



Approved By AICTE & Directorate of Technical Education Kerala. | Affiliated to APJKTU University.

3.1.1 GRANTS RECEIVED

Academic Year	No:of Projects	Type	
		Government	Non Government
2023-2024	9	8	1




Co-ordinator


Principal



विश्वं शास्त्रे प्रतिष्ठितम्।

Contact Info
Mangalam Campus,
Mangalam Hills,
Vettimukal P.O.,
Kottayam, Kerala - 686 631

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 Admission Helpline
+91 98950 10120
 info@mangalam.in
 www.mangalam.ac.in





Internal Quality Assurance Cell (IQAC)

MANGALAM COLLEGE OF ENGINEERING

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

3.1.3 Number of departments having Research projects funded by government and non government agencies during the year

SL No:	Name of the Project/ Endowments, Chairs	Name of the Principal Investigator/Co-investigator	Department of Principal Investigator	Year of Award	Amount Sanctioned	Duration of the project	Name of the Funding Agency	Type (Government/non- Government)
1	Study On Strength, Durability And Thermal Performance Of A Novel Lightweight Concrete Block Made With Cenosphere, Metakaolin And Coal Bottom Ash Aggregate.	Dr. Ramesh Kumar D [PI], Mr. Sankar B [Co-PI]	Civil Engineering	2024	34,000	1 Year	APJKTU, CERD	Government
2	Investigation On Feasibility Of Utilizing Coffee-Husk Ash As An Alkaline Activator In Geopolymer Concrete	Dr. K. Arunkumar [PI], Dr. Ramesh Kumar D [Co-PI]	Civil Engineering	2024	34,240	2 Year	APJKTU, CERD	Government
3	High-Volume Fly Ash Concrete Modified With Metakaolin- A Study On Strength, Durability, Correlation And Predictive Modelling.	Dr. P Swaminathan [PI], Mr. Sankar B [Co-PI]	Civil Engineering	2024	31,450	3 Year	APJKTU, CERD	Government
4	Fire Extinguisher using IOT	Dr. C Sahaya Kingsly/Ms.Athira S Nath	Computer Science & Engineering	2024	26000	1 year	APJKTU, CERD	Government
5	A Humanoid Robot for Visually Impaired People	Dr.S Padmalal/Ms.Neethu Maria John	Computer Science & Engineering	2024	25000	1 year	APJKTU, CERD	Government
6	AR Learning Aid for Dyslexic users	Ms.Roja Thomas	Computer Science & Engineering	2024	100000	1 year	Freston Analytics Pvt. Ltd	Non Government



SL No:	Name of the Project/ Endowments, Chairs	Name of the Principal Investigator/Co-investigator	Department of Principal Investigator	Year of Award	Amount Sanctioned	Duration of the project	Name of the Funding Agency	Type (Government/non- Government)
7	Synthesis of graphite nanoplatelets decorate with spinel ferrite materials by using various surfactants on CF/GF composites for EMI shielding [CRG/2022/003429]	Dr. Manuel George [PI]	Mechanical Engineering	2023	5,37,858	3 year	DST-SERB	Government
8	Two wheeler puncture assisting Trolley	Dr.Pratheesh K[PI] & Mr.Santhu Varghese[CI]	Mechanical Engineering	2024	27390	1 year	APJAKTU-CERD	Government
9	Synthesis of graphite nanoplatelets decorate with spinel ferrite materials by using various surfactants on CF/GF composites for EMI shielding [CRG/2022/003429]	Prof. Dr. P. P. George [Co-PI]	Basic Science and Humanites	2023	5,37,858	3 year	DST-SERB	Government



**APJ Abdul Kalam Technological University
Thiruvananthapuram**

Abstract

APJAKTU - Research section- Financial Assistance to Student Projects 2024-25 - Administrative
Sanction accorded -Orders issued.

RESEARCH SECTION

U O No. 1700/2024/KTU

Thiruvananthapuram, Dated: 11.06.2024

- Read -1. Minutes of the 1st meeting of Engineering Research Council dated 27.01.2010.
2. Minutes of 2nd meeting of Executive Committee dated 21.10.2010.
3. Meeting of the 2nd Research Council dated 29.02.2017.
4. Proposals of Student Projects for Financial Assistance.
5. Screening Committee meeting held on April 2024 for evaluation of project proposals.

ORDER

Vide ref. read (1) above, Engineering Research Council had approved the scheme for Financial Assistance to Student Projects for the Government Engineering Colleges. Vide ref. read (2) above, it was decided to extend the financial assistance to the student projects to the government-aided and Government-Controlled Engineering College students.

Vide ref. read (3) above, it was decided to extend the financial assistance to Student Projects for all engineering colleges affiliated to the University with NBA accreditation. It was also decided that financial assistance would be provided as reimbursement of expenditure incurred for the sanctioned project.

The Screening Committee meetings held in April 2024 evaluated the project proposals forwarded from Engineering Colleges affiliated to the University and recommended financial assistance to selected proposals as per the List appended.

After due consideration, Administrative sanction is therefore accorded for financial assistance to the student projects for an amount of **₹53,90,774/- (Fifty-Three Lakh Ninety Thousand Seven Hundred and Seventy-Four only)** as detailed in the list attached below. The project shall be completed with the students who presented the project before the Screening Committee.

The expenditure should be as per the terms and conditions in Annexure II attached. The amount will be reimbursed only to the Principal of the Colleges concerned after successful completion of the project, on the production of certified bills & vouchers along with the audited utilization certificate, statement of expenditure and project completion report.

The expenditure shall be met from the Head of Account "CERD (Plan) 4181-6307-Innovative Student Project".

Orders are issued accordingly.



Sd/-



Sl. No.	NAME OF PRINCIPAL INVESTIGATOR	Title of the Project	College	Amount Sanctioned	Consumables	Equipments	Travel	Contingency
20	SRUTHI M	Air Pollutant Removal Using Filtration Cum Adsorption Process	LBS INSTITUTE OF TECHNOLOGY FOR WOMEN, POOJAPPURA	23000	1700	13300	3000	5000
21	Dr. BALAGOPAL V	Optimizing pretreatment methods for enhanced product development in recycled aggregate concrete.	MAHAGURU INSTITUTE OF TECHNOLOGY	35000	10000	15000	5000	5000
22	Mr. AJAY V	Flood Management in Kuttanad	MAHAGURU INSTITUTE OF TECHNOLOGY	27500	10000	7500	5000	5000
23	Dr. SIMI M R	Assessing Environmental Impacts: Subsurface Runoff Variability Across Diverse Soil Types	MAHAGURU INSTITUTE OF TECHNOLOGY	35000	10000	15000	5000	5000
24	Dr. D. RAMESH KUMAR	STUDY ON STRENGTH, DURABILITY AND THERMAL PERFORMANCE OF A NOVEL LIGHTWEIGHT CONCRETE BLOCK MADE WITH CENOSPHERE, METAKAOLIN AND COAL BOTTOM ASH AGGREGATE	MANGALAM COLLEGE OF ENGINEERING	34000	10000	16000	4000	4000
25	Dr. K. ARUNKUMAR	INVESTIGATION ON FEASIBILITY OF UTILIZING COFFEE-HUSK ASH AS AN ALKALINE ACTIVATOR IN GEOPOLYMER CONCRETE	MANGALAM COLLEGE OF ENGINEERING	34240	9690	14950	4800	4800
26	Dr. P SWAMINATHAN	HIGH-VOLUME FLY ASH CONCRETE MODIFIED WITH METAKAOLIN- A STUDY ON STRENGTH, DURABILITY, CORRELATION AND PREDICTIVE MODELLING	MANGALAM COLLEGE OF ENGINEERING	31450	9950	16500	2500	2500
27	Dr. ALPHA LUKOSE	Real Time Landslide Early Detection System For At-Risk Communities using Low-Cost Sensors Networks	MAR ATHANASIOUS COLLEGE OF ENGINEERING, KOTHAMANGALAM	25000	9000	11000	2500	2500
28	Dr. JAYA S PILLAI	Solar Still Desalination Systems for the Decentralized Treatment of Saline Water	MAR BASELIOS COLLEGE OF ENGINEERING AND TECHNOLOGY	35000	10000	15000	5000	5000



**APJ Abdul Kalam Technological University
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Sd/-



Sl. No.	NAME OF PRINCIPAL INVESTIGATOR	Title of the Project	College	Amount Sanctioned	Consumables	Equipments	Travel	Contingency
29	SHINEY THOMAS	ParkinCare- Deep learning model to predict Parkinson disease	AMAL JYOTHI COLLEGE OF ENGINEERING	10000	Nil	8000	1000	1000
30	Dr.C.SAHAYA KINGSLY	Fire Extinguisher Using IOT	MANGALAM COLLEGE OF ENGINEERING	26000	4000	18000	2000	2000
31	Dr. S. PADMALAL	A Humanoid Robot for Visually Impaired People	MANGALAM COLLEGE OF ENGINEERING	25000	5000	15500	2000	2500
32	Mrs. KRISHNAVENI V V	Empowering Deaf Individuals: Smart Glasses for Real-Time Speech Display for Deaf Individuals	COLLEGE OF ENGINEERING KIDANGOOR	15000	2000	10000	1500	1500
33	ANNIE CHACKO	SIEM VIRTUALIZATION	MAR BASELIOS CHRISTIAN COLLEGE OF ENGINEERING & TECHNOLOGY	11800	2300	7500	1000	1000
34	BINU JOHN	Real-Time Blood Glucose Prediction using Edge Computing and Deep Learning in IoMT	SCMS ENGINEERING TECHNOLOGY	8900	Nil	8000	Nil	900

BRANCH - CHEMICAL ENGINEERING

Sl. No.	NAME OF PRINCIPAL INVESTIGATOR	Title of the Project	College	Amount Sanctioned	Consumables	Equipments	Travel	Contingency
1	SUREJ RAJAN C	Development of a standard automotive spare parts from waste plastics	AMAL JYOTHI COLLEGE OF ENGINEERING	24000	4800	14400	2400	2400
2	Prof.(Dr.) DAVID K DANIEL	Process for Separation of Surfactant (Alpha Olefin Sulphonate) from Industrial Sulphonation Residue	AMAL JYOTHI COLLEGE OF ENGINEERING	27500	5500	17500	2000	2500



06 June 2024

Ms. Roja Thomas
Asst. Professor,
Mangalam College of Engineering,
Kottayam

Subject: Congratulations on Winning the First Prize in Spark Venture 2024 Ignite Innovation Challenge!

