



**DEPARTMENT OF MECHANICAL ENGINEERING**  
**GOVERNMENT COLLEGE OF ENGINEERING-BARGUR**  
(AUTONOMOUS)  
**KRISHNAGIRI- 635 104, TAMILNADU**



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**FACULTY PROFILE**

Name	Dr. P. THIRUMAL
Designation	Professor
Office Address	Department of Mechanical Engineering, Government College of Engineering, Bargur.
Telephone	04343 266067
Mobile	+91 94434 55580
Email	<a href="mailto:ptml76@gmail.com">ptml76@gmail.com</a>
Field(s) of Specialization:	Indoor Air Quality, Internal Combustion Engines, Thermal Engineering and Optimization

**Employment Profile**

Job Title	Employer	From	To
Lecturer	Rajarajeshwari Engineering College, Chennai	Aug 1999	June 2001
Asst. Professor	Government College of Engineering, Bargur	Aug 2001	Aug 2014
Associate Professor	Government College of Engineering, Bargur	Aug 2014	Aug 2017
Professor	Government College of Engineering, Bargur	Aug 2017	Till date

**Academic Qualifications (From Highest Degree to High School):**

Examination	College /University	Year
Ph.D	Anna University, Chennai	2016
M.E Refrigeration and Air conditioning	College of Engineering Guindy, Anna University, Chennai	1999
B.E Mechanical Engineering	V.M.K.V. Engineering College, Salem. University of Madras	1997



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### Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Application of simultaneous localization and mapping (SLAM) technique for three dimensional reconstruction through MAV platforms <b>Rs.13.23 lakhs</b>	DRDO	30.07.2014	29.12.2016	Completed
Studies on development of an integrated approach for rapid modelling of annular combustor for aero gas turbine. <b>Rs.25.26 lakhs</b>	SERB	18.05.2015	21.08.2017	Completed

### Number of PhDs under guidance

Sl. No	Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co supervisor)	Year of Award
1	Mr.R.Barathiraja	An Experimental investigation of fluidized bed dryer for Agricultural product with assist of solar thermal storage system.	Supervisor / Anna University	Completed
2	Mr.Myilvaganan.S	Exhaust Gas Analysis of four stroke diesel engine by using nano fluids.	Supervisor / Anna University	On going
3	Mr.AnanthaBabu.M	An Experimental investigation and enhancement of Thermal characteristics of Bio- Phase Change Materials	Supervisor / Anna University	On going
4	Mr.Gokul.M	Indoor air quality characteristic investigation in An air conditioned heavy passenger vehicles bus.	Supervisor / Anna University	On going
5	Mr.M.Anbarasu	Investigation of fluid powered machines.	Co supervisor / NIT Trichy	On going
6	Mr.S.TamilPrabakaran	Modeling and Analysis of Arc additive manufacturing process.	Co Supervisor / NIT Trichy	On going
7	Mr.S.Sathishkumar	Hydrodynamic, Energy and Kinetic Behaviour of Gas-Liquid Flows in Reactors.	Supervisor / Anna University	On going



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**Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc.**  
**(mentioning the role)**

<b>Date</b>	<b>Title of Activity</b>	<b>Level of Event (International/ National/ Local)</b>	<b>Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)</b>	<b>Event Organized by</b>	<b>Venue</b>
22 to 23 Feb 2014	From Campus to Corporate	National	Participant	Engineering Staff College of India	Hyderabad
10 to 16 Nov 2014	Recent trends in power converters	National	Participant	GCE, Bargur	EEE
17 to 23 Nov 2014	Entrepreneurship	National	Participant	GCE, Bargur	EEE
8 Feb 2015	NAFEMS India Regional Conference	National	Participant	NAFEMS, India	The Hotel Hilton, Chennai
2 May to 10 July 2016	Use of ICT in Education for Online and Blended learning	National	Participant	IIT	Bombay
8 to 9 March 2018	International conference on advances in engineering and technology	International	Participant	Karpagam academy of higher education	Mechanical
20 to 21 June 2018	Interactive video lectures & use of ICT Tools in Teaching	National	Participant	GCE, Bargur	Mechanical
29 to 30 Nov 2018	RAMSAT 2018	National	9-Paper presented	GCE Bargur	Mechanical
10 Jan 2019	ETACAC	National	2-Paper presented	GCE Bargur	CSE



