees one thousand only) will be levied towards processing of proposals. Hence, while applying, each project proposals have to be accompanied with a Demand Draft for Rs. 1000/- favouring "**Secretary, KSCST**" payable at Bengaluru. The Demand Drafts to be obtained from Canara Bank / State Bank of India only payable at Bengaluru.

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