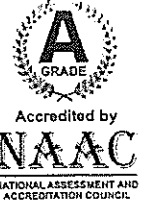




Bharath

INSTITUTE OF HIGHER EDUCATION AND RESEARCH

(Declared as Deemed-to-be University under section 3 of UGC Act, 1956)
(Vide Notification No. F.9-5/2000 - U.3, Ministry of Human Resource Development, Govt. of India, dated 4th July 2002)



Phone : 044-22290742 / 22290125 . Telefax : 044-22293886
Website : www.bharathuniv.ac.in

173, Agaram Road, Selaiyur, Tambaram,
Chennai - 600 073. Tamil Nadu.

Ref No. SMS-2018-O-1

Date : 07/10/2018

TO

Mrs.E.Kowsalya

Asst. Professor/ IBT

BIHER

Thro: Concern Head of the Department

Greetings!!!

We are happy to announce that the Research Advisory Committee has approved your proposal for Seed Money Scheme-2018 which was presented by you. You are requested to complete the proposal and send the progress report to the Dean Research in the prescribed time period.

Title of the Project: Synthetic Waste water Treatment by absorption

Seed Money Amount: Rs.1,00,000/- (Rupees One Lakh Only)

Approved on : 27/09/2018

Payment details:

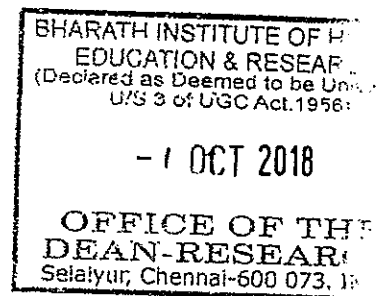
Cheque No. 351621

Dated: 09/10/2018

Bank Name: Indian Bank, Selaiyur, Chennai.

With Regards

Dean-Research



Received
COH



इंडियन बैंक

Indian Bank

Branch - SELAIYUR (TAMBARAM)
PLOT NO.17 AND 18, HASAN COLONY
AGARAM ROAD, SELAIYUR, TAMBARAM, CHENNAI, T.N.
IFS Code :IDIB000S246

VALID FOR THREE MONTHS ONLY
09 10 20 18
D D, M M Y Y Y Y

PAY Ms. E.K. Kowsalya

या धारक को OR BEARER

RUPEES रुपये One Lakh Only

अर्थात् करें ₹ 1,00,000/-

बैंक अ/c No. CA 6670628110



FOR BIHER RESEARCH AND CONSULTANCY

CBS Code: 02505

[Signature]
AUTHORISED SIGNATORY

PAYABLE AT PAR AT ALL OUR BRANCHES

Please sign above

992000069

⑈ 3 5 1 6 2 1 ⑈ 6 0 0 0 1 9 2 5 0 ⑈ 6 2 8 1 1 0 ⑈ 2 9

PROPOSAL SUBMISSION

1. Details of Principal Investigator

Name : Ms. E. Kowsalya
Designation : Assistant Professor
Highest Qualifications : M. tech
Department : Industrial Biotechnology
E-mail :kowsalya1110@gmail.com
Contact no : 9944074782
Date of Joining : 21.07.2014

2. Details of Co - Principal Investigator

Name : Dr. L. Jeyanthi Rebecca
Designation : Professor
Highest Qualifications : Ph.D
Department : Industrial biotechnology
E-mail :hodbiobharath@gmail.com
Contact no : 9444649109
Date of Joining : 08.08.2005

Technical details

1. Introduction

Water is regarded as an essential and abundant source to the living organisms on the earth for their survival and growth but in India, 70% of the available water has been polluted by industries or domestic wastes. Drinking water contaminated with different chemical or physical sources has the greatest impact on health of human being, especially in developing countries. Common contaminant of water has been classified into physical, chemical and biological sources. Physical sources are turbidity, color, odour and other floating matter. Chemical sources comprises of Biochemical oxygen demand (BOD), Chemical oxygen demand (COD), chlorides, alkalinity, pH, hardness etc. biological source of contaminants are the coliform bacteria and pathogens causing gastrointestinal disorders

particular India is the major producer and exporter of cotton and also other types of fabrics in the world market level. Usually garment waste are sending for reuse, recycle as a craft products such as carpets, doormats, pillow cover etc. Fabric made out of different fibers that are obtained from different sources some are naturally available and still some fibers are synthesized natural fibres cellulosic fibres are derived from plants cellulose is made up of elements like Carbon, Hydrogen, oxygen, so using this solid waste the project was carried out to prepare activated carbon and to use this to treat the waste water by Adsorption.

2. Review of status of Research and Development in the subject

Conventionally there are many methods available as a unit operation and unit process for the treatment of waste water namely, Flocculation, Coagulation, sedimentation, precipitation, filtration (UF, MF), RO, Ion Exchange column, Adsorption from the above all Adsorption is the one of the best method for waste water treatment Adsorption is used majorly from rest of all this is because it is very easy to operate, reliable, less cost of installation and also maintenance, can also be used to handle large volume of waste water.

