



# SATHYABAMA

## INSTITUTE OF SCIENCE AND TECHNOLOGY

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**Teachers receiving national/ international fellowship/financial support by various agencies for advanced studies/ research during the year 2019-2020**

- Mr. R.Kaja Bantha Navas, Assistant Professor, Department of Aeronautical Engineering was awarded Global Engineer Leadership Scholarship as he has successfully completed a research internship in Department of Industrial engineering and Engineering Management, College of Engineering, National Tsing Hua University, Taiwan from 10<sup>th</sup> may 2019 to 10<sup>th</sup> July 2019. He also received an amount of Rs,40,000/- along with the certificate.
- Mr. R.Kaja Bantha Navas, Assistant Professor, Department of Aeronautical Engineering was awarded CMI Level 5 Recognition Certificate in Management and Leadership from Certified Profession for Change Management, CMI Institute, Dudley College, UK and AICTE
- Mr. S,Manigandan, Assistant Professor, Department of Aeronautical Engineering received an amount of Rs. 45435/- (Rupees Forty-Five Thousand Four Hundred and Thirty-Five only) from Science & Engineering Research Board (SERB) for the purpose of International Travel Support to visit Taiwan.
- Mr. S,Manigandan, Assistant Professor, Department of Aeronautical Engineering has been selected to undergo the short term internship funded by Ministry of Taiwan and Kaohsiung medical university with the standard stipend of 15000 \$NTD. Further, he was co-funded by the Sathyabama Institute of Science and Technology by offering the six months' salary and round-trip air tickets. During his visit to the Taiwan, he attended the international conference held in Taichung, International conference on alternative fuels, energy and environment (ICAFEE series): 2019.



# Certificate of Completion

National Tsing Hua University

College of Engineering

This is to certify that

**Kaja Bantha Navas R**

was awarded the *Global Engineer Leadership Scholarship* and has successfully completed a research internship in the Department of Industrial Engineering and Engineering Management, College of Engineering starting from May 10, 2019 to July 10, 2019.

*Chih-Huang Lai*

Dean of College of Engineering  
July 2019

*This is to certify*

**Kaja Bantha Navas**

*has been awarded the*

# **CMI Level 5 Certificate in Management and Leadership**

**600/9453/9**

*Date Issued*

**24/04/2020**

*Learner Number*

**P04669948**



Cofre d'ydarno cydnabyddedig



*Ann Francke*  
**Ann Francke, Chief Executive**

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[register.ofqual.gov.uk](http://register.ofqual.gov.uk)

# Credit Certificate

## Kaja Bantha Navas

*This certificate has been issued to mark the attainment of unit(s) and credits.*

| Unit No.   | Unit Title                      | Credits | Level |
|------------|---------------------------------|---------|-------|
| D/504/9029 | Conducting a management project | 10      | 5     |
| T/504/9036 | Leadership practice             | 7       | 5     |

**Date Issued**

24/04/2020

**Learner Number**

P04669948



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*Ann Francke*  
Ann Francke, Chief Executive

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Mr.Manigandan Sekar from the department of Aeronautical Engineering, has been selected to undergo the short term internship funded by Ministry of Taiwan and Kaohsiung medical university with the standard stipend of 15000 \$NTD. Further, he was co-funded by the Sathyabama Institute of Science and Technology by offering the six months' salary and round-trip air tickets.

**Program details as follows:**

|                           |                                                                                                                                                                                           |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Program:</b>           | Short-Term Research Internship (STRI) Program                                                                                                                                             |
| <b>Fields:</b>            | Food & Environmental Toxicology, Analysis, Environmental Medicine                                                                                                                         |
| <b>Organizer:</b>         | Research Center of Environmental Medicine,<br>Kaohsiung Medical University (KMU), Taiwan                                                                                                  |
| <b>Co-Organizer:</b>      | Taiwan Experience Education Program (TEEP), MOE, Taiwan                                                                                                                                   |
| <b>Internship Period:</b> | 2~6 months (Minimum term should be atleast 2 months)                                                                                                                                      |
| <b>Internship Period:</b> | Starts at 2019/10/01                                                                                                                                                                      |
| <b>Internship covers:</b> | 1) Free Medical & Accident Insurance during your intern stay at KMU<br>2) Free access to Research facilities and High instruments<br>3) Attending Conferences and Special Lectures at KMU |

