

CURRICULUM VITAE (CV) – Dr. S SUYAMBAZHAHAN, M.E, PhD. (IITM), P.E.(I)



Career Objectives:

- To be a sincere, dynamic, and result-oriented/outcome-based person and pursue higher-level research with the highest level of competence, integrity, morals, institutional commitment, and distinguished Academician, Researcher, and Administrator.
- To work towards the developmental strategies for private Institutions to create a holistic establishment and evaluation system for educational setup in institutions, Staff development for innovative teaching methodology, and employability for Students which helps to improve the overall quality of the institution and also revamp curriculum into career-based.
- To pursue a challenging career and be a part of a progressive organization that gives scope to enhance my knowledge, skills in organizing things from scratch to shine and reach the pinnacle in this field with sheer determination, dedication, and hard work.
- To be a visionary leader and good administrator to manage educational transformation in the institution to develop a high academic appreciation in a background of superb postural care and to make a real difference to students' lives in an innovative educational setting and an asset to the organization.

VISION:

- To impart futuristic technical education of the highest quality to the students to improve their Attitude, Skill and Knowledge (ASK) for a successful life.
- To transform learners into achievers at the global level with character building and Institution Branding through stakeholders (Students).
- To provide youth with global quality interactive technical education by implementing LMSs in TLP such as MOODLE, MOOC etc. to benefit the students and society.
- To develop incessant research activities in the Institution for publication of research articles, Patents & Grants for the seminar, conference etc. by the faculties and students.
- To convert the students into employable persons or entrepreneurs and committed to community services
- To impart updated technical education for developing Institutions to meet higher Education Standard by getting NBA, NAAC and ABET Accreditations.
- To transform the institution into a quality centre with the latest and advanced technologies.
- To develop Institution as an Institution of Academic excellence of International standard.
- To convert the Institution into a world-class institution for technical education and scientific research by getting funds from National and International funding agencies.

PERSONAL PROFILE:

Father's Name : **C. Sivalingam Nadar (Late)**
 Date of Birth & Age : **30.06.1968 & 54 Years 01 Month**
 Place of Birth : **Nagercoil, Kanyakumari District**
 Nationality : **Indian**
 Community : **BC/OBC**
 Highest Qualification : **Ph.D. @ IIT Madras**
 Specialization : **CFD & Heat Transfer (Mechanical Engineering)**
 Designation - Present : **Professor & Principal [18.06 Years], Total Exp.: 33 Years**
 Passport Details : **No. P0091647, POI-Chennai, Validity: 19.05.2016 to 18.05.2026**

EDUCATIONAL AND PROFESSIONAL PROFILE:

Category	Degree	Specialization	Year	Name of the College/University	Remarks
Doctorate	Ph.D.	CFD & Heat Transfer	Mar'2004	Indian Institute of Technology Madras	3 Years
PG	M.E.	Thermal Engineering	Nov'1998	Annamalai University Chidambaram	1 st Rank
UG	A.M.I.E.	Mechanical Engineering	Win'1996	The Institution of Engineers (India)	4 Years
Diploma	D.M.E.	Mechanical Engineering.	Apr'1988	Kamaraj Polytechnic College/DOTE	Distin.
School	H.S.C.	Science	Mar'1985	Govt Higher Secondary School/Board	1 st Class

EMPLOYMENT RECORD:

Name of the College/University	Designation	Joining Date	Relieving Date	Experience		
				Yrs.	Mon.	Days
Anna University Affiliated Engineering College - AUAEC	Professor & Principal	12.05.2022	Till Date	-	-	-
Adama Science and Technology University, Ethiopia	Professor	18.02.2020	17.02.2022	02	00	00
Anna University Affiliated Engineering College - AUAEC	Professor & Principal	29.08.2018	31.08.2019	01	00	03
Qassim University, Saudi Arabia	Professor	05.09.2016	06.08.2018	02	00	-
Anna University Affiliated Engineering College - AUAEC	Professor & Principal	14.05.2015	14.06.2016	01	01	00
Anna University Affiliated Engineering College - AUAEC	Professor & Principal	02.11.2009	13.05.2015	05	07	11
Anna University Affiliated Engineering Colleges - AUAEC	Professor & Principal	10.09.2004	31.10.2009	05	01	21
Anna University Affiliated Engineering College - AUAEC	Professor & Head	02.06.2003	09.09.2004	01	03	07
Indian Institute of Technology Madras	Project Officer	06.01.2000	01.06.2003	03	05	25
The Indian Engineering College	Lecturer	15.06.1998	05.01.2000	01	06	20
Polytechnic Colleges	Lecturer	18.06.1988	30.07.1997	09	01	11
Total Experience [Pre-PhD: 14.02 Years & Post-PhD: 19 Years]				33	02	05

EXPERIENCES: [32.08 Years]

I. Administrative Experience: [15.05 Years]

- Head of the Department [HOD] in JAYA Engineering College (AUAEC) – **1.03** years.
- **PRINCIPAL** (Head of the Institution) in **NBA** and **NAAC [A Grade]** Accredited Anna University Affiliated Engineering Colleges (AUAEC) , Chennai, India – **14.02 Years Continuously**.

II. Academic Experience: [32.08 Years]

- NBA/NAAC/ABET Accredited Engineering Colleges and University as **Professor–18.06 Years**
- Engineering Colleges as Lecturer/Assistant Professor/Associate Professor – **5.01 Years**
- Polytechnic Colleges as Lecturer and Senior Lecturer – **9.01 Years**

Subjects Taught (Digital Teaching): – LMSs-Blackboard learn, Google Classroom, Moodle, MOOC, etc.

