



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE

363, Arcot Road, Kodambakkam, Chennai – 24
Approved by AICTE & Affiliated to Anna University
email Id: principal@msec.edu.in
Website : www.msec.edu.in

3.1 RESOURCE MOBILIZATION FOR RESEARCH

3.1.1 Grants received from Government and non-governmental agencies for research projects / endowments in the institution during the last five years (INR in Lakhs)

S.NO	YEAR	NAME OF THE PROJECT/ ENDOWMENTS, CHAIRS	PAGE.NO
1	2020-21	Wheelchair Canopy	2-8
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8	2018-19	Report For Flood Estimation And Hydraulic Functions Of Barrage Along Kollidam In Mukkombu, Trichy	55
9	2018-19	Preparation Of Master Plan For Coastal Protection Project For Cuddalore District	56
10	2018-19	Field Visit To Ihh Poondi River For River Training Works At Toludur Anicut In Velar Basin	57
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16	2017-18	Miniaturized Inset-Fed Rectangular Microstrip Patch Antenna For Wlan Applications	65-67
17	2016-17	Marine Structures And The Field Investigation Required For Our Works	68-69
18	2016-17	Study Of Shore Line Evolution In The Presence Of Groin Along The Coast Of Mandakadu In Kanyakumari	70-73
19	"2015 onwards (Project in Process)	Construction Of College Hostel For Harijan Sevak Sangh	74-76

From,
M.Keerthivaasan, R.Eshwar, N. Yugendhiran,
D.P. Aishwarya, M.A. Amreen Taj, G. Madhumitha
III Year, Department of Mechanical Engineering and
Department of Electronics and Communication Engineering,
Meenakshi Sundararajan Engineering College,
Chennai- 600024.

Date: 17/12/2020

To,
The Secretary,
Meenakshi Sundararajan Engineering College,
Chennai- 600024

Sub: - Request for approval of SBI Project reg.-

Respected Mam,

We, students of this esteemed college have come up with an idea to make an attachment to a wheelchair such that it provides a covering to the wheelchair user. This project named "Wheelchair Canopy" is an innovational project and we seek approval from the management to proceed with the same under the "Societal Beneficial Innovation" event. We request you to review & approve our project and we assure to complete our project with our absolute best efforts. Kindly do the needful.

Encl. Proposal of the project and project estimate.

Thank you,

Yours sincerely,



M.Keerthivaasan



R.Eshwar



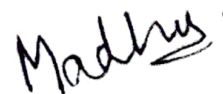
N. Yugendhiran



D.P.Aishwarya



M.A. Amreen Taj



G.Madhumitha

Place: Chennai



PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024

SOCIETAL BENEFICIAL INNOVATION PROJECT PROPOSAL

WHEELCHAIR CANOPY

Department of Mechanical Engineering

&

Department of Electronics and
Communication Engineering

—

Meenakshi Sundararajan
Engineering College

—

M.Keerthivaasan
Eshwar.R
Yugendhiran.N

Madhumitha.G
Amreen Taj.M.A
Aishwarya.D.P

II Year



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CHENNAI-600 024

Abstract:

Wheelchair (Manual/Electric) is an essential part in the life of the physically challenged people, the patients and the elderly. While commuting in a wheelchair, holding an umbrella can be very inconvenient. To overcome this inconvenience, a prototype of “wheelchair canopy” is designed. In this prototype, push buttons are equipped to operate the canopy. These push buttons are placed in such a way that the person can operate conveniently and use them as and when required. Well-constructed mechanical ribs provide adequate support for the canopy and designed to give maximum coverage from rain and sunlight. It also provides ample stability to withstand heavy winds. The canopy has also been made adjustable and detachable so that it is easier to fit in wheelchairs of all sizes and can be removed in days it is not necessary. Installation/Uninstallation of the canopy is made really simple for easier usage. The aim of the project is to make this an easy-to-use product for wheelchair users. All these features make this wheelchair canopy a safe and beneficial product and replaces the manual umbrella for physically challenged people.

Problem Statement:

Wheelchairs have been prevalent in our society for a very long time and so does the problems people face when they use them. Among all the difficulties these people face, dealing with a sudden weather change would be one of the most frustrating things. Usually, people who use a wheelchair would have an assist to help them move and to hold an umbrella while moving them to a safe place during a rain. But not many users can afford an assist to be with them all the time and are forced to face the challenges alone. Umbrella holders have become the alternate option for using of umbrella, but the instability of the product during heavy winds makes it unreliable. All these factors suggest that an effective solution is required to solve these problems.

Solution:

The existing umbrella requires manual operation to open and close, to overcome this difficulty, we have come up with our project which eliminates the need for assistance or manual holding of an umbrella. This project uses a motorized system for the umbrella to open and close on pressing the buttons provided. This gives complete control and comfort to the users. This project is much more cost effective than other solutions that are available in the common market.

Model Diagram:

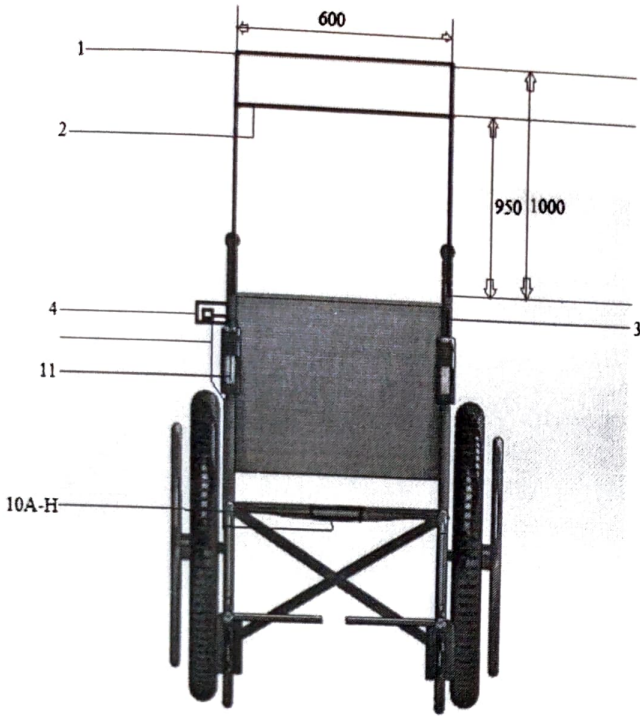


Fig 1 - Wheel chair Canopy
(FRONT VIEW)
ALL DIMENSIONS ARE IN mm

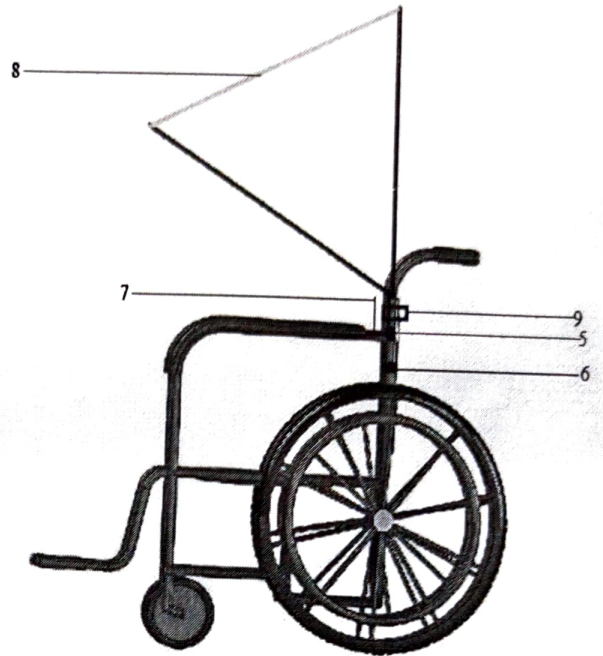
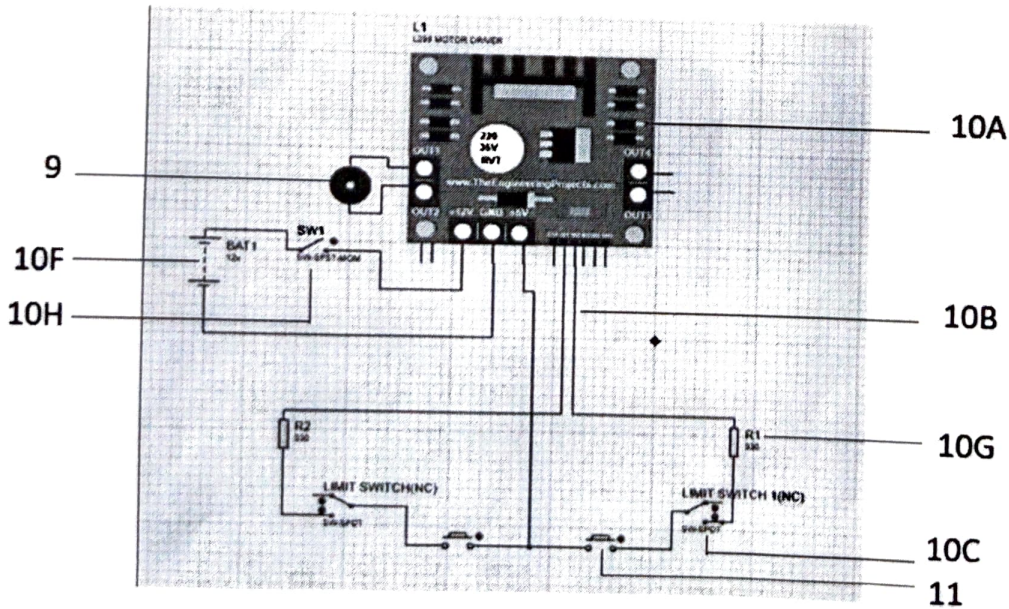


Fig 2 - Wheel chair Canopy
(SIDE VIEW)

Schematic Diagram:



J. S.

Future Scope:

- Sensors can be added for automatically opening the canopy during rain.
- An obstacle detection device can be implemented which warns the users of any obstacle.
- Pulse-oximeter can be included to check the oxygen level of a person with heart conditions.
- Generator can be added to the wheels of the wheelchair in a way that it stores the energy which could be used to recharge battery of the circuit. Solar panels could also be implemented.
- Lights can be attached in the wheelchair for better vision at night.

Conclusion:

This project is best suited to satisfy the need of wheelchair users to use an umbrella. This wheelchair canopy eliminates the anxiety and rush the person feels while facing a sudden weather change, thus making it a societal beneficial innovation.



PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM
CHENNAI-600 024

CREDIT SALE INVOICE

Original For Recipient

TEJPAL PHARMA & SURGICALS

O#109,N#79,,Nyniappa Naicken Street
Parktown, CHENNAI-600 003, Tamil Nadu, India
Ph: 42140000 (2583) Mob: 9962491989, 9176010121
Email : tejpalsps@gmail.com Web :
www.indiamart.com/tejpalpharmasurgical

G.S.TIN : 33AAMFT3652K1ZV
D.L No. : 1810/MZI/20B : 1761/MZI/21B

Invoice No : TPS : 714
Date : 20-12-2021
Transport :
L.R. No. :
L.R. Date :
Cases :
Order No :
Order Date :

M/s. KONE ELEVATOR INDIA PRIVATE LIMITE
Prestige Center Court 9Th Floor, The Forum Vijaya Mall
No#183, NSK SALAI, ARCOT ROAD
VADAPALANI CHENNAI-600 026
Ph: 66256584

G.S.TIN : 33AAACK2567P1Z8
D.L No :

Mfr	Description Of Goods	HSN	Pack.	Batch	Expiry	Qty	Free	Rate	MRP	Tax%	Amount
KME	WHEEL CHAIR	8713	EACH	KW809B		1		5750.00		5	5750.00
KME	WHEEL CHAIR	8713	1Nos	KW809B		19		5750.00		5	109250.00

Total Items : 2 Qty : 20 Due Date : 20-12-2021 D.C. No. : , D.C.Date: Sub Total 115000.00

Order No : /

TAX SUMMARY TURNOVER AMT SGST SUMMARY CGST SUMMARY
GST-S@5% 115000.00 2.5% 2875.00 2.5% 2875.00

BANK DETAILS :

Bank : Kotak Mahindra Bank.
A/c No : 2912544535.
Acc Type : Current.
IFSC : KKBK0000464.
Branch : 2nd Line Beach, Ch - 1.

FREIGHT OUTWARD 1250.00
Total SGST 2875.00
Total CGST 2875.00

Total ₹ 122000.00

REMARKS :**Terms & Conditions**

1. Please Check Batch No. Quantity, Expiry Date Before Taking
2. Intrest Will Be Charged @24%,If Payment Is Not Made Within 30Days
3. Subject to chennai jurisdiction

Receiver's Sign.



For TEJPAL PHARMA & SURGICALS

Authorised Signatory

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM
CHENNAI-600 024



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
(Managed by I.I.E.T Society)
363, Arcot Road, Kodambakkam, Chennai – 24

Dr.K.S.BABAI, B.Sc., B.E. MS, Ph.D, FIE MIST
Secretary

☎ 24801636,24732488
Fax: 24811103

Date:30.12.2020

To,

Mr. S. Ravindran

Director – South India & Srilanka
KONE Elevator India Private Limited
No.136, Shyamala Towers, East Wing,
5th Floor, Arcot Road, Saligramam,
Chennai-600093
TAMIL NADU
Phone-044-66254254

Dear Sir,

Greetings from Meenakshi Sundararajan Engineering College!

Our college is top ten among 250 colleges in Anna University (<http://msec.edu.in/>). Our students are interested in carrying out innovation work for physically challenged people. They are developing **canopy for the wheel chair**. While commuting in a wheelchair, holding an umbrella can be very inconvenient. To overcome this inconvenience, a prototype of **“Wheelchair Canopy”** is designed.