Congratulations Ms. Roja Thomas (Project supervisor), Atul Krishna A, Albin Varghese, Rahul Abraham, and Sidharth Gopala Krishnan of Mangalam College of Engineering, Kottayam on your outstanding achievement in the Spark Venture 2024 Ignite Innovation Challenge! We are thrilled to inform you that your innovative project AR Learning Aid for Dyslexic Users has secured First position, winning a prize of Rs.1,00,000.

We would like to invite you to the award function, which will be held at Toc H, Kochi in July 2024. During this event, you will receive your memento and certificate recognizing your success.

The initial seed funding and subsequent milestone payments will be released after we have a one-on-one meeting with your team. This meeting will be scheduled to understand your project requirements better and to outline the disbursement of funds.

To proceed, please send us an email containing your project plan, divided into three stages, each with clear milestones. The project start date is set for July 1st and will continue until December 31st.

Once again, congratulations on your well-deserved success! We look forward to supporting your journey towards innovation and excellence.

For Freston Analytics Pvt Ltd,



Nikhil C R
Head – HR & Talent Excellence



Freston Analytics Private Limited

#3, Ground Floor, Sahya, Govt. Cyberpark
Kozhikode, Kerala, India 673016

✉ info@frestonanalytics.com

Freston Analytics UK Ltd

200 Brook Drive, Green Park, Reading,
RG2 6UB - United Kingdom

🌐 www.frestonanalytics.com

11/17/23, 12:28 PM

Mangalam College of Engineering, Kerala - India. Mail - Fwd: SERB-Notification



Premjith S <premjith.s@mangalam.in>

Fwd: SERB-Notification

message

Manuel George <manuelgp89@gmail.com>
To: premjith.s@mangalam.in

Fri, Nov 17, 2023 at 12:17 PM

----- Forwarded message -----

From: Jaleel P.K <jaleel.pk@mangalam.in>

Date: Thu, Nov 16, 2023 at 4:49 PM

Subject: Re: SERB-Notification

To: Manuel George <manuelgp89@gmail.com>

Thank you

On Thu, Nov 16, 2023 at 3:47 PM Manuel George <manuelgp89@gmail.com> wrote:

----- Forwarded message -----

From: <SERB_Administrator@serbonline.in>

Date: Mon, Jan 30, 2023 at 11:02 AM

Subject: SERB-Notification

To: <serbinfo1@gmail.com>



Science and Engineering Research Board

(Statutory Body Established Through an Act of Parliament : SERB Act 2008)
Department of Science and Technology, Government of India

SCIENCE & ENGINEERING RESEARCH BOARD (SERB)

(Statutory Body Established Through an Act of Parliament : SERB Act 2008)

Science and Engineering Research Board
3rd & 4th Floor, Block II
Technology Bhavan, New Mehrauli Road
New Delhi - 110016

Approval Letter

File Number: CRG/2022/003429

Dated: 30-Jan-2023

Subject: Project titled "Synthesis of Graphite nanoplatelets decorated with spinel ferrite materials by using various surfactants on CF/GF composites for EMI shielding".

Dear Dr. Manuel George,

The project cited above has been recommended by the related Programme Advisory Committee to the Science and Engineering Research Board (SERB) for funding. The following are the terms recommended for a period of 3 years. The final budget to be sanctioned would be based on quotations received and existing norms, funds availability etc.



The committee recommended the following budget**Manpower : Nil****Equipment Details : Rs. 200000****-> weighing balance, shear mixer, magnetic stirrer, Autoclave oven, Centrifuge system, Furnace - 1****Consumables : Rs. 45000****Travel Cost : As per norms****Contingencies : As per norms****Overhead : As per norms**

You need to accept the above budgetary allocation before proceeding further. To accept the budgetary recommendations, you may follow the following steps :

1. Go to www.serbonline.in through your credentials
2. Go to Menu --> Proposal submission --> View submitted proposals
3. Click on the link under Status column "Proposal Approved, Acknowledgment pending from PI"

You are requested to upload the following documents of the approved budget strictly within 10 days from the date of this letter.

1. Upload the lowest quotation for equipment/s (including freight, insurance, customs charges etc., if any).
2. Salary structure for the project staff (including HRA, Medical Benefits, if applicable etc.).
3. A certificate stating that any visit abroad for a period more than eight weeks would be undertaken after due permission from SERB, may also be submitted.
4. RTGS details of the implementing institute to facilitate transfer of the fund as per the template.
5. Any other documents (as detailed below specific the programme concerned).

SERB has adopted the Scientific Social Responsibility (SSR) Policy which mandates SERB Grantees to undertake some SSR activities during their project period. You are requested to read the SSR guidelines available under SSR menu and choose the activities according to your preference. Depending on the activity chosen, additional budget would be provided under separate head to carry out the chosen activities. Please note that choosing the SSR activities is mandatory for issue of financial sanction subject to submission and acceptance of other necessary documents

Kindly upload the documents related viz., animal ethical clearance certificate, institutional bio safety clearance certificate, etc., matching with exact approved title of project submitted to SERB.

If the project does not require (viz., animal ethical clearance certificate, institutional bio safety clearance certificate, etc.,) please confirm with a self-certification saying that it does not involve any animal/human studies or genetic modification in any organisms or bio safety issues.

(Kindly note that during the issue of sanction order or during the implementation of this project, if SERB come across/found that the project work involves/requires animal/human studies or genetic modification in any organisms or bio safety issues, RCGM approval/ approval from Biodiversity Management Committee Environmental clearance, the project may be terminated without any notice.)

Please note that release of grant is subject to availability of funds under the scheme. Kindly quote the reference number in all future correspondence. The project's reference no. **CRG/2022/003429** may also be mentioned in all research communications arising from the above project.



Yours sincerely,

11/17/23, 12:28 PM

Mangalam College of Engineering, Kerala - India. Mail - Fwd: Sanction Order : CRG/2022/003429



Premjith S <premjith.s@mangalam.in>

Fwd: Sanction Order : CRG/2022/003429

1 message

Manuel George <manuelgp89@gmail.com>
To: premjith.s@mangalam.in

Fri, Nov 17, 2023 at 12:17 PM

----- Forwarded message -----
From: <SERB_Administrator@serbonline.in>
Date: Sat, Sep 16, 2023 at 5:37 PM
Subject: Sanction Order : CRG/2022/003429
To: <serbinfo1@gmail.com>



Science and Engineering Research Board
(Statutory Body Established Through an Act of Parliament : SERB Act 2008)
Department of Science and Technology, Government of India

Dear Dr. Manuel George,

The below details for Science & Engineering Research Board (SERB) Sanction Order (attached to this mail)

Sanction Order No CRG/2022/003429
Sanction Date 25 May, 2023
PI Name Dr. Manuel George
Institute/University Mangalam College Of Engineering , College Road, Mangalam Hills, Vettimukal, Ettumanoor, Kottayam, Kerala-686631
Account Number 50100505874826
Bank & Branch HDFC Bank Hdfe Bank, Puzhakkarayil Buildings, Thalayolaparambu Branch, Kottayam, IFSC Name Code- HDFC0001503, Branch Code 1503

Grants in Aid Capital:

Amount INR 129417/-
In Rupees One Lakh Twenty Nine Thousand Four Hundred and Seventeen
UTR No RBI2592383812267
Transaction Date 15 September, 2023

SERB Reference Number:

Bill No
Diary No / Finance No SERB/F/1505/2023-2024

Grants in Aid General:

Amount INR 141147/-
In Rupees One Lakh Forty One Thousand One Hundred and Forty Seven
UTR No RBI2592383811646
Transaction Date 15 September, 2023



11/17/23, 12:28 PM

Mangalam College of Engineering, Kerala - India. Mail - Fwd. Sanction Order : CRG/2022/003429

SERB Reference Number:

Bill No

Diary No / Finance No SERB/F/1506/2023-2024

Confirmation of receipt of funds may be sent by email only.