- Thermodynamics, Thermal Engg., Fluid Mechanics, Thermo-fluids, CFD & Heat Transfer

III. Research Experience: [22.08 Years]

Research Area (s): Modeling and Simulation of various Thermo-Fluids Research Problems

- *CFD & Heat Transfer, Nano-Fluids and Solar Cooling Technologies for cooling Applications*
- **Senior Project Officer** at Indian Institute of Technology Madras – **3.06 years**
- **Experience in Software:** Windows 10, MS Office, GAMBIT, ANSYS–FLUENT and ORIGIN Pro etc.

EXPERIMENTAL SETUPS BUILT:

For measurement of thrust., flow (wind tunnel) and Hot Wire Anemometer aided setup for studies on hot jets.

RESEARCH PROJECTS COMPLETED:

Project(s) Title & Sanction No	Duration	Sponsor	Value	Investigators
Thermal-Hydraulic Investigations of Thermal Striping in the Hot and Cold pools of LMFBR Senior Project Officer – MEE9900133IGCATSUN Date: 06.01.2000 to 02.05.2001	2 Years	DAE IGCAR Kalpakam	Rs.7.5 Lakhs	Dr.T. Sundararajan, Sarit K Das, C.Balaji & Dr.S.Suyambazhahan
Thermal-Hydraulic Analysis of Intermediate Heat Exchanger Senior Project Officer – MEE0102148IGCATSUN Date: 03.05.2001 to 30.04.2003	1.5 Years	DAE IGCAR Kalpakam	Rs.6.0 Lakhs	Dr.T. Sundararajan Dr.Sarit K Das Dr.B.V.S.S. Prasad & Dr.S.Suyambazhahan
Fabricating and experimentally analysing the performance of GAX absorption system for cooling applications 8023/RID/RPS-59/2010-11, DOS: 31.03.2011	2 Years	AICTE-RPS New Delhi	12.0 Lakhs	Dr.S.Suyambazhahan Principal Investigator-PI
Simulation, Fabrication and Characterization of PZT- PVDF Piezoelectric Composites for Ultrasonic Transducers, SERB/F/2133/2014-15,27.06.2014	2 Years	DST-SERB New Delhi	Rs.8.89 Lakhs	Dr.V.Madhusudhana Rao & Dr.S.Suyambazhahan Co-PI
FIST Programme of Department of Science and Technology, New Delhi SR/FIST/College-239/2014, DOS:21.11.2014	5 Years	DST-FIST Bombay	40 Lakhs	Dr.S.Suyambazhahan & (Principal Co-ordinator) Dr M.Subramainam
Recognition of Institute as Business Incubation (BI)/Host Institution(HI) for Implementation of the scheme “Support for Entrepreneurial & Managerial Development of SME’s through Incubators” 3(2)/2014/INC/13th Meeting, DOS:21.11.2014	5 Years	MSME Bombay	2.5 Cr	Dr.S.Suyambazhahan & (Principal Co-ordinator) Dr L.Vijay

Publications in National / International Journals

S.No	Author(s)	Title	Reference Journal	Status/Volume	JIF
1.	S.Suyambazhahan, T.Sundararajan & Sarit K Das	Hydrodynamic and Thermal oscillations in a non-isothermal laminar jet	<i>International Journal of Heat and Mass Transfer</i>	Vol. 47 pp.3957-3969, 10.01.2004	2.522 WoS
2.	S.Suyambazhahan, Sarit K Das & T.Sundararajan	Numerical study of Flow and Thermal Oscillation in two-dimensional buoyant twin jets	<i>Int. Communications in Heat and Mass Transfer</i>	Vol.34 (2), pp.248-258, 06.11.2006	2.124 WoS
3.	S.Suyambazhahan, Sarit K Das & T.Sundararajan	Numerical simulation of flow and thermal oscillations in non-isothermal laminar impinging Jet	<i>International Journal of Heat and Technology</i>	Vol. 25 (2), pp. 65-73, 22.07.2007	1.240 Scopus
4.	S.Suyambazhahan, Sarit K Das & T.Sundararajan	The effect of buoyancy on flow oscillations for a horizontal plane jet in low-speed applications	<i>Int. J. Experimental Thermal and Fluid Science</i>	Vol. 33 (7) pp. 1119-1127, 19.06.2009	1.595 WoS
5.	S.Suyambazhahan, T.Sundararajan Sarit K Das & K.Velusamy	A computational study of flow maldistribution on the thermal-hydraulic perform. of an IHX in LMFBR	<i>Journal of Nuclear Science and Technology</i>	Vol. 51 (6) pp. 845-857, 15.04.2014	1.452 WoS
6.	Anita A. Nene & S.Suyambazhahan	Performance Characterization of Scheffler solar concentrator and prim. feasibility analysis of perform. imp. using comb. system of Scheffler with flat	<i>International Journal of Applied Engineering Research</i>	Vol. 10, No 9 pp. 22563-22569 (2015)	1.823 Scopus
7.	Anita A. Nene S.Suyambazhahan & S Ramachandran	Comparative analysis of the performance of two Scheffler solar concentrators having different concentration ratios	<i>Int. Journal of Engineering and Technology</i>	Vol. 9, No. 2 pp. 704-709 (Apr 2017)	2.635 Scopus
8.	Anita A. Nene S Ramachandran & S.Suyambazhahan	Effect of wind flow on convective heat losses from Scheffler solar concentrator receivers	<i>Journal of The Inst. of Engineers Series C Springer</i>	Vol 100, Issue 5, pp.737-745 (Apr 2018)	3.476 Scopus
9.	S.Suyambazhahan	Experimental study of coconut shell Fluidized bed gasification for production of Fuel Gas for end-use applications	<i>Int. J. of Applied Engineering Research</i>	Vol 13, No 20 pp14682-14688 [Aug 2018]	1.823 Scopus
10.	Suyambazhahan S, Fahad Al-Mufadi & Abdulaziz S Alaboodi	Numerical Investigation of fire inside the compartment with the effect of ventilation	<i>Int. Journal of Engineering Science Invention</i>	Vol 7, No 10 pp17-28 [Oct 2018]	1.857 Scopus
11.	Mohamed Saleh Alshitawi S.Suyambazhahan & Abdulaziz S Alaboodi	CFD simulation of the breathing zone of a human using a personalized air curtain	<i>Journal of Advances in Mechanical Engineering</i>	Vol. 11, pp. 01-13 Jan 2019	1.161 WoS
12.	S.Suyambazhahan	Experimental Study of Performance and Exhaust Emissions of Fuel Blends in 4 Stroke Direct Injection Compression Ignition (DICI) Engines	<i>International Journal of Recent Technology and Engineering</i>	Vol-8 Issue-1 May 2019	1.11 Scopus
13.	Anita A. Nene S Ramachandran & S.Suyambazhahan	Design and Analysis of solar thermal energy storage system for Scheffler solar concentrator	<i>Comptes rendus de l'Académie des Sciences [France]</i>	Vol 72, No.10, pp.1321-1325 23.06.2019	Elsevier 1.079 WoS
14.	Kole, A.A., Nene, A.A., Ramachandran, S. and Suyambazhahan, S.	Overview of liquid desiccant based indirect evaporative cooling system	<i>International Journal of Scientific and Technology Research</i>	8(8), pp. 991-997 Aug 2019	Scopus 1.475
15.	Ramachandran S Anita A Nene, and Suyambahahan S	Studies on Scheffler solar concentrator to optimize thermal efficiency	<i>International Journal of Ambient Energy Taylor & Francis</i>	https://doi.org/10.1080/01430750.2020.1805357 17.08.2020	2.33 WoS
16.	Ramachandran S Anita A Nene, and Suyambahahan S	An integrated system of flat plate collector and Scheffler solar concentrator for enhancing thermal efficiency and steam generation rate	<i>International Journal of Ambient Energy Taylor & Francis</i>	https://doi.org/10.1080/01430750.2020.1811764 30.08.2020	2.33 WoS
17.	P.Senthil Kumar, S Suyambazhahan P R Suresh & R Velraj	Enhancement of heat transfer performance in an aluminium heat sink using different Nanocoatings	<i>Journal of Enhanced Heat Transfer</i>	Vol. 28 (3) pp 41-61 10.03.2021	2.8 WoS

