

Dr.T.Velmurugan Profile

Dr.T.VELMURUGAN

Assistant Professor (Sr.Grade),
Department of Mechanical Engineering,
University College of Engineering, Villupuram
Kakuppam-605103.



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Date of Birth : 08-05-1978

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Villupuram -605602

I. Educational Qualification:

- ❖ Ph.D.(Wind Energy) (2018), Madras Institute of Technology Campus, Anna University, Chennai-44.
- ❖ M.E. (Aeronautical Engineering) (2007), Madras Institute of Technology Campus, Anna University, Chennai-44.
- ❖ B.E. (Mechanical Engineering) (2000), Sethu Institute of Technology, Madurai, Madurai Kamaraj University, Madurai.

II. Teaching Experience: (15 years 03 months as on 04-07-2018)

- ❖ Assistant Professor / Mechanical: University College of Engineering Villupuram (Anna University, Chennai). (14thJuly 2014 -Till date)
- ❖ Assistant Professor / Mechanical: Regional office, Anna University, Tirunelveli-627005 (12thAugust 2012 -13thJuly 2014)
- ❖ Assistant Professor / Mechanical: Anna University of Technology, Tirunelveli-627005 (30th October2009 -11thAugust2012)
- ❖ Assistant Professor / Mechanical: SRM University, Chennai-603203 (24thJuly2007 - 29thOctober2009)
- ❖ Lecturer/Mechanical: G.L.A. Institute of Technology and Management, Mathura, State of Uttar Pradesh (3thJuly2002 -18thMay2005)
- ❖ Lecturer / Mechanical: Sri Venkateshwara college of Engineering and Technology, Thiruvallur. (29thJune2001 -10thJune2002)

- ❖ Lecturer / Mechanical: Pallavan College of Engineering, Kancheepuram-631502
(22thNovember2000 -31thMay2001)

III. Area of interests:

- ❖ Renewable Energy.
- ❖ Polymer composite and Mechanics.
- ❖ Propulsion.
- ❖ Computational Fluid Dynamics.
- ❖ Finite Elements Methods.
- ❖ Thermal Engineering

IV. Title of thesis at Doctoral level: Investigation on the Design Parameters of an Aero Elastic Wind Energy Generator.

V. Title of thesis at Master’s level: Prediction of Thermal Expansion Properties of R-Glass-Epoxy Laminates for Temperature Variation.

VI. Academic Contributions:

International Conference Organised	01
International Workshop Organised	01
Faculty Development Programme Organised	01
M.E. Projects Guided	41
B.E. Projects Guided	02

VII. Published in International/National journals:

- ❖ Madhankumar A, **Velmurugan.T**, Pradharaj M, Aarthi S, (2018) “Thermo Mechanical Behavior of Glass-Kevlar/Epoxy Hybrid Laminates –An Experimental and Theoretical Approach” Journal of Materials today: Proceedings, Published by **Elsevier**.
- ❖ **T.Velmurugan**, 2017, “ Aerodynamic Design And Optimization Of Wind Turbine Rotor Blade For Different Wind Speed “Journal of Advances in Natural and Applied Sciences, Published by AENSI Publications, PP 389-401. ISSN:1995-0772.
- ❖ **Velmurugan, T** & Parammasivam, KM 2016, “A CFD Analysis of Controlled Flutter Phenomenon”, **Thermal Science**, vol.20, Suppl.4, pp. S955-S965