We will be happy if you can contribute **20-wheel chairs** for the above purpose. Your contribution will not only help the physically challenged people but also help our students to think **“Out of The Box”** and to create innovative project to **Benefit the Society**.

Looking forward to your positive response.

Thanks and regards,

Dr. K S Babai
(Secretary)

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM
- CHENNAI-600 024

5/28/22, 6:11 PM



Meenakshi Sundararajan Engineering College Mail - Loan of Equipment -MSEC Chennai-reg

Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College <hod.eee@msec.edu.in>

Loan of Equipment -MSEC Chennai-reg

10 messages

Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College <hod.eee@msec.edu.in>
To: lohith_m@selinc.com

Tue, Oct 19, 2021 at 12:30 PM

Dear Sir,

Sub: Requisition for extending the loan of equipment for another six months till April 2022 - Reg.

We take pleasure in sharing our happiness for having received a loan of below mentioned equipment as part of a final year undergrad students project. We would like to request you to extend the loan period for another six months till April 2022. We expect your kind cooperation in this regard. We ensure that the equipment will be handed after the stipulated period as received.

1. SEL-RTAC with IEC 61850 client capabilities
2. SEL - 751A with IEC 61850 server capabilities

Thanks in advance.

Thanks and Regards,

Soundara Bala Suppuraj,
Head of Department,
Department of Electrical and Electronics Engineering,
Meenakshi Sundararajan Engineering College

Lohith M <lohith_m@selinc.com>

To: "Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College" <hod.eee@msec.edu.in>

Tue, Oct 19, 2021 at 1:01 PM

Sir,

Can you please share your contact number please. We will discuss about your requirement.

Thank you

Lohith M

7406849250

From: Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College <hod.eee@msec.edu.in>

Sent: Tuesday, October 19, 2021 12:30 PM

To: Lohith M <lohith_m@selinc.com>

Subject: Loan of Equipment -MSEC Chennai-reg

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, SODAMBAKKAM,
CHENNAI-600 024 7

[Caution - External]

[Quoted text hidden]

Lohith M <lohith_m@selinc.com>

Mon, Nov 22, 2021 at 9:55 AM

To: "Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College" <hod.eee@msec.edu.in>

Dear sir,

Can you please share your contact number we want to discuss regarding your below request.

Thank you

Lohith M

7406849250

From: Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College <hod.eee@msec.edu.in>

Sent: Tuesday, October 19, 2021 12:30 PM

To: Lohith M <lohith_m@selinc.com>

Subject: Loan of Equipment -MSEC Chennai-reg

[Caution - External]

Dear Sir,

[Quoted text hidden]

Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College <hod.eee@msec.edu.in>
To: Lohith M <lohith_m@selinc.com>

Tue, Nov 23, 2021 at 2:16 PM

Dear sir,

I can give you the faculty incharge number. Mr.Sivasubramanian is his name and the contact number is 9840115485.

Thanks and Regards,

Soundara Bala Suppuraj,
Head of Department,
Department of Electrical and Electronics Engineering,
Meenakshi Sundararajan Engineering College

[Quoted text hidden]

Lohith M <lohith_m@selinc.com>

To: "Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College" <hod.eee@msec.edu.in>

Wed, Dec 29, 2021 at 1:00 PM

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAN,
CHENNAI-600 024

Dear sir,

contacting below shared contact but there is no response. We wish to have our devices back.

Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College <hod.eee@msec.edu.in>
To: Lohith M <lohith_m@selinc.com>

Fri, Dec 31, 2021 at 4:54 AM

Respected sir,

The person was on leave for the past week. Sorry for the inconvenience caused. We will make arrangements to send the device back.
We will talk to you in this regard on Monday sir.

Thanks and Regards,

Soundara Bala Suppuraj,
Head of Department,
Department of Electrical and Electronics Engineering,
Meenakshi Sundararajan Engineering College

[Quoted text hidden]

Lohith M <lohith_m@selinc.com>

Wed, Feb 16, 2022 at 3:48 PM

To: "Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College" <hod.eee@msec.edu.in>

Sir,

Can we have our devices back? Its being delayed and we are following up with you for long time can you please dispatch the devices on priority..

[Quoted text hidden]

Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College <hod.eee@msec.edu.in>

Wed, Feb 16, 2022 at 4:31 PM

To: Lohith M <lohith_m@selinc.com>

OK sir . It will be done before next Wednesday. I will inform our staff coordinator to talk to you in this regard.

[Quoted text hidden]

Wed, Feb 16, 2022 at 5:48 PM

Lohith M <lohith_m@selinc.com>

To: "Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College"

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAL
CHENNAI-600 024

Noted sir, Please send us as early as possible.

[Quoted text hidden]



Returning SEL equipment

2 messages

Sindhuja Vijayaraghavan <sindhujavijayaraghavan12@gmail.com>

Wed, Sep 22, 2021 at 2:08 PM

To: "Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College" <hod.eee@msec.edu.in>

Cc: lohith_m@selinc.com

Hello Ma'am,

I hope you are well.

Lohith would like to have the equipment sent back. Could you kindly do the needful?

Lohith, could you please send us the address where the device has to be shipped to?

Thanks
Sindhuja

On Sat, 13 Mar 2021, 12:28 Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College, <hod.eee@msec.edu.in> wrote:

Dear Sir,

Sub: Thanking you for the loan of the equipment

This mail is to express our sincere thanks for the loan of equipment from SEL, Bangalore. We received an equipment, SEL - 751A, on 12th March 2021. We feel extremely happy in the interest shown by your Organization in sharing your knowledge, in the form of loan of equipment, with our College. We assure you that the equipment would be returned to you in good condition after a period of 6 months of stay in our College.

In this connection, we also would like to know whether a skilled person would be available when the consignment is opened. Kindly acknowledge this mail.

Thanks and Regards,

Soundara Bala Suppuraj,
Head of Department,
Department of Electrical and Electronics Engineering,
Meenakshi Sundararajan Engineering College

Lohith M <lohith_m@selinc.com>

Thu, Sep 23, 2021 at 10:05 AM

To: Sindhuja Vijayaraghavan <sindhujavijayaraghavan12@gmail.com>, "Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan Engineering College" <hod.eee@msec.edu.in>

Hello mam,

Please find below address.

Schweitzer Engineering Laboratories Pvt Ltd,
Plot No. 166, 5th A Cross, Bommasandra Industrial Area,
Bengaluru, Karnataka 560099

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBURKAM,
CHENNAI-600 024

Thank you

10



Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan
Engineering College <hod.eee@msec.edu.in>

Requisition for loan of equipment-reg

1 message

Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan
Engineering College <hod.eee@msec.edu.in>

Sat, Jan 30, 2021 at
12:45 PM

To: lohith_m@selinc.com


Cc: sindhujavijayaraghavan12@gmail.com

Dear sir,

As per discussion with Sinduja, I am sending you this mail regarding the loan of equipment for final year project work. I have attached the request letter with this mail. Kindly find the attachment.

Please discard the previous mail in this regard.
Thanks and Regards,

Soundara Bala Suppuraj,
Head of Department,
Department of Electrical and Electronics Engineering,
Meenakshi Sundararajan Engineering College

 Letter to SEL India.pdf
295K

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAL
CHENNAI-600 624

Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan
Engineering College <hod.eee@msec.edu.in>



Requisition for loan of equipment - Reg.

1 message

Soundarabala, HOD - Electrical & Electronics Engineering - Meenakshi Sundararajan
Engineering College <hod.eee@msec.edu.in>

To: lohith_m@selinc.com

Fri, Jan 29, 2022
12:02

Dear Sir,

Please find the attachment.

Thanks and Regards,

Soundara Bala Suppuraj,
Head of Department,
Department of Electrical and Electronics Engineering,
Meenakshi Sundararajan Engineering College



SEL letter.docx

43K

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 924



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
(Managed by I.I.E.T Society)
363, Arcot Road, Kodambakkam, Chennai - 24
Approved by AICTE & Affiliated to Anna University

Mrs. Soundara Bala S, M.E. (Ph.D)
Associate Professor,
HOD/EEE

Off: 044-24801636

To

Chennai,
29/01/21

SEL INDIA

Dear Sir,

Sub: Requisition for loan of equipment - Reg.

Ref: Discussion with Sindhuja Vijayaraghavan from Croonwolterendros, over phone.

With respect to the reference cited above, we take pleasure in bringing to your kind attention that we are in need of the below mentioned equipment for a batch of students from final year. We have a plan to keep the equipment for a period of six months. We ensure that the equipment will be handed after the stipulated period as received.

1. SEL-RTAC with IEC 61850 client capabilities
2. SEL - 751A with IEC 61850 server capabilities

Thanks in advance.

With regards,

Mrs. Soundara Bala S,
HOD/EEE

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024



SEL-3530/3530-4 ▾

Real-Time Automation Controller (RTAC)

The SEL-3530 is a mid-level rack- or panel-mounted model of the RTAC, available in 1U, 3U, or 1U half-rack form factors. Suitable for use in utility substations or industrial control and automation systems, the SEL-3530 provides complete and flexible system control with integrated security, unified logic, and reliability. This model is ideal for small to medium installations and applications integrating data for up to 60 devices.

For more information about the RTAC automation platform, its applications, and other available models, visit the [RTAC platform page](#).

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\$3,400

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363, ARCOT ROAD, KODAMBAKKAM
CHENNAI-600 624



**STUDENT PROJECTS SCHEME
SEMINAR CUM EXHIBITION
(2018 - 2019)**

PROCEEDINGS



**TAMILNADU STATE COUNCIL
FOR
SCIENCE AND TECHNOLOGY
CHENNAI**

**STUDENT PROJECTS SCHEME
SEMINAR CUM EXHIBITION
(2018 - 2019)**

PROCEEDINGS



**TAMILNADU STATE COUNCIL
FOR
SCIENCE AND TECHNOLOGY
CHENNAI**

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024

K.P. ANBALAGAN
MINISTER FOR HIGHER EDUCATION
President and
Chairman, Executive Committee
Tamil Nadu State Council for Science
and Technology



SECRETARIAT
CHENNAI - 600 009.
Date 15.07.2019

MESSAGE

Science and technology have a major impact on society and their impact is growing. Human capability is driven largely by quality education. In the knowledge era that we are already in, this is of even greater importance because knowledge also drives innovation and technology that are significant capability multipliers.

I am extremely happy that the Tamil Nadu State Council for Science and Technology is bringing out the research work of the students in the form of proceedings to the student community of Tamil Nadu.

Projects can invigorate the learning process as they lead students to grapple with the problems of real-world relevance, sparking their desire to explore, investigate, understand and solve them. In the process of completing their projects, students also refine their research and organisational skills, develop better communication with their peers, and often work within their community while seeing the positive effect of their work.

I would like to thank the Management and the faculties of the Kalasalingam Academy of Education and Research, Krishnankoil, Srivilliputhur for organising such a Seminar-cum-Students Project Exhibition at their campus.

I wish to express my gratitude to Tamil Nadu State Council for Science and Technology for their efforts to develop this document which, I am certain would be found very useful by students.

I wish you all a refreshing, exciting and illuminating experience which will be helpful in bringing out effective contributions to the society.

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM
CHENNAI-600 024

K.P. Anbalagan
15/7/19
(K.P. ANBALAGAN)



& Vice President
Tamil Nadu State Council for
Science and Technology

Date: 12.07.2019

MESSAGE

Scientific discourse is necessary for the progress of society. But scientific temper plays an important role in the growth of society. The Article 51A of the Indian Constitution that lists the fundamental duties, clearly states that, "It is the fundamental duty of every citizen of India to develop the scientific temper, humanism and the spirit of inquiry and reform." Inculcating scientific temper in everyday life is essential for the advancement of the society.

A great project can be transformative for students and it imparts an enriching education. It will help in infusing critical thinking and problem solving skills in students. Application of their knowledge to the real-world problems will boost their learning experience. They gain skills valuable in today's workplace and in life, such as how to take initiative, work responsibly, solve problems, collaborate in teams, and communicate ideas.

It is heartening to note that Tamil Nadu State Council for Science and Technology dedicates the research work of the students in the form of proceedings to the student community of Tamil Nadu.

I am confident that this Seminar cum Exhibition will be a great platform to the students to improve their knowledge.

I wish to congratulate Kalasalingam Academy of Education and Research, Krishnankoil for their great efforts in conducting this Exhibition.

I wish a grand success to the seminar cum exhibition.


(MANGAT RAM SHARMA)



PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM
CHENNAI-600 024



தமிழ்நாடு அறிவியல் தொழில்நுட்ப மாநில மன்றம்
TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

(Established by Government of Tamilnadu)

Directorate of Technical Education Campus, Chennai - 600 025

Phone : 044 - 2230 1428

Telefax : 044 - 2230 1552

Web : www.tanscst.nic.in

E-mail: vp-tanscst@gov.in

DR. M. ANNADURAI
VICE PRESIDENT

வாழ்த்துச் செய்தி

அறிவியல் தொழில் நுட்பம் ஒரு நாட்டின் வளர்ச்சிக்கும், தன்னிறைவுக்கும் இறையாண்மைக்கும் ஒரு மிகப் பெரிய பங்களிப்பைக் கொடுக்கிறது. இன்றைய காலகட்டத்தில் விவசாயம் முதல் விண்வெளிவரை எல்லாத்துறைகளும் அடுத்த கட்டம் நோக்கிய ஆய்வுகளை குறைந்த செலவில் அதிக உற்பத்தி, சிறந்த நம்பகத்தன்மை (Improved quality), குறைந்த சேதாரம், மேம்பட்ட மனித வளப் பயன்பாடு, என்று பன்முக நோக்கில் நான்கு கால் பாய்ச்சலில் செல்ல வேண்டிய ஒரு கட்டாயத்தில் உள்ளன.