18	Nand Jee Kanu Suresh Guluwadi Vivek Pandey and Suyambazhahan S	Experimental investigation of emission characteristics on Can-Combustor using Jatropa Based Bio-derived Synthetic Paraffinic Kerosene	<i>Smart Science (TSMA)</i> Taylor & Francis	https://doi.org/10.1080/23080477.2021.1938503 21.06.2021	2.3 WoS
19	Radwan A. Almasri Nidal H. Abu-Hamdeh Khaled Khodary Esmaeil & S Suyambazhahan	Thermal Solar Sorption Cooling Systems- A Review of Principle, Technology, and Applications	<i>Alexandria Engineering Journal</i>	Review Article Vol 61 (1), pp. 367-402 24.06.2021	4.38 WoS
20	Suyambazhahan S S Narayan, Sakthivel R, Ivan G and Nadica S	Comparative study of residual stress prediction methods in Additive Manufacturing processes	<i>Scientific Letters of the University of Žilina</i>	Review Article https://doi.org/10.26552/com.c.2022.2.2.B99-B105 02.12.2021	1.4 Scopus
21	S Suyambazhahan Tatek Temesgen Anita A Nene and Ramachandran S	Energy saving in an air-conditioning system using interdisciplinary energy conversion approach	<i>Smart Science (TSMA)</i> Taylor & Francis	https://doi.org/10.1080/23080477.2021.2012324 26.12.2021	2.3 WoS
22	S Suyambazhahan T G Sakthivel and Vivek Pandey and P Mohanram	Experimental Analysis of Performance Improvement of a Modified Vapour Absorption System (VAS-GAX) for Cooling Applications	<i>International Journal of Heat and Technology</i>	Vol. 39, No. 6, pp. 1878-1886 27.12.2021	1.33 WoS Scopus
23	Hiwot Berhanu Bayu Addisu Bekele V Chandraprabu and S Suyambazhahan	Enhancement of heat transfer performance of an electric injera baking mitad using copper powder as additive material	<i>Journal of Energy for Sustainable Development</i>	Vol. 68 pp. 242-257 14.04.2022	3.61 WoS
24	S.Suyambazhahan T.Sundararajan and Sarit K Das	Computational Analysis of Thermal Striping in Primary Sodium System of Liquid Metal Fast Breeder Reactor (LMFBR) using FVM	<i>Nuclear Science and Engineering</i>	https://doi.org/10.1080/00295639.2022.2116380 19.08.2022	1.460 WoS
25	S.Suyambazhahan T.Sundararajan and Sarit K Das	CFD analysis of primary and secondary sodium flows and associated heat transfer on performance of an intermediate heat exchanger in LMFBR	<i>International Journal of Nuclear Energy Science & Technology</i>	Vol. 15, Nos. 3/4, pp 201-223 01.10.2022	1.556 Scopus
26	C.V.Mathusuthana Rao S.Suyambazhahan & Cherinet Girma Dunbushe	Characterization of 0-3 Piezoelectric Polymer Composites for Ultrasonic Transducers using FEM Approach	<i>Materials Science and Engineering B</i>	Under Review 24.07.2022 MSB-S-22-01385	1.863 WoS
27	S. Suyambazhahan S Sathyanarayanan and S P Asok	CFD Analysis of flow and thermal oscillations of a 2D laminar impinging jet heat transfer	<i>Heat Transfer Engineering</i>	Under Review 29.05.2023 237426689	2.431 WoS
28	S Sathyanarayanan S. Suyambazhahan, D Gopinath and K. Gopi Kannan	Comparative evaluation of commercial catalytic converter and modified catalytic converter: Combined application of response surface methodology & artificial neural network	<i>International Journal of Environmental Science and Technology</i>	Under Review 04.04.2023 JEST-D-23-01458	6.609 WoS
29	S. Suyambazhahan, Sankara Narayan V, Mohamed Saahil A and Manimaran S	CFD analysis of combustion chamber of rotary detonation engine for performance enhancement of propulsion system	<i>Aerospace Science and Technology</i>	Under Review 19.04.2023 AESCTE-S-23-01405	5.457 WoS

