Dr. S.Kaliappan
Professor ,
Department of Mechanical Engineering
KCG College of Technology
Chennai – 600 097
Teaching Experience -28 years
Phone: 9444138001
Email: kaliappan.mtr@kcgcollege.com

Having 28 years teaching experience & 1 year industrial experience. Now I am working as **PROFESSOR / Mechanical Engineering Department** in **KCG College of Technology,** Chennai. I am a recognized supervisor, Reference Number. **4120153** in **Anna University** in the **Department of Mechanical Engineering** in the research area **Thermal Engineering, Heat Transfer, CFD, Composite Materials**. I have been acknowledged by **Elsevier and Stanford University, USA, as one of the 'Top 2% Scientists in the World,'** in the year 2023 and 2024 highlighting his significant contributions to his field.

Have been **published more than 300 Papers** in **SCI/WoS/Scopus Indexed journals (**Indexed in Scopus Database with **43 h-Index** and **5344 citations** with **432 Documents , In Google. Scholar 45 h-index 140 i10 index Citations 6194**) , published **22 Indian Patent Publication and 1 Indian Design Grant Patent, 15 International Australian Grant Patents, 20 Scopus indexed Book Chapters** , **30 Books published with ISBN number** and **also Served** as a **Editor in 5 Scopus indexed Book Chapters**. I would like to apply for the post of **Professor** in Mechanical Engineering Department **.** I have enclosed my Curriculum Vitae for your kind perusal. I assure you that I shall discharge my duties to your satisfaction.

❖ **RESEARCH INTERESTS :**

- Thermal/ Heat Transfer/ CFD/ Composites/ Nano Fluids/ Internal Combustion Engine

❖ **ANNA UNIVERSITY SUPERVISOR** :

- Recognized supervisor, Reference Number. **4120153** in **Anna University** in the **Department of Mechanical Engineering** in the research area **Thermal Engineering, Heat Transfer, CFD, Composite Materials.**
- Guiding 2 research Scholars at Anna University, Chennai.

❖ **EDUCATION QUALIFICATION:**

- **Ph.D (2020),** Mechanical Engineering, Anna University, Chennai, Tamilnadu, India.

- **Master of Engineering (2006),** First Class, Internal Combustion Engineering - College of Engineering Gundy, Anna University, Chennai. Tamilnadu, India.
- **Bachelor of Engineering (1997**), First Class, Mechanical Engineering - R.V.S College of Engg. And Tech., Dindigul, Madurai Kamaraj University, Tamilnadu, India.

❖ **EXPERIENCE :**

- **Professor -Mechanical Engineering Department,** KCG College of Technology, Chennai , Aug-2024 to Till Date.
- **Professor / HoD-Mechatronics Engineering Department,** KCG College of Technology, Chennai , Aug-2023 to Aug-2024.
- **Professor / HoD-Mechanical & Mechatronics Engineering Department,** Velammal Institute of Technology, Chennai , Dec 2021- Aug 2023.
- **Associate Professor / HoD-Mechanical Engineering Department,** Velammal Institute of Technology, Chennai , June 2012 – Dec 2021
- **Assistant Professor / HoD-Mechanical Engineering Department,** Velammal Institute of Technology, Chennai , June 2011 – May 2012
- **Professor/ HoD-Aeronautical Engineering Department**, SAMS College of Engineering and Technology, Chennai , Nov 2010- June 2011.
- **Assistant Professor/ HoD-Aeronautical Engineering Department,** SAMS College of Engineering and Technology, Chennai , May 2008 – Oct 2010.
- **Lecturer** , St. Peter's Engineering College, Chennai , Aug 2006 – Apr 2008.
- **Lecturer** , Rajarajeswari Engineering College, Chennai , July 2000 – Aug 2006.
- **Lecturer** , Thangavelu Engineering College, Chennai, July 1998 – Jun 2000.
- **Production Engineer**, Sels Industries (Sub-Contractor – Ashok Leyland), Chennai – 19, June-1997-July 1998.

❖ **ACADEMIC PROJECT:**

❖ **PhD:**

Thesis Title : Design of Trapezoidal Piston Motion Using an Innovative Connecting Rod for Improving the Performance of a Single Cylinder Diesel Engines.

Tools Used : Computational Fluid Dynamics (CFD)

Description : 1. A new technique of altering reciprocating motion of the piston in an IC engine is developed and proposed.

2. This new technique creates a trapezoidal motion that has significant advantages over the standard sinusoidal motion. Theoretical, experimental and numerical methodologies are utilized in the arrival of an optimal trapezoidal motion from different trials.

3. To validate CFD procedure an experimental investigation is done for existing engine with Sinusoidal Piston Movement.

4. The appropriate computational methodology is arrived from this validation study and applied to arrive the Optimum Trapezoidal Trajectory.

❖ **P.G PROJECT :**

Title : Parametric studies on the impact of piston velocity profile on the performance of single cylinder diesel engine.

Language : 'C' Language

Description : 1. To study the impact of the piston velocity profile on the thermodynamic and heat transfer processes of a single cylinder, 4- stroke diesel engine

2. To simulate the values of velocity, volume, pressure , temperature and their effect on Heat transfer rate for every 5 degree crank angle rotation with the help of C –Programming Language .

❖ **U.G PROJECT :**

Title : Computer Aided Design of Gears and Gear Box

Language : 'C' Language

Description : 1. This is software solution for Design and Drafting of various Gears and Gearbox in AutoCAD Environment.

2. The optimum design can be obtained by this software and it saves money and time.

❖ **SUBJECTS HANDLED:**

1. Engineering Graphics
2. Engineering Mechanics
3. Engineering Thermodynamics
4. Fluid mechanics and Machinery
5. Heat and Mass Transfer
6. Gas Dynamics and Jet Propulsion System

❖ **CONSULTANCY RECEIVED**

Title : **Machine Vision and Multiple Sensor Data Fusion based Semi Automated IoT based Management System for Rooftop Agriculture.**

Company Name: *ZRAE Global* , Chennai

Type : Research Project – Consultancy

Total Cost (in Rs.) : *25,000*

Dated: 19-January-2024.

Duration : 3 Months.

Status: On Going

❖ **GRANTS RECEIVED AND PROPOSAL SUBMITTED:**

1. Title : **ASSESSMENT IN ENGINEERING EDUCATION: A PEDAGOGICAL APPROACH**

Scheme : **AICTE- Short Term Training Program (STTP)** under AQIS 2019-20.

Total Cost (in Rs.) : *2,67,000*

Ref. No. 34-66/424/FDC/STTP/Policy-1/2019-20.

Dated: 10-Aug-2020.

Status: Completed

2. Title: **MULTIFACETED ELECTRIC WHEELCHAIR**

Name of the Agency : DST-TIDE

Total Cost (in Rs.) : 1 lakh

Date : 31/10/2019

Status : Not Considered

3. Title: **Magnesium based composites for biomedical applications using 3D printing process**

Name of the Agency : SERB(Core Research Grant)

Total Cost (in Rs.) : 26,24,472

Date : 17/03/2021

Status : Not Considered

4. Title : **Design and Development of low-cost leather Ironing Machine A Miniature model for leather artisans.**

Name of the Agency : DST-SEED(STI Hub for SC Community)

Total Cost (in Rs.) : 36,60,000

Date : 30/09/2021

Status : Not Considered

5. Title: **Autonomous Windows closing system for buildings and Automobiles**

Name of the Agency : MSME

Total Cost (in Rs.) : 1,00,000

Date : 05/04/2022

Status : 1st Level Selected.

6. Title: **Design of Ultra Sonic Gas and Steam Flow meter For Industrial Applications**

Name of the Agency : MSME

Total Cost (in Rs.) : 5,00,000

Date : 05/04/2022

Status : 1st Level Selected.

7. Title: **Development of Food Dispensing Machine Using IOT & Artificial Intelligence Techniques**

Name of the Agency : DST-SERB(SURA)

Total Cost (in Rs.) : 23,21,700

Date : 05/10/2022

Status : Proposal Not Considered

8. Title: **Low Cost Calcium Ion Battery with Higher Efficiency Suitable For Electric Vehicle Application**

Name of the Agency : MSME

Total Cost (in Rs.) : 7,99,520

Date : 14/11/2022

Status : 1st Level Sort listed and final level not considered.

