

## FACULTY PROFILE

<p>Name: <b>Dr. I.VIMAL KANNAN</b></p>	
<p>Designation:</p>	<p>Associate Professor            Department of Mechanical and Automation Engineering,            Sri Sairam Engineering College</p>
<p>Qualification:</p>	<p>B.E.,M.E., Ph.D            Title of Ph.D. Thesis: INVESTIGATIONS ON CRUSH BEHAVIOR AND CRASHWORTHINESS ANALYSIS OF SINGLE AND MULTI-CELL THIN-WALLED STRUCTURES UNDER AXIAL LOADING</p>
<p>Area of Specialization:</p>	<p>Design and Testing of Thin-walled structures &amp; Crush Analysis.</p>
<p>Experience:</p>	<p>Teaching- 19 years 09 months            Industry – 00 years</p>
<p>No. of workshop / Conferences / FDP attended :</p>	<p>23/13/15</p>
<p>No. of workshop / Conferences / FDP organised:</p>	<p>08/01/02</p>
<p>Funded Projects</p>	<p>02 Completed</p>
<p>Publication:</p>	<p><b>Journal:</b>            National : 03  <b>International : 08</b></p> <p><b>Conferences:</b>            National: 08  <b>International: 06</b></p>

Patent Details	<p>1. Title : DESIGN AND FABRICATION OF AUTONOMOUS VACUUM CLEANER WITH MOP (Inventor)  Application No : 202541024438 A .  Publication Date : 19.03.2025  Status : Published</p> <p>2. Title : Design and Development of automatic rain detection clothes retravel system (Inventor)  Application No : 202341074056 A .  Publication Date : 26.01.2024  Status : Published</p> <p>3. Title : Crashworthiness of Thin-Walled energy absorber in Transport systems (Inventor)  Application No : 202041011153 A.  Publication Date : 24.04.2020  Status : Published</p> <p>4. Title : DESIGN AND DEVELOPMENT OF AUTOMATIC TOILET CLEANER (Inventor)  Application No : 202341025631.  Publication Date : 11.10.2024  Status : Published</p> <p>5. Title : DESIGN AND DEVELOPMENT OF ELECTRICITY GENERATING TILES (Inventor)  Application No : 202441087498.  Publication Date : 22.11.2024  Status : Published</p> <p>6. Title : MULTI-LAYER PROTECTIVE FABRIC FOR FIREFIGHTER SUIT (Inventor)  Application No : 202441089967.  Publication Date : 29.11.2024  Status : Published</p> <p>7. Title : MULTIPLE JUICE DISPENSERS IN LOW-COST AUTOMATION (Inventor)  Application No : 202441090514.  Publication Date : 29.11.2024  Status : Published</p> <p>8. Title : MULTI TERRAIN GEAR MECHANISM AND TWO-WAY COMMUNICATION FOR DRONE (Inventor)  Application No : 202441076833.  Publication Date : 18.10.2024  Status : Published</p>
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Contact Details	Email : <a href="mailto:vimalkannan.mu@sairam.edu.in">vimalkannan.mu@sairam.edu.in</a>
General:	<p>1. Received <b>Best Teacher Award</b> from CARE Group of Institutions, Trichy for the academic year 2012-13.</p> <p>2. Received <b>Best Value Added Course Award</b> in SSM Institute of Engineering and Technology, 2017-2018.</p> <p>3. Received <b>Best File Maintenance Award</b> for creating and maintaining in SSM Institute of Engineering and Technology, 2017-2018.</p> <p>4. Received <b>Best Motivator Award</b> for guiding and motivating the students from Texas Instrument for Participating in IICDC – 2018 competition.</p>

#### ACADEMIC BACKGROUND:

Course	Institution	Year of Passing	Board/university	% of Marks
Ph.D.* Mechanical Engineering	Mepco Schlenk Engineering College	2021	Anna University	-
M.E. CAD/CAM	Sethu Institute of Technology	2011	Anna University	79
B.E. Mechanical Engineering	Sethu Institute of Technology	2005	Anna University	71.4

#### Professional Involvement:

<b>Membership in professional bodies</b>	<ol style="list-style-type: none"> <li>1. Life Member in ISTE</li> <li>2. Member in IEEE</li> </ol>
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#### *Sponsored Projects:*

1. **Completed a project** on “Design implementation of portable rolling cutter for mechanisation of rice harvesting in Tiruchirapalli district” sponsored by TamilNadu State Council for Science and Technology (TNSCST- SPS-2021-22-ET-EME-0766), 2021-22.