நீர்மேலாண்மை, நெகிழிக்கு மாற்று அல்லது மக்கும் நெகிழி, மின்சார வண்டிகள், மாற்று எரிபொருள், சேதாரக் குறைப்பு என வளர்ந்து வரும் பட்டியல் அறிவியல் தொழில் நுட்பத்திற்கு ஒரு புறம் சவால்களையும் மற்றொரு புறம் மிகச் சிறந்த வாய்ப்புகளையும் ஒருங்கே உருவாக்கியுள்ளது.

அறிவியல் தொழில் நுட்பத்தில் பெருகிவரும் வாய்ப்புகளை முன்கூட்டியே அறிந்து சமுதாயப் பங்களிப்புக்கான கண்டு பிடிப்புகளாக மாற்ற வேண்டிய பொறுப்பு நாளைய அறிவியல் தொழில் நுட்ப விற்பன்னர்களாக வளரவிருக்கும் இன்றைய அறிவியல், தொழில் நுட்பம் மற்றும் பொறியியல் கல்லூரி மாணவர்களுக்கு உள்ளது. அப்படி மலரவுள்ள தமிழக அறிவியல், தொழில் நுட்பம் மற்றும் பொறியியல் கல்லூரி மாணவர்களுக்கு அவர்தம் இறுதி வருடக் கல்லூரிப் படிப்பின் போது அளிக்கப் பட்டிருக்கும் ஒரு வாய்ப்புத்தான் மாணவர்களின் ஆராய்ச்சி மற்றும் ஆய்வுத் திட்டம். புத்தாக்கம் புரிய அவர்களின் கல்லூரிக் கல்வியின் ஒரு அங்கமாக தாம் கற்றவற்றையும், தன்னால் என்ன செய்ய முடியும் என்பதை அறிவியல் தொழில் நுட்ப கண்டுபிடிப்புகளாக வெளிப்படுத்தவும் ஒரு வாய்ப்பாக இது அமைந்துள்ளது.

தமிழ் நாடு அறிவியல் தொழில் நுட்ப மன்றம் கடந்த 25 வருடங்களாக தமிழக அறிவியல் மற்றும் தொழில் நுட்ப பல்கலை மற்றும் கல்லூரிகளில் மாணவர்களின் சிறந்த கண்டுபிடிப்புகளை, தமிழகத்தின் முத்த அறிவியலாளர்களின் உதவியுடன் இனம் கண்டு, சிறப்பான ஒரு விழாவில் ஊக்கப் பரிசும், சான்றிதழும் கொடுத்துச் சிறப்பித்து வருகிறது. ஒவ்வொரு வருடமும் நிகழும் இந்த நிகழ்வு இந்த வருடம், ஜூலை 19-20 என்ற இரு நாட்கள் "கலசலிங்கம் பல்கலைக்கழகம்" கிருஷ்ணன் கோவிலில் 1782 மாணவர்களின் 700 கண்டுபிடிப்புகளுக்கு அவர்களை அழைத்து அவர்களின் கண்டு பிடிப்புகளைக் காட்சிப்படுத்தவும் அவர்கள் சிறப்பிக்கப் படவும் உள்ளார்கள்.

கண்டு பிடிப்பாளர்களைக் கண்டறிந்து அவர்களை ஊக்கப்படுத்தவும் அதன் மூலம் புதிய கண்டுபிடிப்பாளர்களை உருவாக்கும் வண்ணம் இரு நாட்கள் நிகழவுள்ள இந்த வருடத்திற்கான நிகழ்வின் வெற்றிக்கு வாழ்த்துக்கள். இதற்குக் காரணமாக இருக்கும் முத்த அறிவியலாளர்கள், தமிழ்நாடு அறிவியல் தொழில் நுட்ப மன்றத்தின் அனைத்து உறுப்பினர்கள், கலசலிங்கம் பல்கலைக்கழக நிர்வாகம், பயனடையும் மாணவர்கள் எனது மனமாற்றந்த வாழ்த்துக்கள்.


(மயில்சாமி அண்ணாதுரை)


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MEENAKSHI SUNDARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM
CHENNAI-600 024



தமிழ்நாடு அறிவியல் தொழில்நுட்ப மாநில மன்றம் TAMIL NADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

(Established by Government of Tamilnadu)

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DR. R. SRINIVASAN, M.Sc., Ph.D., F.I.C.S., M.A.C.S. (USA).
Member Secretary

Date: 12.07.2019

FOREWORD

I am immensely happy to convey that the Tamil Nadu State Council for Science and Technology takes pleasure to dedicate the industrious research work of the enthusiastic, committed and talented young students in the form of proceedings to the elite student community of Tamilnadu.

The Tamil Nadu State Council for Science and Technology has been successfully implementing the 'Student Project Scheme' for the past 25 years since 1994. The Council has supported 700 student projects during the year 2018-2019. The vision of the scheme is to identify the talented young students, recognize their innovative ideas and skills and motivate them to pursue research in reputed institutions to earn their Doctoral degree and strengthen the Science and Technological expectations of the common man by giving them a decent dignified life as a partner of the larger society.

The Seminar cum exhibition of the illustrious project works carried out by the awardees of Student Project Scheme is organized at Kalasalingam Academy of Education and Research at Krishnankoil, Virudhunagar district during July 19-20, 2019. I thank the management, staff and student volunteers of Kalasalingam University for their dedicated involvement and support for this event.

On this occasion let us motivate, appreciate and mutually congratulate one another for the excellent projects that have been accomplished. I congratulate the supervisors of the students who have been of great inspiration for the successful completion of the projects. The presentation and demonstration of models in a public platform is a unique way of promoting entrepreneurship skills among the young generation of researchers.

I render my deep sense of gratitude with overwhelming thanks to our President and Chairman of the Executive Committee Thiru. K.P.Anbalagan, Honourable Minister for Higher Education, Government of Tamilnadu for rendering his invaluable support, guidance and warm wishes.

I whole heartedly thank Thiru. Mangat Ram Sharma, I.A.S., Principal Secretary to Government, Higher Education Department, Govt. of Tamilnadu, Chennai for his insightful guidance and constant boosting up of all the initiatives put forth by the Council.

I am happy to render my gratitude to Vice-President, Dr. Myswamy Annadurai for his encouragement and insightful motivation.

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(R. SRINIVASAN)

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SSM Institute of Engineering and Technology, Dindigul – 624 002
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Department of Aeronautical Engineering
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Department of Mechanical Engineering
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Department of mechanical engineering,
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Department of Mechanical Engineering
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- 456 **A PORTABLE DEVICE TO PRODUCE WATER FROM ATMOSPHERIC AIR**
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Department of mechanical engineering
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- 457 **MULTI PURPOSE SHOE**
M.ManikadaaPrabhu
Department of Mechanical Engineering
V.S.B College of Engineering Technical Campus, Coimbatore 642109
- 458 **SMART BLOOD GROUP DETECTOR**
D.Dinesh, S.Sangeetha, K.Rukesh prasanna and Dhoddu Kandhasamy D
Department of Mechatronics
Agni college of technology, Chennai-600130
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S.Srimaarinivas, U.Siva Kumar, S.Lenin and S.Aravind
Department of Automobile Engineering,
Arasu Engineering College, Kumbakonam – 612 501



Conclusion

The major reason for the urban floods is that there is no proper drainage management and proper pre alert system. By using IoT based alert system, we can sort all the drainage management problems. And also all possibilities of water entering the city can be controlled and this system can be runned at all crises. This helps to save the life of the people.

Guide: Mr.Charles.B. Assistant professor, Department of Mechanical Engineering, Adithya Institute of Technology, Coimbatore-641107

MOLTEN SALT OXIDATION

G.Sivaram, G.R.Bhalaji, R.Rahul and S.Rahul

Department of Mechanical Engineering

Meenakshi Sundararajan Engineering College, Chennai - 600024.

Abstract

The aim of this project is to destruct organic as well as non-organic wastes with lesser energy consumption as well as reduced harmful emissions in waste conversion. The setup consists of a reactor heated by radiant electric heater and filled with carbonate salts, the reactor is provided with three slots at the top. One slot is used for inlet of waste accompanied by air, the other is provided for exhaust gases and the third slot is provided for temperature sensor. The exhaust from the reaction is monitored for levels of CO, CO₂ and NO_x. The results are compared with normal combustion process and incineration.

Introduction

The most common method used for the destruction of organic waste is incineration, which requires high energy for its operation and is also not suitable for many wastes. This project not only serves as a method of waste destruction. It can also be utilized for recycling of elements which are left out as salts as a by-product of the reaction undergone in the reactor. These salts, if required, can be processed to extract the elements required from it. Further, this reactor can also be used for the destruction of explosives and its research is in progress for utilizing the reactor for treatment of nuclear wastes.

Materials and Methods

A reactor is designed for melting carbonate salts(or eutectics of carbonate salts) with radiant electric heater. The material for the reactor is Mild Steel with Outer diameter of 180mm with a wall thickness of 8mm and a height of 250 mm. The salt mixture chosen was NaOH-40%and Na₂CO₃-60% and has a melting temperature of about 350°C according to the experiments. An electric Kiln is designed and fabricated for the dimensions of the reactor using radiant electric heater wire made of Nichrome heating element wires to half the depth of the reactor. The temperature sensor(K-Type Max6675 Thermocouple)is used for the measurement of temperature of the molten salt. A compressor is used to supply air to the furnace and crushed wastes are sent along with air and the exhaust gas is analysed using an exhaust gas analyser.

Working

When the kiln is made to operate and the temperature is made to reach above 350°C, salt starts melting and fusion occurs after some time. Due to fusion of salt, sodium, carbonate and hydroxide ions are formed in the salt. When the compressor is switched on and the air supply is sent to the molten salt, carbonates react with oxygen to form peroxide(O⁻) and super-oxides(O²⁻) when the waste that has to be decomposed is sent

into the reactor now, oxidation takes place spontaneously to disintegrate the elements present in the waste and decompose the waste into respective oxides. When elements containing Sulphur is sent to the reactor, instead of forming SO_2 , Sodium reacts with the sulphate ion to form Sodium Sulphate which remains in the salt bath.

Result

The destruction efficiency of the molten salt reactor for polyethylene and other organic compounds are found to be above 99% and have been proven from the final slag which is without any organic compound after the process. Biological wastes have also been tested on the molten salt reactor and no trace of biological waste could be found after the process.

Conclusion

The characteristics that distinguish the molten salt oxidation of other techniques can be described concisely as: existence of high coefficients of heat transfer and low temperature deviations, due the properties of the molten salt and the liquid phase where the reactions are occurring; neutralization and absorption of acidic gases in the bath; retention of metals and ashes in the salt; existence of some catalytic action by the salts present in the bath. After the decomposition of the waste, the salt keeps the present metals in the compounds in the form of oxides. Thus the molten salt reaction can be used as an alternative to incineration due to its lesser energy requirements and also greater destruction efficiency. This method can also be used for the treatment of industrial effluents which are major deterrents.

Guide : Mr.K.Iyyanar, Assistant Professor, Department of Mechanical Engineering, Meenakshi Sundararajan Engineering College, Chennai – 600 024

RECYCLING OF INSTITUTIONAL PLASTIC WASTE INTO COMMERCIAL COMPONENTS

B.Hariesh, E.Harish, R.Jaikumar and S.Kathirvel

Department of Mechanical Engineering
Velammal Engineering College, Chennai – 600066

Abstract

Attempts were made to produce Commercial and domestic components using recycled plastics from plastic junks collected from our Institution. The waste plastics sheets were collected through sanitary division of our institutions, segregated and dried for further processing. The collected plastics were cut into fine pieces in shredder and then pelletized for further processing. The pelletized recycled plastics will be converted into useful commercial components. The mechanical properties, such as tensile strength, flexural strength and hardness were found and corroborated. Considerable improvement in mechanical property was noticed on infusion of nanofillers. In general, we were able to recycle the plastic junks in-house.

Introduction

The effects of plastic bags on the environment are really quite devastating. For country like India, banning of plastic bags is systematically impossible. Hence the damage to the environment needs to be controlled by systematically inculcating the habit of disposal for effective recycling. The biggest problem with this is that once they have been soiled the end up in the trash, which then ends up in the landfill or burned. The litters of plastic bag is not biodegradable and thus where it lands it tends to stay for long period of time. It was decided to recycle plastics being used in our institution, which accounts to almost a ton per year by rough estimation. It was decided to produce some commercial components ranging from paper weights to small structures.



தமிழ்நாடு அறிவியல் தொழில்நுட்ப மன்றம்
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Dr. R. SRINIVASAN, M.Sc., Ph.D., F.I.C.S., M.A.C.S. (USA)
 Member Secretary

LT.No TNSCST/SPS/AR/2018-2019

18.02.2019

To
 The Principal
 Meenakshi Sundararajan Engineering College
 Chennai -600024

Sir/Madam,

Sub. TNSCST – Student Project Scheme – 2018-2019 – approval
 intimation–grant release- reg.

With respect to the above scheme, the list of projects approved by the State Council is enclosed along with terms and conditions. Kindly read and ensure adherence to the terms and conditions such as submission of UC and seminar paper in time.

Kindly find enclosed here with the cheque for the approved grant and disburse the grant to the concerned students through the guides at the earliest.

Kindly send the utilisation certificate (format enclosed) and seminar paper (ref.T&C-no.5&6) on completion of the project.

Thanking you,

Yours faithfully,


 18/2/19

Member Secretary.


 18/2

Encl: a) Terms & Conditions (T&C)
 b) Format of Utilisation Certificate (UC)
 c) Cheque for Rs 7500/- No: 795170 dt:18.02.2019.