Commercially available Activated carbons are all expensive as they are usually produced from the non-renewable high value raw material such as coal, which is also leading to major Air pollution problem so today in every field finding an choice for the preparation of any product is based on the low cost and renewable is initiated, coconut shell , waste apricot, sugar beet ,bagasse molasses , rubber wood sawdust, bamboo, rattan sawdust ,oil palm fibre and coconut husk . on based on this point this work was done to find a novel material as a source of carbon making raw material, also it was thought that if the material was found from the waste means it could make a recycle of waste into value added product also it will improve the waste management more efficient and easier.

Based on this the work was done to convert textile waste in to Carbon particle and it was chemically activated.

2.1 International Status: NIL

2.2 National Status: NIL

3. Progress/achievement so far,

- a) Literature survey was studied.
- b) Novel adsorbent was developed
- c) Proposal work has been completed.

4. Work Plan:

4.1 Methodology:

The main objectives of the project are as follows,

- To Prepare Activated carbon in economical way
- To prepare synthetic dye solution for the analysis
- To treat the synthetic dye effluent by Adsorption using prepared adsorbent

4.2 Time Schedule of activities giving milestones through BAR diagram.

Work plan (including detailed methodology and time schedule)

| Sl. No. | Activity / Milestone | 1 st Year | | 2 nd Year | |
|---------|--|----------------------|------|----------------------|-------|
| | | | | | |
| 1. | Literature review | 1-6 | | | |
| 2. | Preparation and Characterization of Activated carbon | | 7-12 | | |
| 3. | Adsorption for the treatment of syntheticoic dye effluent by a prepared adsorbent and further parameters studies | | | 13-18 | |
| 4. | Experiments and results | | | | 19-24 |

4.3 Expected outcome within the time period of Seed Money Scheme

For preliminary implemented within the time period of Seed Money Scheme.

(A)For a real time field work can be done within the time period of Seed Money Scheme.

5. Suggested Plan of action stating the name of funding agency where the project will be communicated for financial support within the time period of project.

Nil

6. Bibliography: Nil

7. List of Projects submitted/implemented by the Investigators (Separate for Pi and Co-PI)

Nil

7.1 Details of Projects submitted to various funding agencies:

| S.No | Title | Cost in Lakhs | Month of Submission | Role as PI/Co-PI | Agency | Status |
|------|-------|---------------|---------------------|------------------|--------|--------|
|------|-------|---------------|---------------------|------------------|--------|--------|

| | | | | | | |
|--|----|----|----|----|----|----|
| | NA | NA | NA | NA | NA | NA |
|--|----|----|----|----|----|----|

7.2 Details of Projects under implementation

| Sl. No. | Title | Cost in lakhs | Duration | Role as PI/ Co-PI | Agency |
|---------|-------|---------------|----------|-------------------|--------|
| | NA | NA | NA | NA | NA |

7.3 Details of Projects completed during the last 5 years

| Sl. No. | Title | Cost in lakhs | Duration | Role as PI/ Co-PI | Agency |
|---------|-------|---------------|----------|-------------------|--------|
| | NA | NA | NA | NA | NA |

8. List of publications published by the Investigators, if any:

a) Co - Principal Investigator

| Sl No | Author | Title | Journal | Year | Volume(issue) | Page no |
|-------|----------------------------|--|---|------|---------------|-----------|
| 1 | Dr. L. Jeyanthi Rebecca | Plant extracts inhibiting the adhesion of oral bacteria | Drug Invention Today | 2018 | 10(7) | 100-1101 |
| 2 | Dr. L. Jeyanthi Rebecca | Green synthesized silver nanoparticles as an antimicrobial agent in dentistry | Drug Invention Today | 2018 | 10(6) | 950-953 |
| 3 | Dr. L. Jeyanthi Rebecca | Current trends in reducing microbial adhesion to acrylic denture base resins. | Drug Invention Today | 2018 | 10(6) | 946-949 |
| 4 | Dr. L. Jeyanthi Rebecca | Study on the antibacterial activity and identification of cellulolytic bacteria from cow urine | Research Journal of Pharmacy and Technology | 2018 | 11(9) | 1-5 |
| 5 | Dr. L. Jeyanthi Rebecca | Antibacterial activity of phytochemicals against oral bacteria. | Drug Invention Today | 2018 | 10(7): | 1091-1093 |