IMPORTANT:

1. SEPARATE Utilization Certificates (UCs) for Recurring and Non Recurring (even if DISBURSED BY SERB THROUGH ONE SANCTION ORDER for your project) should be sent directly to the grant Sanctioning Authority by name (signatory of the sanction order) within twelve months of the closure of the financial year in which the grants were released irrespective of whether the subsequent instalment of grant is due for release or not.

2. However, if any unspent balance is to be refunded, kindly ensure that the unutilized amount may be refunded immediately by way of an a/c payee cheque/DD drawn in favour of "Fund for Science & Engineering Research", payable at New Delhi and forwarded to the undersigned at the address given below:

कृते / for

अवर सचिव Under Secretary

विज्ञान एवं इंजीनियरी अनुसंधान बोर्ड (एसईआरबी)

Science & Engineering Research Board (SERB)

(विज्ञान और प्रौद्योगिकी विभाग, भारत सरकार का एक सांविधिक निकाय)

(A statutory body of Department of Science and Technology, Govt. of India)

तीसरा और चौथा तल, ब्लॉक-II, टेक्नोलॉजी भवन

Third & Fourth Floor, Block-II, Technology Bhawan

न्यू महरौली रोड, नई दिल्ली - 110016

New Mehrauli Road, New Delhi - 110016

संपर्क / CONTACT:

011-26552111 (General Enquiries),

011-26552102 (TSA Enquiries)

011-26552103 (UTR Enquiries)

011-26552104 (UC/SE Enquiries)

011-26552107 (Refunds/Interest Enquiries)

011-26552100 टेलिफैक्स / Telefax: 011-26511094



[Handwritten signature]

11/17/23, 12:28 PM

Mangalam College of Engineering, Kerala - India. Mail - Fwd: SERB-Notification

(Dr. Pankaj K. Rawat)

Email: ms_cmer@serbonline.in

Dr. Manuel George

Mechanical Engineering

Mangalam College Of Engineering , College Road, Mangalam Hills, Vettimukal, Ettumanoor, Kottayam,
Kerala-686631

***** LEGAL DISCLAIMER *****

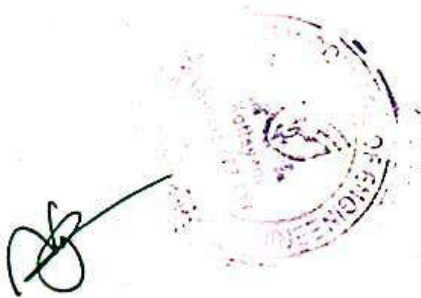
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11/17/23, 12:28 PM

Mangalam College of Engineering, Kerala - India. Mail - Fwd: Sanction Order : CRG/2022/003429

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[Handwritten signature]

GFR 12 - A
[(See Rule 238 (1))]
UTILIZATION CERTIFICATE (UC) FOR THE YEAR 2023-24
In respect of NON-RECURRING
as on 30-3-24 to be submitted to SERB
Is the UC Audited (Provisional/Audited)
(To be given separately for each financial year ending on 31st March)

1. Name of the grant receiving Organization : Mangalam College of Engineering, Ettumanoor, Kottaya
2. Name of Principal Investigator(PI) Dr Manuel George
3. SERB Sanction order no. & date CRG/2022/003429
4. Title of the Project Synthesis of Graphite nanoplatelets decorated with spinel ferrite materials by using various surfactants on CF/GF composites for EMI shielding
5. Name of the SERB Scheme : CRG (CRG/NPDF/ECR.....etc.)
6. Whether recurring or non-recurring grants : **NON-RECURRING**
7. Grants position at the beginning of the Financial year

- (i) Carry forward from previous financial year 2022-23 : NIL
- (ii) Others, If any : NIL
- (iii) Total : NIL

8. Details of grants received, expenditure incurred and closing balances: (Actuals)

Unspent balance of grants received in previous years as at Sl No. 7 (a)	Interest Earned thereon	Interest deposited back to the SERB	Grants received during the year			Total Available funds (1+2-3+4)	Expenditure incurred	Closing Balances (5-6)
1	2	3	4			5	6	7
			Sanction No. (i)	Date (ii)	Amount (iii)			
0	0	NIL	CRG/2022/003429	25-5-23	Rs 1,29,417	Rs 1,29,417	Rs 1,29,417	0

Component wise utilization of grants:

Grants-in-aid- General	Grant-in-aid-creation for capital assets	Total
Rs 1,41,147	Rs 1,29,417	Rs 2,70,564

Details of grants position at the end of the year

- (i) Balance available at end of financial year : 0
- (ii) Unspent balance refunded to SERB (If any) : NIL
- (iii) Balance (Carried forward to next financial year) if applicable : NIL




GFR 12 - A
[(See Rule 23B (1))]
UTILIZATION CERTIFICATE (UC) FOR THE YEAR 2023-24
 In respect of **NON-RECURRING**
 as on 30.3.24 to be submitted to **SERO**
 Is the UC Audited (Provisional/Audited)
 (To be given separately for each financial year ending on 31st March)

Certified that I have satisfied that the conditions on which grants were sanctioned have been duly fulfilled/are being fulfilled and that I have exercised following checks to see that the money has been actually utilized for the purpose for which it was sanctioned.

- (i) The main accounts and other subsidiary accounts and registers (including assets registers) are maintained as prescribed in the relevant Act/Rules/Standing instructions (mention the Act/Rules) and have been duly audited by designated auditors. The figures depicted above tally with the audited figures mentioned in financial statements/accounts
- (ii) There exist internal controls for safeguarding public funds/assets, watching outcomes and achievements of physical targets against the financial inputs, ensuring quality in asset creation etc. & the periodic evaluation of internal controls is exercised to ensure their effectiveness.
- (iii) To the best of our knowledge and belief, no transactions have been entered that are in violation of relevant Act/Rules/standing instructions and scheme guidelines.
- (iv) The responsibilities among the key functionaries for execution of the scheme have been assigned in clear terms and are not general in nature.
- (v) The benefits were extended to the intended beneficiaries and only such areas/districts were covered where the scheme was intended to operate.
- (vi) The expenditure on various components of the scheme was in the proportions authorized as per the scheme guidelines and terms and conditions of the grants-in-aid.
- (vii) It has been ensured that the physical and financial performance underCRG..... (CRG/NPDF/ECR.....etc.) (Name of the scheme has been according to the requirements, as prescribed in the guidelines issued by Govt. of India and the performance/targets achieved statement for the year to which the utilization of the fund resulted in outcomes given at Annexure - I duly enclosed.
- (viii) The utilization of the fund resulted in outcomes given at Annexure - II duly enclosed (to be formulated by the Ministry/Department concerned as per their requirements/specifications.)
- (ix) Details of various schemes executed by the agency through grants-in-aid received from the same Ministry or from other Ministries is enclosed at Annexure -II (to be formulated by the Ministry/Department concerned as per their requirements/specifications).

D
P Date: 30-3-2024

Place: Ettumanoor

 Signature of PI : Or Manuel George	 Signature with Seal : Name: Chief Finance Officer (Head of Finance)	 Signature with Seal : Name: Head of Organisation
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(Strike out inapplicable terms)



PRINCIPAL
MANGALAM COLLEGE OF ENGINEERING

GFR 12 - A
[(See Rule 238 (1))]
UTILIZATION CERTIFICATE (UC) FOR THE YEAR2023-24
In respect of *RECURRING*
as on ...30.3.2024..... to be submitted to SERB
Is the UCAudited.....(Provisional/Audited)
(To be given separately for each financial year ending on 31st March)

1. Name of the grant receiving Organization : Mangalam College of Engineering, Ettumanoor, Kottayam
2. Name of Principal Investigator(PI) : Dr. Manuel George
3. SERB Sanction order no & date : CRG/2022/003429
4. Title of the Project : Synthesis of Graphite nanoplatelets decorated with spinel ferrite materials by using various surfactants on G/IGF composites for EMI shielding
5. Name of the SERB Scheme : CRG (CRG/NPDF/ECR etc.)
6. Whether recurring or non-recurring grants : **RECURRING**
7. Grants position at the beginning of the Financial year

- (i) Carry forward from previous financial year 2022-23 : NIL
- (ii) Others, If any : NIL
- (iii) Total : NIL

8 Details of grants received, expenditure incurred and closing balances: (Actuals)

Unspent Balance of grants received in previous years (figure as at 31.03.2023)	Interest Earned thereon	Interest deposited back to the SERB	Grants received during the year			Total Available funds (1+2-3+4)	Expenditure incurred	Closing Balances
1	2	3	4			5	6	7
			Sanction No. (i)	Date (ii)	Amount (iii)			
0	0	0	CRG/2022/003429	25-5-23	1,41,147	1,41,147	1,41,147	0

Component wise utilization of grants:

Grants-in-aid- General	Grant-in-aid-creation for capital assets	Total
1,41,147	1,29,417	2,70,564

Details of grants position at the end of the year

- (i) Balance available at end of financial year : 0
- (ii) Unspent balance refunded to SERB (If any) : NIL
- (iii) Balance (Carried forward to next financial year) if applicable : NIL