Copy to: Individual Guides





PRINCIPAL
 MEENAKSHI SUNDARARAJAN ENGINEERING COL
 363, ARCOT ROAD, KODAMBAKKAM
 CHENNAI-600 024

May 16, 2018

K S Babai
Governor, 324-A1
Lions Clubs International

Dear Governor K S Babai:

I am pleased to inform you that at their recent board meeting, the LCIF Trustees approved LCIF Matching Grant MAT16024/324-A1, in the amount of US\$100,000, to help equip a cancer center at Chennai. I take this opportunity to congratulate you and your fellow Lions for your efforts on behalf of those in need in your community.

The district will be eligible to receive the grant once we receive 1) the signed grant agreement, 2) the Lions collect all of the local Lions funding, (US\$31,783 or Rs. 2,050,000) that was committed to the project and provide LCIF with verification of the collection, 3) appropriate FCRA registration is obtained allowing LCIF to disburse funds for the project, and 4) all equipment costs are documented by the submission of pro-forma invoices from three potential suppliers. These pro-forma invoices should show the manufacturers recommended price and the negotiated price. Local matching funding can be verified with a recent bank statement(s). All documentation should be sent to the LCIF Grants Financial Coordinator's office in Mumbai.

LCIF grant disbursement is dependent on receipt of a progress report and required financial documentation from the Mumbai office. Grantees have six months from the date of approval to collect all local matching funds and the grant funded project must be completed within two years from the date of approval. Extensions may be given on a case by case basis.

As district governor in office at the time this grant was approved, you have been designated the grant administrator. You are responsible for ensuring that grant funds are properly accounted for, that all the grant objectives are met and that LCIF receives the appropriate project reports. Reports are to be forwarded to the office of the LCIF Grants Financial Coordinator in Mumbai and must include a complete and accurate record of the funds received and expenses incurred under this grant, including receipts. The format of the financial section of this report should show a comparison between anticipated and actual expenditures. This accounting should also detail exactly how the LCIF grant funds were used.

Please also keep in mind that Matching grant regulation number four prohibits LCIF grant funds from being used to repay loans. The foundation has a finite amount of financial resources and this provision helps ensure that LCIF funds are provided to those projects without other means of financial support. Loans or



advances should not be taken by approved LCIF projects in lieu of receiving foundation funds. This practice is not in compliance with LCIF policies and may lead to revocation of the grant award.

Additionally, project reports must include a narrative section on the project activities and the benefits achieved, as well as newspaper clippings and photographs of the equipment and facilities. These will help us to publicize and promote the purposes and works of LCIF. Action photographs of publishable quality of the project and of individuals benefiting from its use are especially helpful.

This grant has been approved to support the efforts of your district to help equip a cancer center at Chennai and shall only be used for that purpose. Any portion of the grant unexpended at the completion of the project shall be immediately returned to LCIF. Similarly, the grant was based upon a detailed expense budget provided in the grant application. No **significant** changes may be made to the approved budgetary allocation without LCIF's prior written approval. By making this grant, LCIF assumes no obligation to provide other or additional support to the grantee.

Your district must also assure LCIF of proper recognition for its role in this project. A plaque or signage bearing the inscription, "This project made possible through the cooperation of Lions Clubs International Foundation" should be prominently displayed. All promotional materials must likewise acknowledge LCIF's involvement with this project. Confirmation acknowledging LCIF's involvement with the project must be included with your final report.

In addition to sending detailed progress and final reports to the foundation, please do not forget to report your grant activities to MyLCI. Reporting the number of people who benefit from your project to MyLCI will ensure our global service data is inclusive of all Lions' activities.

You will find a grant agreement at the end of this letter. Please sign the agreement and return it to the LCIF Humanitarian Programs Department within 30 days to confirm your willingness to accept the responsibility of serving as grant administrator as outlined in this letter. Should you have any questions concerning these requirements, feel free to contact Benjamin Futransky of the LCIF Humanitarian Programs Department at benjamin.futransky@lionsclubs.org. All correspondence to LCIF regarding this grant should make reference to the grant number MAT16024/324-A1.



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CHENNAI-600 824

The Trustees hope that this grant will stimulate interest in the work of LCIF and the Lions of your area. Please make the most of this opportunity to inform the public of the fine work being done by Lions and the assistance of LCIF in this project. Stress to your district that this grant was made possible through the generous contributions of Lions worldwide and that, in the spirit of serving better together, their own unrestricted contributions are needed to help fund similar worthy projects elsewhere.

Once again, we would like to express our respect and gratitude to you and the Lions of District 324-A1 for their interest, concern, and efforts on behalf of those in need. We believe your action effectively demonstrates the true purpose and meaning of Lionism-- We Serve. We send our best wishes and look forward to hearing from you soon.

Sincerely,



Chancellor Bob Corlew
Chairman, Lions Clubs International Foundation

MAT16024/324A1



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**LCIF GRANT AGREEMENT
Matching Grant Program**

Grantee: District 324-A1

Grant administrator: K S Babai
District Governor, 2017-2018

Grant number: MAT16024/324-A1

Amount of grant: US\$100,000

Purpose of grant: Equip Cancer Center at Chennai

Approval date: 5/11/2018

Reporting schedule: Periodic interim grant reporting during grant implementation is encouraged and may be required by LCIF to initiate grant disbursements or other administrative actions. Additionally, LCIF may request interim grant reporting at any point during grant implementation. A final report is due no more than 45 days after the completion of the project. Such reports should include a narrative overview of project activity, photographs, budget/expense information and should highlight the Lions volunteer involvement. All reports should be reviewed and approved by the district cabinet before submission to LCIF.

Disbursement schedule: Please note that this agreement must be signed and returned to LCIF before any disbursements can be made. Disbursements are made dependent upon the status of project activity, receipt of a report detailing the use of previous grant installments, and submission of appropriate expense documentation.

GENERAL REQUIREMENTS

1. **Purpose:** The grant shall be used solely for the described purpose or purposes as approved by the Board of Trustees of Lions Clubs International Foundation and confirmed in correspondence dated May 16, 2018.


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2. **Accounting and financial review:** LCIF grant funds must be deposited in the district bank account and then disbursed to the project, following the guidelines outlined below. There must be at least three signatories on the project account, including the grant administrator, project chairperson, and a senior Lion of the Project Committee's choosing. A complete and accurate record of the funds received and expenses incurred under this grant must be maintained by the grantee, and submitted regularly to the LCIF Grants Financial Coordinator, Mumbai, for review and forwarding to LCIF Oak Brook. The format of the financial section of this report should show a comparison between the anticipated and actual expenditures. Banking and financial controls include:

- Checks, demand drafts/cashiers checks, or wires from a project account may only be issued to a certified project supplier or contractor. Such payments or checks may never be made out to “cash” or to “bearer.” No project payments should be made in cash without the prior approval of LCIF.
- Bank accounts for LCIF projects shall only be established in commercial or national banks that are properly accredited and which have deposit insurance if required in that country. Use of ‘cooperative banks’ or community banks are prohibited. Additionally, fixed-length deposit accounts (e.g., certificates of deposit) shall not be used unless approved by LCIF.
- Control of accounts/signature authority: The project bank account must have three signatories: grant administrator, project chairperson, and a senior Lion of the Project Committee's choosing. Of these three signatories, two signatories shall be required to affect any withdraw or issue payments, one of whom should invariably be the grant administrator.
- For LCIF projects where checks are made payable to the district, the district is prohibited from disbursing the funds to any individual, including the project chairperson or grant administrator, or otherwise release said funds to any bank account controlled solely by an individual. Unless otherwise approved by LCIF, such project disbursements received by a district should be re-issued to the implementing partner (e.g., university or hospital, home for the blind) or to project suppliers and vendors, per the approved project and budget.



- In terms of financial accounting at the district level, the LCIF grant should be noted in the district accounts, so that the income and expenditures can be included when the accounts are audited at the end of the year.
 - In situations where there is determined to be improper use or misappropriation of LCIF grant monies by a grant administrator or any person involved in an LCIF-funded project, the foundation shall pursue all necessary legal actions to retrieve said funds and to hold parties liable for any improper actions.
3. **Conditions:** Grantees have six months from the date of approval to collect all local matching funds and the grant funded project must be completed within two years from the date of approval. Extensions may be given on a case by case basis. Local matching funding can be verified with a recent bank statement(s). Grant disbursements are considered only after confirmation of the collection of local matching funds and receipt of the signed grant agreement.
 4. **Budget:** The LCIF Board of Trustees approved this grant based upon a detailed budget. No significant changes may be made to the budgetary allocation as approved by the LCIF Board of Trustees without LCIF's prior written approval.
 5. **Reversion of grant funds:** This grant is intended to support a specific project as stated in the award letter and this accompanying agreement. Any portion of the grant unexpended at the completion of the project shall be immediately returned to LCIF.
 6. **Additional support:** By making this grant, LCIF assumes no obligation to provide other or additional support to the grantee.
 7. **Property/Equipment Ownership:** LCIF claims no ownership of and disclaims any liability for any property or equipment that may be funded by an LCIF grant. In the event there is a desire to transfer or sell any property or equipment funded by an LCIF grant, the grantee shall inform LCIF and consult with LCIF staff regarding the intended beneficiaries of such transfer or sale. Unless otherwise specifically approved in writing by LCIF, any property or equipment funded by an LCIF grant shall be transferred or sold only to an appropriate charitable entity that will continue to utilize such property or equipment only for charitable purposes in the respective community in accordance with the intent and provisions of this grant agreement and policies of LCIF. Further, any funds derived from transfer or sale of such property or equipment shall be utilized only for charitable purposes in the respective community and shall not result in



any private inurement or personal benefit to any individual or non-charitable entity.

8. **Reporting:** In accordance with the schedule listed above, the grantee shall furnish to LCIF a detailed written report on the activity associated with this grant. These reports are to be submitted on a regular basis, independent of a need for funds and should include: a) a detailed narrative progress update; b) copies of receipts and supporting documentation for items purchased or costs incurred consistent with the approved budget; and c) photos of work/activity. The grant administrator and/or the project chairperson shall keep in regular contact with LCIF throughout the duration of project activity. The grantee shall furnish an appraisal of results achieved under the grant for any specific reporting period in which a report is made. Additional reporting requirements include:
- Copies of project bank account statements by month, showing interest.
 - Copies of cancelled checks, payment stubs, or signed letters of 'payment confirmation' from the project's vendors, suppliers or contractors.
 - Submission of detailed and itemized statements of project revenue and expenses with each report.
 - For any grant that extends into a 'second' Lionistic year after approval, the grant administrator/project chairperson shall submit copies of their progress and final grant reports to the district governor and district secretary in addition to LCIF.
 - All reports should be reviewed and approved by the district cabinet before submission to LCIF.
9. **Publicity:** Copies of any publicity received as a result of this grant must be submitted to LCIF as part of the record of grant activities. Publicity materials and media regarding this project should acknowledge the support and involvement of LCIF and Lions.
10. **Trademark Use/ Intellectual Property:** The grantee acknowledges that LCIF owns certain trademarks and trade names, including Lions Clubs International Foundation, LCIF, Lions Quest, and LCI. Grantee agrees to comply with the LCI Trademark Policies adopted by the International Board of Directors as amended from time to time. Grantee further agrees that projects receiving grant funding in accordance with this agreement shall be clearly identified as being made possible by LCIF through appropriate recognition, signage and public relations activities.



Research based grants: Content Grantee creates in connection with this Grant is solely owned by LCIF (e.g., as a “work for hire”) and may be used by LCIF for reproduction, disclosure, transmission, publication, broadcast, and posting, unless otherwise agreed to in writing by the Grantee and LCIF. LCIF grants to Grantee an irrevocable, royalty-free, non-transferable, non-exclusive right and license to use Project Content in an academic or teaching setting as may be appropriate. Any inventions, discoveries or improvements that are based in full or in part on Project Content and all intellectual property rights in such inventions, discoveries or improvement, from Project Content shall be owned entirely by and shall be proprietary to LCIF.

11. **Compliance:** Failure to comply with any of the terms of this agreements may result in one or more of the following: a) termination of the grant, b) suspension of future grant payments until compliance is demonstrated, c) immediate reimbursement to LCIF of the amount of any LCIF grant funds expended for purposes not previously approved, d) immediate reimbursement to LCIF of all unexpended LCIF grant funds, e) replacement of the grant administrator and/or project chairperson at the sole discretion of LCIF, f) limit Grantee’s eligibility for future grants, and g) any other legal recourse available.
12. **Dispute Resolution Guidelines.** Any and all disputes relating to this LCIF grant must be resolved in accordance with the *LCIF Grant Dispute Resolution Guidelines*, attached hereto as Exhibit “A.”
13. **LCIF Privacy Policy.** Grantee agrees to comply with the LCIF Privacy Policy as amended from time to time, attached hereto as Exhibit “B.”
14. **Compliance with Local Law.** Grantee agrees that it shall not perform any actions that are prohibited by local laws, including anti-corruption laws, in carrying out the purposes of this grant.
15. **Conflict of Interest Policy:** Considering LCIF’s accountability to its donors and the public, the Grantee must take all reasonable steps to ensure that the grant administrator, project chairperson, or any other individuals with signing authority to allow for disbursement of the grant are not in a position where their personal interest could conflict with, or appear to conflict with, the application of this grant. If there appears to be a conflict of interest, it must be disclosed to LCIF immediately.
16. **Non Discrimination.** Grantee acknowledges that it will refrain from discriminating on the basis of race, color, national origin, sex, age or disability in the performance of its services under this Grant Agreement.



The grantee accepts and agrees to comply with the above listed conditions and by signing this document agrees to comply with all reporting requirements and to provide appropriate documentation to verify those reports. Acceptance of this agreement is indicated by the grant administrator's signature below. Return this form to the LCIF Humanitarian Programs Department. Please retain a copy for your records.