2. **Completed** a project on “Reducing Space Debris by returning satellites to the earth probably before deterioration of satellite” sponsored by TamilNadu State Council for Science and Technology (TNSCST- SPS-2018-19-ET-EME-030), 2018-19.

**Reviewer:**

1. Reviewer in Journal of Composite Structures (Elsevier)
2. Reviewer in Materials Today- Proceedings (Elsevier)
3. Reviewer in International Journal of Thin-walled Structures (Elsevier).

**Publication Details:**

**Books**

1. Published a text book titled on ‘An outlook on Environmental Science & Engineering’ by Parivathini publications, Madurai in July 2012.

**Journals**

1. P Gnanamoorthy, B Venkatesh, R Ganesh, D Gupta, **I. Vimal Kannan** and Veeranjanyulu, “Experimental Studies on Effect of Zeolite and Nano-ferric Oxide on Properties of Concrete Incorporating Polypropylene Granules” Journal of Advances in Materials Science and Engineering, ISSN: 1687-8442. Vol. **2025** No:12008. DoI:10.1155/amse/1453057.
2. P. Thangapandian, S. Paulsingarayar, R. Chandraprakash, **I. Vimal Kannan** and S.A. Siddeshwar, “Development and experimental studies of a light vehicle diesel after treatment system with DOC, DPF and urea SCR” Journal of Physics, ISSN:1742=6596. Vol. **2025** No:12008. DoI: 10.1088/1742-6596/2925/1/012008
3. S.Sushagar, **I.Vimal Kannan**, “Mathematical modelling and optimization of stir cast Al7075/Sic/ZrO2 composites” in Journal of Interactions, Springer, ISSN: 3005-0731, Vol.245 No: 122 (2024) pp. 1-12. Doi: [https:// doi.org/10.1007/s10751-024-01963-5](https://doi.org/10.1007/s10751-024-01963-5).
3. S.Ramanathan, I.Vimal Kannan, “Design and Investigation of Automatic Pest Detection and Pesticide Spraying Device” in International Conference on Power, Energy, Control and Transmission Systems, ISSN: [978-1-6654-6275-4/22/\\$31.00@2022IEEE](https://doi.org/10.1109/ICPECTS56089.2022.10047006). <https://doi.org/10.1109/ICPECTS56089.2022.10047006>.
5. I.Vimal Kannan, R.Rajkumar “Crashworthiness and comparative analysis of polygonal single and bitubular structures under axial loading – experiments and FE modelling” in „Journal of Theoretical and Applied Mechanics“, ISSN: 1429-2955, Vol.59 No: 1 (2021) pp. 81-94. Doi: <https://doi.org/10.15632/jtam-pl/128901> with impact factor: 1.138.
6. **I.Vimal Kannan**, R.Rajkumar “Deformation and energy absorption analysis of simple and multi-cell thinwalled tubes under quasi-static axial crushing”, in ‘International journal of crashworthiness’ ISSN: 1358-8265 Vol.25 No: 2 (2019) pp. 121-130. Doi:10.1080/135882565.2018.1542956 with impact factor: 1.477.