Publications in National / International Conferences:

S.No	Author(s)	Year	Title	Name and place of Conference(s)	Status/PP
1.	S.Suyambazhahan Sarit K Das & T.Sundararajan	2002	Numerical simulation of flow and heat transfer in a 2D low speed hot impinging Jet	2 nd International Conference on Fluid Mechanics and Fluid Power, Dec' 12 - 14, IIT Roorkee	Published pp. 453 - 463
2.	S.Suyambazhahan T.Sundararajan & Sarit K Das	2004	Numerical simulation of flow and thermal oscillations in non-iso turbulent multiple	ISHMT/ASME Heat and Mass Transfer Conference, January 5-7, HMT-C019, Kalpakkam.	Published pp. 110 - 116
3.	S.Suyambazhahan Sarit K Das & T.Sundararajan	2005	Experimental investigation of velocity oscillations in 2D free jets	6 th world Conference on Experimental Heat Transfer, FM & Thermodynamics, Japan.	Published pp.316-317 April 17-21

4.	R.S.V.Prasad, A.M.Junaidbasha & S.Suyambazhahan	2005	Numerical simulation of flow distribution in the aircraft filter assembly	<i>International Conference on Fluid Power Technology Nov' 24-27, Chennai Trade Centre.</i>	Published pp. 181-186
5.	S.Suyambazhahan Sarit K Das & T.Sundararajan	2006	Numerical Prediction of Effect on orient. to flow and thermal Oscillations in buoyant jet	<i>18th National and 7th ISHMT-ASME Heat and Mass Transfer Conf., IIT Guwahati, Jan 4-6.</i>	Published pp. 504-510
6.	K.Rajan, N.V.Mahalakshmi, R.Suresh Kumar & S.Suyambazhahan	2006	Investigation of flow and heat transfer characteristics of Diesel spray impinging on the flat wall	<i>Proceedings of 3rd International Conference on Fluid Mechanics and Fluid Power (FMFP) Dec 7-9</i>	Published
7.	R.Aravind Krishnan D.Madhesh & S.Suyambazhahan	2006	Numerical Simulation of flow and thermal characteristics of isothermal & non- iso. free jet.	<i>Proceedings of 3rd Int. Conference on Fluid Mech and Fluid Power Dec 7-9</i>	Published
8.	K.Velusamy T.Sundararajan & S.Suyambazhahan	2006	CFD Studies in the prediction of thermal striping in an LMFBR	<i>CFD4NRS, Garching, Munich, Germany, 5-7 Sept 2006</i>	Published pp. 253- 263
9.	S.Suyambazhahan Sarit K Das & T.Sundararajan	2008	Investigation of Thermal Striping in LMFBR components	<i>XIX National and VIII ISHMT/ASME Heat and Mass Transfer Conference, Jan 3-5</i>	published
10.	R. Suresh Kumar, R.Velraj & S.Suyambazhahan	2009	Hydrodynamic and Thermal Oscillations in an Axi-sym. Imp. Jet on a Flat Plate	<i>7th International Conference on Heat Transfer, Fluid Mech & Thermodynamics, Turkey.</i>	Published Paper No.719
11.	S.Suyambazhahan	2011	Experimental Study of Regenerative brakes System used in an Automobile Engine	<i>38th National Conference on Fluid Mechanics and Fluid Power Dec 15 -17</i>	Published
12.	Anita A Nane & S.Suyambazhahan	2012	Thermal Efficiency optimization applied to Scheffler Solar Concentrator	<i>International Conf. on Control System & Power Electronics CSPE 2012, Dec 3-4</i>	Published ELSEVIER PP.593-598
13.	P.K.Nagarajan, J.Subramani & S.Suyambazhahan	2014	Nanofluids for solar collector applications-A Review	<i>6th International Conference on Applied Energy -ICAE2014</i>	Published ELSEVIER
14.	C.V.Mathusuthana Rao & S.Suyambazhahan	2014	Simulation Study of 0-3 Piezoelectric Polymer Composites for Ultras. Trans.	<i>National Conference on Materials for Modern World NCMMW-2014 Sept 10-11</i>	Published ISBN:978-81-89-843-63-2
15.	Anita A. Nene S Suyambazhahan S & S Ramachandran	2017	Developing an empirical correlation for the perform. of a Scheffler solar concentrator using dimensional analysis	<i>Proceedings of 68th IRF International Conference, 29th January 2017, Pune, India,</i>	Published ISBN: 978-93-86291-94-3 pp. 10-14
16	Karky. A.E, Badrinath. R.G, Ezhilarasan T and Suyambazhahan S	2023	Experimental analysis of performance of diesel engine with camphor oil Biodiesel	<i>International Conference in inteligncc in Industrial Automation (ICIIA2023), 5th April 2023.</i>	Published MECHICIA1051