*This agreement requires that a Project Chairperson be identified to serve in this capacity. He/She should be a Lions member that is familiar with the project. Once identified, he/she should sign below and forward their contact information to LCIF for the file. **The Grant Administrator and the Project Chairperson may not be the same person.***

Date Grant Administrator, K S Babai
District Governor, 324-A1, 2017-18

Date Project Chairperson, (Name)

Date Rebecca Daou, LCIF Executive Administrator



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Exhibit "A"

LCIF Dispute Resolution Guidelines

This information is being provided as a guide to assist the Lions in the event that a dispute arises regarding any of the following situations, as it relates to funds granted by Lions Clubs International Foundation (LCIF) for Lions humanitarian projects.

- The use and control of the grant funds.
- The control and direction of the projects with ongoing LCIF grant funds.
- Any other matters that may directly or indirectly impact grants awarded by LCIF.

Time Frame

The time within which an LCIF grant is carried out may last several years, depending upon the scope of the initiative. These guidelines, therefore, shall be in effect once the grant is approved, during project completion, through the submission of a final report and the lifespan of the project.

Authority

The guidelines are written with the assumption that a Lions multiple district and multiple district council chairperson is in place to administer and manage the dispute resolution process on behalf of the foundation. In the event that the dispute arises in an area without a multiple district, the dispute shall be resolved consistent with the principles of this policy, and with the assistance of the LCIF Chairperson. This exception also applies to situations where it is not appropriate for the multiple district or multiple district council chairperson to oversee the process.

Filing a Complaint

Any party to the dispute may file a written request, including the nature of the issues and requested remedy, with the council chairperson asking that dispute resolution take place. A copy of the written request should be sent to all persons involved in the complaint and LCIF. All requests for dispute resolution must be filed with the council chairperson within ninety (90) days after the party filing the request knew or should have known of the occurrence of the event or events upon which the request is based.

Conciliation Committee

Within fifteen days of receiving the complaint, the council chairperson shall ask the parties to the dispute to each name one conciliator to a dispute resolution



panel. These conciliators will name a third conciliator who will also serve a chairperson of the panel. These Lions must be members in good standing of clubs in good standing, in a club other than that which is directly or indirectly a party to the dispute, and in the multiple district in which the dispute arises. These individuals will then be officially appointed and authorized to serve as conciliators by the council chairperson in consultation with the council of governors. In the event the conciliators cannot agree on the appointment of the third conciliator, the council chairperson shall appoint the conciliator/chairperson. The council chairperson's decision relative to the appointment of the conciliator/chairperson shall be final and binding.

Upon being selected and appointed as described above, the conciliators shall arrange a meeting of the parties for the purpose of conciliating the dispute. The meeting shall be scheduled within thirty (30) days of the appointment of the conciliators. The objective of the conciliators shall be to find a prompt and amicable resolution to the dispute that ensures that the financial and programmatic interests of LCIF are met. The respective parties may, as appropriate, decide to appoint an independent auditor to help resolve the matter; however, the costs of such outside assistance must be borne by the complainant.

Decisions

If such conciliation efforts are unsuccessful, the conciliators shall have the authority to issue their decision relative to the dispute. The conciliators shall issue their decision no later than thirty (30) days after the date on which the initial meeting of the parties was held, and the decision shall be final and binding on all parties. All decisions of the conciliators are subject to the authority of the LCIF Board of Trustees.

Additional Procedures

- LCIF reserves the right to be kept informed of all proceedings of the conciliation committee, and take appropriate steps to preserve the integrity of the process;
- Any time limits specified in this procedure may be shortened or extended upon showing of good cause; and
- Parties to the dispute shall not pursue administrative or judicial actions during the complaint process.

October 2006



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Exhibit "B"

LIONS CLUBS INTERNATIONAL FOUNDATION

PRIVACY POLICY

**Collection and Use of Personal Donor Data by Lions Clubs International
Foundation**

Lions Clubs International Foundation recognizes the importance of protecting the private information of our donors and grant recipients. LCIF collects personal information about donors and grant recipients to facilitate communications. This information is to be used solely to further its mission, to support clubs worldwide in serving their local communities and the world community as they carry out essential humanitarian service projects. It is also collected for LCIF to conduct its necessary operational activities including:

- Donor cultivation
- Grant application reviews and funding decisions
- Reports on donations and grants
- Distribution of publications, including the Annual Report
- Compilation of donor profiles and trends to support development programs
- Program monitoring and evaluation
- Convention and meeting planning
- Contact information for Lion leaders, including past and present International Officers, Directors, and Board Appointees, Multiple District Council Chairpersons and Council of Governors, District and Vice District Governors, Club Officers, Grant Administrators, Project Chairpersons, and Technical Advisors
- Furtherance of public relations activities and cooperative alliances
- Support of Lions Clubs International and other adopted service programs
- Disclosure of information to the Lions Clubs International Foundation Board of Trustees and appropriate advisory committees
- Disclosure of information as required by law or that is pertinent to judicial or governmental investigations
- Other purposes as approved by the LCIF Board of Trustees



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Lions Clubs International Foundation protects personal information by using password-protected areas and by restricting access to such information. It is important that you protect your password. Paper files containing personal information are kept in areas with restricted access.

Any payment information collected is protected by software during transmission, which encrypts all of your personal information so that it can be safeguarded over Internet channels. We reveal only a limited part of your credit card number when confirming a donation, order, or other transaction.

Privacy Recommendations for Lions Clubs, Districts, Multiple Districts and Foundations

Your Lions Club, District, Multiple District and/or Foundation should consider your privacy practices and follow similar guidelines when using the personal information of members, donors, recipients of your humanitarian assistance, or that of other individuals obtained in the course of conducting your activities. You should consider obtaining written permission before disclosing any personal information including names, addresses, email addresses, telephone numbers, medical information, financial information, etc. You should also be cautious when posting any personal information on the Internet or sharing email addresses with third parties. Please be aware that LOCAL LAWS MAY GOVERN THIS ISSUE and these laws vary widely from country to country, so you should seek advice from a local expert for more information before any personal information is used.

If you have any concerns or questions about these policies, please contact Lions Clubs International Foundation at (630) 571-5466 or lcif@lionsclubs.org.



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LIONS CLUBS INTERNATIONAL FOUNDATION (LCIF) STANDARD GRANT REPORT FORM

FINAL REPORT

A. GENERAL GRANT INFORMATION

- | | |
|--|-----------------------------------|
| 1. LCIF grant number (Specify if progress or final report) | MAT 16024/324-A1
Final Report |
| 2. Project title | Equip Cancer Centre at
Chennai |
| 3. Sponsoring district/multiple district | District 324-A1 |
| 4. Grant award amount (US\$) | USD 100,000 |
| 5. Date project completed | 18.12.2018 |
| 6. Number of direct beneficiaries | About 5000 per year |



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B. NARRATIVE REPORT

7. Provide detailed description on how the LCIF grant funds were utilized.

The Grant Funds together with matching funds from the District were utilized to buy additional Equipment entitled "Robotic Arm" for the Cancer Institute, Adyar. The equipment has been installed in the Radiology department and synchronized with the CT scan equipment and is fully operational now.

The following are the significant milestones in the completion of the project:

Milestone reached	Date of accomplishment
Order Placed for Robotic Arm	28.08.2018
Equipment Delivered and training provided	16.10.2018
Equipment Operationalised	25.10.2018
Payment released for equipment	13.11.2018
Formally Inaugurated by PID Lion N.S.Sankar	18.12.2018
Grant Account closed and surplus funds returned to LCIF Mumbai	07.01.2019

8. What was the situation in the community before the project started?

The Cancer Institute Adyar is a premier hospital for treatment of Cancer with over 600 beds. It has been in operation for over 60 years. It is the first institute in the country to have a paediatric cancer ward for children.

While providing surgical treatment, it has always a challenge to precisely position the needle in the affected spot of the body.

The treatment of childhood cancer poses additional challenges, as the anesthesia administration for children has to be minimal in surgical cases. So the Institute faced constraints in treating child patients.

9. How did the LCIF grant help in completing your project?

The LCIF grant has been used to buy a 'Robotic Arm' that is installed in the Radiology Department of the Cancer Institute. This 'Robotic arm' is used in conjunction with the CT scan equipment. It is useful in accurate positioning of the needle in the affected part of the body. This in turn helps in precise surgical procedures and is a great boon for treating the children affected with cancer.

10. How has this project affected the people in your community?

The Cancer Institute is an advanced centre for research and treatment for cancer. Over 150000 patients are provided treatment in this centre in a year. The Institute always strives to keep itself up to date in terms of facilities and equipments needed for the treatment for cancer. This project by way of equipping the Institute with a Robotic Arm has helped in meeting a long felt need in the treatment of cancer. It has addressed a vital need in the surgical intervention treatment for cancer. Particularly the child cancer patients are benefitted greatly due to the installation of the equipment.

The equipment also helps the surgeon to finish the procedures in minimal time. It has therefore resulted in quicker turnaround time to complete the surgical procedures. As a consequence, the Institute is now equipped to handle more surgical cases too.



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Overall this has immensely benefitted the Cancer Patients by way of precise treatment and the capability of the hospital to handle more patients.

11. How has the project helped the community to become more aware of your district/multiple district's work?

District 324-A1 has been regularly associating itself with the Cancer Institute for the last several years. Our district Lions Clubs regularly have been conducting Hunger Relief programs at the Institute. During 2011-12 our District has sponsored the cost of one entire building in the Institute. Lions insignia is prominently displayed at the entrance to the Institute. So already the patients coming to the Institute as well as the community around, are well aware of the support Lions have extended to the Institute.

With the addition of this project, our association with the Institute has received a further boost. We have put up another Lion emblem at the entrance to the Radiology department in the Institute. The written board clearly depicts that LCIF has funded the project.

Our District is also able to refer needy patients to the Institute who are given free/concessional treatment in accordance with the policies of the Institute. This also helps in building our image in the community.



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12. Please send action photographs of the project and those individuals benefiting from the project.

Photo-1 A patient undergoing surgical procedure with the use of Robotic Arm (25th October 2018)



Photo 2

PID Lion N.S.Sankar, IPDG Lion Dr.K.S.Babai seen with Cancer Institute Chairperson Dr.V.Shantha At the entrance to the Radiology Department where the Robotic Arm is installed.(18th December 2018)



C.FINANCIAL REPORT

RECEIPTS AND PAYMENTS ACCOUNT of LCIF Grant # MAT16024/324-A1

Receipts	Actuals	Budget	Payments	Actuals	Budget
	INR	INR		INR	INR
Funds Raised by District and Clubs	20,50,000	20,50,000	Payment to M/s Perfint Healthcare P Limited for Robotic Arm equipment	85,00,000	85,00,000
LCIF Grant received	68,58,000	64,50,000	Auditor Fees	5,900	---
			DD Commission	200	---
Interest received on bank account	77,486	---	Balance remitted to LCIF, Mumbai	4,79,386	---
Total	89,85,486	85,00,000	Total	89,85,486	85,00,000

Lion Dr.K.S.Babai

Grant Administrator &
District Governor – 324 A1(2017-18)

List of Annexures attached to this report:

- 1.Invoice Copy of M/s Perfint Health Care P Limited for supply of Robotic Arm Equipment.
- 2.Copy of advice from Cancer Institute for release of payment for the equipment.
3. Copy of receipt from M/s Perfint Health Care P Limited for Rs.85,00,000/- towards payment received.
4. Audited Receipts & Payments Account for Grant Account GA/MAT 16024/324 A1.
5. Demand Draft No.436206 dated 02/01/2019 on Indian Bank, Service Branch Mumbai, for Rs.4,79,386 favouring Lions Clubs International Foundation, Mumbai representing balance in Grant account returned to LCIF.



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LIONS CLUBS INTERNATIONAL FOUNDATION

MATCHING GRANT NUMBER:GA/MAT 16024/324A1 –Cancer Institute

Receipts	Actuals	Budget	Payments	Actuals	Budget
	INR	INR		INR	INR
Funds Raised by District and Clubs	20,50,000	20,50,000	Payment to M/s Perfint Systems P Limited for Robotic arm equipment	85,00,000	85,00,000
LCIF Grant received	68,58,000	64,50,000	Auditor Fees	5,900	---
			DD Commission	200	---
Interest received on bank account	77,486	---	Balance remitted to LCIF, Mumbai	4,79,386	---
Total	89,85,486	85,00,000	Total	89,85,486	85,00,000

Lion Dr.K.S.Babai

Grant Administrator &
Dist Governor (2017-18)

Lion G.M.Balaji Rathnam

Project Chairperson
PMCC-MD 324

Ramachandran & Murali

Chartered Accountants
R.Ramachandran, Partner
M.No.026660

Chennai
2nd January 2019



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Indian Bank

(नारीकर्ता शाखा / ISSUING BRANCH)

KO40--KODAMBAKKAM(00061)

व्यवहारीक दस्तावेज के लिए वैध Valid for three months only

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मांगे जाने पर **ON DEMAND PAY**

LIONS CLUBS INTERNATIONAL FOUNDATION

या उनके आदेश पर **OR ORDER**

रुपये **FOUR LAKHS SEVENTY NINE THOUSAND THREE HUNDRED AND EIGHTY SIX ONLY**

प्राप्त मूल्य के लिये अदा करें **FOR VALUE RECEIVED**

KODAMBAKKAM
*****479386.00
INDIAN BANK

इंडियन बैंक की सभी शाखाओं में सममूल्य पर देय।
Payable at par at all branches of Indian Bank

MDDY436206
B094--SERVICE BRANCH (MUMBAI)
01163

(अदाकर्ता शाखा Drawee Branch)

अधिकृत हस्ताक्षरकर्ता
Authorized Signatory (S.S. No.)