9. Title: **DEVELOPMENT OF BAMBOO FIBER WITH GRAPE STALK CELLULOSE FIBER COMPOSITE MATERIAL USING SMART MANUFACTURING PROCESS FOR HEALTHCARE APPLICATIONS.**

Name of the Agency : DST-SERB(CRG)

Total Cost (in Rs.) : 29,41,000

Date : 16/3/2023

Status : Not considered

10. Title: **Mechatronics Reverse Osmosis Filtration employing Variable Pressure and Low Cost Larger Pore Hole Thin Film Composite (TFC)**

[DST/WTC/2K23/2023/91]

Name of the Agency : DST Water Technology Call for Proposals 2023

Total Cost (in Rs.) : 15,51,000

Date : 30/09/2023

Principal Investigator (PI) : Dr.S.Kaliappan

Co-Principal Investigator (Co-PI): Dr.T.Mothilal

Collaborating Industries : ZRAE Global , Chennai

Name : Kishore Abhishek M

Designation : Technical Director

Status : Not considered

11. Title: **Large Radius & Short Length CST Parabolic Mirror with Two-Axis Tracking for Water Purification in Urban Areas**

[DST/WTC/2K23/2023/87]

Name of the Agency : DST Water Technology Call for Proposals 2023

Total Cost (in Rs.) : 15,51,000

Date : 30/09/2023

Principal Investigator (PI) : Dr.T.Mothilal

Co-Principal Investigator (Co-PI): Dr.S.Kaliappan

Collaborating Industries : ZRAE Global , Chennai

Name : Kishore Abhishek M

Designation : Technical Director

Status : Not considered

12. Title: **Low Cost AI based Mechatronics System for Electrocoagulation based Arsenic Removal from Industrial Water**

[DST/WTC/2K23/2023/95]

Name of the Agency : DST Water Technology Call for Proposals 2023

Total Cost (in Rs.) : 15,51,000

Date : 30/09/2023

Principal Investigator (PI) : Dr. Muthukannan

Co-Principal Investigator (Co-PI) : Dr.S.Kaliappan

Collaborating Industries : ZRAE Global , Chennai

Name : Kishore Abhishek M

Designation : Technical Director

Status : Not considered

13. Title: **Automated Robotic System for Efficient Dismantling and Separation of End-of-Life Solar Panels [TPN / 111160]**

Name of the Agency : Department of Science & Technology (DST)

Programme/Scheme : Recovery and Recycling of End of Life Solar PV Panels/Modules

Total Cost (in Rs.) : 26,50,000

Date : 29/06/2024

Principal Investigator (PI) : Dr.S.Kaliappan

Co-Principal Investigator (Co-PI) : Dr.T.Mothilal

Status : Under Review

14. Title: **Development of AI-powered Sorting System for Accurate Material Classification in End-of-Life Solar Panel Recycling [TPN / 111163]**

Name of the Agency : Department of Science & Technology (DST)

Programme/Scheme : Recovery and Recycling of End of Life Solar PV Panels/Modules

Total Cost (in Rs.) : 18,88,000

Date : 29/06/2024

Principal Investigator (PI) : Dr. Muthukannan

Co-Principal Investigator (Co-PI) : Dr.S.Kaliappan

Status : 2nd Stage called for Presentation

15. Title: **Applying AI tool to develop class monitoring and behaviour management of students**

Name of the Agency : INDIAN COUNCIL OF SOCIAL SCIENCE RESEARCH

Programme/Scheme : Minor Projects

Total Cost (in Rs.) : 14,74,0000

Date : 11-08-2024

Principal Investigator (PI) : Dr.S.Kaliappan

Co-Principal Investigator (Co-PI) : 1. Dr.Andal 2. Mrs Shanmugapriya

Status : Under Review

16. Title: **Quantifying the Triple Bottom Line of Sustainable Buildings in Tamil Nadu**

Name of the Agency : INDIAN COUNCIL OF SOCIAL SCIENCE RESEARCH

Programme/Scheme : Major Projects

Total Cost (in Rs.) : 29,00,0000

Date : 11-08-2024

Principal Investigator (PI) : Dr.M.Muthukannan

Co-Principal Investigator (Co-PI) : 1. Dr.S.Kaliappan

Status : Under Review

17. Title: **Real-Time Sustainability Assessment for Tamil Nadu's Automotive Sector**

Name of the Agency	: INDIAN COUNCIL OF SOCIAL SCIENCE RESEARCH
Programme/Scheme	: Major Projects
Total Cost (in Rs.)	: 29,50,0000
Date	: 11-08-2024
Principal Investigator (PI)	: Dr.T.Mothilal
Co-Principal Investigator (Co-PI)	: 1. Dr.S.Kaliappan
Status	: Under Review

18. Title: **Cyber Security in Artificial Intelligence: Ethical AI for Proactive Cyber Threat Hunting and Incident Response.**

Name of the Agency	: Government of India, Ministry of Electronics and Information Technology (MeitY) , Cyber Security Group
Programme/Scheme	: Cyber Security
Total Cost (in Rs.)	: 32,00,0000
Date	: 15-09-2025
Principal Investigator (PI)	: Dr.S.Kaliappan
Co-Principal Investigator (Co-PI)	: Dr. N.Lakshmi
Status	: Applied

19. Title: Development of a Multi-Layered Intrusion Detection System for Connected and Autonomous Vehicles.

Name of the Agency	: Government of India, Ministry of Electronics and Information Technology (MeitY) , Cyber Security Group
Programme/Scheme	: Cyber Security
Total Cost (in Rs.)	: 42,00,0000
Date	: 15-09-2025
Principal Investigator (PI)	: Dr. M. Muthukannan
Co-Principal Investigator (Co-PI)	: Dr.S.Kaliappan
Status	: Applied

❖ EDITORIAL ACTIVITIES:

1. One of the **Editor** in IGI Global publisher Book Chapter title, "**Cyber –Physical systems and supporting Technologies for Industrial Automation**" - Published.
2. One of the **Editor** in IGI Global publisher Book Chapter title, "**Metaheuristics Algorithm and Optimization of Engineering and Complex Systems" ,** Thanigaivelan R, Suchithra M, Kaliappan S, Mothilal T – Published.
3. One of the **Editor** in IGI Global publisher Book Chapter title, "**Metaheuristic and Machine Learning Optimization Strategies for Complex Systems",** Thanigaivelan R, Suchithra M, Kaliappan S, Mothilal T – Published.
4. One of the **Editor** in Apple Academic Press(AAP) Book Chapter title, "**Data Driven Smart Manufacturing : Insight and Novel Approaches ",** Thanigaivelan R, Suchithra M, Kaliappan S, Dr. S. Vijayakumar – Processing.
5. One of the **Editor** in Apple Academic Press(AAP) Book Chapter title, "**Next-Generation Smart Manufacturing: AI, Renewable Energy, and Intelligent Process Control ",** Thanigaivelan R, Suchithra M, Kaliappan S, Dr. S. Vijayakumar – Processing.

❖ RESEARCH GUIDANCE & DC MEMBER:

RESEARCH GUIDANCE:

The scholars Details:

1. Raj Kamal M D (24132991235) – January-2024
2. Premkumar (24142997264) – July-2024
3. D Roseline Velankanni T (25247991198) – January-2025

4. N.Prasnath (25132997206) – July-2025

Research Coordinator:

1. Sukumar (17142997124) – July-2017
2. Manikandan (18142997192) – July-2018

DC MEMBER:

- Acting as DC member for Ph.D. (3 Research Scholars) at Anna University Chennai.
- Acting as **DC member** for Ph.D. (2 Research Scholars) at Saveetha School of Engineering, SIMATS, Chennai - 602 105, TN.

❖ **REVIEWER/ EDITORIAL BOARD MEMBER/ SESSION CHAIR MEMBER/KEY NOTE SPEAKER (International Conference):**

2026

- Acted as **Session Chair** at **Second International Conference on Innovations in Materials Science, Technology, Engineering, and Management for Sustainable Development (IMSTEM 2026)** *Jointly Organized by the Department of Science, St. Joseph's College of Engineering, OMR, Chennai, Tamilnadu, India & RSP Research Hub, Coimbatore, Tamil Nadu, India* **Conference Dates: 20/03/2026 & 21/03/2026.**
- Delivered **lecture** on **Advanced Concepts in Thermal Radiation and Heat Transfer** at **Loyola Institute of Technology, Department of Mechanical Engineering, and the Association of Radiant Mechanical Students (ARMS)** on 02-03-2026.