Total Publications in Journals and Conferences: 41

PATENTS:

1. Development of Solar Powered Insecticide Sprayer, 202141019175, Granted: 07.05.2021
2. An automated system for controlling turn indicators in Automobiles-AU2021104546-Granted-30.03.2022
3. A portable air conditioning system and setup for Automotive- AU2021105737-Granted:17.11.2021
4. A portable apparatus for preparation of beverages – AU2021106453-Granted:17.11.2021
5. Development of a prototype GAX absorption system for cooling Applications-202141046633-Published 21.4.23
6. Solar Powered Camera based kit for Lead Irons detection in water employing H₂S gas-202321025271-3.4.2023

RECOGNIZED RESEARCH SUPERVISOR:

S.No	Name of the University	Reference No.	Year	Specialization
1.	Anna University Chennai	Ref No. 04.121.04/8420498	2004	Heat Transfer
2.	Sathyabama University	41078	2012	Heat Transfer
3.	AMET University	AMET/Ph.D/EXT-GUIDE/302-2013	2014	Heat Transfer
4.	St. Peter's University	REG/SPU/PhD/Sup/2013-11	2014	Mechanical Engg
5.	Vinayaga Missions University	VMU/PhD/233/2016	2016	Mechanical Engg

RESEARCH GUIDANCE:

Degree	Completed	Progress	Scholar-University-Title-DOC	Supervisor/JS
B.E./B.Tech.	27	3	Manon. Sundaranar University and Anna University	Dr Suyambazhahan
M.E./M.Tech.	15	1	Anna University and Bharath University	Dr Suyambazhahan
PhD	3	1	N.B. Geetha-Anna University Chennai-10.07.2012 Passive cooling of the cabin through a ventilation system	Dr Suyambazhahan Dr R. Velraj
			Anita A. Nane-Sathyabama University-12.08.2020 Characterization of a Scheffler Solar concentrator	Dr Suyambazhahan Dr Ramachandran
			N Magadevi, Anna University, 06.01.2022 An efficient distributed algorithm for localization in WSN	Dr Suyambazhahan DC Member

ACADEMIC AND RESEARCH PORTALS PROFILE ID:

- Web of Science **Researcher ID:** P-3081-2016
- **Scopus** Author ID: 6505633729
- **VIDWAN Portal ID:** 141422
- **Microsoft Academic Search ID:** 95735933
- **ORCHID ID:** 0000-0001-8361-7230
- **Research Gate**
- **Google Scholar ID:** 1950262031972253231 and
- **Mendeley Stats** (Elsevier).

BOOK PUBLICATIONS

S N	Title of the book	Publisher(s)	Place & year	Remarks
1.	Engineering Practices	PHI Learning Ltd	New Delhi, 2008	Published
2.	Numerical and Experimental Study of free & impinging jets	Lambert Academic Pub	Germany, 2012	ISBN:978-38433-8002-7 Published
3.	Basic Civil & Mechanical Engineering	Laxmi Publications Ltd	New Delhi, 2013	Published
4.	Power Plant Engineering	Laxmi Publications Ltd	New Delhi, 2013	Published
5.	Heat and Mass Transfer	Scitech Publication Ltd	New Delhi, 2017	Published

PhD. RESEARCH WORK (Abstract):**Title: Numerical and Experimental Study of Jet Oscillations**

A free jet is formed when a fluid is discharged into an infinite ambient atmosphere from a nozzle or an orifice. Jet flows are encountered in a variety of industrial applications and physical situations. Aerospace vehicles employ jets for the generation of thrust and other purposes such as thrust vectoring and noise control. In combustion appliances, fuel and oxidizer may be mixed in the form of jets for achieving efficient combustion. Jets are also employed in various manufacturing & metallurgical processes, heat treatment processes (Annealing, Tempering, etc.), impingement cooling of electronic devices and fluidic devices such as ejectors. For applications such as the cooling of microelectronic devices, the rate of heat transfer is often enhanced by the occurrence of oscillatory jet instabilities. In fast breeder reactor assemblies, the safety of the sodium loop is often affected by low-frequency oscillations occurring in the temperature field caused by jet instabilities. In many of these applications, the flow field may be non-isothermal and the occurrence of temperature oscillations may significantly influence the associated equipment design. So the main objective of the present investigation is to simulate the velocity and temperature oscillations in non-isothermal jets for free and impinging conditions and also for single and multiple jet configurations.

The research work has been carried out both numerically and experimentally. The 2D free jet flow and impinging jet flow has been simulated numerically using in-house **FORTTRAN** code and for multiple turbulent free jet flow, the standard k- ϵ model is employed to predict the jet oscillations in turbulent regime using **FLUENT** software. An experimental setup has been fabricated & detailed measurements have been carried out for 2D free jet flow to investigate the frequency & amplitude of oscillations for isothermal and non-isothermal conditions. The experimental results for 2D free jet flow oscillations obtained in the present study compare well with the results of the numerical simulations.

BRIEF DETAILS OF RESEARCH PROJECTS CARRIED OUT:

1. Thermal-Hydraulic Analysis of Thermal Striping in the hot & cold pools of Liquid Metal Prototype Fast Breeder Reactor (LMFBR)

This project deals with the thermal striping in LMFBR components. Thermal striping is a phenomenon caused by interfacial low-frequency oscillations between mixing streams of different temperatures, which could lead to structural failure. For analyzing this problem, the complete 3 D thermal hydraulics of hot and cold pools in the main vessel of LMFBR has been modelled, using GAMBIT and simulated, using FLUENT software. The local analysis of thermal and velocity oscillations was carried out, using an in-house FORTRAN code developed, where thermal striping is imminent. FFT software has also been developed to analyze the spectral distribution of thermal and velocity oscillations.

