



Anand Nagar, Krishnankoil - 626126, Srivilliputtur (via), Virudhunagar District, Tamilnadu.

**APPLICATION FOR ADMISSION TO Ph.D. PROGRAMMES**

Date of Application:23-05-2020

Department	MECHANICAL ENGINEERING	Application No.	20200017
Area of Research	SUPERSONIC COMBUSTION - AERONAUTICAL ENGINEERING	Research Mode	PART TIME

Name :MAHESWARAN N

Date of Birth / Age :31-01-1991 / 29 Years

Gender :MALE

Category :BC

e-Mail ID :leomahesn@gmail.com

Mobile :9715129797



*Signature*

Father's/Husband's Name	NAGARATHINAM M	Father's/Husband's Occupation	NIL
Family Income	275000	Residential Type	URBAN
Birth Place	RAJAPALAYAM	Mother Tongue	TAMIL
Religion	HINDU	Martial Status	MARRIED
Aadhaar No.	307287793402	PAN No.	CSJPM2628B
Physically Challenged	NO	Type of Disability	-
<b>Address for Communication:</b> 361 THIRUVALLUVAR STREET RAJAPALAYAM VIRUDHUNAGAR DISTRICT TAMILNADU INDIA Pin-626117		<b>Permenant Address:</b> 361 THIRUVALLUVAR STREET RAJAPALAYAM VIRUDHUNAGAR DISTRICT TAMILNADU INDIA Pin-626117	

Qualification						
Degree	Discipline	College/university	Year Passed	AVG/CGPA	Class	Mode
M.E	AERONAUTICAL ENGINEERING	ANNAUNIVERSITY / EXCEL ENGINEERING COLLEGE	2015	7.54	FIRST	REGULAR
B.E	AERONAUTICAL ENGINEERING	ANNAUNIVERSITY / HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY	2012	8.72	FIRST CLASS WITH DISTINCTION	REGULAR
HSC	MATHS COMPUTER SCIENCE	NHSS, RAJAPALAYAM	2008	86	FIRST	REGULAR
SSLC	NA	NHSS, RAJAPALAYAM	2006	86	FIRST	REGULAR

Experience				
Organization	Designation	Experience From	Experience TO	Work Nature
HYDRO PRESS INDUSTRIES	ASSISTANT PRODUCTION ENGINEER	2012-06-06	2013-06-28	ALLOTMENT OF DUTIES TO WORKERS.

EXCEL COLLEGE OF ENGINEERING & TECHNOLOGY	ASSISTANT PROFESSOR	2015-06-15	2016-06-30	TUTOR & MENTOR FOR STUDENTS
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Payment Details				
Transaction ID	Reference	Date of transaction	Amount	Status
20200017_200527112506	SCUB8835888816	27-05-2020	600	SUCCESS

## Numerical Investigations on Mixing and Combustion in Scramjet Engine Combustion Chambers using Strut Injectors

Rapid mixing of supersonic streams is vital in many advanced aerospace systems and the importance of the same is increasingly appreciated because of the renewed interest in hypersonic flight, which necessitates combined cycle propulsion systems at high altitudes. In the air-breathing stage of the hypersonic vehicles, the performance of the conventional ramjet engine falls below unacceptable level due to dissociation and shock losses, which necessitates the introduction of supersonic combustion ramjet engine called Scramjet engine. The most challenging part of scramjet technology is the design and development of the supersonic combustor. The rapid mixing of air and fuel issuing at high speed within a short combustor with acceptable stagnation pressure loss and effective flame stabilization is the fundamental constraint in the design of supersonic combustor. The fuel injection system for supersonic combustion systems has been studied for decades with the objective of proper mixing and complete combustion. To achieve fuel injection in the supersonic core region, strut injections have been used to improve fuel distribution and mixing.

The present research work focusses on the various strut injection schemes in a 2D combustors under non-reacting and reacting flow fields. The numerical code of the study will be validated with the experimental data. The analysis will be done using the commercially available AnsysFluent software. The key parameters include, wall pressures, midline pressures, qualitative and quantitative mixing, combustion efficiency, and the total pressure loss across the combustor. The results of the study would be useful for supersonic combustion applications.



Dr. S. Jeyakumar  
Professor and Head,  
Aeronautical Engineering,  
Kalasalingam Academy of Research and Education.