[[See Rule 238 (1)]]
UTILIZATION CERTIFICATE (UC) FOR THE YEAR 2023-24
 as on 30-3-24 in respect of **RECURRING**
 Is the UC to be submitted to SERB
 Audited (Provisional/Audited)
 (To be given separately for each financial year ending on 31st March)

certified that I have satisfied that the conditions on which grants were sanctioned have been duly fulfilled/are being fulfilled and that I have exercised following checks to see that the money has been actually utilized for the purpose for which it was sanctioned:

- (i) The main accounts and other subsidiary accounts and registers (including assets registers) are maintained as prescribed in the relevant Act/Rules/Standing instructions (mention the Act/Rules) and have been duly audited by designated auditors. The figures depicted above tally with the audited figures mentioned in financial statements/accounts.
- (ii) There exist internal controls for safeguarding public funds/assets, watching outcomes and achievements of physical targets against the financial inputs, ensuring quality in asset creation etc. & the periodic evaluation of internal controls is exercised to ensure their effectiveness.
- (iii) To the best of our knowledge and belief, no transactions have been entered that are in violation of relevant Act/Rules/standing instructions and scheme guidelines.
- (iv) The responsibilities among the key functionaries for execution of the scheme have been assigned in clear terms and are not general in nature.
- (v) The benefits were extended to the intended beneficiaries and only such areas/districts were covered where the scheme was intended to operate.
- (vi) The expenditure on various components of the scheme was in the proportions authorized as per the scheme guidelines and terms and conditions of the grants-in-aid.
- (vii) It has been ensured that the physical and financial performance underCRG..... (CRG/NPDF/ECR.....etc.) (Name of the scheme has been according to the requirements, as prescribed in the guidelines issued by Govt. of India and the performance/targets achieved statement for the year to which the utilization of the fund resulted in outcomes given at Annexure - I duly enclosed.
- (viii) The utilization of the fund resulted in outcomes given at Annexure - II duly enclosed (to be formulated by the Ministry/Department concerned as per their requirements/specifications.)
- (ix) Details of various schemes executed by the agency through grants-in-aid received from the same Ministry or from other Ministries is enclosed at Annexure -II (to be formulated by the Ministry/Department concerned as per their requirements/specifications).

1 Date: 30-3-24

2 Place: Ettumanoor

<p>Signature of PI: </p> <p>Dr Manuel George</p>	<p>Signature with Seal: </p> <p>Name: Mr Anil PS Chief Finance Officer (Head of Finance)</p>	<p>Signature with Seal: </p> <p>Name: Dr Vinodh P Velayudhan Head of Organisation</p>
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(Strike out inapplicable terms)



**PRINCIPAL
 MANGALAM COLLEGE OF ENGINEERING
 Ettumanoor**

**APJ Abdul Kalam Technological University
Thiruvananthapuram**

Abstract

APJAKTU - Research section- Financial Assistance to Student Projects 2024-25 - Administrative
Sanction accorded -Orders issued.

RESEARCH SECTION

U.O No 1700/2024/KTU

Thiruvananthapuram, Dated: 11.06.2024

- Read:-** 1. Minutes of the 1st meeting of Engineering Research Council dated 27.01.2010.
2. Minutes of 2nd meeting of Executive Committee dated 21.10.2010.
3. Meeting of the 2nd Research Council dated 29.02.2017.
4. Proposals of Student Projects for Financial Assistance.
5. Screening Committee meeting held on April 2024 for evaluation of project proposals.

ORDER

Vide ref. read (1) above, Engineering Research Council had approved the scheme for Financial Assistance to Student Projects for the Government Engineering Colleges. Vide ref. read (2) above, it was decided to extend the financial assistance to the student projects to the government-aided and Government-Controlled Engineering College students.

Vide ref. read (3) above, It was decided to extend the financial assistance to Student Projects for all engineering colleges affiliated to the University with NBA accreditation. It was also decided that financial assistance would be provided as reimbursement of expenditure incurred for the sanctioned project.

The Screening Committee meetings held in April 2024 evaluated the project proposals forwarded from Engineering Colleges affiliated to the University and recommended financial assistance to selected proposals as per the List appended.

After due consideration, Administrative sanction is therefore accorded for financial assistance to the student projects for an amount of **₹53,90,774/- (Fifty-Three Lakh Ninety Thousand Seven Hundred and Seventy-Four only)** as detailed in the list attached below. The project shall be completed with the students who presented the project before the Screening Committee.

The expenditure should be as per the terms and conditions in Annexure II attached. The amount will be reimbursed only to the Principal of the Colleges concerned after successful completion of the project, on the production of certified bills & vouchers along with the audited utilization certificate, statement of expenditure and project completion report.

The expenditure shall be met from the Head of Account "CERD (Plan) 4181-6307-Innovative Student Project".

Orders are issued accordingly.



Copy to:-

1. Principals of Engineering Colleges
2. Principal Investigators.

* This is a computer system (Digital File) generated letter. Hence there is no need for a physical signature.



A handwritten signature in green ink, consisting of a stylized, cursive 'S' shape.



Sl. No.	NAME OF PRINCIPAL INVESTIGATOR	Title of the Project	College	Amount Sanctioned	Consumables	Equipments	Travel	Contingency
4	Dr. ELIZABETH RITA SAMUEL	PULSE (Pool Under Water Life Saving Surveillance Equipment)	RAJAGIRI SCHOOL OF ENGINEERING & TECHNOLOGY	19600	1700	15000	1000	1900
5	Dr. BINDHU S	Hardware implementation of fourier transform based power quality analyzer for voltage measurement	GOVT. ENGINEERING COLLEGE, BARTON HILL	8200	1600	5000	800	800
6	Dr. JENO PAUL P	Design And Development Of Triple Energy Storage System (TESS) For Electric Vehicle Application	Adi Shankara Institute of Engineering and Technology, Kalady	31200	1000	25200	2000	3000
7	Mrs.SAVITHA K P	Automatic Wall Painting Machine	COLLEGE OF ENGINEERING CHENGANNUR	43200	8600	28600	3000	3000
8	Dr. VINOD V	DQ Controlled Single Phase Grid Connected Inverter	GOVT. ENGINEERING COLLEGE, BARTON HILL	30000	6000	18000	3000	3000
9	Dr. MANOJ KUMAR M V	Solar PV Based Multiport DC-DC Converter Utilizing Hybrid Energy Storage System	GOVERNMENT COLLEGE OF ENGINEERING KANNUR	41500	8300	25000	4100	4100
10	Dr.LINSS T ALEX	Solar Powered Hydrogen and Oxygen Production for Cooking and Medical Applications	ALBERTIAN INSTITUTE OF SCIENCE AND TECHNOLOGY (AISAT)- TECHNICAL CAMPUS	43200	1000	34900	4300	3000

BRANCH - MECHANICAL ENGINEERING

Sl. No.	NAME OF PRINCIPAL INVESTIGATOR	Title of the Project	College	Amount Sanctioned	Consumables	Equipments	Travel	Contingency
1	Dr. VINODKUMAR P B	Topological Data Analysis in Lung Cancer Histology Prediction and Cancer Risk Assessment	RAJAGIRI SCHOOL OF ENGINEERING & TECHNOLOGY	19500	3000	10500	3000	3000

S1. No.	NAME OF PRINCIPAL INVESTIGATOR	Title of the Project	College	Amount Sanctioned	Consumables	Equipments	Travel	Contingency
2	Mr. ANOOP R	Design, Analysis and Fabrication of an All-Terrain Robotic Rover with Enhanced Mobility and Stability Using a Modified Rocker-Bogie Mechanism	COLLEGE OF ENGINEERING ADOOR	50000	3300	43700	1000	2000
3	RENJITH T	CLEANSING ROVER	UKF COLLEGE OF ENGINEERING & TECHNOLOGY	39325	3000	30675	2000	3650
4	Dr. YOGESH M	Autonomous Consignment Hexacopter	ST.THOMAS COLLEGE OF ENGINEERING & TECHNOLOGY CHENGANNUR	15500	10000	1500	2000	2000
5	ASKKAR ALI P	Smart hydro farming system	GOVERNMENT ENGINEERING COLLEGE SREEKRISHNAPURAM	25850	5000	15850	2500	2500
6	Dr. SANCHU S	Cryogenic treatment of Aluminium alloy - A16061,6063,50e3	MODEL ENGINEERING COLLEGE	50000	10000	33000	2000	5000
7	Dr. VINAY VARGHESE	CRYOGENIC TREATMENT OF CUTTING TOOL DURING END MILLING OF STAINLESS STEEL 304	Adi Shankara Institute of Engineering and Technology, Kalady	14300	6800	1500	3000	3000
8	Prof. Dr. MANOJ JOSE KALATHIL	Design And Fabrication Of An Electrical GO-KART	ALBERTIAN INSTITUTE OF SCIENCE AND TECHNOLOGY (AISAT)- TECHNICAL CAMPUS	47000	10000	27000	5000	5000
9	ANOOP R	PERFORMANCE ANALYSIS OF AN IMMERSION-BASED BATTERY THERMAL MANAGEMENT SYSTEM	COLLEGE OF ENGINEERING ADOOR	38589	2000	32089	2500	2000
10	DEEPU R.J.	STUDY, DESIGN, ANALYSIS, AND FABRICATION OF 25 cc TRI-APEX ROTOR ENGINE	COLLEGE OF ENGINEERING PERUMON	49500	9000	31000	4500	5000