अधिकृत हस्ताक्षरकर्ता
Authorized Signatory (S.S. No.)

Please sign above

T18/MDDY

⑈436206⑈ 000019000⑈

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Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096.

Tel : 044-2496 1842, 2496 1852

E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com

GSTIN : 33AAACV0909J1ZJ PAN No.: AAACV0909J

To

Date:17.12.2018

Dr.K.S.Babai,M.S.,Ph.D.,MISTE,
Secretary,
Meenakshi Sundararajan Engineering College,
Kodambakkam,
Chennai – 24.

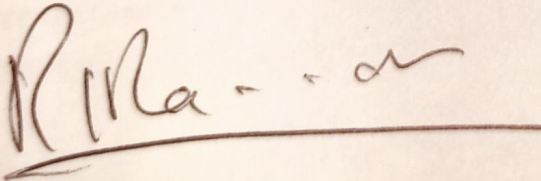
Dear Madam,

It is a great pleasure to continue our Institute-Industry relationship in developing the following research projects:

- 1) Development of Image Analysis of Crop for healthy farming.
- 2) Smart Speedometer.

We extend our thanks to your institution for facilitating us to develop above such applications.

Regards,



Dr.R. Vijayarajeswaran
Managing Director,
Vi Microsystems pvt.ltd.
Chennai – 96.



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REPORT ON SMART SPEEDOMETER-FINAL YEAR PROJECT

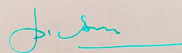
The students worked on a very different and innovative project which is very useful for various technologies that are being developed. Based on the analysis of this project it is mainly used to satisfy the customers as well as to prevent any accident. Students planned really well on how to manage such accidents by providing a good alternative.

The main aim of the project is to prevent accidents while driving. It is very dangerous to drive the bike while using mobile and further while driving it in a single hand may lead to many accidents. According to the National Safety Council, cell phone usage while driving leads to 1.6 million crashes annually. Texting while driving is 6 times more likely to cause an accident than driving under the influence of alcohol. 1 out of every 4 traffic crashes that occur in the U.S. are caused by cell phone usage. Among them many use their mobile phones for navigation purposes. All the above statements were made by the students while justifying the reason for choosing this project.

“Smart speedometer” helps us to reduce these types of accidents and save people’s lives by integrating GPS with the bike cluster system. It also displays the map, incoming calls and SMS alerts on the screen next to the speedometer. This project digitalizes the total cluster setup and also provides more functions to the riders while driving.

With the help of this project many lives can be saved and a lot of accidents can be prevented. This project can be further developed and can be extended based on its function to be implemented in aviation field too. As of today, improvement in speedometer is very much needed and with the help of this project many one can achieve the requirements. Accident prevention is a very important concern in automobile industries since each life has value and a small mistake or an unnecessary error can make a drastic impact and can cause injuries.

It's very important to safeguard the customer and also assure them to provide a technology that ensures safety is a vital thing. With more improvements to this project, it can be implemented for real time purpose. This project done by the students speaks volumes for itself. The project is a mixture of hardware and software utilisations. Thus we can see more advancements of such innovations done in basic equipment in future as well in order to provide the security which is very essential in this changing world of technologies



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MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAL,
CHENNAI-600 024

Crop analysis through Deep Learning using Unmanned Aerial Vehicle

Report submitted by, Dandapani S Santhosh S and Yashwanth V B

This project mainly involves the integration of two different approaches in the field of agriculture. This involves the analysis of data through cloud computed deep learning methodology with the support of Unmanned Aerial Vehicle (UAV). Crops are generally affected by pests, insects, pathogens and this decreases the productivity of large scale if not controlled within time. Agriculturalists are facing loss due to various crop diseases. It becomes tedious to the cultivators to monitor the crops regularly when the cultivated area is huge that is in acres. The proposed system provides solution for regularly monitoring the cultivated area and provides the analysis of crop health at regular basis.

Initially a data set of 400 images of the crops are collected and trained into a model using a cloud computing platform (MATEVERSE). The images are segregated into healthy crops of 200 images and unhealthy crops of 200 images based on the assigned parameters and the accuracy of a data images is obtained as 96.97%. If the accuracy level of the model is not up to the mark (i.e. if the accuracy is less than the expected value), the model is further retrained and the image to be tested is given as an input to model. The input images are feed using a camera controlled with a gimbal system for stability.

The main reason for turning towards Deep Learning is to make the crop analysis and the detection process much faster in speed and to reduce the complexity of coding required for processing. Further more, making the UAV autonomous enables a easy handling of the system by an ordinary farmer. The agriculture sector needs a huge upgradation in order to survive the changing conditions of Indian economy and the health factor. For optimum yield , the crop should be healthy, therefore some high technical method is needed for periodic monitoring of crop health for better yield and providing information on what is the cause for such defects and drawbacks. Thus, using the data acquired from the data analysis process necessary changes can be made to improve to yield of crops on large scale.

Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096.

Tel : 044-2496 1842, 2496 1852

E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com

GSTIN : 33AAACV0909J1ZJ PAN No.: AAACV0909J

To

Date:17.12.2018

Dr.K.S.Babai,M.S.,Ph.D.,MISTE,
Secretary,
Meenakshi Sundararajan Engineering College,
Kodambakkam,
Chennai - 24.

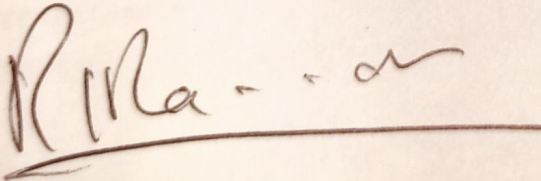
Dear Madam,

It is a great pleasure to continue our Institute-Industry relationship in developing the following research projects:


- 1) Development of Image Analysis of Crop for healthy farming.
- 2) Smart Speedometer.

We extend our thanks to your institution for facilitating us to develop above such applications.

Regards,



Dr.R. Vijayarajeswaran
Managing Director,
Vi Microsystems pvt.ltd.
Chennai - 96.



PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM
CHENNAI-600024

REPORT ON SMART SPEEDOMETER-FINAL YEAR PROJECT

The students worked on a very different and innovative project which is very useful for various technologies that are being developed. Based on the analysis of this project it is mainly used to satisfy the customers as well as to prevent any accident. Students planned really well on how to manage such accidents by providing a good alternative.

The main aim of the project is to prevent accidents while driving. It is very dangerous to drive the bike while using mobile and further while driving it in a single hand may lead to many accidents. According to the National Safety Council, cell phone usage while driving leads to 1.6 million crashes annually. Texting while driving is 6 times more likely to cause an accident than driving under the influence of alcohol. 1 out of every 4 traffic crashes that occur in the U.S. are caused by cell phone usage. Among them many use their mobile phones for navigation purposes. All the above statements were made by the students while justifying the reason for choosing this project.

“Smart speedometer” helps us to reduce these types of accidents and save people’s lives by integrating GPS with the bike cluster system. It also displays the map, incoming calls and SMS alerts on the screen next to the speedometer. This project digitalizes the total cluster setup and also provides more functions to the riders while driving.

With the help of this project many lives can be saved and a lot of accidents can be prevented. This project can be further developed and can be extended based on its function to be implemented in aviation field too. As of today, improvement in speedometer is very much needed and with the help of this project many one can achieve the requirements. Accident prevention is a very important concern in automobile industries since each life has value and a small mistake or an unnecessary error can make a drastic impact and can cause injuries.

It's very important to safeguard the customer and also assure them to provide a technology that ensures safety is a vital thing. With more improvements to this project, it can be implemented for real time purpose. This project done by the students speaks volumes for itself. The project is a mixture of hardware and software utilisations. Thus we can see more advancements of such innovations done in basic equipment in future as well in order to provide the security which is very essential in this changing world of technologies



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CHENNAI-600 024



Vi Microsystems Pvt. Ltd.,

Plot No. 75, Electronics Estate, Perungudi, Chennai - 600096.

Tel : 044 - 2496 1842, 2496 1852

E-mail : accounts@vimicrosystems.com Website : www.vimicrosystems.com

TIN : 33891580314 CST No.: 42596 / 06-05-1986 PAN No.: AAACV0909J

Date: 09.03.2019

To

Dr.K.S.Babai,M.S.,Ph.D.,MISTE
Secretary,
Meenakshi Sundararajan Engineering College,
Kodambakkam,
Chennai 600024.

Dear Madam,

We have received your project titled "Smart Speedometer" The status of the above mentioned project is "Successfully Completed" and we are quite satisfied with the performance of the project done in the academic year 2018-2019.

The cost estimation for this project is Rs 3000/-. We also appreciate effort put by the students and faculty in charge Mr. S Satheesh Kumar Assistant Professor in making this project successful.

Regards,

Dr.R.Vijayarajeswaran
Managing Director,
Vi Microsystems pvt. ltd.
Chennai-96.



PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARKOT ROAD, KODAMBAKKAM,
CHENNAI-600 024



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
(Managed by I.I.E.T Society)
363, Arcot Road, Kodambakkam, Chennai - 24

K S Babai, B.Sc, B.E, M S , Ph D

Secretary

☎24801636, 24732488
Fax :24811103

20th Aug 2018

To
Prof R.Sundaravadivelu
Department of Ocean Engineering
I I T Madras, Chennai-36

INVOICE

Sir,

Sub: IITM-Consultancy-Mandaikadu putur-Kanyakumari district-Reg

Ref : Discussion with Dr P K Suresh, Principal dt 11-8-2018

Sl no	Particulars	Amount (Rs)
1	Charges towards the preparation of report for the on-going coastal protection project pertaining to Mandakkaduputhur village along the west coast of Tamilnadu	1500
	Total	1500

(Rs One thousand five hundred only)

Payment should be made in favour of

“Meenakshi Sundararajan Engineering College
-Research activities-Chennai”

PAN No AAATT 2768C

Dr K S Babai
SECRETARY

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE

(Managed by I.I.E.T Society)

363, Arcot Road, Kodambakkam, Chennai - 24

K S Babai, B.Sc, B.E, M S , Ph D

Secretary

24801636, 24732488

Fax :24811103

To
Prof R.Sundaravadivelu
Department of Ocean Engineering
I I T Madras, Chennai-36

28th Aug 2018

INVOICE

Sir,

Sub: IITM-Consultancy-Upper anicut , Mokkalu -Tiruchydistrict-Reg

Ref : Discussion with Dr P K Suresh, Principal dt 11-8-2018

Sl no	Particulars	Amount (Rs)
1	Charges towards the preparation of report for the flood estimation and hydraulic functions of barrage along Kollidam in Mokkalu,Trichy dt	1100
	Total	1100

(Rs One thousand one hundred only)

Payment should be made in favour of

“Meenakshi Sundararajan Engineering College
-Research activities-Chennai”

PAN No AAATT 2768C

**Dr K S Babai
SECRETARY**

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE

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363, Arcot Road, Kodambakkam, Chennai - 24

K S Babai, B.Sc, B.E, M S , Ph D

Secretary

☎ 24801636, 24732488

Fax :24811103

4th Sep 2018

To
Executive Engineer PWD
Projects Division
Cuddalore

INVOICE

Sir,

Sub: Coastal protection-master plan-field visit-Cuddalore district-Reg

Ref Lr no 1/coastal/Spl Dn/3/7/2018

Sl no	Particulars	Amount (Rs)
1	Charges towards the preparation master plan for coastal protection project for Cuddalore district	1000
	Total	1000/-

(Rs One thousand only)

Payment should be made in favour of

“Meenakshi Sundararajan Engineering College
-Research activities-Chennai”

PAN No AAATT 2768C

**Dr K S Babai
SECRETARY**

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
(Managed by I.I.E.T Society)
363, Arcot Road, Kodambakkam, Chennai - 24

K S Babai, B.Sc, B.E, M S , Ph D

Secretary

24801636, 24732488
Fax :24811103

To
Assistant Director
PWD, IHH-Poondi

18th Sep 2018

INVOICE

Sir,

Sub: Model studies-IHH Poondi-Toludur anicut, Vellar-Reg

Ref Your E mail dated 30-8-2018

Sl no	Particulars	Amount (Rs)
1	Charges towards field visit to IHH Poondi for river training works at Toludur anicut in Vellar basin	500
	Total	500/-

(Rs Five hundred only)

Payment should be made in favour of

“Meenakshi Sundararajan Engineering College
-Research activities-Chennai”

PAN No AAATT 2768C

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024

Dr K S Babai
SECRETARY



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
(Managed by I.I.E.T Society)
363, Arcot Road, Kodambakkam, Chennai - 24

K S Babai, B.Sc, B.E, M S , Ph D

Secretary

☎24801636, 24732488
Fax :24811103

20th Aug 2018

To
Prof R.Sundaravadivelu
Department of Ocean Engineering
I I T Madras, Chennai-36

INVOICE

Sir,

Sub: IITM-Consultancy-Mandaikadu putur-Kanyakumari district-Reg

Ref : Discussion with Dr P K Suresh, Principal dt 11-8-2018

Sl no	Particulars	Amount (Rs)
1	Charges towards the preparation of report for the on-going coastal protection project pertaining to Mandakkaduputhur village along the west coast of Tamilnadu	1500
	Total	1500

(Rs One thousand five hundred only)

Payment should be made in favour of

**“Meenakshi Sundararajan Engineering College
-Research activities-Chennai”**

PAN No AAATT 2768C

**Dr K S Babai
SECRETARY**

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARLOT ROAD, KODAMBAKKAM,
CHENNAI-24



OCEAN ENGINEERING CONSULTANCY SERVICES

Reg # 877 of 2007

F1-1st Flr, Vasanth 'Anbalaya' Apartments, # 81 - LAKSHMI NAGER - 1st Main road, NEW SARAM, off ECR, PUDUCHERRY-605013- INDIA
Tele fax +91 413 2241441 oecs.chennai@gmail.com
E-MAIL / Fax / Hand delivery / COURIER

OECS / 2018 / G1 / MSEC / 5

December 18th, 2018.