| | | | | | | |
|----|----------------------------|--|---|------|--------|-----------|
| 6 | Dr. L. Jeyanthi Rebecca | Screening of marine actinomycetes for fibrinolytic enzymes | Res.J of Pharmacy and technology | 2018 | 11(10) | 4365-4369 |
| 7 | Dr. L. Jeyanthi Rebecca | Plant Extracts with Activity against Oral Bacteria | Drug Invention Today | 2018 | 10(7) | 1088-1090 |
| 8 | Dr. L. Jeyanthi Rebecca | Isolation of Pseudomonas aeruginosa from Quarry Sand | Journal of Chemical and Pharmaceutical Research | 2018 | 10(1) | 6-8 |
| 9 | Dr. L. Jeyanthi Rebecca | Optimization of protease enzyme production by marine actinomycetes | Int J Pharma Bio Sci | 2017 | 8 | 188-194 |
| 10 | Dr. L. Jeyanthi Rebecca | Antimicrobial Activity of Marine Actinomycetes against Human Pathogenic Bacteria | Pharm. Sci. & Res. | 2017 | 9(11) | 2086-2088 |

b) Principal Investigator

| S.No | Author names | Title of paper | Name of Journal | Vol (issue) | Page no. | Year |
|------|--|--|--|-------------|----------|-------------|
| 1. | Kowsalya,E., Sharmila,S., JeyanthiRebecca,L., Yogasri,K | Ground nut shell and spent tea: An Eco friendly low cost adsorbent | International Journal of Pharmaceutical Sciences Review and Research | 31(1): | 132-134 | April, 2015 |
| 2 | Kowsalya,E., Sharmila,S., JeyanthiRebecca,L., | Evaluation of efficiency in congo red dye removal – By Casurina leaves in two different approach | Der Pharmacia Letter | 8(4) | 324-330 | 2016 |

9. Budget

| Sl. No. | Equipment | Quantity | Amount in INR |
|---------|---|--------------------|---------------|
| 1 | Fumace | 1 | 10,000 |
| | Rotary shaker | 1 | 20,000 |
| | Waterbath | 1 | 10,000 |
| | Colorimeter | 1 | 10,000 |
| | Centrifuge | 1 | 15,000 |
| 2 | Consumables (Like, testing tools Charge controller, etc.) | As per requirement | 20,000 |
| 3 | Travel support for the purpose of research work. | --- | 5,000 |
| 4 | Contingency | --- | 5000 |
| 5 | Others | --- | 5000 |
| | Total | | 1,00,000 |

10. Name of at least two subject experts from the Institute and one from the outside Institute with their contact details:

- a) Dr.S.Sharmila – Associate Professor, Dept of IBT, BIHER, Chennai-600073.
- b) Dr. S. Subhashini– Assistant Professor, Dept of Biotechnology, SRM Institute of Science and Technology, Chennai.

CERTIFICATE FROM THE INVESTIGATOR

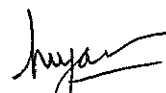
Project Title: Synthetic Waste water treatment by a Novel Adsorbent

It is certified that

1. I do hereby agree to submit a complete proposal for financial support to the external funding agency within the time period of SMS-2018
2. I undertake that spare time on equipment procured in the project will be made available to other users.
3. I agree to submit a certificate from Institutional Biosafety Committee, if the project involves the utilization of genetically engineered organisms. I also declare that while conducting experiments, the Biosafety Guidelines of Department of Biotechnology, Department of Health Research, GOI would be followed in to.
4. I agree to submit ethical clearance certificate from the concerned ethical committee, if the project involves field trials/experiments/exchange of specimens, human & animal materials etc.
5. I agree to abide by the terms and conditions of SMS-2018, BIHER, and Chennai.



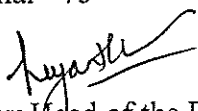
Name and signature of
Principal Investigator



Name and signature of
Co-Principal Investigator

Date: 29.08.2018

Place: Chennai - 73



Forwarded by Head of the Department



Signature of the Head

PROJECT EVALUATION FORMAT

Recommendation Sheet

| | |
|--|--|
| Name of the Principal Investigator | Ms.E.Kowsalya |
| Name of the Co-Investigator | Dr.L.Jeyanthirebecca |
| Name of the Department | IBT |
| Title of project | Synthetic Waste water treatment by a Novel Adsorbent |
| Recommendation of the evaluation committee | <i>Recommended -</i> |
| Financial allocation recommended | <i>Rs. 1,00,000 -</i> |

| Sl. No. | Equipment | Quantity | Amount in INR |
|---------|---|--------------------|-----------------|
| | Furnace | 1 | 10,000 |
| | Rotary shaker | 1 | 20,000 |
| | Waterbath | 1 | 10,000 |
| | | | 10,000 |
| | Colorimeter | 1 | 10,000 |
| | Centrifuge | 1 | 15,000 |
| 2 | Consumables (Like, testing tools Charge controller, etc.) | As per requirement | 20,000 |
| 3 | Travel support for the purpose of research work. | --- | 5,000 |
| 4 | Contingency | --- | 5000 |
| 5 | Others | --- | 5000 |
| | Total | | 1,00,000 |

Name and Signature of the Research Advisory Committee members with date

[Signature]
CDr. P. Naveenchandran