# Anna University



Reg.No. 080101107054/RG

*The Syndicate of the Anna University hereby makes known that*  
**MAHESWARAN N** *has been admitted to the* **DEGREE OF BACHELOR OF ENGINEERING** *in* **AERONAUTICAL ENGINEERING** *under the Faculty of Mechanical Engineering, having completed the prescribed programme of study and having been certified by the duly appointed examiners to be qualified to receive the same, and has been placed in* **FIRST CLASS WITH DISTINCTION** *at the Examination held in* **APRIL 2012.**

*Given under the Seal of the University*



Chennai 600 025

India

March 2013

  
Controller of Examinations

  
Registrar

  
Vice-Chancellor

# Anna University



Reg.No. 730913424006/RG

*The Syndicate of the Anna University hereby makes known that*  
**MAHESWARAN N** *has been admitted to the* **DEGREE OF MASTER**  
**OF ENGINEERING** *in* **AERONAUTICAL ENGINEERING** *under the*  
*Faculty of Mechanical Engineering, having completed the prescribed*  
*programme of study and having been certified by the duly appointed examiners to be*  
*qualified to receive the same, and has been placed in* **FIRST CLASS** *at the*  
*Examination held in* **JUNE 2015** .

*Given under the Seal of the University*





# Excêl/ENGINEERING COLLEGE

Approved by AICTE / UGC, New Delhi & Affiliated to Anna University, Chennai

NH-47, Salem Main Road, Pallakapalayam, Sankari West Post, (Komarapalayam),

Namakal Dt., -637 303, Tamil Nadu. ☎+914288 - 227361 to 67, Fax : 04288 - 227529, 227368,

Web: www.excelinstitutions.com ; E-mail: principal\_excel\_engg@yahoo.in

Sl.No.

2373

## TRANSFER CERTIFICATE

Admission No. :13MEAE06

1. Name of the Student : MAHESWARAN. N
2. Name of the Parent / Guardian : M. NAGARATHINAM
3. Nationality - Religion : INDIAN - HINDU
4. Community - Caste : BC - NADAR
5. Sex :  Male /  Female
6. Date of Birth (in words) as registered in the Admission Register : 31/01/1991 (Thirty First January Nineteen Ninety One)
7. Date of Admission : 08.09.2013
8. Branch of Study : M.E. [ AERONAUTICAL ENGINEERING ]
9. Class in which the student was studying at the time of leaving : II YEAR
10. Reason and date on which the student actually left the college : Course Completed on 25.04.2015  
~~Discontinued~~
11. Whether qualified for promotion to higher class : Refer Mark Sheet
12. Whether the student has paid all the fees due to the college : Yes /  No
13. Conduct and Character\* : Good

OFFICE SEAL WITH DATE 23 JUN 2015



\* No separate conduct certificate is issued

*Dr. V.K. Shunmughanaathan,*  
**PRINCIPAL**  
Excel Engineering College,  
NH-47, Salem Main Road,  
Pallakapalayam - 638 303.  
NAMAKKAL (Dt) - T.N.



Ref : SRET/Excel E&T/2015-16/37

07.07.2016

## EXPERIENCE CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Mr.N.MAHESWARAN has worked as an Assistant Professor in the Department of Mechanical Engineering at Excel college of Engineering and Technology from 15-June 2015 to 30-June-2016.

During this tenure his work and conduct has been found to be good.  
We wish him all the success in his future endeavors

  
**DIRECTOR (TECH)**

Director (Technical)

Excel College of Engineering & Technology  
Pallakapalayam -637 303

**Excellence in Professional Education**

NH-47, Salem Main Road, Pallakapalayam, Sankari West Post, (Komarapalayam) Tiruchengode Tk.,  
Namakkal District - 637 303, Tamilnadu, INDIA, Mobile : 95244 22299, Tel : +91 4288 227361 to 67,  
Fax : 04288 227529, 227368, E-mail: principalet@gmail.com, Web: www.excelinstitutions.com

आयकर विभाग

INCOME TAX DEPARTMENT



भारत सरकार

GOVT. OF INDIA.

MAHESWARAN N

NAGARATHINAM

31/01/1991

Permanent Account Number

CSJPM2628B



*Handwritten signature*

Signature

**India Driving Licence(Tamilnadu)**  
Form 7

IXI 20/05/2011



D.L.No : TN67Z20110003345  
Name : MAHESWARAN N  
S/D/W of : NAGARATHINAM M  
Address :  
O.NO 359 N.NO 104 THIRUVALLUVAR ST  
RAJAPALAYAM 626117  
Temp Addr:

D.O.B. : 31/01/1991 B.G. :

Punishments:



End.No. : TN67Z/AED/0001379/2011 01/12/2011 12:07:44 PM

Licensed to drive throughout India, vehicles of the following descriptions  
M/CYCL WG 20/05/2011 TN67Z L.MV 01/12/2011 TN67Z

Non-Transport Veh. Valid upto 19/05/2031



A handwritten signature in black ink, appearing to be 'S. S. S.', written in a cursive style.