To

The SECRETARY
MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
Kodambakkam - CHENNAI
TAMILNADU, INDIA

Respected Madam

Sub :- OCEAN ENGINEERING Consultancy Services – Expert consultancy Services in the filed of CIVIL Engineering on Marine structures and the field Investigation required for our works – UDANGUDI POWER PLANT & THIRUCHENDOOR SHORE PROTECTION WORKS VISIT - request – reg.

-----: oOo :-----

With reference to the above, under a new project from Public works department – Government of Tamilnadu, requesting our firm to analysis the feasibility to carryout the shore protection works for the UDANGUDI POWER PLANT & THIRUCHENDOOR SHORE.

Accordingly we are planned to make a field investigation with your Expert Engineer to find out the feasibility study for above two locations based on the suggestion and of your expertise.

In this connection, We requesting the management of M/s MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE for the technical expertise consultancy advise by deputing one of your expert in our above mentioned project work site for a day or two to guide us in collection of various data's to be prepare and for the preparation of project reports based on the field available data to achieve the purpose of study related to the shore protection works.

For the above mentioned services, We enclose herewith a cheque for a value of Rs 5,000/- (Rupees Five thousand only) as an visiting consultancy fees as stipulated and as agreed by the Management of M/s M/s MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE.

I this connection, we eagerly awaiting your valuable reply to support us to continue with our project works.

Yours sincerely

(M.KUMAR)

for OCEAN ENGINEERING CONSULTANCY SERVICES

* - 91 413 2241441

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024

Encl : OECS Cheque # 000171 Dt 18/12/2018



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
(Managed by I.I.E.T Society)
363, Arcot Road, Kodambakkam, Chennai – 24

K S Babai, B.Sc, B.E, M S , Ph D

Secretary

☎24801636, 24732488
Fax :24811103

To
Prof R.Sundaravadivelu
Department of Ocean Engineering
I I T Madras, Chennai-36

28th Mar 2019

INVOICE

Sir,

Sub: IITM-Consultancy-Design of Gabion--Thiruchendur –Tuticorin district-Reg

Ref : Discussion with Dr P K Suresh, Principal dt -27-5-2019

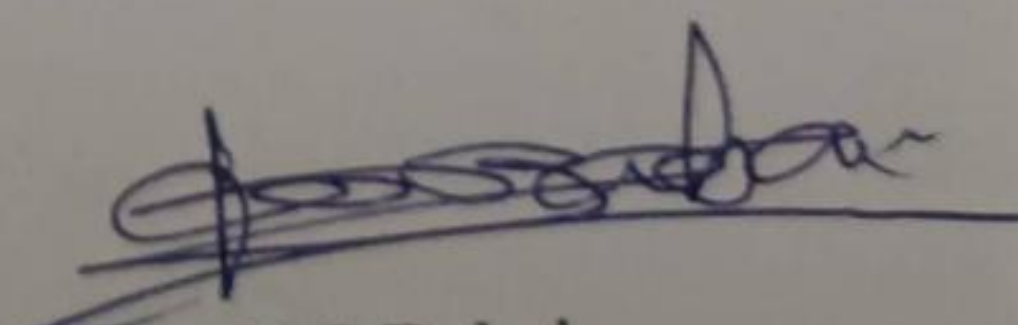
Sl no	Particulars	Amount (Rs)
1	Charges towards the preparation of report for the anti sea erosion project for Thiruchendur temple compound wall in Tuticorin district	3000
	Total	3000

(Rs Three thousand one hundred only)

Payment should be made in favour of

“Meenakshi Sundararajan Engineering College
-Research activities-Chennai”

PAN No AAATT 2768C
TAN CHET 99261C
A/C no 35645636045, SBI Kodambakkam
IFSC no SBIN0001444


Dr K S Babai
SECRETARY



PRINCIPAL
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Rupees रुपयें Seventy five thousand only ₹ 75,000/-

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Vi Microsystems Pvt. Ltd.,

Plot No.75, Electronics Estate, Perungudi, Chennai - 600096.

Tel : 044-2496 1842, 2496 1852

E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com

GSTIN : 33AAACV0909J1ZJ PAN No.: AAACV0909J

To

Date:20.12.2017

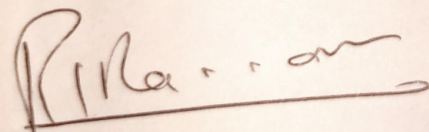
Dr.K.S.Babai,M.S.,Ph.D.,MISTE,
Secretary,
Meenakshi Sundararajan Engineering College,
Kodambakkam,
Chennai – 24.

Dear Madam,

Warm greetings!! With reference to our conversation over phone, we appreciate the students of ECE Department for the enthusiasm in developing the simulation for the following applications:

- 1) Green House Automation using IoT.
- 2) Miniaturized INSET-FED Rectangular Microstrip Patch Antenna for WLAN applications.

Regards,



Dr.R.Vijayarajeswaran
Managing Director,
Vi Microsystems pvt.ltd.
Chennai – 96.

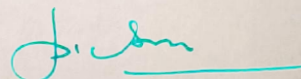
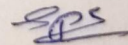


GREENHOUSE AUTOMATION USING IOT

Internet of Things (IOT) plays a crucial role in smart agriculture. Smart farming is an emerging concept, where IOT sensors are capable of providing information about their agriculture fields. This work provides a model of a smart greenhouse, which helps the farmers to carry out the work in a farm automatically without use of much manual inspection. Greenhouse, being a closed structure protects the plants from extreme weather conditions namely: Wind, hailstorm, ultraviolet radiations and insect and pest attacks. Monitoring environmental factors is the major factor to improve the yield of efficient crops. The feature of this paper includes monitoring temperature, humidity, light level, soil moisture level and Ph in agriculture field through sensors using. This work is primarily about the improvement of current agricultural practices by using modern technologies for better yield. Further, the readings collected are uploaded to cloud service. Smart agriculture helps to reduce wastage, effective usage of fertilizer and thereby increase the crop yield. In this work, a system is developed to monitor crop field using and automate the farming system. The data from sensors are sent to web server (raspberry pi) database using wireless transmission. This is extended to web interface and mobile interface. Hence the farmers can be able to monitor the field conditions from anywhere. This system is efficient than the conventional approach. Keywords-greenhouse gas, agriculture, sensors, raspberry pi.



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CHENNAI-600 024



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Tel : 044 - 2496 1842, 2496 1852

E-mail : accounts@vimicrosystems.com Website : www.vimicrosystems.com
TIN : 33891580314 CST No.: 42596 / 06-05-1986 PAN No.: AAACV0909J

Date: 12.03.2018

To

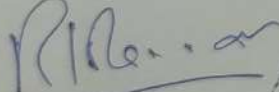
Dr.K.S.Babai,M.S.,Ph.D.,MISTE
Secretary,
Meenakshi Sundararajan Engineering College,
Kodambakkam,
Chennai 600024.

Dear Madam,

We have received your project titled "Green house Automation Using IoT" The status of the above mentioned project is "Successfully Completed" and we are quite satisfied with the performance of the project done in the academic year 2017-2018.

The cost estimation for this project is Rs 3000/-. We also appreciate effort put by the students and faculty in charge Mr. S Balasubramanian , Associate Professor in making this project successful.

Regards,


Dr. R. Vijayarajeswaran
Managing Director,
Vi Microsystems pvt.ltd,
Chennai-96.





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363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024

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Tel : 044-2496 1842, 2496 1852

E-mail : sales@vimicrosystems.com Website : www.vimicrosystems.com

GSTIN : 33AAACV0909J1ZJ PAN No.: AAACV0909J

To

Date:20.12.2017

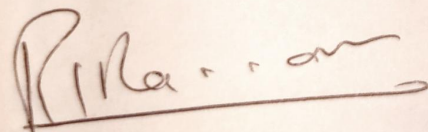
Dr.K.S.Babai,M.S.,Ph.D.,MISTE,
Secretary,
Meenakshi Sundararajan Engineering College,
Kodambakkam,
Chennai – 24.

Dear Madam,

Warm greetings!! With reference to our conversation over phone, we appreciate the students of ECE Department for the enthusiasm in developing the simulation for the following applications:

- 1) Green House Automation using IoT.
- 2) Miniaturized INSET-FED Rectangular Microstrip Patch Antenna for WLAN applications.

Regards,



Dr.R.Vijayarajeswaran
Managing Director,
Vi Microsystems pvt.ltd.
Chennai – 96.



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363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024

MINIATURIZED INSET-FED RECTANGULAR MICROSTRIP PATCH ANTENNA FOR WLAN APPLICATIONS

The objective of this project is to miniaturize an inset-fed microstrip rectangular patch antenna which operates at 2.4GHz. Ansoft HFSS tool is used for the design and analysis of the antenna . A prototype of the antenna was fabricated using FR4 Epoxy substrate and tested . Defected ground structure (DGS) is incorporated in the ground plane under the patch antenna and slots are employed on the patch to shift the resonant frequency of an initial microstrip antenna .The stimulated results of active antennas shows that the designed antennas have proper radiation characteristics at its desired operation frequency . The return loss, magnetic and electric field distribution ,3D radiation pattern, VSWR has been estimated .The Peak gain of the proposed antenna is 0.3145 and it is capable of radiating signals with an efficiency of 0.7751 and with the peak directivity of 0.4057. The return loss of the antenna is about -21.2 dB . Fianally , a miniaturization of upto 97% ,with respect to the conventional microstrip antenna is accomplished.

SPS



Vi Microsystems Pvt. Ltd.,

Plot No. 75, Electronics Estate, Perungudi, Chennai - 600096.
Tel : 044 - 2496 1842, 2496 1852

E-mail : accounts@vimicrosystems.com Website : www.vimicrosystems.com
TIN : 33891580314 CST No.: 42596 / 06-05-1986 PAN No.: AAACV0909J

Date: 12.03.2018

To

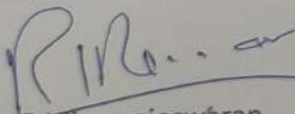
Dr.K.S.Babai,M.S.,Ph.D.,MISTE
Secretary,
Meenakshi Sundararajan Engineering College,
Kodambakkam,
Chennai 600024.

Dear Madam,

We have received your project titled "Miniaturised Inset-Fed Rectangular Microstrip Patch Antenna for WLAN Application" The status of the above mentioned project is "Successfully Completed" and we are quite satisfied with the performance of the project done in the academic year 2017-2018.

The cost estimation for this project is Rs 3000/-. We also appreciate effort put by the students and faculty in charge Mrs N Meenakshi ,Assistant Professor /ECE in making this project successful.

Regards,


Dr.R.Vijayarajeswaran
Managing Director,
Vi Microsystems pvt.ltd,
Chennai-96.





PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
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CHENNAI-600 024



OCEAN ENGINEERING CONSULTANCY SERVICES

Reg # 877 of 2007

F1-1st Flr Vasanth 'Anbalaya' Apartments # 81 - LAKSHMI NAGER -1st Main road, NEW SARAM, off ECR, PUDUCHERRY-605013- INDIA

Tel fax +91 413 2241441 oecs.chennai@gmail.com

E-MAIL / Fax / Hand delivery / COURIER

OECS / 2016 / G1 / MSEC / 4

April 11th, 2016.

To

The SECRETARY
MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
Kodambakkam - CHENNAI
TAMILNADU, INDIA

Respected Madam

Sub :- OCEAN ENGINEERING Consultancy Services – Expert consultancy Services in the filed of CIVIL Engineering on Marine structures and the field Investigation required for our works – KARIYAKOIL DAM VISIT - request – reg

----- oOo -----

With reference to the above, under a new project from Watershed Management division of Public works department – Government of Tamilnadu, requesting our firm to conduct the capacity surveys to the existing three reservoirs in Tamilnadu viz Kamarajar Shakar (Sandynalla Reservoir), Maravakandy dams near Ooty and Kariyakoil dam near Valaipadi, Salem Dt., . Accordingly we are planned to conduct the Hydrographic survey using latest digital Eco sounder and Topography using the Total station to find out the contours and the peripheral of the Kariyakoil dams on coming days based on the suggestion and of your expertise.

In this connection, We requesting the management of M/s MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE for the technical expertise consultancy advise by deputing one of your expert in our above mentioned project work site (Kariyakoil Dam) for a day ~~or to~~ to guide us in collection of various data's to prepare and compiling of project reports based on the observed data to achieve the purpose of study related to the capacity survey of the individual reservoirs with watershed analysis.

For the above mentioned services, We enclose herewith a cheque for a value of Rs 3,000/- (Rupees Three thousand only) as an visiting consultancy fees as stipulated and as agreed by the Management of M/s M/s MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE.

I this connection, we eagerly awaiting your valuable reply to support us to continue with our project works.