2025

- Acted as a Judge for **National Science Expo** hosted by **Rishs International School**, Chennai on S**aturday, December 13, 2025**
- Acted as a judge for **Facturerz'25 (Paper Presentation)** at CIPET-IPT, Guindy, Chennai from 18-09-2025 to 19-09-2025.
- Acted as **Session Chair** at First **International Conference on Research Communications in Engineering, Science and Management (ICRCESM)- 2025** Organized by: **M2E2C2 (Mechanical, Management, Electrical, Electronics, Civil and Computer Science Engineering Departments), Ramachandra College of Engineering (A), Eluru, Andhra Pradesh, India Event Partner: RSP Research Hub, Coimbatore, Tamil Nadu, India Conference Dates: 30/05/2025 & 31/05/2025.**
- Acted as **Session Chair** at **International Conference on Advancement in Science, Engineering & Management (ICSEM)- 2025** Organized by **the Department of Computer Science, Vidya Vihar Institute of Technology, Purnea, Bihar, India. Event Partner: Global Conference Hub, Coimbatore, Tamil Nadu, India Conference Dates: 10/05/2025 & 11/05/2025.**
- Acted as Session **Chair at International Conference on Advanced Data Analytics and Computing (ICADAC 2025)** Jointly Organized by ***CRC Press – Taylor & Francis Group | IFERP | JIS Group Educational Initiatives*** held from **28th February to 1st March 2025**
- Acted as Session Chair at **International Conference on Innovations in Engineering, Management and Science ICIEMS - 2025** *Jointly Organized by* ***Research & Development Cell & Department of CSE***

Harcourt Butler Technical University, Kanpur, Uttar Pradesh, India & RSP Conference Hub, Coimbatore, Tamil Nadu, India *on* **Conference Date: 31/01/2025 & 01/02/2025.**

2024

- Acted as Keynote Speaker and Session Chair in **International Conference on Advancements in Engineering, Science & Management (ICAESM) 2024** Jointly Organized by Department of Computer Science and Engineering, Radhakrishna Institute of Technology and Engineering, Bhubaneswar, Odisha, India & Global Conference Hub, Coimbatore, Tamil Nadu, India on **30/08/2024 & 31/08/2024.**
- Acted as a resource person in **GREATER KOLKATA COLLEGE OF ENGINEERING AND MANAGEMENT, BARUIPUR** , Five Days Online Faculty Development Program on **Innovation in Emerging Field** organized by IQAC Cell and IIC GKCEM in association with Department of EE & CSE, GKCEM & Wegrow on 17th July, 2024 in the topic of **Emerging Technology – Computational Fluid Dynamics.**

2023

- Acted as Keynote Speaker and Session Chair at **AICTE-Sponsored International Conference on "RECENT ADVANCES & INNOVATIONS IN SCIENCE, TECHNOLOGY, ENGINEERING & MANAGEMENT " ,** in Loyola Institute of technology, Palanchur , Chennai -600123, on **05.10.2023 .**
- Acted as Keynote Speaker at **2nd International Conference on recent trends in Management, Engineering and Technology (ICMET) Organized by** Vidya Vihar Institute of Technology, Bihar India & Global Conference Hub, Coimbatore, Tamil Nadu, India on the topic of **"Recent Trends in Mechanical Engineering"** on 22.12.2023 & 23.12.2023 Coimbatore.
- Act as a Session Chair in **International Conference on Intelligence in Manufacturing, Energy and Design – ICIMED 2023 '** at **Saveetha Engineering College,** Chennai-602105 by **Mechanical Engineering Department,** on 12th April and 13th April, 2023**.**

2020

- Act as a Session Chair in International Conference titled, '**International Conference on research Advancements & Challenges in engineering Sciences (ICRACE'20)**' , at **Velammal Institute of Technology,** Chennai-601204 jointly organized by the CSE, IT,ECE,EEE, H&S and Mechanical Engineering Department on 06th & 07th March 2020.

2018

- Act as a Session Chair in International Conference on **Automation and Computing Technologies (ICACT'18) '** at **Velammal Institute of Technology,** Chennai-601204 by **EEE , ECE & Mechanical Engineering Department,** on 17-03-2018**.**

❖ **Reviewer Panel Members in the following journals:**

- Next Sustainability
- Results in Engineering Journal
- Heliyon
- Industrial Crops and Products

- Measurement
- Journal of Science Advanced Materials and Devices of Elsevier ,
- Journal of Cleaner Production of Elsevier
- Corpus Online Journal of Civil Engineering (COJCE)" from 28-04-2023.
- Applied Energy from 11-04-2022.
- Journal of Industrial Textiles from **07**-04-2022**.**
- Materials Today Proceedings from 01-02-2022.
- Biomass Conversion and Biorefinery from 01-02-2022.
- International Research Journal of Automotive Technology" (IRJAT) (E ISSN 2581-5865) from 01-09-2020
- Technium: Romanian Journal of Applied Sciences and Technology from 28-05-2020
- International journal of Engineering Research & Technology (IJERT) from 13-10-2017.
- Editorial Board Member in the following journals:
- Journal of Coating Technology and Innovation from 01-08-2023.
- Journal of Computer Aided Manufacturing and Automation from 24-04-2021.
- Journal of Thermal Engineering and Technology from 24-04-2021.
- Journal of Automotive Engineering and Technology from 24-04-2021.
- The Hertz Journal of Engineering from 13-06-2020.
- Engineering Report from 03-01-2019.
- International Journal of Theoretical and Applied Mechanics (IJTAM) from 11-06-2018.

❖ **LIST OF PUBLICATIONS:**

No of SCI / Scopus Indexed / WoS /Anna University Annexure Journals
292

PUBLICATIONS:

JOURNALS :

Sl.No	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
1	7	2	2	12	1	3	10	44	92	37	63	29	302

AY2026

1. Basavegowda, N., Sharma, P., Kedia, N. *et al.* Heat-treated and functionalized horsetail biosilica reinforced polyhydroxyalkanoate composite fabricated via additive manufacturing: insights into mechanical, wear, and flame-resistant performance. *Polym. Bull.* 83, 187 (2026). https://doi.org/10.1007/s00289-025-06087-6. **(Anna University Journal list/SCIE/ SCOPUS with Impact Factor 4.0, Q2 journal)**
2. Soudagar, M.E.M., Singh, R.P., Mohanavel, V. *et al.* Synthesis of nanocellulose from *Solanum tuberosum* peels and it's aloe vera fibre-polyester composites: mechanical, DMA, fatigue and creep properties. *Polym. Bull.* **83**, 201 (2026). https://doi.org/10.1007/s00289-025-06248-7 **(Anna University Journal list/SCIE/ SCOPUS with Impact Factor 4.0, Q2 journal)**