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Sl. No.	NAME OF PRINCIPAL INVESTIGATOR	Title of the Project	College	Amount Sanctioned	Consumables	Equipments	Travel	Contingency
11	SURESH LAL S R	Optimization of heat sink design through thermal analysis and experimental evaluation	COLLEGE OF ENGINEERING TRIVANDRUM	47600	10000	35500	Nil	2100
12	Dr. V R RAJEEV	Processing and characterization of Ni coated and uncoated SiC reinforced A356 stir cast composites	COLLEGE OF ENGINEERING TRIVANDRUM	34000	10000	20000	2000	2000
13	SREESH P S	DESIGN AND DEVELOPMENT OF A MACHINE FOR PRODUCTION OF NOVEL SUSTAINABLE COMPOSITE ACOUSTIC WALL TILES USING RECYCLED CLOTH FIBER AND NATURAL LATEX	COLLEGE OF ENGINEERING, PATHANAPURAM	48571	7200	32410	4961	4000
14	Dr. HARISH T M	Methodological Analysis into the Mechanical and Microstructural Attributes of Functionally Graded Inconel 825-SS304L Manufactured Using Wire Arc Additive Manufacturing	FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)	35000	10000	15000	5000	5000
15	Dr. GOVINDAN P	Development and Mechanical Characterization of Coconut shell/PLA green Composite by Fused Filament Fabrication for Automobile Applications	GOVERNMENT COLLEGE OF ENGINEERING KANNUR	49500	9000	32500	4000	4000
16	Dr. SUNIL A. S.	A Sustainable 3D Printing Filament Extrusion Using Recycled Thermoplastic Waste Materials	GOVERNMENT ENGINEERING COLLEGE IDUKKI	48200	7000	31868	5000	4332
17	NAVANEETH M S	3 Axis Welding Robotic Arm	GOVERNMENT ENGINEERING COLLEGE SREEKRISHNAPURAM	50000	10000	30000	5000	5000
18	Dr. REKHA L	Numerical Modelling & Experimental Validation of PCM enhanced Battery Thermal Management System (BTMS) for Li-ion Battery	GOVERNMENT ENGINEERING COLLEGE THRISSUR	50000	5000	35000	5000	5000
19	RENJITH V B	Comparative study of mechanical, functional, metallurgical properties of A356-WC-Cenosphere composite and A356-AlCrFeZnNi (HEA) Composite	GOVERNMENT ENGINEERING COLLEGE THRISSUR	38850	8850	25000	1000	4000



Sl. No.	NAME OF PRINCIPAL INVESTIGATOR	Title of the Project	College	Amount Sanctioned	Consumables	Equipments	Travel	Contingency
20	Dr. FRANCIS J EMMATTY	GLASS CLEANING ROBOT FOR HIGH-RISE STRUCTURES	GOVT. ENGINEERING COLLEGE, KOZHIKODE	20300	1500	16100	1200	1500
21	Dr. SUDHEESH R S	DESIGN, FABRICATION AND PERFORMANCE ANALYSIS OF AN EIGHT WHEELED SEMI-AUTONOMOUS PATH-OPTIMIZED ROVER (SAPOR)	GOVT. ENGINEERING COLLEGE, KOZHIKODE	48850	3750	37900	3500	3700
22	Mr. KRISHNAPRASAD C N	GESTURE CONTROLLED SMART WHEEL CHAIR	JAWAHARLAL COLLEGE OF ENGINEERING AND TECHNOLOGY	28750	10000	8750	5000	5000
23	ANTO ZACHARIAS	Experimental investigation on dye-sensitized solar cell	JYOTHI ENGINEERING COLLEGE	32500	10000	12500	5000	5000
24	Dr SAJITH T.A	Remotely Operated Vehicle for Ship Hull Inspection	KMEA ENGINEERING COLLEGE	31779	2000	24779	Nil	5000
25	Dr MANIKANDA PRABU N	Performance study of parallel flow cryogenic heat pipe for heat transfer applications	MAHAGURU INSTITUTE OF TECHNOLOGY	33700	9800	15000	4900	4000
26	Dr. K PRATHEESH	Two wheeler puncture assisting Trolley	MANGALAM COLLEGE OF ENGINEERING	27390	5000	13850	4270	4270
27	Prof.KIRON CHRISTOPHER	AI Assisted Biomimetic Pepper Harvesting System	MAR ATHANASIOUS COLLEGE OF ENGINEERING, KOTHAMANGALAM	50000	10000	30000	5000	5000
28	Dr. DEEPAK ELDHO BABU	Recycling Of Lithium-Ion Batteries For Sustainable Development In The Automobile Industry	MAR ATHANASIOUS COLLEGE OF ENGINEERING, KOTHAMANGALAM	30562	500	28062	1000	1000



Sl. No.	NAME OF PRINCIPAL INVESTIGATOR	Title of the Project	College	Amount Sanctioned	Consumables	Equipments	Travel	Contingency
29	KRISHNA PRASAD N V	Design and Fabrication of 3D printer filament from used plastic bottles	MEA ENGINEERING COLLEGE, PERINTHALMANNA	13810	3000	7810	1500	1500
30	Er. JOHN PAUL	Design and Fabrication of Crack and Leakage Detection System for Water Pipeline Infrastructure.	MES COLLEGE OF ENGINEERING, KUTTIAPPURAM	6294	2294	2000	1000	1000
31	PRADEEP RAJ R	Air Jet Erosion Behavior of High-Velocity Oxygen Fuel Sprayed Tungsten Carbide-Nickel Chromium Coating on Chromium Molybdenum Steel	MOHANDAS COLLEGE OF ENGINEERING AND TECHNOLOGY	24810	10000	6810	3000	5000
32	Prof. SMITHA G NAIR	OPTIMIZATION OF MATERIAL REMOVAL RATE AND SURFACE ROUGHNESS OF Ti-6Al-4V BY WIRE CUT EDM PROCESS USING TAGUCHI METHOD	MUSALIAR COLLEGE OF ENGINEERING AND TECHNOLOGY PATHANAMTHITTA	10030	1800	5000	1730	1500
33	Mr. ANAND RAJAGOPAL	Development of filtration membrane from marine pollutant derived cellulose and fish scale derived nanohydroxyapatite for water purification.	MUTHOOT INSTITUTE OF TECHNOLOGY & SCIENCE	13773	4515	6000	2258	1000
34	Dr. SWAPNESH S	Design and development of an integrated food waste shredding and Composting System	RAJIV GANDHI INSTITUTE OF TECHNOLOGY, KOTTAYAM	42000	10000	22000	5000	5000
35	PHILIP JACOB PERAKATHU	Motorized Winch Sling Pull Standing Assistive and Exoskeleton for People with Muscular Dystrophy	SAINTGITS COLLEGE OF ENGINEERING	32700	5400	17300	5000	5000
36	Dr. VIDYA CHANDRAN	Integration of Micro Wind Turbines on Electric Vehicles for Range Extension of Batteries.	SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY	18000	10000	Nil	3000	5000
37	Dr. J. B. SAJIN	Design and Feasibility Studies on Eco-Friendly Sanitary Napkin Layered by Pulverized Broken Used Bricks	SREE BUDDHA COLLEGE OF ENGINEERING, PATTOOR	5000	1000	Nil	2000	2000



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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
College of Engineering Trivandrum Campus
Thiruvananthapuram - Pin 695 016.

APPLICATION FORMAT FOR STUDENT PROJECT

SECTION A: GENERAL INFORMATION

1. Details of the Principal Investigator (Faculty who is guiding the project)
Name : Dr. Pratheesh K
Designation : Professor
Department : Mechanical
Phone no : 9846399099
email id : pratheesh@mangalam.in
2. Name of the Co-Investigator (Faculty who is co- guiding the project)
Name : Mr. Santhu Varghese Thomas
Designation : Assistant Professor
Department : Mechanical Engineering
Phone no : 9496321965
email id : santhu.thomas@mangalam.in
3. Name(s) of Student investigators: Amal Dev H , Gowrisankar A , Gopikrishnan G,
T Muhammed Thanzeer
4. Semester : 7
Branch : Mechanical
5. Address of the Institution with college code : Mangalam College of Engineering
Ettumanoor
6. Category of Institute : Private

Govt.	Aided	Govt. Controlle d	Autonomou s	Private
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7. Title of the project proposal : Two wheeler puncture assisting Trolley
8. Objectives of the proposed project : Enhance two-wheeler mobility, safety, and independence through innovative tire assistance.