Yours sincerely

(M.KUMAR)

for OCEAN ENGINEERING CONSULTANCY SERVICES

94455 33399

Encl : OECS Cheque # 000123 Dt 11/04/2016

PRINCIPAL

MEENAKSHI SUNDARARAJAN ENGINEERING COL

363, ARCOT ROAD, KODAMBAKKAM,

CHENNAI-600 024



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE

363, Arcot Road, Kodambakkam, Chennai – 24

Dr.K.S.BABAI, B.Sc., B.E. MS FIE MISTE PhD
SECRETARY

☎ 24801636, 24732488
Fax: 24811103

19.01.2016

To
Prof.R.Pannerse Ivam
Department of Ocean Engineering
Indian Institute of Technology
Adyar,
Chennai – 600 036

Sir,

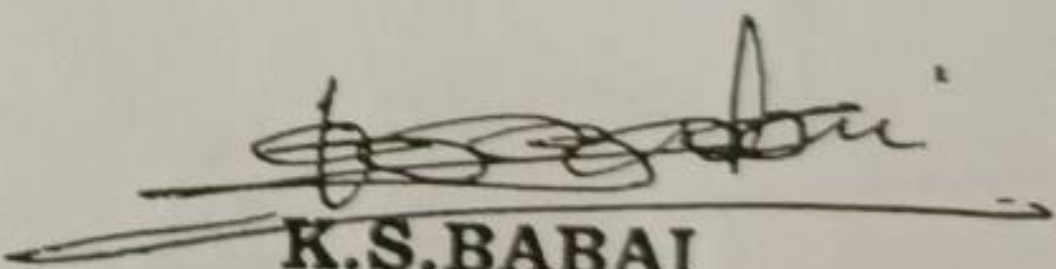
Sub: IITM – Consultancy Services for carrying out study of shore line
evolution in the presence of groin along the coast of Mandakadu
in Kanyakumari Dist. – work order issued - Reg.


Ref: Your letter dt.10/12/2015

I thank you very much for having entrusted the above task. We have
commenced the project and will be completing it in two months. The amount for
the above services is Rs.17,175/- which can be paid in the form of Demand draft
in favour of "Meenakshi Sundararajan Engineering College-Research Activities"
Chennai.

Thanking you,

Yours sincerely


K.S.BABAI
SECRETARY


PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024



MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE
363, Arcot Road, Kodambakkam, Chennai - 24

Dr.K.S.BABAI, B.Sc., B.E. MS FIE MISTE PhD
SECRETARY

☎ 24801636, 24732488
Fax: 24811103

To
Prof.R.Sundaravadivelu
Department of Ocean Engineering
Indian Institute of Technology
Adyar,
Chennai - 600 036

05.03.2016

PROFORMA INVOICE

Sir,


Sub:IITM - Consultancy Services for carrying out numerical modellig
in Vellar River at Killai,Chidambaram - work order issued - Reg.

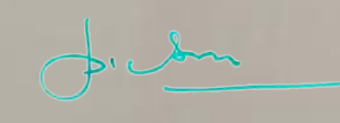
Ref: Your letter dt.19/01/2016

Sl.No.	Particulars	Amount
1	Charges towards studies conducted for the "Study of numerical modellig in Vellar River at Killai,Chidambaram	17175
	Total	17175

(Rupees Seventeen thousand one hundred and seventy five only)

Payment should be made in favour of
**"Meenakshi Sundararajan Engineering
College-Research & Consultancy Activities"**
Chennai.
PAN No.AAATT 2768C


K.S.BABAI
SECRETARY


PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600024

56553 dt 20/12/15
 Canara Bank, AT, & 36.
 CODE NO. 4681 SSP

Pay-in-Slip		கொடம்பி CASH - பரிசீலிப்பு TRANSFER	
State Bank of India		தேதி/Date 21/12/16	
புதுகோட்டை மண்டலம்		கிளை/Branch	
TYPE OF ACCOUNT		SB <input checked="" type="checkbox"/> CA <input checked="" type="checkbox"/> RD <input type="checkbox"/> CC <input type="checkbox"/> TL <input type="checkbox"/>	
351645636045			
இலாகை கணக்கில் (Credit) / For The Credit of the Bank account of MSEC - Research & Consultancy Activities			
பணம் காணொலி/பரிசீலிப்பு விவரம் Details of Cash / கிளை/கிளை		கொடம்பி / Amount ரூ / Rs ரூ/P	
பணம் காணொலி/பரிசீலிப்பு விவரம் Cash Deposit in the Account		17175 -	
பணம் காணொலி/பரிசீலிப்பு விவரம் Cash Handling Charges		-	
மொத்தம் / Total Deposit		17175 -	
கொடம்பி (எழுத்துகள்) / Rupees (in words) <u>Seventeen</u> <u>thousand and one hundred and seventy five</u>			
(சு.சா.) காணொலி/ SWO		காணொலி/அங்கீகரிக்கும் அதிகாரி Cash Officer / Passing Officer <u>only</u>	

J. S.

PRINCIPAL
 MEENAKSHI SUNDARARAJAN ENGINEERING COL
 363, ARCOT ROAD, KODAMBALUR,
 CHENNAI-600 024

From,
Dean I.C&S.R
INDIAN INSTITUTE OF TECHNOLOGY MADRAS
Chennai - 600036

Vr.No. : 7750

To,
MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE - RESEARCH
363,ARCOT ROAD KODAMBAKKAM,
Chennai - 600 024
& CONSULTANCY ACTIVITIES

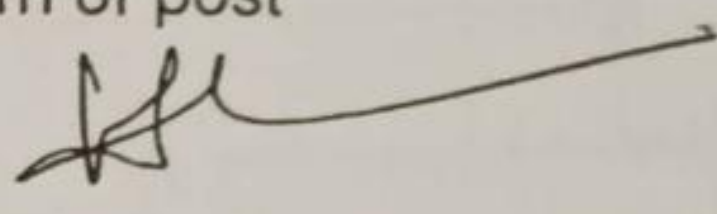
Sir,
Please find enclosed one crossed Cheque/DD **514553** Date **24/03/2016**

for Rs. **17175** drawn in your favour on the State Bank of India / Canara Bank
Branch, Chennai - 36 towards payment of your bill/s as detailed below.

Kindly acknowledge the receipt of cheque/D.D. by return of post

Dated : 28/03/2016

Encl : CHEQUE


Accountant/Superintendent

DETAILS OF BILLS

S.NO.	Your bill No/date	Amount Rs.	I.T. if any deducted	Net Amount Rs.
	05 23 /03/2016	17175		17175

RECEIPT

Vr.No. : 7750

Date : 24/03/2016

Received from the dean, I.C. & S.R., Indian Institute of Technology, Chennai, the sum of

Rupees **Rupees Seventeen thousand One hundred and Seventy Five Only**


by Cheque No. /DD.

514553

Dated

24/03/2016

1 Rupee
Revenue
Stamp


PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024



Harijan Sevak Sangh

(Founded by Mahatma Gandhi in the year 1932)

Tamil Nadu State Unit

58, Venkata Narayana Road, T. Nagar, Chennai -17

Prof. Sankar Kumar Sanyal – National President

To
The Secretary
Meenakshi Sundararajan Engineering College,
Chennai

20.01.2015

Dear Madam,

Harijan Sevak Sangh was founded by Mahatma Gandhi in the year 1932. This is the only Sangh for which Gandhiji himself penned the constitution, to eradicate untouchability. To achieve this goal all over India Schools were started. Hostels were opened to stay and pursue education to improve social status. Vocational Training centres were started to provide skill training in job oriented trades, enabling completed students to get immediate job and improve Economic status.

The Harijan Sevak Sangh is providing shelter for SC/ST students and education in free of cost. The funds are managed from small aid from government and donation from the industries and other Philanthropists.

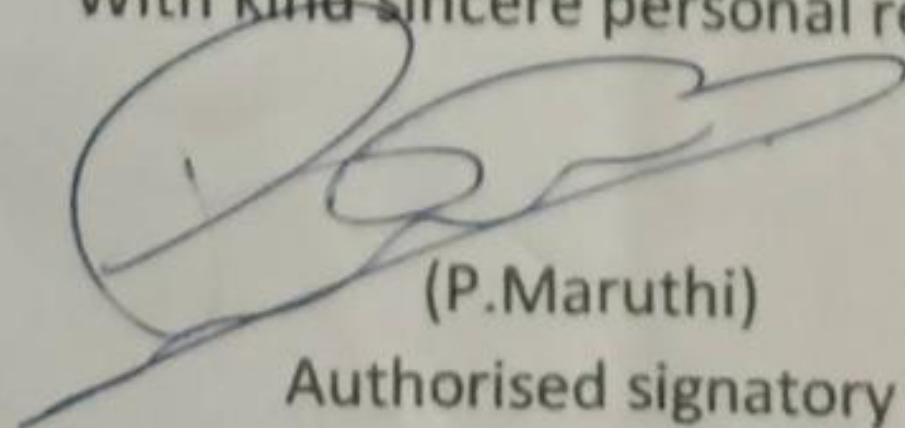
The existing ladies hostel is a very old building and in dilapidated condition, therefore we proposed to construct a new ladies hostel inside our premises at Chetpet Chennai. The estimated cost of this project as per our Architect is Rs.5,77,77,420/- (Rupees five crores seventy seven lakhs, seventy seven thousand four hundred and twenty only) We enclose here with the detailed working drawing for the proposed ladies hostel.

That you are one of the leading engineering colleges in Chennai is well known and also that you provide structural consultancy for other organization. We came to know that Dr.L.Ramajeyam (Dean/Civil Engineering) is also one of the leading structural consultants in Chennai.

We request you madam kindly to extend your cooperation and provide structural consultancy for the proposed ladies hostel, and also material testing required for above work at your laboratory.

We will be very happy if you extend above services to this service organization who is helping for SC/ST students with below poverty line. We sincerely look forward to your kind earlier approval at the earliest and support in this noble venture.

With kind sincere personal regards,


(P. Maruthi)
Authorised signatory



PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024



Harijan Sevak Sangh

[Founded by Mahatma Gandhi in 1932]

Tamil Nadu State Unit

58, Venkatarayana Road, T. Nagar, Chennai - 600 017

Minutes of the meeting held during inspection of pile foundation at Didi Nirmala Deshpande Nilayam Ladies' Hostel Construction Site @ Chetpet Chennai -31 on 25.01.18

Members present:

Sri. Ashok Kumar Goel- Managing Trustee. Shree Geeta Bhavan Trust,

Sri. K.K. Gupta, Shree Geeta Bhavan Trust,

Sri. Umashankar, Shree Geeta Bhavan Trust,

Dr.S. Pandian, Central Board Member, Harijan Sevak Sangh & Advisor

Shri D.Raajendira IAS Advisor TNHSS

Sri P.Maruthi President

Sri.Kalayana Krishnan State Board Member TNHSS

Sri Padmanabhan Partner, M/S Manickam & Co

Sri L.Ramajeyam Structural Engineer referred by Madam K.S.Babai member TNHSS

Mr.Sivakumar of TSO design Architect referred Mr.Bhaskaran to be present.

Unfortunately, due to death of his neighbor, he could not make it and asked to postpone to next day, 26.01.18

The site was inspected by all the above members and the marking of the piles was seen. Since it was at ground level, some of the piles could not be seen except the markings done by him

The structural engineer informed that he should give an undertaking if there is any problem during continuation of the work, he should rectify the defects in the pile foundation.

The structural engineer suggested that immediately to raise the height about 8 to 10 ft from the existing level so that the pile rods will not get rusted and further damage during rainy season.

It was decided to get a quotation from P.Manickam & Co; the structural engineer suggested the mode of work that is to be carried out in stages. He informed P.Manickam & Co, that he will be sending the requirement, enabling him to give the quotation stage by stage and item wise enabling us to get sponsors.

In the first phase, earth work, pile cap and plinth beam and brick work upto road level. Second phase, from road level to eight feet brick work and earth work.

The president also requested Mr.Ramajeyam to get another two or three quotations. It was finally decided that after getting the quotations to meet again together with the structural engineers and take a decision. Structural Engineer was kind enough to volunteer to inspect the site if the drawings required.

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING CO.
363, ARCOT ROAD, KODAMBAKKAM,
CHENNAI-600 024



MEETING FOR PILE CAPPING AT SRS SARVODAYA GIRLS HOSTEL ON 28.04.18 @ 4.30 PM

MEMBERS PRESENT:

- i. Dr.S.Pandian
- ii. Shri.P.Maruthi
- iii. Shri.D.Raajendhiran
- iv. Shri.L.Ramajeyam ,Sturctural Engineer referred by Vice President Dr.K.S.Babai

1. Three contractors who had submitted the quotation were requested to come for evaluation and negotiation on 28.04.18 @ SRS Sarvodaya Girls Hostel Chetpet at three consecutive time intervals.

2.

a. The first interaction was with Shri.Vel of **N.R.Associates** at 5.05 pm. Shri.Vel explained that they were actually two sister companies namely a. m/s NIMRODE and d. m/s N.R.Associates – this bifurcation had been done for easy handling of the accounts. NIMRODE handled Government contracts and paid 18% GST while N.R.Associates handled the other local contracts and paid 12% GST.

b. However details of the recent projects executed by N.R.Associates were unavailable and Mr.Vel promised to send the soft copies on 30.04.18 Monday

c. Sri.Raajendhiran observed that the projects executed by N.R.Associates were low profile; very low budget and they had not yet constructed any multistoried buildings.

d. Details given by Sri.Vel – projects executed by N.R.Associates

Nemilicheri	Church	1.25 Crores
Puttalur	Factory	
Ambattur	Church	1.5 Crores
Porur Garden	Residence	1.5 Crores

e. NIMRODE was constructing a Primary Health Centre @ Periyar Nagar.

f. Bank Statement/ PAN /IT returns were submitted.

g. No of staff 12 members common for both companies.

h. Shri.Vel gave the assurance that a discount of 1 % [one percentage] may be considered from the quoted value.

3. a. The second interaction was with Shri.Sivakumar [9841813333] and Shri. Murugan [7299913381] from **ShriRam Associates** at 5.30 pm.

b. They submitted the company's profile and other details; also submitted photos of completed projects.

c. They flatly refused any further discount stating that they do only quality work.

PRINCIPAL
MEENAKSHI SUNDARARAJAN ENGINEERING COL
363, ARCOT ROAD, IODAMBALAM,
CHENNAI-600 024