**Supervisor details**

Vinoth Kumar, M.Sc., PhD., MBA.,

Assistant Professor and Research faculty, Department of Medicinal and Applied Chemistry & Research Center for Environmental Medicine, Research

Group: <http://kumarslab.wixsite.com/kumarslab>

Kaohsiung Medical University, Taiwan

Email: [kumar@kmu.edu.tw](mailto:kumar@kmu.edu.tw), Cell: +886-928648004.



高雄醫學大學



環境醫學研究中心

Kaohsiung Medical University

Research Center for Environmental Medicine



**FET-RCEM/STRI@KMU Acceptance and Invitation Letter**

Date: Sep 20, 2019

Student Name: Sekar Manigandan (Passport No: N2143145)

Studentship/University: Sathyabama University

Country: India

Dear Sekar Manigandan:

We are pleased to inform you on behalf of Research Center of Environmental Medicine, Kaohsiung Medical University that your application and proposal for Short-Term Research Internship (STRI) Program has been accepted by our review committee.

This letter is to confirm that you have been offered with STRI program under Prof. Ming-Tsang Wu, and Prof. Vinoth Kumar as your supervisors, and your duties and assignments for this position will be described to you at program opening orientation by your internship supervisors.

Program details as follows:

|                    |                                                                                                                                                                                           |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Program:           | Short-Term Research Internship (STRI) Program                                                                                                                                             |
| Fields:            | Food & Environmental Toxicology, Analysis, Environmental Medicine                                                                                                                         |
| Organizer:         | Research Center of Environmental Medicine, Kaohsiung Medical University (KMU), Taiwan                                                                                                     |
| Co-Organizer:      | Taiwan Experience Education Program (TEEP), MOE, Taiwan                                                                                                                                   |
| Internship Period: | 2~6 months (Minimum term should be at least 2 months)                                                                                                                                     |
| Internship Period: | Starts at 2019/10/01 and ends at 2020/01/31                                                                                                                                               |
| Internship covers: | 1) Free Medical & Accident Insurance during your intern stay at KMU<br>2) Free access to Research facilities and High instruments<br>3) Attending Conferences and Special Lectures at KMU |

Please report to the Research Center of Environmental Medicine, Kaohsiung Medical University, Taiwan on or before Oct 15, 2019 along with the appropriate original documents as you submitted with application for review. If you have any further questions, please feel free to contact your supervisors or coordinator staff Dr. Yu-Ming Hsu. We look forward to seeing you soon in KMU and offer a very warm welcome.

Sincerely,

Ming-Tsang Wu, MD, ScD, MOH

Director

Research Center for Environmental Medicine

Kaohsiung Medical University

100, Shih-Chuan 1st Road, Kaohsiung, 80708, Taiwan



止本

檔 號：  
保存年限：



## 教育部 函

地址：10051臺北市中山南路5號  
聯絡人：吳亞君  
電話：(02)77365645  
Email：jennie@mail.moe.gov.tw

80708  
高雄市三民區十全一路100號

**已電子交換(未確認)**

受文者：高雄醫學大學  
發文日期：中華民國108年9月5日  
發文字號：臺教文字第1080128353號  
速別：普通件  
密等及解密條件或保密期限：  
附件：108高醫大TEEP0904

主旨：貴校執行108年「新南向及先進國家優秀青年學子來臺蹲點計畫」(TEEP@AsiaPlus)招收6名學員名冊(如附件)，本部同意備查。

說明：復貴校108年8月30日高醫國際字第1081103003號函。

正本：高雄醫學大學  
副本：外交部領事事務局(含附件)