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24 to 28 June 2019	Quality Improvement Programme	National	Participant	NITTR & GCE Bargur	Mechanical
01 to 07 July 2019	Recent Trends in Bio and Nano composite materials	National	Participant	GCE Bargur	Mechanical
26 to 27 July 2019	Recent Innovations in Welding and surface engineering	National	4-Paper presented	GCE Bargur	Mechanical
01 to 07 Aug 2019	Recent Innovations and Research Trends in Nano Materials and Surface coating	National	Participant	GCE Bargur	Mechanical
17 to 19 Feb 2020	Train the Trainers on examination reforms	National	Participant	KLE Technological University	Hubballi

Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

<b>Title of Activity</b>	<b>Level of Event (International/ National/ Local)</b>	<b>Date (s)</b>	<b>Role</b>	<b>Venue</b>
FDP -Metrology and Measurements	National	17 to 23 May 2017	Coordinator	GCE, Bargur
NAFEMS Conference 2018	National	20-21 July 2018	TEQIP Coordinator	NAFEMS, India
Conference RAMSAT 2018	National	29 to 30 Nov 2018	Organizing Secretary	GCE Bargur, Mechanical
TEQIP III Twinning Programme	National	25 Jan to 5 Feb 2019	TEQIP Coordinator	GCE Bargur



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SDP-Design and Product Development	National	08 to 09 April 2019	Coordinator	GCE Bargur, Mechanical
AICTE Sponsored STTP Methodologies and Best Practices of Vibration Analysis in Automotive Industry	National	13 to 19 June 2019	Coordinator	GCE Bargur, Mechanical
FDP Micro Electro Mechanical Systems	National	5 to 7 July 2019	Coordinator	GCE Bargur, EEE
Conference - Recent Innovations in Welding and surface engineering	National	26 to 27 July 2019	Coordinator	GCE Bargur, Mechanical
FDP - Material testing and Characterization Techniques for research	National	07 to 13 Dec 2019	Coordinator	GCE Bargur, Mechanical

**Invited Talks delivered**

Topic	Date	Inviting Organization
Advanced Internal Combustion Engine	24.10.2015	Jayam College of Engineering & Technology, Dharmapuri.
Recent Advances in Thermal Engineering	19.11.2016	Jayam College of Engineering & Technology, Dharmapuri.
Advancement in Mechanical Environmental, Safety and Health Engineering	07.05.2016	Knowledge Institute of Technology, Salem
India International Science Festival (IISF), Thematic Session on E-Waste	13-16 October, 2017	Anna University, Chennai.



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### Membership of Learned Societies

Type of Membership (Ordinary Member/ Honorary Member / Life Member )	Organization	Membership No. with date
Fellow Member (Life time)	The Institution of Engineers (India)	M-146776-4

### Publications

Sl.No	Title of Paper	Journal	Vol. (No.)	Page numbers	Year
1	Ventilation impacts on thermo sensation and indoor air quality	The Ecoscan	4	15-17	2010
2	Effects of CO sub (2) Exhaled and Human Metabolism on Comfort Conditions in Air-conditioned Indoor Environment	Nature, Environment and Pollution Technology	9	829-835	2010/12
3	CFD Analysis of Air Flow and Temperature Distribution In an Air Conditioned Car	International Refereed Journal of Engineering and Science	2	1-6	2013/4
4	Experimental and Statistical Analysis of Indoor Air Quality Characteristics in an Air Conditioned Car	Nature Environment & Pollution Technology	13	11-18	2014/3
5	Optimization of IAQ characteristics of an air-conditioned car using GRA and RSM	Journal of mechanical science and technology	28	1899-1907	2014/5
6	Analysis of Indoor Air Quality and PMV-PPD Model in Dynamic Conditioned Car Cabin	International Journal of Innovative Research in Science, Engineering and Technology	3	15581-15591	2014/8
7	Optimization of Indoor Air Quality Characteristics in an Air-Conditioned Car Using Multi-objective Genetic Algorithm	Arabian Journal for Science and Engineering	39	8307-8317	2014/11