7. A.Pradeep, Babulal K S, Ashenafi Adugna, **I. Vimal Kannan** “Stress concentration on Rectangular plate with multiple opposite semicircular notches using finite element analysis” in „International Journal of Mechanical and Industrial technology“, ISSN: 2348-7593, Vol.4 No: 2 (2017) pp. 7-12.
8. Babulal K S, **I. Vimal Kannan** “Comparative study of stress analysis on notched plates between analytical and Finite Element Solutions” in ‘International Journal of Current Research and Academic Review’, ISSN: 2347-3215 Vol.3 No:1 (January – 2015) pp. 144-154.
9. KS Babulal, **I Vimal Kannan**, A Pradeep, PM Kumar “SCF on Isotropic Rectangular plate with central circular hole using Finite Element Analysis” in ‘International Journal of Mechanical and Production Engineering’, ISSN: 2320-2092, Vol.3 Issue No:5 (May-2015) pp. 114-117.
10. **I.Vimal kannan**, A.Pradeep, K.S.Babulal “Performance and Emission Characteristics of a Four Stroke Petrol Engine using Ethanol and Petrol Fuel Blends” in „International Journal of Applied Engineering Research“, ISSN: 0973-4562, Vol.10 No:56 (2015) pp. 275-280.
11. **I.Vimal kannan**, A.Pradeep, K.S.Babulal “Experimental Studies on the Performance and Emission Characteristics of a Turbocharger Coupled Multi cylinder Diesel Engine” in „International Journal of Applied Engineering Research“, ISSN:0973-4562, Vol.10 No:11 (2015) pp. 28211-28223.

***Resource person:***

1. Presented a lecture and acted as a Judge in one day symposium in Current Manufacturing Trends – Workshop ‘Lean Manufacturing Meets Industry 4.0’ at CIPET, Chennai on 11.11.2022.
2. Presented Lecture in online seminar on ‘Crash Analysis’ organized by J.J. College of Engineering and Technology on 14.10.2021.
3. Presented lecture in online seminar on “Crash Analysis – For safe travel” organized by M.A.M. College of Engineering and Technology on 28.08.2021.
4. Presented lecture in online seminar on “Human magnet” organized by Mothers Matric Higher Secondary School, Singarapettai on 26.03.2021.

***Events organized:***

- **Coordinator** for student’s workshop – ROBOT programming organized by Department of Mechanical and Automation Engineering in Sri Sairam Engineering College.
- **Coordinator** for student’s symposium Intellectium - 2008 organized by Department of Mechanical Engineering in Sethu Institute of Technology.
- **Coordinator** for student’s symposium Mechzone - 2010 organized by Department of Mechanical Engineering in Sethu Institute of Technology.

- **Organizing Secretary** for National Conference on GTMTS - 2012 in Sethu Institute of Technology on 24<sup>th</sup> August, 2012.
- **Co-Convenor** for National Conference on Recent advancements in Mechanical Engineering Sciences (SSMRAMES'17) – A National level conference on Mechanical Engineering Department, SSM Institute of Engineering and Technology on 24.05.2017.
- **Organized** a one day workshop on ‘CMM’ in Technical symposium on 21.02.2018 at SSM Institute of Engineering and Technology.
- **Organized** a one day workshop on ‘Solving Mechanical Engineering problems using Matlab’ on 24.09.2016 at SSM Institute of Engineering and Technology.
- **Organized** a one day workshop on ‘Design of Experiments’ on 12<sup>th</sup> February, 2016 at SSM Institute of Engineering and Technology.

***Papers Presented in the International Conferences:***

1. Presented a paper on “Study on the metal honeycomb thin walled hexagonal structure crushing under Quasi-static loading” in International Conference on ‘Fascinating Advancements in Mechanical Engineering’ at Mepco Schlenk Engineering College on 18 and 19<sup>th</sup> March 2016.
2. Presented a paper on “Crashworthiness and comparative analysis of polygonal single and bi-tubular structures by utilizing key performance indicators” in International conference on ‘Innovations in science, Engineering and technology for sustainable development’ at Muthayammal Engineering college on 30<sup>th</sup> & 31<sup>st</sup> March, 2018.
3. Presented a paper on “Crushing analysis of polygonal thin-walled structures – Experiments and FE modeling” in International Conference on ‘Recent trends in Engineering, science and Technology’ at SBM CET, Dindigul held on 2<sup>nd</sup> March - 2019.
4. Presented a paper on “Optimization of crashworthiness and other influence of conical ribs on axial crushing” in International Conference on ‘Recent developments Aerospace and Defence Technology, Aeronautical society of India at Hindustan Institute of Technology, Chennai held on 21-22<sup>nd</sup> February - 2020.