2. Thermal-Hydraulic Analysis of Intermediate Heat Exchanger (IHX)

This project deals with the non-uniformity of the outlet temperature between the innermost and outermost rows of the tube bundle in secondary sodium flow from the Intermediate Heat Exchanger (IHX). This problem has been modelled, using GAMBIT and simulated numerically, using FLUENT software for both primary and secondary sodium flows. To prevent the differential thermal expansion of the shell and the associated failures, it is desired to restrict the maximum allowable temperature difference of 37°C by arranging suitable distribution of secondary flow rate and by providing an appropriate mixing device.

3. Fabricating and experimentally analysing the performance of GAX absorption system for cooling applications

Achieving higher COP without increasing the complexity of the absorption cycle is a major challenge for researchers. The absorption cycle is accomplishing higher COP with the cycle variation of multi effect or multi-stage. However, the COP is increased by internal heat recovered from the absorber to the generator (GAX) with a cycle configuration that essentially appears to be a single-stage absorption system. In this project, a GAX absorption system of capacity 21.08 kW (6 TR) using ammonia-water as working fluid for cooling applications is fabricated and its performances are analyzed experimentally.

M.E. Project:

Computer-Aided Design and Experimental Heat Transfer Analysis of Thrust Measurement System for High Altitude Satellite Engine

This project deals with the deviation of thrust developed by the INSAT engine at high altitude conditions. The total thrust developed by the INSAT Engine at high altitude conditions is slightly higher than the thrust produced at ground level vacuum testing. The increase in temperature inside the test cell has induced the thermal stress in the load cell flexure which is connected to the load cell used for thrust measurement, resulting in higher thrust reading and also inadvertent increase in propellant flow rates due to the malfunction of pressure regulating system cause increase in thrust reading. This problem has been solved by performing heat transfer analysis in Thrust Measurement System (TMS) to evaluate thermal stresses in the system and detailed measurement has been carried out for the variation of propellant flow rate in propellant tank pressurization system. Thermal stresses buildup could be eliminated by providing a heat sink in the system and the variation of propellant flow rate could be avoided by incorporating two-stage pressure regulators in the propellant tank pressurization system. This project has been carried out at LPSC/ ISRO, Mahendragiri, Thirunelveli District, Tamil Nadu, India.

Under Graduate Project (A.M.I.E.):

- Theoretical study of the performance of steam power plant

Diploma Project (D.M.E.):

- Fabrication of Goggle Jack for lifting the automobiles

RESEARCH EVALUATIONS: Staff Promotion, MS/PhD Thesis Evaluator/Examiner, Articles reviewer

COLLABORATIVE RESEARCH:

National University	International University
Anna University Chennai	Qassim University, Kingdom of Saudi Arabia
Sathyabama University	Gondar University, Ethiopia
Indian Institute of Technology Madras	The University of Malaya. Malaysia
Department of Atomic Energy, IGCAR, Government of India	Adama Science and Technology University, Ethiopia

INTERNATIONAL JOURNAL REVIEWER (5 Journals):

- *International Journal of Heat and Mass Transfer*
- *International Journal of Numerical Heat Transfer*
- *ASME Journal of Heat Transfer*
- *Journal of Waste and Biomass Valorization- Springer and*
- *Journal of Thermal Engineering.*

ONLINE MEETING/INTERVIEW PORTALS ID:

Skype:: suyamiitm, Zoom ID: 493 225 7565 and **Google Meet:** suyamiitm@gmail.com, Webex/VidyoDesktop

IV. OTHER EXPERIENCES

Technical Events Organized:

National Conferences – 46, International Conferences – 24, Technical Symposiums – 36, Workshops and Seminars – 42

Invited Lectures:

- Lecture on “Applied Thermodynamics” for UG/PG students of Mechanical, Electrical & Electronics/Electronics & Instrumentation Engineering.
- Lecture on “Motivation towards Research & Development” for Faculties and Students.
- Lecture on “Importance of Research & Research Methodology” for Faculties and Students.
- Lecture on CFD and Heat Transfer Engineering for PG/Ph.D. Scholars.

Program done in TV Channels:

○ **POTHIGAI TV:**

Heat Transfer & Application of Mechanical Engg - 10.11.2011 & 24.11.2011, Engineering Today and Tomorrow - 07.03.2013, Scientific Evaluation of Automobile Engg - 14.03.2013, Namvirundinar - 17.09.2013 and 24.09.2013 and Clean India – 12.09.2014

○ **JAYA TV:** Vaanam Vasapadum – 16.11.2014

○ **VASANTH TV:** Sigaram Thodu - 13.12.2014

○ **MAKKAL TV:** SU - 03.01.2015

○ **ARTICLE (s) published in Magazine: 15 – Visit:** <http://www.suyambazhahan.com/articles>