(Attach biodata of 1, 2& 3 including personal details, educational qualification, details projects already undertaken and its present status, list of publications)


Terms and Conditions


1. The scheme is constituted for the purpose of providing assistance in the form of grants to students for scientific project work with particular relevance to the State of Kerala in economic and industrial development.
2. The grant will be reimbursed to the principal investigator after the completion of the




- project through the Head of the institution.
3. The maximum duration of the project will be one year from the date of the start of the project.
 4. On completion of the project, one copy of the final project report on the work done should be sent to the University along with the utilization certificate (UC), certified bills, bill wise statement and statement of expenditure (SE).
 5. The institute shall maintain separate audited accounts for the project.
 6. The institute shall not entrust the implementation of the work for which the grant is being sanctioned to another institution nor shall divert the grant receipts to other institutes as assistance.
 7. The University reserves the right to terminate the project at any stage if it is convinced that the grant has not been properly utilized or appropriate progress is not being made. In addition, the University may designate a Scientist/Specialist or an Expert Panel to review the work done.
 8. If the PI to whom the project has been sanctioned leaves the Institution, the Head of the Institution/PI shall inform the same to University and in consultation with the University, evolve steps to ensure the successful completion of the project, before relieving the PI.
 9. Investigators must acknowledge the University in reports and technical/scientific papers published based on the work done under the project. Investigators are requested to publish papers emerging out of the project work in leading Journals.
 10. If the results of project work are to be legally protected by way of patents/copyrights etc. the results should not be published without action being taken to secure legal protection for the project results.
 11. The knowledge generated from the project will be the property of the University and should be properly acknowledged. Transfer of technology generated shall be done in consultation with the University.
 12. For Private self financing Colleges, 50% of the actual Equipment cost subjected to the maximum of sanctioned amount will be reimbursed by KTU if and only if the proof of remittance of the other 50% is produced by the college.
 13. Equipment details must be entered in the stock register of the college and signed by the Investigator, Lab in charge and Principal.
 14. The University may enforce additional guidelines for the operation of the student project from time to time and the Institution/Investigators are required to observe such directions in the conduct of the project work.

We agree to the terms and conditions stated above.


Dr. K. Pratheesh
Name & Signature
of Principal
Investigator


Dr. K. Pratheesh
Name & Signature
of Prof-in-
charge, Satellite
Centre


Dr. Vinodh. P. Vijayan
Name & Signature of
Head of Institution



PRINCIPAL
K. J. SOMAIYA INSTITUTE OF ENGINEERING & TECHNOLOGY
Karamba
Kerala 686 537



Thiruvananthapuram - Pin 695 016.

APPLICATION FORMAT FOR STUDENT PROJECT

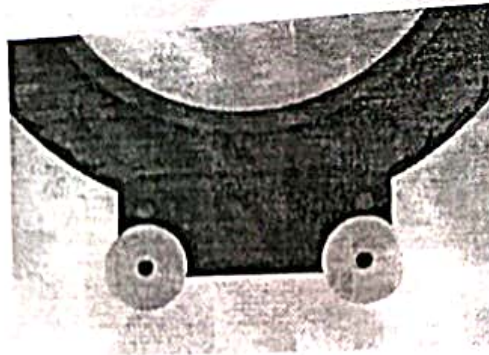
SECTION B: TECHNICAL DETAILS

(a) Title of the Project Proposal :Two wheeler puncture assisting trolley
Branch / Subject area :Automobile mobility
(b) Project Type (Developmental/Demonstration/Others):Developmental
Expected scope/outcome (Tick the relevant one)

Product / Prototype / Software / Hardware / Experiment / Publication / Technology / Patent
Innovations .

1. Precise objective (150 words): The objective is to develop a two-wheeler puncture-assisting trolley that revolutionizes on-the-go tire repairs. This innovative solution aims to empower motorcycle and scooter riders to bring their punctured vehicle to nearest workshop by riding. The primary goal is to enhance rider independence, allowing them to swiftly handle punctures without external assistance, reducing downtime and disruptions in their journeys. The trolley seeks to address the inconvenience of flat tires, especially in urban areas, where traditional repair options are limited. By prioritizing efficiency, safety, and ease of use, the objective is to redefine the two-wheeler ownership experience, contributing to improved road safety and the overall convenience of urban mobility.
2. Abstract (400 words):The 2-wheeler puncture assisting trolley is an innovative solution designed to address the inconvenience of a flat tire on motorcycles. This abstract outlines a mobile trolley equipped with features to facilitate efficient and convenient locomotion of flat tired vehicles. The trolley includes a sturdy platform to securely support the motorcycle, an integrated belt, and roller system , and a user-friendly interface for bringing the motorcycle to the next puncture shop. With its portability and simple mechanism, the trolley aims to empower riders to handle punctures swiftly, minimizing downtime and enhancing the overall experience of two-wheeler owners . This project mainly aims at riders who are traveling long distances who were always struck on roads due to puncture .With the help of this trolley they are able to travel to the next puncture repair shop with the flat tyre without causing any damage to the motor cycle wheels rims.
3. Methodology including the project design and plan of work (Must contain applicable items) (Block/flow diagram, Circuit diagram, detailed list of components/equipment needed and its cost, representative figure of the expected outcome etc.)
(Attach a separate sheet if needed)





4. Application /importance in the socioeconomic context: The two-wheeler puncture-assisting trolley holds significant importance in the socio-economic structure by enhancing mobility for a diverse demographic. It fosters economic productivity by minimizing downtime for riders, particularly those engaged in delivery services. Additionally, the trolley promotes safety, reducing accidents caused by flat tires. Its accessibility ensures that individuals, regardless of socio-economic status, can benefit from a convenient and affordable solution for on-the-go tire repairs. This innovation not only improves the daily lives of two-wheeler users but also contributes to the efficiency and safety of urban transportation systems, positively impacting the socio-economic fabric of communities.

5. Particulars of equipment required :

PARTS	MATERIAL
Frame	Mild steel
Shaft	Mild steel
wheel	Nylon plastic
Gears	Caste Iron
Supporting arm	Mild Steel
Bearings	8215
Rollers	Rubber coated Nylon plastic

6. Particulars of any other facilities required:

7. Particulars of the facilities that will be provided by the institution where this project will be implemented: Project Lab

8. Whether the scheme was submitted to any other organization for financial support, if so, the names of the institutions and their decisions may be indicated: No

9. Budget Details: Estimated expenditure

SL NO	ITEMS	AMOUNT
1	Consumables	
a	Welding rods	2000
b	cutting wheels	250
c	Paint	500
d	lathe cutting tool	2250
	Total	5000
2	Equipment cost	
a	Metal plate (350x120x60mm)	4500



b	Gear material and processing charges	5000
c	Ball Bearings (8215)x4	3000
d	Rubber coated nylon roller	4000
e	Metal shafts	4000
f	Rubber coated nylon wheels x4	3000
g	Lubrication oil for gear and bearings	1000
h	Cotton waste	200
	Total	27700
3	Travel	5000
4	Contingency cost	5000
	Total	42700

Place: Ettumanoor
Date: 30/1/24


Signature of Principal Investigator:
Name, Address & Telephone No:

Dr. K. PRATHEESH
Head of Department
Department of Mechanical Engineering

9846399099



Address:

Dean Research,
APJ Abdul Kalam Technological University,
College of Engineering Trivandrum Campus,
Thiruvananthapuram -Pin 695 016.



Annexure II

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Terms & Conditions for Financial Assistance to Student Projects

1. The amount has to be utilized as per budget provision under each head.
2. The purchase of equipment shall be in accordance with the store purchase rules. All equipment purchased will be the property of the University and the stock entry of the items purchased shall be maintained in the College. Purchase of computers/peripherals is not allowed unless specifically mentioned in the sanction order.
3. The stock entries of consumables purchased shall also be done in the consumables stock register of the College. Purchase of stationery shall be for project purposes only. Printing charges for multiple copies of the project report will not be admissible.
4. The maximum duration of the project is one year from the date of sanction. It is the discretion of the University to settle the amount towards the purchase of those items not clearly mentioned, if any, in the project proposal.
5. On completion of the project, a detailed report of the research work, audited statement of accounts Utilization Certificate and Expenditure Statement in the prescribed format duly attested by the head of the institution along with original bills towards expenditure incurred with payment certificate of the Principal Investigator shall be submitted within one month of completion of the project for reimbursement of expenditure. The Bank Account details of the Principal shall be submitted along with the request for reimbursement. Requests for reimbursement shall not be considered after the date of submission of documents as above.
6. For reimbursement of expenses under the head **Travel**, Train tickets/Bus tickets/Taxi receipts, in original, affixing payment certificate of the Principal Investigator specifying the purpose of travel with actual distance of journey and fare shall be submitted.
7. On all publications resulting from the finding of the research/project, due acknowledgement shall be given to the University.
8. Books or literature purchased, if any, should be taken into the Stock Register of the Central Library or Department Library and then distributed to the investigators.
9. The expenditure under the head **Others** is admissible as per the budget proposed. All other expenditure has to be included in the head Contingencies.

Title of Project *Two wheeler puncture assisting Trolley*

Signature of Principal Investigator:
Name: *Dr. K. Pratheesh*
Office address:

Dr. K. PRATHEESH







Dr. K.PRATHEESH Ph.D.

Dr.K.Pratheesh have Ph.D. degree in Material Science engineering from NIT-C, one of the premier institute of India, having Master degree and Bachelor degree from premier Government institutes of Kerala and a versatile professional with 20 years of experience in teaching Mechanical Engineering subjects for UG level students. Myself as a renowned researcher with number of quality publications in my credit which includes 12 SCI/SCIE publications , two books, two patents and P.h.D supervisor at APJ Abdul Kalam Kerala Technological University.