3. Chandramohan, R., Kaliappan, S., Ramya, M. *et al.* Development of a PVA-based biocomposite film reinforced with ginger-stalk microfibers and pumpkin-seed-husk cellulose, toughened with clove oil for antimicrobial packaging applications. *Polym. Bull.* **83**, 230 (2026). https://doi.org/10.1007/s00289-025-06273-6. (**Anna University Journal list/SCIE/ SCOPUS with Impact Factor 4.0, Q2 journal)**
4. Srithar, A., Kaliappan, S., Natrayan, L. *et al.* Green-synthesized silane-modified biosilica from *Manihot esculenta* tuber skins and its reinforcing effect on bamboo fibre epoxy composites. *Biomass Conv. Bioref.* **16**, 68 (2026). https://doi.org/10.1007/s13399-025-06934-6. **(WOS/SCIE/Anna University Annexure-1).Impact factor : 4.050 Q2 Journal**
5. Pratheesh, K., Kaliappan, S., Natrayan, L. *et al.* Effect of silane surface treatment on aged areca fiber-latex rubber waste powder vinyl ester composite: creep, fatigue, drop load impact and water absorption behavior. *Polym. Bull.* **83**, 237 (2026). https://doi.org/10.1007/s00289-025-06262-9 (**Anna University Journal list/SCIE/ SCOPUS with Impact Factor 2.9, Q2 journal)**
6. R. Yamuna, S. Kaliappan, R. M and S. K. Pathuri, "Optimized YOLO and Gradient Boosting System for Breast Cancer Tumor Detection in Medical Imaging," *2025 IEEE 6th Global Conference for Advancement in Technology (GCAT)*, Bangalore, India, 2025, pp. 1-6, doi: 10.1109/GCAT66372.2025.11368370. **(Scopus)**
7. P. N. Rao, S. Kaliappan, R. M and S. K. Pathuri, "Deep Ensemble Emotion Recognition from Speech Using YOLO Feature Extraction and RFXGB Classification," *2025 IEEE 6th Global Conference for Advancement in Technology (GCAT)*, Bangalore, India, 2025, pp. 1-6, doi: 10.1109/GCAT66372.2025.11368603. **(Scopus)**
8. K. B. Vara Prasad, G. Sushma, K. P. Raju, S. Kaliappan, R. Maranan and S. K. Pathuri, "Hybrid Deep Ensemble Approach Using ResNet101 and RFGB for Cardiovascular Disease Prediction," *2025 5th International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT)*, MANDYA, India, 2025, pp. 1-7, doi: 10.1109/ICERECT65215.2025.11377934. **(Scopus)**
9. Basavegowda, N., Sharma, P., Kedia, N. *et al.* Structure–property relationships of heat-treated and chemically modified horsetail biosilica in additively manufactured polyhydroxyalkanoate (PHA) composites. *J Therm Anal Calorim* (2026). https://doi.org/10.1007/s10973-026-15320-x. **(SCI/Anna University Annexure/SCOPUS with Impact Factor: 3.1 Q2 journal)**
10. Kaliappan, S., Natrayan, L., Muthukannan, M. *et al.* Performance evaluation of silane-treated sandwich-structured AL_2O_3 coated glass fabric and puya mirabilis fiber reinforced polyester composites. *Polym. Bull.* **83**, 275 (2026). https://doi.org/10.1007/s00289-025-06158-8. (**Anna University Journal list/SCIE/ SCOPUS with Impact Factor 4.0, Q2 journal)**
11. Natrayan L, Chenga Reddy Peddamangari, M Prem Kumar Reddy, Seeniappan Kaliappan, Ramya Maranan, Anand Rajendran, Diffusion-Driven Adaptive Radiance Refinement with PPO-Based Optimization for Robust Solar Irradiance Forecasting, Results in Engineering, 2026, 109718, ISSN 2590-1230, https://doi.org/10.1016/j.rineng.2026.109718. (https://www.sciencedirect.com/science/article/pii/S2590123026007577) (**SCOPUS / Emerging Sources Citation Index (ESCI) with Impact Factor 7.9 , Q1)**
12. P Priya Rachel *et al* 2026 *Phys. Scr.* 101 096001. DOI 10.1088/1402-4896/ae46f3 **(Anna University Annexure Listed/ UGC CARE/Scopus/Web of Science (SCIE) with Impact Factor 2.6, Q2).**
13. Chidambaram, V., Jayabalakrishnan, D., Seeniappan Kaliappan *et al.* Influence of Biochar Content on the Mechanical, Thermal conductivity, and Water absorption Properties of Lyocell Bamboo Fiber Reinforced Polyester Composites. *Chemistry Africa* **9**, 93 (2026). https://doi.org/10.1007/s42250-025-01533-4. **(Web of Science (ESCI/SCIE) and Scopus with Impact Factor 2.2, Q2**).
14. Kaliappan, S., Mothilal, T., Ramya, M. et al. Impact of water and temperature ageing on silane surface-treated pineapple fibre-waste micro rubber vinyl ester composite. J Rubber Res (2026). https://doi.org/10.1007/s42464-026-00345-6. **(Anna University Annexure Listed/Scopus/Web of Science (SCIE) with Impact Factor 1.5).**
15. Srithar, A., Singh, P.K., Mohanavel, V. *et al.* Development of sugarcane leaf fiber and *Helianthus annuus* cellulose-reinforced vinyl ester biocomposite. *Polym. Bull.* **83**, 293 (2026). https://doi.org/10.1007/s00289-025-06193-5. (**Anna University Journal list/ SCIE/SCOPUS with Impact Factor 4.0, Q2 Journal)**
16. Swarnalatha, A., Kaliappan, S., Natrayan, L. *et al.* Creep, fatigue and dynamic mechanical properties of a polymer-based metamaterial reinforced by waste rubber particles. *J Rubber Res* (2026). https://doi.org/10.1007/s42464-026-00353-6. **(Anna University Annexure Listed/Scopus/Web of Science (SCIE) with Impact Factor 1.5).**
17. Pratheesh K, B Jebaraj D, Kaliappan S, et al. Development of artificial human prosthetic using Hordeumvulgare husk silicon oxynitride and Pterospermumacerifolium stem fibre reinforced epoxy composite. *Journal of Composite Materials*. 2026;0(0). doi:10.1177/00219983261436908. **(Anna University Journal list/ SCIE/SCOPUS with Impact Factor 2.4 Q2)**

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BOOK CHAPTERS:

Sl.No	Name of Faculty	2022	2023	2024	Total
1	Dr.S.Kaliappan	2	3	15	20

1. Design and Optimization of Wearable, Implantable, and Edible Antennas

K. Kavitha, Thennarasan Sabapathy, V. Rajeshkumar

Projected Release Date: May, 2024 Copyright: © 2024 Pages: 300

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ISBN13: 9798369326596 ISBN13 Softcover: 9798369345719 EISBN13: 9798369326602

1. Chapter 15,Synchronous Reconfiguration in Implantable Distributed Generation on Optimal Power Arrangement , Mohammed Ali H., A. Krishnakumari, S. Selvakanmani**, S. Kaliappan**
2. Chapter 18, Analyzing Renewable Power Integration in Edible Devices on Variable Rate Pumped Storage, **Kaliappan Seeniappan,** A. Krishnakumari, M. Shanmugapriya, M. Muthukannan
3. Chapter 20, Lightning Impact Current Variables in Wearable and Implantable Devices on Different Evaluation Methods, Natrayan L., M. Saravanan, V. Paranthaman, **S. Kaliappan**

2. Metaheuristic and Machine Learning Optimization Strategies for Complex Systems

Thanigaivelan R, Suchithra M, Kaliappan S, Mothilal T

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ISBN13: 9798369378427 ISBN13 Softcover: 9798369378434 EISBN13: 9798369378441

4. S., K., M. R., D., S., S. K., Shahid, M., Hemachandu, P., & **Kaliappan, S. (**2024). Experimental Investigation and Comparative Analysis of an Efficient Machine Learning Algorithm for Distribution System Reconfiguration. In T. R., S. M., K. S., & T. Mothilal (Eds.), Metaheuristic and Machine Learning Optimization Strategies for Complex Systems (pp. 1-18). IGI Global. https://doi.org/10.4018/979-8-3693-7842-7.ch001. **(Scopus)**
5. **Seeniappan, Kaliappan**. "Meta-Heuristic Optimization for Enhanced Sensor-Based Health Monitoring in Cloud Computing Environments." Metaheuristic and Machine Learning Optimization Strategies for Complex Systems, edited by Thanigaivelan R., et al., IGI Global, 2024, pp. 239-256. https://doi.org/10.4018/979-8-3693-7842-7.ch013. **(Scopus)**
6. I., M., Nagalakshmi, T., Vanya sree, G**., Seeniappan, K**., Arvinda Pandian, C. K., & Govinda Rao, S. (2024). Optimizing Optical Fiber Path in Wavelength Division Multiplexing Networks Using Particle Swarm Optimization. In T. R., S. M., K. S., & T. Mothilal (Eds.), *Metaheuristic and Machine Learning Optimization Strategies for Complex Systems* (pp. 323-340). IGI Global. https://doi.org/10.4018/979-8-3693-7842-7.ch016. **(Scopus)**
7. Kaliappan, S. (2024). Performance Evaluation of Simulation-Driven Metaheuristic Algorithms: Efficiency and Effectiveness Measures in the Search for Quality Solutions. In T. R., S. M., K. S., & T. Mothilal (Eds.), Metaheuristic and Machine Learning Optimization Strategies for Complex Systems (pp. 341-358). IGI Global. https://doi.org/10.4018/979-8-3693-7842-7.ch017. **(Scopus)**

3. Metaheuristics Algorithm and Optimization of Engineering and Complex Systems

Thanigaivelan R., Suchithra M., Kaliappan S., Mothilal T.