- ❖ **Velmurugan, T** & Parammasivam, KM 2016, “Investigation on the Design Parameters of an Aero-elastic Wind Energy Generator”, Journal of the Balkan Tribological Association, vol. 22, no. 1A-II, pp. 844–860.
- ❖ **T.Velmurugan**,M.Ranjithkumar,K.M.Parammasivam,(2015), “Performance and Emission Evaluation of a VCR Diesel Engine using Algae Methyl Ester” International Journal of Applied Engineering Research, Vol.10,No.76 Published by Research India Publications.
- ❖ **T.Velmurugan**,P.Livankumar,(2015), “Reduction of Harmful Emissions From C.I. Engine Fueled By Biodiesel Using Nano Material Coated Catalytic Converter” Journal of Chemical and Pharmaceuticals Sciences, pp.226-228,ISSN:0974-2115.
- ❖ Nagaraj V, **Velmurugan.T**, (2014), “Numerical Bird Strike Impact Simulation of Aircraft Composite Structure”, Journal of Mechanical and Civil Engineering, pp.01-10, ISSN:2278-1684.
- ❖ Shanmugavel.M, **Velmurugan.T**, (2014), “Finite Element Analysis of Burst Pressure of Composite Storage Vessels”, Journal of Mechanical and Civil Engineering, pp.11-16, ISSN: 2278-1684.
- ❖ **T.Velmurugan**, J.Maheswaran, M.M.Mohaideen,(2013), “An Experimental and Numerical Study of Fracture Toughness of Kevlar-Glass/Epoxy Hybrid Composite” IEEE, pp.936-942,ISBN:978-1-4673-6150-7.

VIII. Published in International/National Conference Proceedings as Papers:

- ❖ **Velmurugan, T**, Parammasivam, KM & Dinesh Muthamil Raja, MD 2013, “Numerical Investigation on the Design Parameters of an Aero-Elastic Wind Energy Generator”, Proceedings of the eighth Asia-Pacific Conference on Wind Engineering, pp. 103-112.
- ❖ **Velmurugan, T** & Parammasivam, KM 2014, “Simulation of a Leading Edge Flutter”, The International Conference on Mathematics and its Applications, pp.503-510.
- ❖ Velmurugan, T & Parammasivam, KM 2015, “A CFD/CSD Analysis of Controlled Flutter Phenomenon”, International Conference on Advances in Mechanical Engineering, pp.1028-1036.
- ❖ **Velmurugan.T** et al “Finite element Analysis of burst Pressure of Composite Storage Vessels”International Conference on Recent Trends In Engineering And Management,organized by Indra Ganesan College of Engineering on 11&12th April 2014

- ❖ **Velmurugan.T** et al “Numerical Bird Strike Impact Simulation of Aircraft Composite Structure” International Conference on Recent Trends In Engineering And Management, organized by Indra Ganesan College of Engineering on 11&12th April 2014
- ❖ **T.Velmurugan** et al “An Experimental and Numerical Study of Fracture Toughness of Kevlar-Glass/Epoxy Hybrid Composite” 2013 International Conference on Energy Efficient Technologies For Sustainability, organized by St. Xavier Catholic College of Engineering on 10,11&12th April 2013
- ❖ **T.Velmurugan** et al “Design and Analysis of Connecting rod using Al-Mg-SiC composition” Second International Conference on Recent Advancement In Mechanical Engineering and Technology(ICRAMET’16), Organized by Aarupadai Veedu Institute of Technology, Chennai on 28&29th April 2016.
- ❖ **T.Velmurugan** et al “Design, Analysis and Parametric Optimization of Aluminum Piston Alloys Using Simulation” Second International Conference on Recent Advancement in Mechanical Engineering and Technology(ICRAMET’16), Organized by Aarupadai Veedu institute of Technology, Chennai on 28&29th April 2016.
- ❖ **T.Velmurugan** et al “Modeling and Analysis of a Cranks Shaft in a Single Cylinder Four Stroke Petrol Engine” Second International Conference on Recent Advancement in Mechanical Engineering and Technology(ICRAMET’16), organized by Aarupadai Veedu Institute of Technology, Chennai on 28&29th April 2016
- ❖ **T.Velmurugan** et al, “Design and Optimization of Aero Structural Wing” National Conference on Advances in Mechanical Sciences (AIMS) organised by C.Abdul Hakeem college of Engineering and Technology on 5th march 2011.
- ❖ **T.Velmurugan** et al, “Prediction of Thermal Expansion Co-efficient of Glass-Kevlar/Epoxy Hybrid Laminates”, A National conference KOSMIK-1, Organised by Mahendra Engineering college on 29th March 2013.
- ❖ **T.Velmurugan** et al, “Finite Element Analysis of Burst Pressure of Composite Storage Vessels” International Conference on Recent Trends In Engineering And Management, Organized by Indra Ganesan College of Engineering on 11&12th April 2014
- ❖ **T.Velmurugan** et al “Performance and Emission Evaluation of A VCR Diesel Engine Using Algae Methyl Ester” International conference on trends in engineering and technology, science and humanities, Management 2015, Organized by Tamizhan college of Engineering and Technology on 19&20th February 2015