# 部長潘文忠

依分層負責規定授權單位主管決行

## MAJOR FIGUREPRINTS



Figure 1. Interaction with industry people related to Automobile sector



Figure 2. Interaction with the IAEA, Director, USA



Figure 3. Presentation of the project final report to MOE

## **LABORATORY STRENGTH**



Figure 6. Material characterization



Figure 4. GC-MS and LC-MS facility



Figure 5. Electrochemical analyzer facility

## MAJOR OUTCOME

### Collaborative laboratory and network

| Faculty name           | Affiliation                                                                                                                                                            |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eldon raj              | Department of Environmental Engineering and Water Technology, IHE Delft Institute for Water Education, Westvest 7, 2611 AX Delft, The Netherlands                      |
| A.E. Atabani           | Alternative Fuels Research Laboratory (AFRL), Energy Division, Department of Mechanical Engineering, Faculty of Engineering, Erciyes University, Kayseri 38039, Turkey |
| Yadav G                | Department of Chemical Engineering, École Polytechnique de Montreal, H3C 3A7, Canada                                                                                   |
| Shashi Kant Bhatia     | Department of Biological Engineering, College of Engineering, Konkuk University, Seoul, 05029, Republic of Korea                                                       |
| Gopalakrishnan Kumar   | Institute of Chemistry, Bioscience and Environmental Engineering, Faculty of Science and Technology, University of Stavanger, Box 8600 Forus, 4036 Stavanger, Norway   |
| Yasin Sohret           | Suleyman Demirel University, School of Civil Aviation, Department of Airframe and Power Plant Maintenance, TR-32260, Isparta, Turkey                                   |
| Vinoth Kumar P         | Department of Medicinal and Applied Chemistry, and Research Center for Environmental Medicine, Kaohsiung Medical University, Kaohsiung City-807, Taiwan                |
| Anburajan Parthiban    | School of Civil and Environmental Engineering, Yonsei University, Seoul, 03722, Republic of Korea                                                                      |
| Sabarathinam Shanmugam | Key Laboratory of Low-grade Energy Utilization Technologies and Systems, Chongqing University, Ministry of Education, Chongqing 400044, China                          |
| Sunday Ayoola Oke      | Department of Mechanical Engineering, Faculty of Engineering, University of Lagos, Nigeria                                                                             |
| Jamal S.M. Sabir       | Centre of Excellence in Bionanoscience Research, King Abdulaziz University (KAU), Jeddah 21589, Saudi Arabia                                                           |
| Nguyen Thuy Lan Chi    | Faculty of Environment and Labour Safety, Ton Duc Thang University, Ho Chi Minh City, Viet N                                                                           |

|                        |                                                                                                                                                                                         |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                                                                                                                                                                                         |
| Arivalagan Pugazhendhi | Innovative Green Product Synthesis and Renewable Environment Development Research Group, Faculty of Environment and Labour Safety, Ton Duc Thang University, Ho Chi Minh City, Viet Nam |
| Sang-Hyoun Kim         | School of Civil and Environmental Engineering, Yonsei University, Seoul 03722, Republic of Korea                                                                                        |
| Aran Incharoensakdi    | Laboratory of Cyanobacterial Biotechnology, Department of Biochemistry, Faculty of Science, Chulalongkorn University, Bangkok 10330, Thailand                                           |

During his visit to the Taiwan, he attended the international conference held in Taichung, **International conference on alternative fuels, energy and environment (ICAFEE series): 2019.**



Figure 7. ICAFE conference session speaker

## OTHER INTERACTIONS AND ACTIVITIES



Figure 8. Cultural programme activity



Figure 9. Presentation (MOE) ceremony

## NOTABLE PUBLICATIONS



Contents lists available at [ScienceDirect](http://www.sciencedirect.com)

Fuel

journal homepage: [www.elsevier.com/locate/fuel](http://www.elsevier.com/locate/fuel)



Full Length Article

### Impact of additives in Jet-A fuel blends on combustion, emission and exergetic analysis using a micro-gas turbine engine



S. Manigandan<sup>a,b,\*</sup>, A.E. Atabani<sup>c</sup>, Vinoth Kumar Ponnusamy<sup>b,d,e,\*</sup>, P. Gunasekar<sup>a</sup>