Signature L.T.I  
of the Holder

A handwritten date '1.12.11' in black ink, with a large, stylized letter 'R' written above it.

A handwritten signature in red ink, appearing to be 'S. S. S.', with the date '1/12/11' written below it in red ink.

Asst. Licensing Authority  
UO. SRIVILLIPUTTUR

C No. 786/04

GCP-26-6-6,00,000 Cps.-17-9-2002 [P2-1]

R.Dis...../200 dt.

BC



சான்றிதழ் எண் :  
Certificate No. :

5465452

மாவட்டக் குறியீடு எண் :  
District Code :

வட்டக் குறியீடு எண் :  
Taluk Code :

கிராமக் குறியீடு எண் :  
Village Code :

1	7
0	2
0	0
4	

சாதிச் சான்றிதழ்

COMMUNITY CERTIFICATE

விருதுநகர்

இராசபாளையம்

மாவட்டம், கிராமம்/நகரம், திரு/திருமதி/செல்வி/  
 கிராமம்/நகரம், திரு/திருமதி/செல்வி/  
 தகப்பனார்/சகோதரி/சகோதரர்  
 பெயர்: **மகேஸ்வரன்**  
**நாதரத்தினம்**  
**இரீடி நடராஜ்**

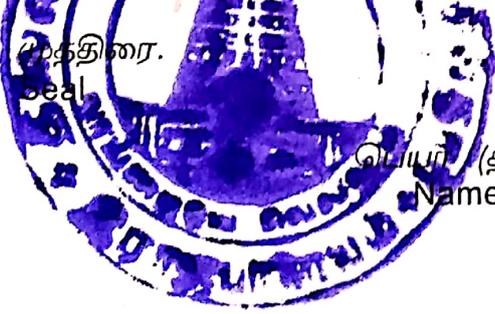
வகுப்பைச் சார்ந்தவர், அரசு ஆணை நிலை எண் 28, பிற்பட்ட மற்றும்  
 மிகவும் பிற்பட்ட பிரிவின் நலத் துறை, நாள் 19-7-1994 வரிசை எண் 082 படி,  
 பிற்பட்ட பிரிவினைச் சார்ந்தவர் எனச் சான்றளிக்கப்படுகிறது.

This is to certify that..... Son / Daughter of  
 Thiru..... of  
 Village / Town, Taluk,

District of the State of Tamil Nadu belongs to  
 Community, which is recognised as  
 a Backward Class as per Government Order (Ms.) No. 28, Backward Classes  
 and Most Backward Classes Welfare, dated 19th July 1994  
 vide Serial No.....

2. திரு/திருமதி/செல்வன்/செல்வி.....  
 எனப்பவரும் அவருடைய குடும்பத்தினரும் தமிழ்நாட்டில் **விருதுநகர்**  
 மாவட்டத்தில் **இராசபாளையம்** வட்டத்தில் **திருவள்ளூர்** திரு  
 கிராமத்தில்/நகரத்தில் வசித்து வருகிறார்கள் எனச் சான்றளிக்கப்படுகிறது.

2. It is certified that Thiru/Tmt./Selvan/Selvi..... and  
 his/her family ordinarily reside(s) at ..... Village/  
 Town ..... Taluk ..... District of  
 Tamil Nadu.



கையொப்பம் :  
Signature :

நாள் :  
Date :

பெயர் (குனி எழுத்துக்களில்)  
Name (in Capital Letters) :

பதவி :  
Designation :

ADDITIONAL DEPUTY TAHSILDAR  
RAJAPALAYAM

15/7/04

ANNEXURE-I

CERTIFICATE FROM THE ORGANISATION WHERE THE CANDIDATE IS EMPLOYED

Certified that Mr./Ms./Mrs. N. Maheswaran is employed as Assistant Professor (Designation) in the Aeronautical Engineering (Department/Division Name) of Hindusthan Institute of Technology (Institution/Industry Name).

We have no objection in forwarding his/her application for the Ph.D. Research Programme.

FOR FULL TIME:

The candidate will be sanctioned leave for the duration of the research programme and will be relieved from duty from \_\_\_\_\_ to \_\_\_\_\_ to undertake the full time research work in the University.

FOR PART TIME:

The candidate will be permitted to undertake part time study in the University/College and will be allowed to be present for discussions with the supervisor, attending course works, conduct of experiments and participations in seminars and related presentations. Further the required facilities at our organization will also be provided to the candidate for doing research.

Date: 23.05.2020



  
Signature of the Head of Organization with office seal

Dr. C. Natarajan, ME.Ph.D.,  
PRINCIPAL  
Hindusthan Institute of Technology  
Coimbatore - 641 032.