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8. M. K., R. S., Prasad, D. V., Banda, H., A., M. I., M., S., & **Kaliappan, S**. (2024). A Novel Approach for Optimizing Wire Electric Discharge Machining of Mg-Cu-RE-Zr Alloy Using Machine Learning Algorithm. In T. R., S. M., K. S., & M. T. (Eds.), *Metaheuristics Algorithm and Optimization of Engineering and Complex Systems* (pp. 43-64). IGI Global. https://doi.org/10.4018/979-8-3693-3314-3.ch003

4. AI Approaches to Smart and Sustainable Power Systems

L. Ashok Kumar, S. Angalaeswari, K. Mohana Sundaram, Ramesh C. Bansal, Arunkumar Patil

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ISBN13: 9798369315866 ISBN13 Softcover: 9798369344729 EISBN13: 9798369315873

9. **Kaliappan, S**., Ragunthar, T., Ali, M., & Murugeshwari, B. (2024). Implementation of Virtual High Speed Data Transfer in Satellite Communication Systems Using PLC and Cloud Computing. In L. Ashok Kumar, S. Angalaeswari, K. Mohana Sundaram, R. Bansal, & A. Patil (Eds.), AI Approaches to Smart and Sustainable Power Systems (pp. 274-286). IGI Global. https://doi.org/10.4018/979-8-3693-1586-6.ch014. **(Scopus)**
10. Ragunthar, T**., Kaliappan, S**., & Ali, H. M. (2024). Detection of Feedback Control Through Optimization in the Cyber Physical System Through Big Data Analysis and Fuzzy Logic System. In L. Ashok Kumar, S. Angalaeswari, K. Mohana Sundaram, R. Bansal, & A. Patil (Eds.), AI Approaches to Smart and Sustainable Power Systems (pp. 299-313). IGI Global. https://doi.org/10.4018/979-8-3693-1586-6.ch016. **(Scopus)**
11. Angalaeswari, S., and **Kaliappan Seeniappan** (2024). "Optimizing Power Usage in Wearable and Edible Devices for Railroad Operations Study on Renewable Power Integration and Storage." AI Approaches to Smart and Sustainable Power Systems, edited by L. Ashok Kumar, et al., IGI Global, 2024, pp. 371-381. https://doi.org/10.4018/979-8-3693-1586-6.ch019. **(Scopus)**
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5. Intelligent Solutions for Sustainable Power Grids

L. Ashok Kumar, S. Angalaeswari, K. Mohana Sundaram, Ramesh C. Bansal, Arunkumar Patil

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ISBN13: 9798369337356 ISBN13 Softcover: 9798369346952 EISBN13: 9798369337363

13. Selvakanmani, S., **Kaliappan, S.,** Muthukannan, M., & Mohammed. (2024). Recognition of Cyber Physical Systems Through Network Security for Wireless Sensor Networks: Using Artificial Intelligence in Cyber Physical Systems. In L. Ashok Kumar, S. Angalaeswari, K. Mohana Sundaram, R. Bansal, & A. Patil (Eds.), Intelligent Solutions for Sustainable Power Grids (pp. 272-286). IGI Global. https://doi.org/10.4018/979-8-3693-3735-6.ch009.
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Sundaram, R. Bansal, & A. Patil (Eds.), Intelligent Solutions for Sustainable Power Grids (pp. 310-323). IGI Global. https://doi.org/10.4018/979-8-3693-3735-6.ch014.

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6. Cyber-Physical Systems and Supporting Technologies for Industrial Automation
Thanigaivelan R., S. Kaliappan, C. Jegadheesan

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18. **Seeniappan, K**., Akram, C. M., Soundararajan, S., & Natrayan, L. (2023). Modelling and Development of Energy Systems Through Cyber Physical Systems With Optimising Interconnected With Control and Sensing Parameters. In T. R., S. Kaliappan, & C. Jegadheesan (Eds.), Cyber-Physical Systems and Supporting Technologies for Industrial Automation (pp. 280-295). IGI Global. https://doi.org/10.4018/978-1-6684-9267-3.ch016.

1. Handbook of Research on Aspects and Applications of Incompressible and Compressible Aerodynamics
Sathish K. Kumar, Naren Shankar Radhakrishnan

19. S., K., M. D., R. K., V., B., S., S., & Kondratiev, A. (2022). Introduction to Two-Dimensional Inviscid Incompressible Flow. In S. Kumar & N. Radhakrishnan (Eds.), Handbook of Research on Aspects and Applications of Incompressible and Compressible Aerodynamics (pp. 56-73). IGI Global. https://doi.org/10.4018/978-1-6684-4230-2.ch003.
20. S., K., M. D., R. K., D., J. M., V., B., & P., M. (2022). Viscous Flow and Its Effect. In S. Kumar & N. Radhakrishnan (Eds.), *Handbook of Research on Aspects and Applications of Incompressible and Compressible Aerodynamics* (pp. 129-141). IGI Global. https://doi.org/10.4018/978-1-6684-4230-2.ch006.

➢ PATENT & BOOKS:

PATENT		BOOK
National	International	

Utility	Design	Published /Applied	Grant	Applied	Published
Applied / Published	Applied / Grant				
1/24	2/2	-	15	0	29

- **PATENT:**

NATIONAL (UTILITY-PUBLICATION):

1. A patent is **Published** in the title of **"CNC Coded Two Axis writing machine**" the Patent Office Journal No. 24/2020 Dated 12/06/2020 with IPR APPLICATION NUMBER of 202041022088 A.
2. A patent is **Applied** in the title of "**A SYSTEM FOR CLEANING TOILETS" Dated** 13/04/2020 with IPR APPLICATION NUMBER of 202041015888.
3. A patent is **Published** in the title of "**Hand Operated Water Pumping Machine" Dated** 19/02/2021 with IPR APPLICATION NUMBER of 202041039149 A.
4. A patent is **Published** in the title of **"A NOVEL METHOD - INTEGRATION OF INTERNAL COMBUSTION ENGINE WITH IOT DEVICE"** Dated 9/07/2021 with IPR APPLICATION NUMBER of 202141028823 A.
5. A patent is **Published** in the title of "**IoT based Automated Toll gate Tax Collection System using Cloud Database" the** Patent Office Journal No. 50/2021 Dated 10-12-2021 with IPR APPLICATION NUMBER of 202141054902 A.
6. A patent is **Published** in the title of "**A research on planning and accident prevention system for surface- vehicles for improving safety and efficiency" Dated 4-2-2022** with IPR APPLICATION NUMBER of 202141058236 A
7. A patent is **Published** in the title of "**Implementation of advanced CAD CAE tools in engineering education A modern approach to industrial design**" Dated 11-3-2022 wit**h** IPR APPLICATION NUMBER of 202221002690 A
8. A patent is **Published** in the title of "**IoT, Artificial Intelligent and YOLOv3 based Infrared Anomaly Detection for Power Equipment"** Dated 25-2-2022 with IPR APPLICATION NUMBER of 202241007572 A**.**
9. A patent is **Published** in the title "**A Milk Boiling Vessel With A Milk Storage Container**" Dated 08-07-2022 with IPR APPLICATION NUMBER of 202211035107.
10. A patent is **Published** in the title "**MOBILE PHONE DEPOSIT MACHINE USING IOT & ARTIFICIAL INTELLIGENCE SYSTEM**" Dated 30-09-2022 with IPR APPLICATION NUMBER of 202241054856.
11. A patent is **published** in the title "**DEVELOPMENT OF BAMBOO FIBER WITH GRAPE STALK CELLULOSE FIBER COMPOSITE MATERIAL USING SMART MANUFACTURING PROCESS FOR HEALTHCARE APPLICATIONS**" Dated 14-03-2023 with IPR APPLICATION NUMBER of 202341017224.
12. A patent is **published** in the title "**Mechatronics X-Y Gantry based System for Customized FRP Sheet Manufacturing**" Dated 17-11-2023 with IPR APPLICATION NUMBER of 202341075881.

13. A patent is **published** in the title "**Precision Extendable Robotic Arm employing Hydraulics and LVDT Sensor**" Dated 24-11-2023 with IPR APPLICATION NUMBER of 202341075879.