<sup>a</sup> Department of Aeronautical Engineering, Faculty of Engineering, Sathyabama Institute of Science and Technology, India

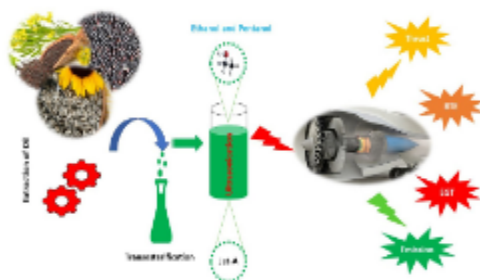
<sup>b</sup> Department of Medicinal and Applied Chemistry, Kaohsiung Medical University, Kaohsiung City 807, Taiwan

<sup>c</sup> Alternative Fuels Research Laboratory (AFRL), Energy Division, Department of Mechanical Engineering, Faculty of Engineering, Erciyes University, Kayseri 38039, Turkey

<sup>d</sup> Research Center for Environmental Medicine, Kaohsiung Medical University, Kaohsiung City 807, Taiwan

<sup>e</sup> Department of Medical Research, Kaohsiung Medical University Hospital, Kaohsiung City 807, Taiwan

#### GRAPHICAL ABSTRACT



#### ARTICLE INFO

##### Keywords:

Gas turbine engine  
Combustion  
Emission  
Jet-A fuel  
Ethanol  
Biofuel

#### ABSTRACT

This study focuses on combustion, emission, and performance analysis of JET-A fuel blends with various additives using a micro gas turbine engine. The amount of oxygen in fuel blends and atomization are the crucial parameters in the production of a higher combustion rate with less emission. Therefore, various ratios of additives (ethanol and pentanol) are blended with biofuel (rapeseed and canola-sunflower oil) to form the JET-A fuel blends by using Kay's and Grunberg-Nissan mixing rules. The combustion, performance and emission parameters under different engine loads were examined. Results showed that all the blends logged higher static thrust with an appreciable reduction rate in the consumption of the fuel. Among different fuel blends, R20E (Jet-A 70% fuel, 20% Rapeseed, and 10% ethanol) showed 35% increase in static thrust associated with 41% reduction in thrust specific fuel consumption. Moreover, the blends R20E and CS20E (Jet-A fuel 70%, Canola-Sunflower 20% and 10% ethanol) indicated 24% and 10% increase in thermal efficiency respectively due to the influence of ethanol concentration and higher oxygen content. In addition, these fuel blends generate less emission of environmental unfriendly harmful gases, including NO<sub>x</sub>, CO, and HC, compared to neat Jet-A fuel. Results revealed that the exergy destruction values are higher for the combustion chamber than the other conventional fuel components.



Full Length Article

## Effect of hydrogen and multiwall carbon nanotubes blends on combustion performance and emission of diesel engine using Taguchi approach



S. Manigandan<sup>a,b,\*</sup>, A.E. Atabani<sup>c</sup>, Vinoth Kumar Ponnusamy<sup>b,d,e,\*</sup>, Arivalagan Pugazhendhi<sup>f</sup>, P. Gunasekar<sup>a</sup>, S. Prakash<sup>a</sup>

<sup>a</sup> Department of Aeronautical Engineering, Faculty of Engineering, Sathyabama Institute of Science and Technology, Chennai City, Tamil Nadu, India

<sup>b</sup> Department of Medicinal and Applied Chemistry, Kaohsiung Medical University, Kaohsiung City-807, Taiwan

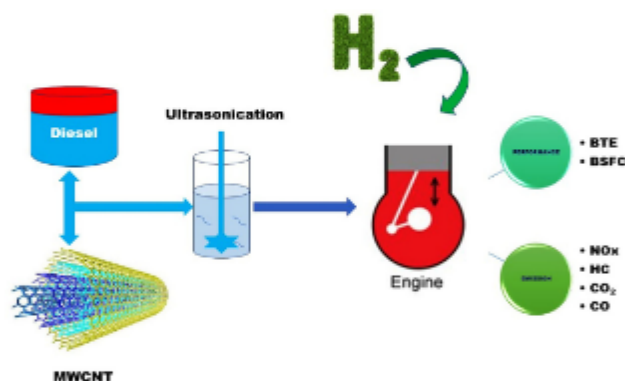
<sup>c</sup> Alternative Fuels Research Laboratory (AFRL), Energy Division, Department of Mechanical Engineering, Faculty of Engineering, Erciyes University, Kayseri 38039, Turkey