V. HIGHLIGHTS OF ACHIEVEMENTS

- Obtained Doctoral Degree from *Indian Institute of Technology Madras [IITM]* **within 3 years**, 2000-2003.
- Received **University FIRST Rank** in M.E. Degree from Annamalai University, India
- Worked as Professor at Adama Science and Technology University, Ethiopia from February 2020-2022
- Worked as Professor in ABET Accredited International Qassim University, KSA from 2016 to 2018.
- Continuously worked as a **Professor and Principal** for **14+ years** in **NBA/NAAC (A-Grade)** Accredited and Anna University affiliated Engineering Colleges in Chennai, India
- Totally **33 years** of experience in Engineering Institutions out of that **18.06 years post PhD** Experience in Administration, Academic and Research in Anna University affiliated Engineering Colleges and Universities.
- Received **5 awards** for "**best Academic and Administrative Service**" from National bodies (AIAF, NIC, GAF, Who's Who and ESN Publications) and "**Best Researcher Award**" for "**best research publications**" from International Research Awards on Science, Health and Engineering (SHEN).
- Improved Anna University exam results for **57% to 82%** and enhanced the college overall rank **from 157th rank to 20th rank** among 584 Colleges under Anna University by applying best practices in TLP.
- Recognized **Supervisor in 5 Universities** for guiding PhD and MS Research Scholar.
- Obtained Anna University Recognized **Research Centre for 5** (Mech., ECE, EEE and CSE) Departments.
- Received Research Project and seminar Grants for the worth of **INR. 3.94 Crore [558450 USD]**, 2012-2015.
- Published **40+ articles** in reputed International Journals and Conferences.
- Reviewer for **5 international Journals** [IJHMT, IJNHT, ASME JHT, JTEN and Springer].
- Published **2 Australian and 1 Indian Patents** and 2 Patents (1 Indian & 1 Australian) under review
- Published **05 books and 02 books** in press [EP, BCM, PPE, HMT and LAP].
- Acted as **Chairman, Chief Superintendent, Camp officer and Zonal Coordinator** for 25 Engineering colleges to Anna University Examinations and Valuation, [2003-2015].
- Member of **Board of Studies in Anna University** and Anna University of Technology Chennai [2008-2015].
- Having membership in **18 Professional Bodies** [ASME, IEEE, SAE, AASCIT, FISME, ISHMT etc.].
- Signed **30 MOUs - 3 International Universities** [Carnegie-Mellon University, USA University of Leicester, UK, Zurich City Business School, Switzerland, etc.] and **27 Companies** [2009-2015].
- Delivered **27 Invited Lectures** in various Colleges/Universities and Media [Pothigai TV, Sun TV etc.].
- **Chief Guest** for various events such as Conferences, Symposium etc. in Higher Education Institutions
- Written **15 Articles** and published in College Magazine, Anna University Bulletin and Vigadan-Kalvi Malar.
- Organized several **[156]** National and International Conferences, Seminars, Symposiums and Workshops.
- Organized several **[342]** Value Added Courses, Guest Lectures, Industrial Visits and internships to students
- Produced **82% Placements** for the students [2014-15] in Anna University Affiliated Engineering Colleges.
- Obtained **NBA and NAAC [A grade] Accreditations** to S.A. Engineering College [2014-2015].
- Obtained **Excellent feedback from students** for the dedicated service to the student's community.
- Established **33 Committees** to help Governance of the Institution for overall improvements.
- Established **3 Engineering Colleges in Chennai**, Tamil Nadu, India from scratch to shine.
- Received **appraisals** from VC, Chairman, Registrar and Professors of IIT Madras for attainments in service.
- Received **award from Dr A P J Abdul Kalam**, former President of India for devoted service and academic excellence in engineering education to the society-2014.
- Organized **24 Community Services**-Visit: <http://www.suyambazhahan.com/community-service>
- Acted as **President** of Religious Trust for 20 years [1990-2010].

EXTRA SKILLS: Excellent Communication, Leadership/Management, Planning/Organizing. Problem solving/Reasoning/Creativity and Teamwork.

REFERENCES:

Dr T. SUNDARARAJAN Professor Department of Mechanical Engineering Indian Institute of Technology Madras Chennai – 600036, Tamil Nadu, India Email: tsundar@iitm.ac.in Mob: 0091-9444065545	Dr SARIT KUMAR DAS Professor Department of Mechanical Engineering Indian Institute of Technology Madras Chennai – 600036, Tamil Nadu, India Email: skdas@iitm.ac.in Mob: 0091-9530971234	Dr R. VELRAJ Vice-Chancellor of Anna University Government of Tamil Nadu Chennai, Tamil Nadu – 600025, India Email: velrajr@gmail.com Mob: 0091-9962537765
Dr K. VELUSAMY Head - Thermal-Hydraulic Div. [Rtd.] IGCAR, Department of Atomic Energy, Tamil Nadu, India Email: kvelu41160@gmail.com Mob: 0091-9442579552	Dr ALABOODI S ABDULAZIZ Professor-Former Chairman Department of Mechanical Engineering College of Engineering Qassim University, KSA Email: alaboodi@qec.edu.sa Mobile: (+966) 0500696611	Dr M. KARTHIKEYAN Division Head (QA) LPSC, ISRO , Department of Space Govt. of India, Bangalore-560008 Email: kavimukthe@gmail.com Mob: 0091-8105227700

APPRAISALS FROM THE EMPLOYER/SUPERVISOR:

S.No	Appraisals from the Employer and Supervisor
1	Dr T. Sundararajan , Professor of Mechanical Engineering, Indian Institute of Technology Madras
2	Dr V.Ganesan , Professor and Head of Mechanical Engineering, Indian Institute of Technology Madras
3	Dr Sarit Kumar Das , Professor of Mechanical Engineering, Indian Institute of Technology Madras
4	Dr R Velraj, Vice-Chancellor-AU, and Dr S. Ganesan , Former Registrar, Anna University, Chennai
5	Prof. A. Kanagaraj , Chairman, Jaya Group of Institutions, Thiruninravur, Chennai
6	Shri. D. Duraiswamy , Chairman and Shri D. Dhasarathan Secretary, S.A. Engineering College, Chennai
7	Dr Sulaiman Al Yahaya, Dr Abdulazzis A Alaboodi and Dr Alshitawi , Qassim University, Saudi Arabia