***Papers Presented in the National Conferences***

1. Presented a paper on “Design and Algorithm for single stage adaptive Kanban System for various Manufacturing Process by Heuristic Methods” in National Conference of ‘Recent trends in Manufacturing Engineering’ at SACS MAVMM Engineering College on 2<sup>nd</sup> April 2011.
2. Presented a paper on “Design and Analysis of single stage adaptive Kanban System using Memetic Algorithm” in National Conference of ‘Optimization Techniques in Mechanical Sciences’ at Kamaraj College of Engineering and technology, Virudhunagar on 9<sup>th</sup> April 2011.

3. Presented a paper on “Design and Analysis of single stage adaptive Kanban System using Memetic Algorithm” in National Conference of ‘Global technologies in Manufacturing and Thermal Sciences’ at Sethu Institute of Technology, Kariapatti on 14<sup>th</sup> March 2012.
4. Presented a paper on “Comparative study of stress analysis on notched plates between analytical and Finite Element Solutions” in National Conference of ‘Advances in Mechanical Engineering Applications’ at Theni Kammavar Sangam College of Engineering and Technology on 27<sup>th</sup> March 2015.
5. Presented a paper on “A Comparative study on energy absorption and deformations of simple and multi cell thin walled hexagonal columns” in Third National Conference of ‘Advances in Mechanical Engineering Applications’ at Theni Kammavar Sangam College of Engineering and Technology on 10<sup>th</sup> March 2017.
6. Presented a paper on “Design, Simulation and flow analysis of volute model turbocharger” in National Conference of ‘Recent advancements in Mechanical Engineering Sciences’ at SSM College of Engineering and Technology on 24<sup>th</sup> May 2017.
7. Presented a paper on “Deformation, Energy absorption & crushing analysis of simple and multicell thin walled tubes crushing under quasi-static loading ” in National Conference of ‘Recent advancements in Mechanical Engineering’ at Kamaraj College of Engineering and Technology on 28<sup>th</sup> March, 2018.

***Short Term / Certificate Course Attended:***

- NITTT online certification course, Modules 1, 3, 5, 7 was completed during Sep-Dec.’22.
- NPTEL Online Certificate course on “Basics of Finite Element Analysis – I” during Feb –Mar 2018.
- NPTEL Online Certificate course on “Manufacturing Process Technology – Part I” during Aug – Oct 2017.
- NPTEL Online Certificate course on “Manufacturing Systems Technology” during Aug – Oct 2018.
- IITBombayX Online Certificate course on “Workplce Communication” during Oct. – Nov. 2018.
- A short term training course on ‘Laboratory and Ergonomic safety for Engineers’ during 10.06.2019 – 14.06.2019 at IIT Bombay.

***Faculty/Staff Development /Training Program/ workshops Attended:***

S.No	Date	Programme	Name of the Organization/ Industry
1.	23.06.2025 – 28.06.2025	Smart and Sustainable Solutions in Mobility: Clean Combustion, Waste-to-Energy & Quality Systems	Easwari Engineering College, Chennai