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8	Experimental Investigation and Optimization of Comfort Indoor Air Quality in Theatre Hall	International Journal of Applied Engineering Research	10	4081-4086	2015
9	Experimental investigation and optimization of comfort indoor air quality in commercial bedrooms	International Journal of Applied Engineering Research	10	394-400	2015
10	Fuzzy rule based prediction of IAQ characteristics in air conditioned car	Iranian Journal of Science and Technology: Transactions of Mechanical Engineering	39	437-450	2015
11	Investigation on performance, emission and combustion characteristics of variable compression engine fueled with diesel, waste plastics oil blends	Journal of the Brazilian Society of Mechanical Sciences and Engineering	39	19-28	2017/1
12	Indoor air quality investigations in hospital patient room	International Journal of Biomedical Engineering and Technology	27	124-138	2018
13	Preparation and characterization of shear thickening fluid coated polypropylene fabric for soft armor application	Journal of the textile institute	-	-	2020/10/9

ORCID ID: <https://orcid.org/0000-0003-0055-4807>

Researchgate ID: <https://www.researchgate.net/profile/Thirumal-Pattabi>

Google scholar link:

[https://scholar.google.co.in/citations?hl=en&user=faT5LlcAAAAJ&view\\_op=list\\_works&sortby=pupdate](https://scholar.google.co.in/citations?hl=en&user=faT5LlcAAAAJ&view_op=list_works&sortby=pupdate)

Publons ID: <https://publons.com/researcher/514177/thirumal-p/publications/>

Scopus ID: <https://www.scopus.com/authid/detail.uri?authorId=39862198100>



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**Conferences/Workshops/Symposia Proceedings**

Sl.No	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Venue	Year
1	Optimization of Plasma Spray Ceramic Coatings via Response Surface Methodology Approach	Recent Advances in Mechanical Science and Technology	17	GCE Bargur	2018
2	A Comparative Study To Evaluate the Corrosion Performance Of Friction Stir Welded Az31b Magnesium Alloy Under Immersion, Salt Fog, Pitting And Galvanic Corrosion Tests Under Nacl Environment	Recent Advances in Mechanical Science and Technology	27	GCE Bargur	2018
3	Application of Soft Computing Techniques to Optimize the Friction Stir Welded Dissimilar Nonferrous Alloys	Recent Advances in Mechanical Science and Technology	39	GCE Bargur	2018
4	In-Cylinder Flow Analysis for a Direct Injection Diesel Engine – A CFD Approach	Recent Advances in Mechanical Science and Technology	66	GCE Bargur	2018
5	Optimizing HVOF spray variables to achieve minimum porosity and maximum hardness in Cr3C2-NiCr coatings	Recent Advances in Mechanical Science and Technology	67	GCE Bargur	2018
6	Effect of Stirring Speed on Surface Morphology and Wear Behavior of Ni-TiO <sub>2</sub> Nano-Composite Coating by Pulse Electro Deposition	Recent Advances in Mechanical Science and Technology	69	GCE Bargur	2018
7	Effect of Process Inputs on the Mechanical Properties of Electrical Resistance Spot Welded Interstitial Free Steel Joints	Recent Advances in Mechanical Science and Technology	72	GCE Bargur	2018
8	Influence of Tool Shoulder Diameters on Tensile Strength of Friction Stir Welded Aluminum Alloy Joints	Recent Advances in Mechanical Science and Technology	73	GCE Bargur	2018