- ❖ **T.Velmurugan** et al “Design and Analysis of Aero Structured Wing” International Conference on Advances in Engineering and Technology (JCAET-2011) Organized by EGS Pillay Engineering College, Nagapattinam-611002 on 27&28thMay2011.
- ❖ **T.Velmurugan** et al “Flutter analysis of Delta Wing with Store” International Conference on Advances in Engineering and Technology (JCAET-2011) Organized by EGS Pillay Engineering College, Nagapattinam-611002 on 27&28thMay2011.
- ❖ **T.Velmurugan** et al “Design and Analysis of Various Materials of Piston by Using ANSYS Software” Second International Conference on innovative and Emerging Trends in Engineering and Technology Organized by Panimalar Institute of Technology, Chennai-600123 on 15th May 2017.
- ❖ **T.Velmurugan** et al “Prediction of Thermal Expansion Properties of Glass/Epoxy Laminates for Varying Temperature” National conference (CADAM’07) Organized by A.C.College of Engineering and Technology, Karikudi-04 on 26 and 27th April2007.
- ❖ **T.Velmurugan** et al “High Temperature Tensile Test on R-Glass/Epoxy Composite And Its Applications” International Conference on Modern Trends In Materials Technology(MMT-09) Organized by Sri Venkateswara College of Engineering, Sriperumbudur on 19th and 20 January 2009.
- ❖ **T.Velmurugan** et al “Design and Analysis of Various Materials of Piston by using ANSYS software” Second National Conference on Materials Science and its Future Prospects(NCMSFP-2017)
- ❖ **T.Velmurugan** et al “Heat rejection and Exhaust Emission Reduction of Spark Ignited Free Piston Engine” Third International Conference on Innovative Design, Analysis & Development Practices in Aerospace and Automotive Engineering organized by Vel Tech Deemed University on 22-24 February 2018.
- ❖ **T. Velmurugan** et al “Performance and emission characteristics of Lemon Peel Oil Methyl Ester and it Blends in a DI Diesel Engine” International Conference on Automobile, Marine & Mechanical Engineering(ICAMME-2018) organized by Sri Venkateswara College of Engineering, Sriperumbudur-602117 on 4th and 5 May2018.
- ❖ **T.Velmurugan** et al “Combined effects of Semi Insulation and Vegetable oil Blends on Performance And Emission Characteristics of Single Cylinder Four Stroke Diesel Engine” National Conference on Advances in Mechanical Engineering (NME’2015) organized by Regional office, Anna University, Tirunelveli Region, Tirunelveli-627007.

IX. Research Publications (Books)

Chapters Contributed to Edited Knowledge Based Volumes Published by Indian / National Level Publisher with ISBN /ISSN number:

Sl. No	Book Name	Title / Volume	Pages	ISBN Numbers	Editors Name
1	International Conference on Advances in Mechanical Engineering	Thermal Science Volume-I	1-522	978-93-85477-29-4	Dr.T.Velmurugan
2	International Conference on Advances in Mechanical Engineering	Manufacturing Engineering Volume-II	523-956	978-93-85477-37-9	Dr.T.Velmurugan
3	International Conference on Advances in Mechanical Engineering	Design, Robotics & Engineering Application /Volume-I	957-1365	978-93-85477-38-6	Dr.T.Velmurugan

X. Attended Refresher Courses/Methodology Workshops/ Training, Teaching Learning - Evaluation Technology Programmes/ Soft Skills Development Programmes/Faculty Development Programmes:

Sl. No	Name Of Programme	Organizers	Place	Date & Year	Duration
1	One Week AICTE-ISTE Short Term Training Programme on Aerospace Engineering –Theory & Applications	Department of Mechanical Engineering	Saintgits College of Engineering Kottayam,Kerala	June 18 To June24 ,2008	One Week
2	ISTE Workshop on Aakash for Education	IIT Bombay	Regional Centre of Anna University Tirunelveli	10 th &11 November 2012	Two Days
3	Two Week ISTE Work Shop on Engineering Thermodynamics	IIT Bombay	Regional Centre of Anna University Tirunelveli	11 th To 21 December2012	Two Weeks
4	Two Week ISTE Work Shop on Engineering Mechanics	IIT Bombay	Regional Centre of Anna University Tirunelveli	26 th To 06 December 2013	Two Weeks
5	ISTE Sponsored National Work Shop on Guidelines to Publish Articles In International Peer Review Journals	Department of Mechanical Engineering	Ponjesly College of Engineering-Nagercoil-629003	3 rd January2014	One Day

6	One Day National Work Shop on Recent Trends In IC Engine	Department of Mechanical Engineering	University College of Engineering Villupuram	10 th October 2014	One Day
7	UGC Sponsored Short Term Course on New Materials Their Characterization and Applications	Department of Aerospace, Mechanical Engineering and CGCCNT	MIT Campus, Anna University, Chennai-44	15 th & 16 October 2014	Two Days
8	Anna University Sponsored Faculty Development Programme on ME 6404- Thermal Engineering	Department of Mechanical Engineering	University College of Engineering Villupuram	14 th To 20 December 2015	One Week
9	National Workshop on Recent Advances In Engineering Materials And Chemical Sciences	Department of Chemistry	University College of Engineering Villupuram	26 th February 2016	One Day
10	TEQIP-II Sponsored STTP on Applications of Modeling and Simulation Techniques In Mechanical Engineering	Department of Mechanical Engineering	Pondicherry Engineering College, Puducherry-605014	25 th To 29 April 2016	One Week
11	Anna University Sponsored Faculty Development Programme on ME 6403- Engineerin Materials & Metallurgy	Department of Mechanical Engineering	University College of Engineering Pattukottai	21 st To 27 th November 2016	One Week
12	Anna University Sponsored Faculty Development Programme on ME 6404- Thermal Engineering	Department of Mechanical Engineering	University College of Engineering Villupuram	13 th To 19 December 2016	One Week
13	AICTE Sponsored Two Weeks FDP On Nano Technology for Energy and Agricultural Sectors	Department of Mechanical Engineering	IFET College of Engineering , Villupuram-605108	13 th To 26 November 2107	Two Weeks
14	National Work Shop on Embedded Iot Application Using Raspberry Pi Boards	Department of Electronics and Communication Engineering	University College of Engineering Villupuram	13 th To 14 March 2018	Two Days
17	One Day Workshop on Intellectual Property Rights And Innovation	Anna University Chennai-25	University College of Engineering Villupuram	18 th January 2018	One Day
18	Two Days National Workshop on BIG DATA & Iot	Department of Computer Science Engineering	University College of Engineering Villupuram	24 th To 25 January 2018	Two Days
19	Anna University Sponsored Faculty Development Programme On ME 6502- Heat And Mass Transfer	Department of Mechanical Engineering	University College of Engineering Villupuram	18 th To 24 June 2018	One Week

XI. International Conferences / Symposia / workshops /Faculty Development Programmes Conducted:

Sl. No	Name of The Conferences / Seminars / Symposium / Workshop Conducted	Duration	No. of Participants	Venue	Sponsoring Agency
1	International Conference on Advances In Mechanical Engineering	15-16 October 2015	500	University College of Engineering Villupuram.	Department of Mechanical Engineering, University College of Engineering Villupuram,
2	International Workshop on Preparation of Technical Articles & Research Proposal	04 January 2016	100	University College of Engineering Villupuram,	Department of Mechanical Engineering, University College of Engineering Villupuram,
3	FDP – ME-6007 Composite Materials and Mechanics	24 th To 30 May 2017	20	University College of Engineering Villupuram.	Anna University Chennai-25