<sup>d</sup> Research Center for Environmental Medicine, Kaohsiung Medical University, Kaohsiung City-807, Taiwan

<sup>e</sup> Department of Medical Research, Kaohsiung Medical University Hospital, Kaohsiung City-807, Taiwan

<sup>f</sup> Innovative Green Product Synthesis and Renewable Environment Development Research Group, Faculty of Environment and Labour Safety, Ton Duc Thang University, Ho Chi Minh City, Viet Nam

### GRAPHICAL ABSTRACT



### ARTICLE INFO

#### Keywords:

Hydrogen fuel  
Diesel  
Multiwall carbon nanotubes  
Combustion  
Engine emission

### ABSTRACT

The analysis of optimum engine conditions operating under hydrogen and multiwall carbon nanotubes (MWCNTs) blends using the Taguchi L16 approach were examined. The effect of hydrogen (10%, 20%, and 30%) and MWCNTs (30 ppm, 50 ppm, and 80 ppm) with different fuel blend proportions were evaluated at different engine loads of 25%, 50%, 75%, and 100%. Further, the influence of ignition pressure was evaluated at four intervals of 180 bar, 200 bar, 220 bar, and 240 bar. In addition, the ignition timing varied at different intervals of 21°bTDC, 23°bTDC, 27°bTDC and 31°bTDC, respectively. Taguchi L16 approach was designed according to the combinations of the array, including load, hydrogen, MWCNTs, ignition pressure, and timing with four optimal conditions. Results revealed that the L16 orthogonal array was a suitable method to find the optimized working conditions of the diesel engine for higher performance and less emission of NO<sub>x</sub>, HC, CO, and CO<sub>2</sub>. Compared to neat diesel, the addition of hydrogen and MWCNTs reduces the emission with improved brake

\* Corresponding authors at: Department of Medicinal and Applied Chemistry, Kaohsiung Medical University, Kaohsiung City-807, Taiwan.

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<https://doi.org/10.1016/j.fuel.2020.118120>

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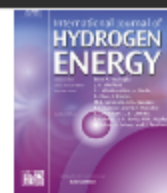
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# Effect of nanoparticles and hydrogen on combustion performance and exhaust emission of corn blended biodiesel in compression ignition engine with advanced timing

S. Manigandan <sup>a,\*</sup>, Vinoth Kumar Ponnusamy <sup>b</sup>, P.Booma Devi <sup>a</sup>,  
Sunday Ayoola Oke <sup>c</sup>, Yasin Sohret <sup>d</sup>, S. Venkatesh <sup>a</sup>, M.Rakesh Vimal <sup>a</sup>,  
P. Gunasekar <sup>a</sup>

<sup>a</sup> Department of Aeronautical Engineering, Faculty of Engineering, Sathyabama Institute of Science and Technology, India

<sup>b</sup> Department of Medicinal and Applied Chemistry, Kaohsiung Medical University, Kaohsiung City, 807, Taiwan

<sup>c</sup> Department of Mechanical Engineering, Faculty of Engineering, University of Lagos, Nigeria

<sup>d</sup> SuleymanDemirel University, School of Civil Aviation, Department of Airframe and Power Plant Maintenance, TR-32260, Isparta, Turkey

## HIGHLIGHTS

- Dual fuelled hydrogen powered diesel engine studied with nano additives.
- Corn-hydrogen blends can be used without modifications to engine.
- BP and BTE is improved upon addition of hydrogen.
- Emission of CO, HC, NOx and smoke opacity are less for all blends.
- TiO<sub>2</sub> nanoparticles performs superior than ZnO.