I started my career as Lecturer in the Department of Mechanical Engineering at Vidya Academy of Science and Technology, Thrissur and served there and in other Engineering College like, Hindustan College of-Engineering, Valia Koonambaikulathamma College of Engineering & Technology (VKCET), Mangalam College of Engineering,Kottayam for about 20 years in various capacities as, Lecturer in Mechanical Engineering, Assistant Professor, Associate Professor in Mechanical Engineering and Head of the Department. I have two years of research experience as Senior Project Fellow, NIIST- CSIR, Trivandrum. I graduate in Mechanical Engineering from Kerala University (Sree Chitrathirunal College of Engineering, Trivandrum), post graduate (M-Tech) in Mechanical Engineering- Production from Calicut University (Govt: Engineering College, Thrissur). I completed my **Ph.D. Degree** from Department of Mechanical Engineering, National Institute of Technology, Calicut on 2019. The dissertation title of the thesis is "*Role of alloying elements, Sr- modification and process variables on the microstructure and mechanical properties of squeeze cast near-eutectic Al-Si piston alloy*". I guided many projects in the area of Material Science and Mechanical Engineering and has many international papers in my credit.

30/01/2024

**Dr. K.PRATHEESH**

SANTHU VARGHESE THOMAS

Kizhakkparampil
Rubber Board P.O
Kottayam
Kerala
Pin- 686009

Email: santhu.thomas@mangalam.in
Mobile: 09496321965

Mr. Santhu Varghese Thomas completed M.tech in Industrial Engineering and Management from Managlam College of Engineering in the year 2013 with a CGPA of 8.69 and Bachelors degree from Saintgits Colleg of Engineering in 2009. I have and Industrial Experience of 1.5 years and teaching experience of 11 Years. I have guided many projects for Undergraduate and Post graduate students.

PROJECTS UNDERTAKEN

1. M.TECH

Cost of quality and root cause analysis as a tool for continuous improvement of product quality and productivity in a rubberized coir mattress industry

2. B.TECH

Experimental Comparison of power output from a tracked and non tracked photo voltaic cell
Improve efficiency of electricity produced by solar energy using a tracking device (electro mechanical method)

ACHIEVEMENTS

- Published the paper " Piezoelectric Thermo -Acoustic Refrigeration System with Peltier module Energy generation" in IRJET, June 2022
- Presented the paper " Technology to reach and teach students in the Pandemic Era: An Overview" in International Conference organised by Bharata Mata College, Thrikkakara
- Presented the paper " Cost of quality and root cause analysis as a driver in improvement of product quality and productivity in a rubberised coir mattress industry" in National level technical symposium organised by Department of Mechanical Engineering, Mahendra Institute of Technology (Anna University), Namakkal, Salem
- Presented the paper " Root cause analysis of in process complaints of a manufacturing firm" in National Seminar on "Management and Business Research- A contemporary Approach", organised by Institute of Management in Kerala and The Kerala Academy of Social Sciences, Thiruvananthapuram
- Presented the paper " remanufacturing and its importance in today's era" in National level technical symposium organised by Department of Mechanical Engineering, Sri Shanmugha College of Engineering, Sankari, Salem

DECLARATION

I hereby declare that the particulars furnished above are true and correct to the best of my knowledge and belief.

Place: Kottayam
Date: 30-01-2024



SANTHU VARGHESE THOMAS



Amal Dev H

Harimandiram (H) Kuzhimattom PO Kottayam, Kerala Pin-686533
9847120997 | amaldevh2017@gmail.com

Objective

Seeking a challenging position in a reputed organization where I can learn new skills, expand my knowledge, and leverage my learning in the field of Mechanical and through this I want to be a part in organization's growth

Personal Details

- Date of Birth : 30/03/1999
- Marital Status : Single
- Gender : Male
- Place : Kottayam, Kerala

Experience

- MRF Ltd. Chennai
Supervisor R&D 02/11/2020 - 20/04/2021

Education

- Mangalam College of Engineering, Ettumanoor Kottayam
B. Tech in Mechanical Engineering
8.6 2024
- Government Polytechnic college Kottayam
Diploma in Mechanical Engineering
8.9 2020
- NSS HSS Chingavanam Kottayam
HSE
93 2017
- NSS HSS Chingavanam Kottayam
SSLC
98 2015

Skills

- Basic mechanical activities
- Basic Machine operations and basic SCADA knowledge.
- Autocad
- Basic Excel knowledge
- Knowledge in Microsoft office
- Communication skills
- Team management

Languages

- English (Speak, Read, Write)
- Malayalam (Speak, Read, Write)
- Hindi (Speak, Read, Write)
- Tamil (Speak)



Projects

- Two Wheeler puncture assisting trolley
This is a device which helps two wheeler riders to bring their punctured vehicle to nearest repair shop easily.
- Hydraulic crain using cylinder Jack
Mobile hydraulic crain using simple cylinder Jack and steel pipes with lifting capacity of 1.5ton.

Interests

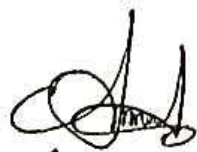
- Music listening
- Reading books

Activities And Achievements

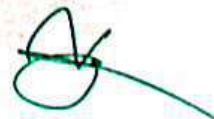
- Acting as a Career ambassador for Kerala Government knowledge mission DWMS at Mangalam college of Engineering.
- Obtained B2 grade in English score test and B1 Grade on english speaking test organized by BRITISH COUNCIL.
- Class representative during final year. (2023-24)
- Served as Volunteer for Tech fest organized by mechanical department of Mangalam college of Engineering during 2023
- Completed NPETL course in Manufacturing technology 1&2.

Reference

- Dr. Pratheesh K - Mangalam college of Engineering Ettumanoor, Kottayam
Head of Department of Mechanical Engineering
pratheesh@mangalam.in
9846399099
- Mr. Johan George Cherian - Mangalam college of Engineering Ettumanoor, Kottayam
Assistant Professor, Department of Mechanical Engineering
johan.cherian@mangalam.in
88917 48200


Amal Dev H







GOWRISANKAR A

Gowrisankaram, Akamkudi, Nagyarkulangara P. O. Haripad

7736535240 | gsankar6600@gmail.com

Personal Details

- Date of Birth : 17/11/2001
- Marital Status : Single
- Nationality : Indian
- Gender : Male
- Place : Haripad, Alappuzha (district)

Objective

Objective: Results-driven B.Tech Mechanical Engineer seeking a challenging role to apply my technical skills and innovative mindset in contributing to the design, analysis, and optimization of mechanical systems, with a focus on enhancing efficiency and sustainability within a dynamic engineering environment.

Education

- Mangalam college of Engineering , Ettumanoor ,Kottayam
B. Tech, Mechanical Engineering
6.8 2024
- Holy Trinity Vidyabhavan, Karthikapally , Alappuzha
Class 12, Computer Science (CBSE)
73% 2020
- Holy Trinity Vidyabhavan, Karthikapally , Alappuzha
Class 10 (CBSE)
80% 2018

Skills

- Communication skills
- Grasping skills
- Basic mechanical skills
- Leadership quality
- Drawing skills
- Basic AUTO CAAD
- Critical thinking
- Problem solving mentality



Projects

- Two-wheeler puncture assisting trolley
This is a device which helps two wheeler riders to bring their punctured vehicle to nearest repair shop easily.

Activities

23/5/2023 - 25/5/2023

- **Shakthi Automobiles, Kottayam**
Internship
Study about maintenance and repair of heavy vehicles.
- **Tech maghi**
ECU tuning
Studied the basics of ECU tuning
- **Autokast Cherthala**
Industrial visit
Industrial visit to study the working of a production plant

19/07/2022

Reference

- **Dr. Pratheesh K - Mangalam college of Engineering Ettumanoor, Kottayam**
Head of Department of Mechanical-Engineering
pratheesh@mangalam.in
9846399099
- **Mr. Johan George Cherian - Mangalam college of Engineering Ettumanoor, Kottayam**
Assistant Professor, Department of Mechanical Engineering
johan.cherian@mangalam.in
88917 48200

Gowrisankar A.

[Handwritten signature]





GOPIKRISHNAN G

GOPISADANAM Thakazhy p. o ALAPPUZHA
8921174216 | krishnangopi639@gmail.com

Objective

Looking for a mechanical engineering position with your company where I can apply my mechanical development abilities." "Seeking a job as a mechanical engineering where I can use my extensive experience to help your organization achieve its goal of excellence in the mechanical engineering industry."

Personal Details

- Date of Birth : 21/11/2001
- Gender : Male

Education

- MANGALAM COLLEGE OF ENGINEERING,ETTUMANOOR
BTECH - MECHANICAL ENGINEERING
6.5 2024
- DBHSS
HSE COMPUTER SCIENCE
84 2019
- DBHSS
SSLC
88 2017

Skills

- Communication skill
- Leadership skill
- Basic mechanical engineering
- Basic Autocad

Activities And Achievements

- Sakthi automobiles kottayam
Internship
Study about maintenance and repair of heavy automotives
23/05/2023 - 25/05/2023
- CAD CENTER
One day autocad workshop
Completed Basic training about autocad
29/01/2022 - 29/01/2022
- Autokast cherthala
Industrial visit
Industrial visit for getting basic knowledge about working of a production unit
19/07/2022 - 19/07/2022

Languages

- English
- Malayalam

Projects


- Two Wheeler puncture assisting trolley
This is a device which helps the two wheeler rider to bring their punctured vehicle to the nearest repair shop easily



Reference

- DR Prateesh k - MANGALAM COLLEGE OF ENGINEERING ettumanoor
HOD Mechanical department
Pratheesh@mangalam.in
9846399099

- Mr. Johan George Cherian - MANGALAM COLLEGE OF ENGINEERING, Ettumanoor
Assistant professor, Mechanical Department
Johan. Cherian@mangalam.in
8891748200


Gopikrishnan. G





T Muhammed Thanzeer

Summary

Seeking a challenging and fast-paced role where I can leverage my skills and experience to make a significant impact. Excited to contribute to an organization that values continuous learning and growth.