XII. PG Student Project Guidance:

S. No	Name of the Student	Project Title	Date of Viva Voce Conducted
1	Aarthy.S	Effect of Resin and Fiber Properties on Impact and Compression after impact Performance Of Glass / Epoxy Laminates	11/07/2013
2	Anton Savio Lewise.K	Unsteady Flow Over a Oscillating Airfoil	10/07/2012
3	Arivulagamethai.N	Prediction of Thermal Strain of Carbon Glass - Epoxy Hybride Laminate with Varying Temperature	04/06/2014
4	Arun Negemiya.A	Simulation of an Aero elastic Wind Energy Generator	04/06/2014
5	Booma Devi.P	Numerical Simulation of Combustion Phenomena in A Scramjet Engine	10/02/2012
6	Dinesh Kumar.S	Nonlinear Aeroelastic Formulation and Post Flutter Analysis of Wing	05/06/2014

7	Dineshmuthamilraja.M.D	Fabrication and Experimentation of an Aero elastic Wind Energy Generator	11/07/2013
8	Elakkiya.G	Numerical and Experimental Analysis of Flash Flows	04/06/2014
9	Gunasekaran.M	Analysis of Axisymmetric Nozzle for Hypersonic Application using Computational Fluid Dynamics	15/06/2012
10	Hari Rama Krishnan.L	Turbulence Effect in Scramjet inlet Flow Prediction	11/07/2013
11	Immanuel.S	Prediction of Mechanical Properties of Glass Aluminum Reinforced Epoxy Laminates	11/06/2014
12	Janani.S.C.I	A CFD/CSD based Analysis of Controlled Flutter Phenomenon	11/07/2013
13	Karunanithi.E	Stress Analysis on Thermal Barrier Coated Turbine Blades	10/07/2012
14	Madhan Kumar.A	Prediction of Thermal Expansion Coefficient of Glass-Kevlar/Epoxy Hybrid Laminates	11/07/2013
15	Madhan.S	Prediction of Coefficient of Thermal Expansion Carbon/Epoxy Laminate Using Computational Analysis	10/07/2012
16	Mahendrapandian.T	Aerodynamic Design and Optimization of Wind Turbine Rotor Blade for Different Wind Speed	11/07/2013
17	Maheswaran.J	An Experimental and Numerical Study of Fracture Toughness in Glass-Kevlar/Epoxy-Hybrid Laminates	17/12/2012
18	Nagaraj.V	Preliminary Study on Full Scale a Bird Impact Test for Aircraft Composite Structure	04/06/2014
19	Nagoorkhan.S	Nonlinear Fatigue Life Diagrams for Glass / Epoxy Laminates at Room Temperature	05/06/2014
20	Naveen Kumar.K	Design, Manufacturing and Testing of An Aero spike Nozzle	10/07/2012
21	Oblisamy.L	Analysis of High Aspect Ratio Winged Vehicle in Ground Effect	30/06/2011

22	Prasanna.P	Design and Fabrication of Rectangular Wing for Aero Elasticity Wind Energy Generator	05/06/2014
23	Pravin.V.P	Orbital Maneuvering using Electrodynamic Tethers	05/06/2014
24	Robinston Jeyasingh Swikker.K	Structural and buckling Analysis of E-Glass / Epoxy Composite Aircraft Wing	30/06/2011
25	Sasi Kumar.M	Flow Field Simulation over a typical Launch Vehicle Protrusion	05/06/2014
26	Shanmugavel.M	Analysis of Composite Storage Vessels using Finite Element Method	05/06/2014
27	Thamaraikannan	Design and Analysis of Aero Structural Wing	30/06/2011
28	Thiyagarajan.P	Flutter Analysis of Delta Wing With Stores	30/06/2011
29	Venkatesan.S	Structural Analysis on Components of Flap Actuation System	05/06/2014
30	Prabakaran.P	A Comparative Assessment on Performance and Emission Characteristics of Diesel Engine Fueled by Pyrolysis Oil-Diesel Blends	12/06/2018
31	Jaganprathap.R	Design and Analysis of various Material of Piston by using Ansys Software	16/12/2016
32	Vijaya Raj.V	Design Analysis and Optimization of Connecting rod using Al-Mg-Sic Composition	30/06/2016
33	Murugan.M	Design Analysis and Parametric Optimization of two Aluminum Piston Alloys using Simulation	30/06/2016
34	Arivarasan.N	Design and Analysis of Chop Carbon Fiber Drive Shaft	30/06/2016
35	Ramalingam	Effect of Exhaust Gas Recirculation (EGR) on Performance And Emissions of A DI Diesel Engine Fueled With Karanja Oil Biodiesel Blends	30/06/2016
36	Vishnu Bharath.K	An Experimental Analysis of Piston by using Surface Coating in Internal Combustion Engines	17/12/2016