2.	30/06/2025 - 05/07/2025	Panchayat Administration and Rural Development Schemes	SIRD, Maraimalainagar
3.	07/11/2025 - 10/11/2025	Social Emotional Education: Knowledge to Practice (SEEK)	UNESCO MGIEP
4.	27/12/2024 - 15/02/2025	Intensive Additive Manufacturing Training Program	PETC, Tirumudivakkam, Chennai
5.	04/06/2024 - 14/10/2024	ISO 21001 Lead Auditor	The Knowledge Academy
6.	21/10/2024 - 26/10/2024	Additive Manufacturing Advancements in Different Applications (AMADA-24)	SRM Institute of Science and Technology, Ramapuram Campus
7.	14/10/2024 - 19/10/2024	International Faculty Development Program Progress of Mechanical Engineering	SRM Institute of Science and Technology, Ramapuram Campus
8.	06/05/2024 - 11/05/2024	Frontiers in Mechanical Sciences: Innovations in contemporary Developments and Trends	Rajalakshmi Institute of Technology
9.	09/04/2024 - 10/04/2024	Engineering Sustainable Mobility	PALS and Ashok Leyland Limited
10.	01/04/2024 - 05/04/2024	Industry 4.0: Technological Evolution	Techno college of Engineering, Agartala
11.	18/03/2024 - 22/03/2024	Energizing sustainability through Renewable Energy Systems	Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur
12.	21/08/2023 - 25/08/2023	Applications of Artificial Intelligence and Machine Learning in Research	SR University
13.	11.02.2023 - 17.02.2023	Innovative and emerging thrust areas of Mechanical engineering.	Sri Krishna College of Tecchnology, Coimbatore
14.	01.08.2022 - 05.08.2022	Product Design Engineering using Fusion 360	Sri SaiRam Engineering College, Chennai
15.	20.04.2020 - 21.04.2020	Virtual Teaching	Coimbatore Institute of Technology, Coimbatore
16.	21.12.2019	Become a true Mentor: Mentorship	SSMIET Dindigul.

17.	10.06.2019 - 14.06.2019	Laboratory and Ergonomic safety for Engineers	Indian Institute of Technology, Bombay
18.	28.11.2018 - 30.11.2018	MultiPhysics Analysis through COMSOL	Mepco Schlenk Engineering College, Sivakasi.
19.	27.07.2017 - 28.07.2017	Intelligent Systems Engineering	National Institute of Technology, Tiruchirappalli
20.	12.02.2016	Design of Experiments	SSMIET Dindigul.
21.	09.05.2016 - 11.05.2016	Engineering Analysis using ANSYS	Mepco Schlenk Engineering College, Sivakasi.
22.	20.08.2016	Tactics on research and advanced optimization techniques in engineering applications' 2016	Mepco Schlenk Engineering College, Sivakasi.
23.	24.09.2016	Solving Mechanical Engineering problems using MATLAB	SSMIET Dindigul.
24.	03.10.2015	Outcome based Education and Accreditation	NBA and Anna University, Chennai
25.	29.07.2015	Youth Entrepreneurship Summit 2015	ICTACT, Raja Muthiah Mandram, Madurai.
26.	09.03.2014	Research Methodology	Anna University, Chennai
27.	10.12.2013 - 17.12.2013	Design of Transmission Systems	Kamaraj College of Engineering & Technology, Virudhunagar
28.	15.03.2012 - 16.03.2012	Hypermesh and its Applications (H'Mesh 12)	Sethu Institute of Technology, Pulloor, Kariapatti-626 106, Viruthunagar District.
29.	30.06.2011	Recent trends in renewable energy sources	Velammal College of Engineering, Madurai
30.	24.06.2011	How to Start Research program	Sethu Institute of Technology, Pulloor, Kariapatti-626 106,
31.	01.08.2010	Mission 10X - Teaching & Learning Skills	Sri Sowdambika college of Engineering, Aruppukkottai
32.	29.01.2010	Recent trends in Thermal Engineering	KLN College of Engineering and Technology, Madurai
33.	11.09.2009 - 12.09.2009	Modern Manufacturing Techniques	Pandian Saraswathi yadav Engineering College, Enathi, Sivagangai
34.	02.04.2009 - 03.04.2009	Finite Element Methods and Applications (FEMA 2009)	Sethu Institute of Technology, Pulloor, Kariapatti-626 106, Viruthunagar District.

35.	16.03.2009 - 17.03.2009	High impact teaching skills	Srisowdambika college of Engineering, Aruppukkottai
36.	09.03.2009 - 13.03.2009	Mission 10X - Teaching & Learning Skills	Sri Sowdambika college of Engineering, Aruppukkottai
37.	29.09.2008 - 30.09.2008	Entrepreneurship Awareness Camp	Sethu Institute of Technology, Pulloor, Kariapatti-626 106, Viruthunagar District.