## ARTICLE INFO

### Article history:

Received 23 July 2019

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10 November 2019

Accepted 21 November 2019

Available online 13 December 2019

### Keywords:

Biodiesel

Emission

Zinc oxide

Nanoparticles

Titanium dioxide

Hydrogen fuel

## ABSTRACT

In this study, we have evaluated the influence of Zinc oxide and Titanium dioxide nanoparticles addition in hydrogen-corn blended biodiesel combustion performance and exhaust emission using a dual direct-injection compression-ignition engine. 5% of Zinc oxide and Titanium dioxide were mixed with corn-vegetable oil methyl ester under ultrasonication. Results revealed that the addition of nanoparticles improved the Brake power by 22% (Titanium dioxide) and 4% (Zinc oxide). Consequently, 18% and 15% reduction in brake specific fuel consumption indeed at 50% load compared to neat diesel. Furthermore, the addition of nanoparticles also resulted in a reduction of emission values of 37% and 26% in hydrocarbon, 26% and 36% for carbon monoxide, 19% and 15% in nitrogen oxide and followed by 13% and 8% of smoke opacity. Therefore, the results proved that hydrogen-corn biodiesel blended with nanoparticles additive reports a positive effect on compression-ignition diesel engines without major modifications in engine.

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\* Corresponding author.

E-mail address: [manisek87@gmail.com](mailto:manisek87@gmail.com) (S. Manigandan).

<https://doi.org/10.1016/j.ijhe.2019.11.177>

## Flight itinerary

Open with ▼

**Passenger:** MANIGANDAN SEKAR MR (ADT)

**Booking ref:** SOHB5J

**Ticket number:** 217 2330871687

**Issuing office:**  
THAI AIRWAYS DELHI, NOVOTEL PULLMAN HOTEL,  
AEROCITY IGI AIRPORT, DELHI  
**Telephone:** 4149 7777  
**Date:** 04OCT2019

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| From                                                  | To                                                                                               | Flight | Departure          | Arrival                                             | Last check-in |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------|--------------------|-----------------------------------------------------|---------------|
| CHENNAI CHENNAI INTERNATIONAL<br>Terminal: 4          | BANGKOK SUVARNABHUMI INTL                                                                        | TG338  | 01:10<br>19Oct2019 | 06:10<br>19Oct2019                                  |               |
| <b>Class:</b> H                                       | <b>Operated by:</b> THAI AIRWAYS INTERNATIONAL<br><b>Marketed by:</b> THAI AIRWAYS INTERNATIONAL |        |                    | <b>NVA (3):</b> 19OCT2020<br><b>Duration:</b> 03:30 |               |
| <b>Baggage (4):</b> 30K<br><b>Fare basis:</b> H7LOIIE | <b>Booking status (1):</b> OK                                                                    |        |                    |                                                     |               |
| BANGKOK SUVARNABHUMI INTL                             | KAOHSIUNG KAOHSIUNG INTL<br>Terminal: I                                                          | TG2688 | 10:00<br>19Oct2019 | 14:20<br>19Oct2019                                  |               |
| <b>Class:</b> H                                       | <b>Operated by:</b> THAI SMILE AIRWAYS<br><b>Marketed by:</b> THAI AIRWAYS INTERNATIONAL         |        |                    | <b>NVA (3):</b> 19OCT2020<br><b>Duration:</b> 03:20 |               |
| <b>Baggage (4):</b> 30K<br><b>Fare basis:</b> H7LOIIE | <b>Booking status (1):</b> OK                                                                    |        |                    |                                                     |               |

(1) OK = confirm (2) NVB = Not valid before (3) NVA = Not valid after (4) Each passenger can check in a specific amount of baggage at no extra cost as indicated above in the column baggage. Each piece of baggage may not exceed 32 kilos

### PAYMENT DETAILS

**Fare Calculation:** MAA TG X/BKK Q47.00TG  
KHH234.90NUC281.90END ROE71.969030  
**Form of payment:**  
**Endorsements:** INR2000 NONREF - NON ENDORSE/  
CANCELLATION/ CHANGE FEE APPLIED/RFND NOT LATER  
THAN 90 DAYS AFTER TKT EXPIRY