37	Dhanasekaran.V	Straight and Waste Vegetable Biogas in Engines Review and Experimental Measurement of Emissions in CI Engine	17/12/2016
38	R.Margandan	Combined Effects of Thermal Barrier Coating and Vegetable Oil Blends on Performance And Emission Characteristics of Single Cylinder Four Stroke Diesel Engine	18/06/2015
39	P.Livankumar	Effective Emission Reduction Process in CI Engine Fueled By Biodiesel using Nano Material Coated Catalytic Converter	18/06/2015
40	M.Ranjithkumar	Performance and Emission Evaluation of a VCR Diesel Engine using Algae Methyl Ester	18/06/2015
41	S.Sharma	Design And Analysis of Composite Material Piston of an IC Engine	19/06/2015

XIII. Subjects of Interest:

- ❖ Engineering Graphics.
- ❖ Finite Elements Methods
- ❖ Computational Fluid Dynamics
- ❖ Engineering Mechanics
- ❖ Strength of Materials
- ❖ Engineering Thermodynamics
- ❖ Heat and Mass Transfer
- ❖ Dynamics of Machinery
- ❖ Theory of Vibration
- ❖ Aero Elasticity
- ❖ Mechanics of Composite Materials
- ❖ Thermodynamics
- ❖ Thermal Engineering
- ❖ Fluid Mechanics and Machinery
- ❖ Engineering Mechanics

XIV. Academic Performance

Produced 100% results in University Semester Examination since joining in the year of 2009 at Anna University of Technology and Anna University.

S.No	Subject code	Name of the Subjects	Academic year
1	UAE-9122	Finite Element Methods	January to May 2011
2	UAN- 154	Theory of Vibrations	January to May 2011
3	UAE9112	Aircraft Structures	January to May 2011
4	AO7202	Finite Element Methods	2013-2014
5	AO7104	Theory of Vibrations	2013-2015
6	IC7101	Thermodynamics for IC Engineering	July to December 2014
7	IC7101	Flow Visualization Tech for I.C Engines	January to June 2015
8	IC7101	Thermodynamics for IC Engineering	July to December 2015
9	IC7108	Fluid Flow and Heat Transfer in Engines	January to June 2016
10	IC7101	Thermodynamics for IC Engineering	July to December 2016
11	IC 7011	Combustion and Reaction Kinetic in IC Engines	July to December 2016
12	IC 7011	Thermodynamics for IC Engineering	July to December 2017
13	IC7108	Fluid Flow and Heat Transfer in Engines	January to June 2018

XV. Administrative Responsibilities:

- ❖ First Year Coordinator During the Year of 2014-2017
- ❖ YRC/RRC Coordinator During the Year of 2014-2015
- ❖ Deputy Warden in Boys Hostel, UCEV During the Year of 2015-Till Date
- ❖ Part-Time Coordinator/Head of The Departments for Part Time Students of All Departments in UG/PG During the Year 2013-2014 In Regional Office, Anna University, Tirunelveli-627005.
- ❖ Dean in Charge During the Summer Vocational Period in the Year of 2011 at University Departments, Anna University of Technology, Tirunelveli-627005.
- ❖ Member, Affiliation Inspection Committee for Anna University of Technology, Tirunelveli-627005.

XV. Other Important Assignments

- ❖ Faculty in Charge for Strength of Material Lab in Mechanical Engineering Department at UCEV, Villupuram.
- ❖ Class Committee Chairman Mechanical Engineering Department at UCEV Villupuram.
- ❖ Co-Ordinator (2015 First Year Admissions, 2016 First Year Admissions).
- ❖ Ant Ragging Monitoring Committee Member
- ❖ Disciplinary Monitoring Committee Member.