Education

Mechanical engineering
Mangalam College of engineering

Jul 2020 - Continue

High School Diploma

Lajanathul Muhammadiya Higher Secondary School

SSLC

TD HSS Alappuzha

Projects

Two Wheeler puncture assisting trolley

- This is a device which helps two wheeler riders to bring their punctured vehicle to nearest repair shop easily.

Hydraulic crane using cylinder jack

- Mobile hydraulic crane using simple cylinder jack and steel pipes with lifting capacity of 1.5ton.

Contact Details

Phone: 9995047487
Email: thanzeermuhammed564@gmail.com
Nationality: Indian
DOB: 24.07.2002
Gender: Male

Skills

English

★★★★★

Malayalam

★★★★★

Tamil

★★★★★

Languages

English

Malayalam

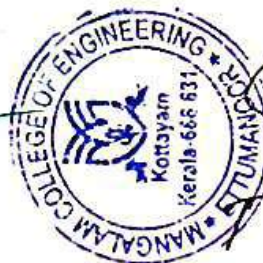
Tamil

Hindi

Hobbies

Listening Music

Playing Cricket



T Muhammed Thanzeer



Manuel George <manuelgp89@gmail.com>

SERB-Notification

1 message

SERB_Administrator@serbonline.in <SERB_Administrator@serbonline.in>

Mon, Jan 30, 2023 at 11:02 AM

To: serbinfo1@gmail.com

**Science and Engineering Research Board**
(Statutory Body Established Through an Act of Parliament : SERB Act 2008)
Department of Science and Technology, Government of India**SCIENCE & ENGINEERING RESEARCH BOARD (SERB)**

(Statutory Body Established Through an Act of Parliament : SERB Act 2008)

Science and Engineering Research Board
3rd & 4th Floor, Block II
Technology Bhavan, New Mehrauli Road
New Delhi - 110016Approval Letter

File Number: CRG/2022/003429

Dated: 30-Jan-2023

Subject: Project titled "Synthesis of Graphite nanoplatelets decorated with spinel ferrite materials by using various surfactants on CF/GF composites for EMI shielding".

Dear Dr. Manuel George,

The project cited above has been recommended by the related **Programme Advisory Committee** to the Science and Engineering Research Board (SERB) for funding. The following are the items recommended for a period of 3 years. The final budget to be sanctioned would be based on quotations received, existing norms, funds availability etc.

The committee recommended the following budget**Manpower : Nil****Equipment Details : Rs. 200000****-> weighing balance, shear mixer, magnetic stirrer, Autoclave oven, Centrifuge system, Furnace - 1****Consumables : Rs. 45000****Travel Cost : As per norms****Contingencies : As per norms****Overhead : As per norms**

You need to accept the above budgetary allocation before proceeding further. To accept the budgetary recommendations, you may follow the following steps :

1. Go to www.serbonline.in through your credentials
2. Go to Menu --> Proposal submission --> View submitted proposals
3. Click on the link under Status column "Proposal Approved, Acknowledgment pending from PI"

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ANGALAM COLLEGE OF ENGINEERING
ErumanoorM. George
HOD BSE

You are requested to upload the following documents of the approved budget strictly within 10 days from the date of this letter.

1. Upload the lowest quotation for equipment/s (including freight, insurance, customs charges etc., if any).
2. Salary structure for the project staff (including HRA, Medical Benefits, if applicable etc.).
3. A certificate stating that any visit abroad for a period more than eight weeks would be undertaken after due permission from SERB, may also be submitted.
4. RTGS details of the implementing institute to facilitate transfer of the fund as per the template.
5. Any other documents (as detailed below specific the programme concerned).

SERB has adopted the Scientific Social Responsibility (SSR) Policy which mandates SERB Grantees to undertake some SSR activities during their project period. You are requested to read the SSR guidelines available under SSR menu and choose the activities according to your preference. Depending on the activity chosen, additional budget would be provided under separate head to carry out the chosen activities. Please note that choosing the SSR activities is mandatory for issue of financial sanction subject to submission and acceptance of other necessary documents

Kindly upload the documents related viz., animal ethical clearance certificate, institutional bio safety clearance certificate, etc., matching with exact approved title of project submitted to SERB.

If the project does not require (viz., animal ethical clearance certificate, institutional bio safety clearance certificate, etc.,) please confirm with a self-certification saying that it does not involve any animal/human studies or genetic modification in any organisms or bio safety issues.

(Kindly note that during the issue of sanction order or during the implementation of this project, if SERB come across/found that the project work involves/requires animal/human studies or genetic modification in any organisms or bio safety issues, RCGM approval/ approval from Biodiversity Management Committee Environmental clearance, the project may be terminated without any notice.)

Please note that release of grant is subject to availability of funds under the scheme. Kindly quote the reference number in all future correspondence. The project's reference no. **CRG/2022/003429** may also be mentioned in all research communications arising from the above project.

Yours sincerely,

(Dr. Pankaj K. Rawat)

Email: ms_cmer@serbonline.in

Dr. Manuel George

Mechanical Engineering

Mangalam College Of Engineering , College Road, Mangalam Hills, Vettimukal, Ettumanoor, Kottayam, Kerala-686631

***** LEGAL DISCLAIMER *****

Please do not reply to this mail !!

[SERB is now on Social-Media. Kindly follow us on Twitter: @serbonline <https://www.twitter.com/serbonline>]

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4. Expertise:

4.1 Expertise available with the investigators in executing the project:

4.2 Summary of roles/responsibilities for all Investigators:

S. No.	Name of the Investigators	Roles/Responsibilities
1.	Dr. Manuel George	Major works idea, procedure and conducting of experiments
2.	Dr. P.P. George	Expert opinion

4.3 Key publications published by the Investigators pertaining to the theme of the proposal during the last 5 years

1. Manuel George and Akash Mohanty, Investigation of mechanical properties of graphene decorated with graphene quantum dot-reinforced epoxy nanocomposite, J. APPL. POLYM. SCI., Wiley 137, 48680, Nov. 2019, DOI: 10.1002/app.48680.
2. Manuel George and Akash Mohanty, Wear and Hardness Studies of Graphene Decorated with Graphene Quantum Dots (G-D-GQD) Embedded Epoxy Nano Composites, J. Surface Sci. Technol. Informatics Ltd. Vol. 35(1-2), pp. 45-53, June 2019, DOI: 10.18311/jst/2019/20103.
3. Manuel George and Akash Mohanty, Study on the thermal, dielectric, dynamic, mechanical analysis of graphene decorated with Graphene Quantum Dots (G-D-GQD) reinforced epoxy nanocomposite, IOP Materials Research Express 6, 125336, (2019) Volume 6, Number 12, DOI : 10.1088/2053-1591/ab510d
4. Manuel George and Akash Mohanty, Viscoelastic and mechanical characterization of graphene decorated with graphene quantum dots reinforced epoxy composites, Polymer Engineering Science, Wiley, September 2020, DOI: 10.1002/pen.25531
1. P. P. George, "Improved Photodegradation of Methylene Blue and Rhodamine B by Novel One Step Prepared Ag-CrO₂ Nanocatalyst under Sunlight Irradiation", Asian Research Journal of Current Science, 2022, 4, 1, 205-216.
2. P. P. George, "A Mini Review on Preparation, Characterization and Applications of silver iodide nanoparticles", Asian Journal of Pharmaceutical and Clinical Research, 2021, 15, 2, 1-7.
3. Nanda Kumar Reddy Nallabala, Venkata Krishniah Kunnara, Yuvraj Chinnappa, P. P. George, V. Manjunath, Jagadeesh Sambhoja, S. Manikamswara Reddy and Nehaji Reddy Gangasani, "A Study on Annealing Process Influenced Electrical Properties of Ni/CeO₂/p-Si/Al Schottky Barrier Diodes" Molecular Symposia, 2021, 398, 2000228-32.
4. Jagadeesh Babu Bellam, Gangadhara Kandikunta, Bhargavi Manupati, Saha Debabrata, P. P. George, S Victor Vedanayakum, VK Verma, DC sputter deposited TiO₂ thin film on ITO/glass substrate for perovskite based solar cell application" Materials Today: Proceedings, 2021, 45, 3886-3890.



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ANGALAM COLLEGE OF ENGINEERING
Ettumanoor


Ms. Telushma S
HOD BSH

File No : CRG/2022/003429

Name : Manuel George

SERB Qualified Unique Identification Document SQUID-1989-MG-9703

Institute Name : Mangalam College of Engineering

Project Start Date : 15-Sep-23

Duration : 36

Project Completion Date : 14-Sep-2026

Total Budget : 5,32,656 INR

Status : Ongoing

Time left to complete project



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ETTUMANOOR

Ms. Leela
HOD BSH