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9	Review of Stress Corrosion Cracking of Aluminum Alloy	Recent Advances in Mechanical Science and Technology	74	GCE Bargur	2018
10	Improving the Corrosion and Wear Resistance of AZ91 magnesium alloy by pulse Electro Deposition of Ni-Si <sub>3</sub> N <sub>4</sub> Nano Composite Coating	Recent Advances in Mechanical Science and Technology	75	GCE Bargur	2018
11	Optimization of Cylindrical Grinding Process Parameters of SS 316L Austenitic Stainless Steel by Taguchi Method	Recent Advances in Mechanical Science and Technology	76	GCE Bargur	2018
12	Optimization of HVOF Sprayed Cr <sub>3</sub> C <sub>2</sub> -NiCr Coatings Using Design of Experiments	Recent Advances in Mechanical Science and Technology	77	GCE Bargur	2018
13	Slurry Erosion and Electrochemical Corrosion Properties of HVOF Sprayed Amorphous Coating on Stainless Steel	Recent Advances in Mechanical Science and Technology	80	GCE Bargur	2018
14	Electrochemical Corrosion Properties of Thermal Sprayed TiO <sub>2</sub> Coatings on Aluminum Alloy under NaCl Solution	Recent Advances in Mechanical Science and Technology	82	GCE Bargur	2018
15	Performance evaluation of HVOF sprayed Cr <sub>3</sub> C <sub>2</sub> /NiCr coatings on stainless steel	Recent Innovations in Welding and Surface Engineering	16	GCE Bargur	2019
16	Modelling HVOF spraying process: a powerful tool in optimization	Recent Innovations in Welding and Surface Engineering	17	GCE Bargur	2019
17	Development of empirical relationship for prediction of corrosion properties of magnesium alloy using response surface methodology	Recent Innovations in Welding and Surface Engineering	18	GCE Bargur	2019



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18	Investigation and corrosion performance of AZ91D magnesium alloy under sodium chloride environment	Recent Innovations in Welding and Surface Engineering	19	GCE Bargur	2019
19	Optimization of Parallel plain fin heat sink using artificial neural	Emerging trends in advanced computing and communication	20	CSE, GCE Bargur	2019
20	Prediction of Laser cladding parameters using response surface methodology RSM and Artificial Neural Network	Emerging trends in advanced computing and communication	25	CSE, GCE Bargur	2019

**NPTEL / SWAYAM Certifications**

S.No	Discipline	Year	Course Name	Status
1.	DE	2020	Design, Technology and Innovation	Completed with <b>Elite</b>
2.	CE	2020	Electronics Waste Management – Issues And Challenges	Completed with <b>Elite + Silver</b>
3.	GE	2019	Designing learner – centric e-learning in STEM disciplines	Completed
4.	GE	2019	Effective Engineering Teaching in Practice	Completed
5.	HS	2019	Patent Drafting for Beginners	Completed
6.	BT	2018	Biology for engineers and other non-biologists	Completed
7.	GE	2018	Outcome Based Pedagogic Principles for Effective Teaching	Completed + <b>Elite</b>



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S. No	Publication Date	Status	Application Number	Classification (IPC)	Invention Title
1	01/09/2023	Granted	202341053751	SAIPP111	Smart inter-transfer data drive
2	30/03/2022	Granted	2021104546	B60Q 1/34	An automated system and method for controlling turn indicators in automobiles
3	11/12/2020	Awaiting request for examination	202041051891	B60H1/00	Advanced ergonomic air conditioning system.
4	25/09/2020	Published	201931038188	F03G0005060000 H02J0007000000 H02K0053000000 F03G0001000000 F03B0017020000	Mobile phone case with integrated power generation and distribution system
5	07/06/2019	Granted	201941020280	F24F 11/42	Intelligent control system for vehicles
6	19/04/2019	Granted	201741036461	B29C 67/00	Method and system for reclaiming serviceable parts of waste for development of 3d printer
7	16/02/2018	Examination reply filed	201841003971	F24F 11/42	Wearable device for curing eye problems
8	21/04/2017	Published	201741013344	G11B13/04	A smart color writing tool for interactive boards
9	21/04/2017	Examination reply filed	201741012456	A61D3/00	Method and system for remotely adjusting height and angle of a wall mounted television fixer
10	07/10/2016	Granted	201641033042	G01D 4/00	Water management device and system thereof
11	12/08/2016	Published	201641024529	A46B 11/00	Soap dispenser with a body scrub