14. A patent is **published** in the title "**AI based Semi-automatic Window Washing System for Government Buses**" Dated 24-11-2023 with IPR APPLICATION NUMBER of 202341075880.

15. A patent is **published** in the title " **Auxtomated Robotic System for Efficient Dismantling and Separation of End-of-Life Solar Panels**" Dated 19-07-2024 with IPR APPLICATION NUMBER of **202441053095.**

16. A patent is **published** in the title " **Development of AI-powered Sorting System for Accurate Material Classification in End-of-Life Solar Panel Recycling**" Dated 19-07-2024 with IPR APPLICATION NUMBER of **202441052620.**

17. A patent is **published** in the title "**AI based Hydraulic Robotic Vehicle System for Sapling Plantation**" Dated 26-07-2024 with IPR APPLICATION NUMBER of **202441054146.**

18. A patent is **Published** in the title "**Ultrasonic Sensor based Depth Specific Self-threading Robotic System for Wall Drilling** " Dated 26-07-2024 with IPR APPLICATION NUMBER of **202441054148.**

19. A patent is **Published** in the title "**AI based Hydraulics Powered Underwater Plants Uprooting Robotic System**" Dated 26-07-2024 with IPR APPLICATION NUMBER of **202441054151.**

20. A patent is **Published** in the title "**AI based Micro-robotic Hydraulic System for Printing Conductive Ink**" Dated 26-07-2024 with IPR APPLICATION NUMBER of **202441054152.**

21. A patent is **Published** in the title "**Quantifying the Triple Bottom Line of Sustainable Buildings in Tamil Nadu**" Dated 13/12/2024 with IPR APPLICATION NUMBER of **202441097635.**

22. A patent is **Published** in the title "**Method for AI-Powered Predictive Maintenance in Smart Manufacturing Systems**" Dated 30-05-2025 with IPR APPLICATION NUMBER of 202541041995**.**

23. A patent is **Published** in the title "**Thermoelectric Waste Heat Recovery System for Automotive Engines with Nanostructured Materials**" Dated 11-07-2025 with IPR APPLICATION NUMBER of 202541061160**.**

24. A patent is **Applied** in the title "**Boron Carbide-Reinforced Morphing Wind Turbine Blade**" Dated 06-04-2026 with IPR APPLICATION NUMBER of 202641043329**.**

25. A patent is **Applied** in the title "**Morphing Blade Technology for Wind Turbine Blades**" Dated 06-04-2026 with IPR APPLICATION NUMBER of 202641043300**.**

NATIONAL (DESIGN GRANT):

1. **A Design Patent granted** Motorized Lead Screw System for Robotic Hole Drilling Dated 05-12-2025 with IPR APPLICATION NUMBER of 399211-001.
2. **A Design Patent** is **granted** in Specialized Bed with Robotic Clamping for Medical Procedures Dated 04-1-2024 with IPR APPLICATION NUMBER of 399213-001.
3. **A Design Patent** is **granted** in Ornamental Design for a Wearable Device for Monitoring and Improving Sleep Quality Dated 30-4-2025 with IPR APPLICATION NUMBER of 457186-001.

INTERNATIONAL:

1. A patent is **granted** in the title of "**An approach to heterogeneous multi design based floor planning aware with thermal power delivery**", with **8 years** from 22 August 2020 dated 22/08/2020 with APPLICATION NUMBER of 2020101942.

2. A patent is **granted** in the title of "**Design of a collapsible and portable lactation module for mothers",** with 8 years from 28 August 2020, dated 28/08/2020 with APPLICATION NUMBER of 2020102046.

3. A patent is **granted** in the title of "**DESIGN AND DEVELOPMENT OF A SMART SUITE FOR ASSISTING THE PREGNANT WOMEN",** with 8 years from 9 September 2020 dated 09/09/2020 with APPLICATION NUMBER of 2020102194.

4. A patent is **granted** in the title of "**Continuous energy supply to house hold appliances through uninterrupted power meter",** with 8 years from 20 September 2020 dated 20/09/2020 with APPLICATION NUMBER of 2020102346.

5. A patent is **granted** in the title of "**A NOVEL METHOD TO DESIGN A DYNAMO ELECTRIC VEHICLE",** dated 15/10/2020 with APPLICATION NUMBER of 2020102727.

6. A patent is **granted** in the title of "**A Novel Method to Determine Enhanced Strength of Recycled Concrete based on Micro Filler Technique",** dated 17/10/2020 with APPLICATION NUMBER of 2020102828.

7. A patent is **granted** in the title of "**ELECTRIC VEHICLE CHARGE MANAGEMENT AND MONITORING SYSTEM BASED ON IOT",** dated 24/10/2020 with APPLICATION NUMBER of 2020102995.

8. A patent is **granted** in the title of "**AN NOVEL METHOD FOR A SMART CAR - ARTIFICIAL INTELLIGENCE BASED AUTONOMOUS STEERING CONTROL SYSTEM WITH VOICE ASSISTANCE",** dated 01/11/2020 with APPLICATION NUMBER of 2020103161.

9. A patent is **granted** in the title of "**DESIGN FOR PARABOLIC SOLAR PANEL CONTROL SYSTEM WITH VIPER",** dated 01/12/2020 with APPLICATION NUMBER of 2020103825.

10. A patent is **granted** in the title of "**REDUCTION OF HEAT FLUX AI WATER NANOFLUIDS USED TO COOL THE ELECTRONIC PANELS",** dated 11/12/2020 with APPLICATION NUMBER of 2020104017.

11. A patent is **granted** in the title of "**Analyzing patient health information based on IoT sensor with AI for improving patient assistance in the future direction",** dated 06/01/2021 with APPLICATION NUMBER of 2021100048.

12. A patent is **granted** in the title of "**IOT BASED SOLAR ENERGY DETECTION WITH CRESCENT DUNES",** dated 12/01/2021 with APPLICATION NUMBER of 2021100172.

13. A patent is **granted** in the title of "**A METHOD FOR THE MANUFACTURE OF THE BIO DEGRADABLE BOTTLE FROM THE POLY LACTIC ACID RESIN THROUGH THE APPLICATION OF THE INJECTION BLOW MOULDING PROCESS",** dated 23/02/2021 with APPLICATION NUMBER of 2021100989.

14. A patent is **granted** in the title of "**ELECTRIC HYBRID POWER SOURCE FOR VEHICLES USING WEIGHTLESS INTERNAL COMBUSTION",** dated 02/05/2021 with APPLICATION NUMBER of 2021102319.

15. A patent is **granted** in the title of "**ARTIFICIAL INTELLIGENCE BASED ENGINE EMISSIONS WITH EBP ON PERFORMANCE ASSESSMENT",** dated 08/07/2021 with APPLICATION NUMBER of 2021103986.

BOOK PUBLISHED – With ISBN Number:

1. Dr. S. Kaliappan Book title is **Internet of Things** with ISBN No 978-93-47046-91-9 Publisher RK Publication 18/03/2026 Author: Mr. Sameer Sonawane, Dr. B. Suresh Kumar, Mrs. K. Naga Rajeswari, S. Kaliappan.
2. Dr. S. Kaliappan Book title is **Machine Learning Techniques** with ISBN No 978-93-47046-63-6 Publisher RK Publication 18/03/2026 Author: Dr. S. PRAVEENA , Mrs. G. SANDHYA RANI, Mrs. K. NAGA RAJESWARI, S. KALIAPPAN
3. Dr. S. Kaliappan Book title is **Artificial Intelligence** with ISBN No 978-93-47046-82-7 Publisher RK Publication 18/03/2026 Author: Mrs. K. DURGA CHAITANYA ,Dr. B. SURESH KUMAR ,S. KALIAPPAN ,Mrs. K. PRASANTHI, Dr. RAMESH KUMAR
4. Dr. S. Kaliappan Book title is **Advanced Robotic Technology** with ISBN No 978-93-47046-86-5 Publisher RK Publication 18/03/2026 Author: S. KALIAPPAN, Y. ABOOBUCKER PARVEZ, Mr. N. RAJIV KUMAR, Dr. G. SUDHARSAN
5. Dr. S. Kaliappan Book title is **IOT & ROBOTICS** with ISBN No 978-93-7130-740-6 Publisher Charulata publications 01/11/2025 Author: Vinay Dwivedi, Dr. V. Bibin Christopher, Dr. K. Priya
6. Dr. S. Kaliappan Book title is **Engineering Materials and Metallurgy** with ISBN No 978-81-962574-5-3 Publisher JAYALAKSHMI PUBLICATIONS Author : Mr P Satyanarayana Raju Dr S Kaliappan Mr Rajarshi Chakraborty Dr SK Tanbir Islam 26/06/2025
7. Dr. S. Kaliappan Book title is **Fluid Mechanics and Machinery** with ISBN No 978-93-49773-41-7 Publisher RG INTERNATIONAL PUBLICATION Author : Dr. S. KALIAPPAN, Mrs. T. ROSELINE VELANKANNI, Mr. RAJARSHI CHAKRABORTY, Dr. SK TANBIR ISLAM 25/06/2025
8. Dr. S. Kaliappan Book title is **DYNAMICS OF MACHINES** with ISBN No 978-93-6260-912-0 Publisher Charulatha Publications Author: Dr. S. Kaliappan, M.D. Raj Kamal, Dr. C.K. Arvinda Pandian 03/05/2025
9. Dr. S. Kaliappan Book title is **Generative Artificial Intelligence** with ISBN No 978-93-48020-04-8 Publisher RK Publications Author : Dr. D. Sumathi, Dr. S. Kaliappan, Mr. K. Kishore Babu, Dr. B. Gayathri 11/11/2024.
10. Dr. S. Kaliappan Book title is **Fundamentals of Research Methodology** with ISBN No 978-93-48020-11-6 Publisher RK Publications Author : Dr. D. Sumathi, Dr. S. Kaliappan, Mr. K. Kishore Babu, Dr. B. Gayathri 11/11/2024.
11. Dr. S. Kaliappan Book title is **Hydraulics & Pneumatics** with ISBN No 978-93-90203-90-1 at Publisher JAYALAKSHMI PUBLICATIONS Author : Dr V Ramesh Dr Ram Subbiah Dr M Saravana Kumar Dr S Kaliappan 23/11/2023.

12. Dr. S. Kaliappan Book title is **Basic concepts of AI and Robotics** with ISBN No 978-93-90203-87-1 at Publisher JAYALAKSHMI PUBLICATIONS Author : Dr.S.Kaliappan Dr.M.Prasad Dr.G.Banu Mr.S.Gowdham Kumar 29/08/2023.
13. Dr. S. Kaliappan Book title is **Material Science and Engineering** with ISBN No 978-93-90203-30-7 at JAYALAKSHMI PUBLICATIONS Author : Dr. Anil Kumar Deepati, Dr.L.Girisha, Dr.M.Palpandi, Dr.S.Kaliappan 07/07/2023.
14. Dr. S. Kaliappan Book title is **Fluid Mechanics An Introduction** with ISBN No 978-93-90203-31-4 at JAYALAKSHMI PUBLICATIONS Author : Dr.S.Kaliappan, Dr.SCV Ramana Murthy Naidu, Dr.Prafulla Kumar Sahoo, Dr.M.Palpandi 07/07/2023.
15. Dr. S. Kaliappan Book title is **Python Programming** with ISBN No 978-93-91987-46-6 at Publisher JAYALAKSHMI PUBLICATIONS Author : Prof.Bharath Kumar Narukullapati, Dr.K.V.Praveen, Dr.Soundararajan. S, Dr.S.Kaliappan 05/08/2022.
16. Dr. S. Kaliappan Book title is **C programming and Data Structures** with ISBN No 978-93-95211-41-3 at Publisher The Charulatha Publications Author : Dr. P. Deivendran, Dr. S. Soundarajan, D. Dhinakaran, Dr. S. Kaliappan 23/09/2022
17. Dr. S. Kaliappan Book title is **Production and Operation Management System** with ISBN No 978-93-94002-10-4 at Publisher ARUMUGAM RANJITH Author : Dr. V. SENTHILKUMAR, Dr. VIJAY PATEL, Dr. S. KALIAPPAN, Mr. RAJA RAJU 17/01/2022.
18. Dr. S. Kaliappan Book title is **Robotics** with ISBN No 978-93-91987-83-1 at Publisher JAYALAKSHMI S Author : Prof.M.Mahalingam, Er.G.Mehershilpa, Dr.S.Kaliappan, Dr.Ram Subbiah 15/04/2022.
19. Dr. S. Kaliappan Book title is **Heat Power Engineering** with ISBN No 978-93-92992-70-4 at Publisher ARUMUGAM RANJITH Author : Dr. PRASHANT GEETE, Dr. MANISH JOSHI, Dr. S. KALIAPPAN, Mr. RAJA RAJU 23/11/2021.
20. Dr. S. Kaliappan Book title is **Industrial Engineering and Management** with ISBN No 978-93-92992-54-4 at Publisher ARUMUGAM RANJITH Author : Prof. SIVAKUMAR N S, Dr. S. KALIAPPAN, Dr. RAM SUBBIAH, Dr. CHIDURALA SRINIVAS 20/11/2021
21. Dr. S. Kaliappan Book title is **Total Quality Management** with ISBN No 978-93-92992-65-0 at Publisher ARUMUGAM RANJITH Author : Dr. M. ANURADHA, Dr. S. KALIAPPAN, Dr. RINKI MISHRA, Dr. SUNIL L. BANGARE 01/12/2021.
22. Dr. S. Kaliappan Book title is **GE6152 Engineering Graphics** with ISBN No 978-81-953771-8-3 at Publisher Sadiq Sait Author : Dr. S. Kaliappan 26/02/2021.
23. Dr. S. Kaliappan Book title is **GE6253 Engineering Mechanics** with ISBN No 978-81-953771-9-0 at Publisher Sadiq Sait Author : Dr. S. Kaliappan 01/03/2021.
24. Dr. S. Kaliappan Book title is **ME6301 Engineering Thermodynamics** with ISBN NO 978-81-953771-7-6 at Publisher Sadiq Sait Author : Dr. S. Kaliappan 03/03/2021.
25. Dr. S. Kaliappan Book title is ME6502 **Heat and Mass Transfer** with ISBN No 978-81-953771-4-5 at Publisher Sadiq Sait Author : Dr. S. Kaliappan 15/03/2021.

26. Dr. S.Kaliappan Book title is **Kinematics of Machinery** with ISBN No 978-93-90967-91-9 at Publisher Santhi Durairaj Author : M.D. Raj Kamal, Dr. S. Kaliappan 10/06/2021.
27. Dr. S. Kaliappan Book title is **Engineering Graphics** by Maruthi publications with ISBN No 978-93-93836-10-6 at Publisher M. Muthukumar Author : Dr. N.Saravanan, Dr. S.Dinesh Kumar, Dr. S.Kaliappan 05/02/2021.
28. Dr.S.Kaliappan Book title is **Manufacturing Technology –II** by Maruthi publications at 2020
29. S.Kaliappan Book title is **Engineering Practices Lab Manual** by Maruthi publications 2017

STTP		FDTP		CONFERENCE		WORKSHOP		TECHNICAL SYMPOSIUM
Organized	**Attended**	**Organized**	**Attended**	**Organized**	**Participated**	**Organized**	**Participated**	**Organized**
1	3	5	6	2	4	4	3	5

➢ SHORT TERM TRAINING PROGRAMME (STTP) - ORGANIZED:

1. Organized a six days **virtual SHORT TERM TRAINING PROGRAMME (STTP)** Sponsored by **AICTE** titled '**Assessment in Engineering Education- A Pedagogical Approach'** at **Velammal Institute of Technology,** Chennai-601204, in **three slots, Slot-1** from 16.11.2020 to 21.11.2020, **Slot-2** from 14.12.2020 to 19.12.2020 & **Slot-3** from 04.01.2021 to 09.01.2021.

➢ FACULTY DEVELOPMENT TRAINING PROGRAMME - ORGANIZED:

1. Organized a seven days **Faculty Development Training Programme** approved by **Anna University** titled '**Engineering Thermodynamics'** at **Velammal Institute of Technology,** Chennai-601204, from 17-06-2014 to 24-06-2014.

2. Organized a seven days **Faculty Development Training Programme** sponsored by **Anna University** titled '**Gas Dynamics and Jet Propulsion System'** at **Velammal Institute of Technology,** Chennai-601204, from 01-12-2014 to 08-12-2014.