### FARE DETAILS

**Fare:** INR 20290  
**Tour Code:** TGCCMAA901W  
**Taxes:** INR PD 82E7  
INR PD 35G8  
INR PD 82IN

FILE NO. ITS/2019/000652  
**SCIENCE & ENGINEERING RESEARCH BOARD(SERB)**  
(a statutory body of the Department of Science & Technology, government of India)

5 & 5A, Lower Ground Floor  
Vasant Square Mall  
Plot No. A, Community Centre  
Sector-B, Pocket-5, Vasant Kunj  
New Delhi-110070

Dated: 02-Jul-2019

**ORDER**

Subject: Reimbursement of travel grant to **Mr. Manigandan sekar ( Young Scientist )**, Aeronautical, Sathyabama Institute of Science and Technology , Sathyabama university, jeppiar nagar, rajiv gandhi road, chennai, Chennai, Tamil nadu-600119 for attending "8th Global Conference on Global Warming, Qatar (22 April, 2019 to 25 April, 2019)" held in "Doha, Qatar".

1. Sanction of the **Science & Engineering Research Board (SERB)** is hereby accorded to the payment of a sum of **Rs. 45435/- (Rs. Forty Five Thousand Four Hundred and Thirty Five Only)** for meeting the expenses incurred towards participating in the above International event.

2. Sanction of the grant is subject to the condition as detailed in Terms & Conditions available at website ([www.serb.gov.in](http://www.serb.gov.in) and [www.serbonline.in](http://www.serbonline.in)).

3. The expenditure involved is debit to **"Fund for Science & Engineering Research (FSER)"**.

4. **This grant is being reimbursed under the ITS scheme.**

5. The Sanction has been issued to Sathyabama Institute Of Science And Technology, Sathyabama University, Jeppiar Nagar, Rajiv Gandhi Road, Chennai with the approval of the competent authority under delegated powers on **25 June, 2019** and vide Diary No. **SERB/F/2073/2019-2020** dated **27 June, 2019**.

6. The release amount of **Rs. 45435/-** (Rupees Forty Five Thousand Four Hundred and Thirty Five only) will be drawn by the Under Secretary of the SERB and will be disbursed by means of RTGS transaction as per their Bank details given below:

|                        |                                                                                                                            |
|------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Account Name           | SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY- RESEARCH                                                                   |
| Account Number         | 6089858032                                                                                                                 |
| Bank Name & Branch     | INDIAN BANK INDIAN BANK, SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY BRANCH, Jeppiaar Nagar, Chennai, Tamil Nadu 600119 |
| IFSC/RTGS Code         | IDIB000S201                                                                                                                |
| Email id of A/C Holder | provc@sathyabama.ac.in                                                                                                     |
| Email id of PI         | manisek87@gmail.com                                                                                                        |

7. It is certified that original boarding passes have been received along with other documents and retained in the Board.

8. In the eventuality of any excess payment arising on account of typographical errors, etc., the excess amount should be refunded immediately to the Science and Engineering Research Board (SERB) by way of an a/c payee cheque in favour of the "Fund for Science & Engineering Research". Non-compliance would lead to the SERB initiating recovery procedures which would also attract applicable penal interest which would be decided by the SERB.

9. In case of any discrepancy you may contact ITS Section at [ms.its@serb.gov.in](mailto:ms.its@serb.gov.in).

  
(Dr. Rajwant)  
Scientist E  
[ms.its@serb.gov.in](mailto:ms.its@serb.gov.in)

To,  
Under Secretary  
SERB, New Delhi

Copy forwarded for information and necessary action to: -

|    |                                                                                                                                                                                                                                                                                                              |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | The Principal Director of Audit, A.G.C.R.Building, IIIrd Floor I.P. Estate, Delhi-110002                                                                                                                                                                                                                     |
| 2. | Sanction Folder, SERB , New Delhi.                                                                                                                                                                                                                                                                           |
| 3. | File Copy                                                                                                                                                                                                                                                                                                    |
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