MEMBER OF BOARD OF STUDIES, SELECTION & RESEARCH BOARD:

- ❖ Board of Studies in Faculty of Mechanical Engineering, Anna University Chennai
- ❖ Bombay Science & Research Education Institute, Bombay
- ❖ Sri Vidya College of Engineering & Technology, Virudhunagar.
- ❖ Member of the Result Passing Board- Anna University Chennai
- ❖ Member of the paper scrutinizing board - Annamalai University, Chidambaram
- ❖ Panel member of selection of faculty members in various Engineering Colleges
- ❖ Member of Expert Committee for Inspection for affiliation and Accreditation
- ❖ Member of PhD Curriculum Setting Committee, Adama Science and Technology University

EXTRA-CURRICULAR ACTIVITIES: Worked for Anna University/other Examinations as

- ❖ **Chief Superintendent** for the conduct of B.E./B.Tech./M.E./M.Tech./MBA/MCA Degree Examinations [Anna University and Monomaniam Sundaranar University Tirunelveli, 2003-2019] – **16 Years**
- ❖ **Camp Officer (Zone-1), Chairman, and Chief Examiner** for Central Valuation - 2004-2019
- ❖ **Zonal Coordinator** for 25 Engineering Colleges [2010-13] under Anna University of Technology Chennai
- ❖ **Chief Superintendent** for several recruitment/entrance examinations such as GATE, RRB, TNPSC etc.
- ❖ **The question, Key Setter & ME/PhD thesis examiner** for various Universities
- ❖ **Examiner** for State Board of Technical Education Examinations [1996-1997]

MEMBERSHIP/FELLOWSHIP OF PROFESSIONAL SOCIETIES:***Life/Annual Member of***

SN	Name of the Professional Society	Abr.	Membership No	Year
1	Indian society for Technical Education	ISTE	LM 7553	Mar 1990
2	Indian Society for Heat and Mass Transfer	ISHMT	LM 326	Sep 2000
3	Chartered Engineer, The Institution of Engineers (I)	CE (I)	AM087532-8	July 2001
4	Indian Institute of Plant Engineers	IIPE	M 9673	Feb 2005
5	Combustion Institute - Indian Section	CI (IS)	LMC 971	Mar 2005
6	Aeronautical Society of India	AeSI	M 17763	May 2005
7	National Society of Fluid Mechanics & Fluid Power	NSFMFP	LM 461	Jan 2006
8	Fellow of Institution of Engineers (India)	FIE	F-115430-5	Oct 2010
9	Institute of Electrical & Electronics Engineers	IEEE	90775220	Dec 2010
10	Computer Society of India - Nominee Member	CSI-NM	N1062779	Mar 2011
11	Fluid Power Society of India, Madras Chapter	FPSI	M 2873	July 2012
12	Madras Management Association	MMA	IM2427	Mar 2013
13	Society of Automotive Engineers	SAE (I)	7011041052	Jan 2014
14	Energy & Fuel User's Association of India	EFUAI	Nil	May 2014
15	American Society of Mechanical Engineers	ASME	100725917	July 2014
16	Fellow of Indian Society of Mechanical Engineers	FISME	NIL	Sep 2015
17	American Association of Science and Technology	AASCIT	1002300	Mar 2017
18	Professional Engineer, The Institution of Engineers (I)	PE (I)	PE7004058	Feb 2021

Places visited Abroad:

- **JAPAN** for presenting a paper in 6th world Conference on Experimental Heat Transfer, Fluid Mechanics & Thermodynamics, April 17-21, 2005.
- **Kingdom of Saudi Arabia**, 5th September 2016, Qassim University
- **Ethiopia**, 18th February 2020, Adama Science and Technology University

AWARDS

- School First Rank in H.S.C. (+2) Examination – Government Higher Secondary School – 1985.
- Awarded First Mark in “Advanced Heat Transfer” course - M.E. Degree – 1997.
- University First Rank and Distinction Award by Vice-Chancellor Annamalai University – Nov 1998
- **SHIKSHA BHARTI PURASKAR AWARD** - All India Achievers Foundation 30.09.2010
- **EMINENT EDUCATIONIST AWARD** - National & International Compendium 09.12.2010
- **BEST PRINCIPAL PERFORMANCE AWARD** - Global Achievers Foundation 05.02.2015
- **ALBERT NELSON MARQUIS LIFETIME ACHIEVEMENT AWARD** - Marquis Who's Who 29.04.2017
- **PILLARS OF INDIA 2021** - ESN Publications, Tamil Nadu, India 26.05.2021
- **BEST RESEARCHER AWARD**, International Research Awards on Science Health & Engineering 27.12.2021

Hands-on Projects:

- ❖ Design and Development of air curtain device for breathing zone (face) of a human to protect eyes, respiratory, lungs and cardiovascular from dusts, pollutants, bacteria and viruses in air.
- ❖ Design and Development of Mechanism for Automatic Ventilator for Covid-19 Treatment
- ❖ Development of a Novel Architecture of Spiral Coil Heat Exchanger for Industrial applications
- ❖ CFD Simulation of food compartment for protection from pollutants in food serving venues
- ❖ Design and Development of a 5 TR Prototype Modified Solar Assisted Air Conditioning System
- ❖ Research Projects in the field of Thermo-Fluids [**ANSYS-FLUENT**] for different applications

DECLARATION:

I hereby declare that the statements made in this **CV** are true and correct to the best of my knowledge and belief.



SIGNATURE

Last updated on: **01.06.2023**