3. Organized a seven days **Faculty Development Training Programme** approved by **Anna University** titled '**Heat and Mass Transfer'** at **Velammal Institute of Technology,** Chennai-601204, from 19-05-2017 to 29-05-2017.

4. Organized a seven days **Faculty Development Training Programme** approved by **Anna University** titled '**Power Plant Engineering'** at **Velammal Institute of Technology,** Chennai-601204, from 21-05-2018 to 28-05-2018.

5. Organized a six days **Faculty Development Training Programme** approved by **Velammal Institute of Technology** titled '**Engineering Mechanics'** at **Velammal Institute of Technology,** Chennai-601204, from 05-12-2019 to 10-12-2019.

➢ FACULTY DEVELOPMENT TRAINING PROGRAMME - ATTENDED:

1. Attended a Faculty Development Programme at **College of Engineering, Gundy, Anna University** on **COMPUTATIONAL FLUID FLOW AND HEAT TRANSFER,** from 30-05-2005 to 04-06-2005**.**

2. Attended a Faculty Development Programme at **College of Engineering, Gundy, Anna University** on **GAS DYNAMICS AND JET PROPULSION,** from 07-06-2010 to 13-06-2010.
3. Attended a Faculty Development Programme at **Er. Perumal Manimekalai College of Engineering,** Hosur, sponsored by **Anna University of Technology Coimbatore** on **COMPUTATIONAL FLUID DYNAMICS,** from 30-11-2010 to 04-12-2010**.**
4. Attended a Faculty Development Programme at **Velammal Institute of Technology Chennai** Sponsored by **AICTE-ISTE** in **CAREER ADVANCEMENT BY TECHNICAL TEACHING SKILLS AMPLIFICATION**, from 07-05-2018 to 12-05-2018.
5. Attended a Faculty Development Programme at **R.M.K Engineering College** on **Finite Element Analysis ,** from 03-12-2018 to 15-12-2018**.**
6. Attended a Faculty Development Programme at **Vel Tech High Tech Dr.Rangarajan Dr. Sakunthala Engineering College, Avadi** on **Advances in Computational Fluid Dynamics (CFD) ,** from 18-06-2019 to 22-06-2019**.**

7. **Attended the Six-day Faculty Development Programme (FDP) on "Next-Gen Educators: Harnessing the Power of Machine Learning", Organized by the Department of Information Technology, Jeppiaar Institute of Technology from 25.09.2024 to 01.10.2024.**

8. **Attended in the AICTE Recognized Faculty Development Programme on Artificial Intelligence and Optimisation Techniques using MATLAB *Conducted by Electrical* Engineering Department from 07/10/2024 to 11/10/2024 (One Week) at K. Ramakrishnan college of Engineering, Tiruchirappalli.**

9. **Attended in AICTE Training And Learning (ATAL) Academy Faculty Development Program on Engineering Solutions for Sustainable Future: Uniting Disciplines to Tackle Carbon Footprint Reduction at KCG COLLEGE OF TECHNOLOGY from 04/11/2024 to 09/11/2024.**

10. **Attended in AICTE Training And Learning (ATAL) Academy Faculty Development Program on AI in Hydrogen and Electric Powered Vehicles at B S Abdur Rahman Crescent Institute of Science and Technology from 09/12/2024 to 14/12/2024.**
11. Attended in AICTE Training And Learning (ATAL) Academy Faculty Development Program on Future-Ready Manufacturing: The Synergy of AI and Smart Materials at SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCES from 01/09/2025 to 06/09/2025.
12. Attended Six-Day Virtual Faculty Development Program on Innovations in Advanced Materials, Optimization and Sustainable Energy Systems at SRM Institute of Science and Technology, Ramapuram, Chennai from 15/12/2025 to 20/12/2025.
13. Attended **Six Days Online Faculty Development** Program on **"Advanced Mechanical Engineering – Innovations & Industry Applications"** organized by the Department of Mechanical Engineering, Aalim Muhammed Salegh College of Engineering, Chennai-600055, from **15th to 20th December 2025.**
14. Attended **Six Days Global Faculty Development Program (Online)** on **Innovative - Design, Analysis and Development (I-DAD)** organized by School of Mechanical & Construction, Department of Mechanical Engineering, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai, from **23rd – 28th February 2026.**

➢ CONFERENCE/ WORKSHOP-ORGANIZED:

1. Organized a one day workshop titled '**The Automobile Workshop'** at **Velammal Institute of Technology,** Chennai-601204 on 10/02/2012.

2. Organized a one day workshop titled '**Computational Fluid Dynamics'** at **Velammal Institute of Technology,** Chennai-601204 by **Airmak Aerospace Technologies, Chennai** on 13.08.2012.

3. Organized two days' workshop titled '**Material Outreach Program (MOP)'** on '**Automotive Materials Science and Technologies**' at **Velammal Institute of Technology,** Chennai-601204 by **IIT Bombay – Padarth & EXPERTSHUB,** from 16-08-2013 to 17-08-2013**.**

4. Organized a one day workshop titled '**Utkraanti 17'** in association with **IIT Madras** at **Velammal Institute of Technology,** Chennai-601204 by **Wingfotech** on 1-2nd September 2016**.**

5. Organized one day International Conference titled **'International Conference on Automation and Computing Technologies (ICACT'18) '** at **Velammal Institute of Technology,** Chennai-601204 by **EEE , ECE & Mechanical Engineering Department,** on 17-03-2018**.**

6. Organized two days International Conference titled ,**'International Conference on research Advancements & Challenges in engineering Sciences (ICRACE'20)**' , at **Velammal Institute of Technology,** Chennai-601204 jointly organized by the CSE, IT,ECE,EEE, H&S and Mechanical Engineering Department on 06th & 07th March 2020.

- **CONFERENCE/ WORKSHOP-PARTICIPATED:**

1. Presented a paper titled '**Parametric studies on the impact of piston velocity profile on the performance of single cylinder diesel engine**' in National Conference on 'Emerging **Trends in Industrial Automation (ETIA-2010)** 'organized by the Department of Mechanical Engineering, **Velammal Engineering College**, Chennai-66 on 26-03-2010.

2. Presented a paper titled '**Performance Analysis of a Single Cylinder Diesel Engine Using CFD '** in 'International Conference on Advances in Mechanical Engineering (ICAME-2015) 'organized by Department of Mechanical Engineering, **University College of Engineering Villupuram** *(ANNA UNIVERSITY).*

3. Presented a paper titled '**Parametric Studies of the Performance of A Single Cylinder Diesel Engine-Review'** in Indo-Brazil Bilateral International Conference on Advanced Materials and Manufacturing - ICAMM 2015 organized by the Department of Mechanical Engineering, **Cape Institute of Technology,** Levenjipuram – 627114 on March 27-28, 2015.

4. Presented a paper titled '**Analysis of an Innovative Connecting Rod by Using Finite Element Method'** in 'National Conference on Contemporary Research in Advanced Material Science '(CRAMS 2016) organized by Department of Mechanical Engineering, at **Karpaga Vinayaga College of Engineering & Technology**, Kanchipuram

5. Participated in **one day** workshop on **'RESEARCH EXCELLENCE –RSE 2012'** organized by the Department of Mechanical and Aeronautical Engineering, **GKM College of Engineering & Technology**, Chennai-600063 on 11-05-2012.

6. Participated in **2 Weeks** '**ISTE Workshop on Computational Fluid Dynamics'** under the National Mission on Education (MHRD) through ICT conducted by **IIT Bombay** at **National Institute of Technology,** Tiruchirapalli-620 015, from12-06-2012 to 22-06-2012.

7. Participated in **3 days** Short Term Course on '**Applications of Finite Element Method in Academic and Industrial Research'** conducted by **Department of Mechanical Engineering , National Institute of Technology,** Tiruchirapalli-620 015 under the sponsorship of **TEQIP Phase-II** , from 06-06-2013 to 08-06-2013.

- **TECHNICAL SYMPOSIUM -ORGANIZED:**

1. Organized one day National Level Technical Symposium - **AVIATOR-2K10** at **SAMS College of Engineering and Technology, Chennai**.
2. Organized one day National Level Technical Symposium – **EKALAIVA 2K13, 2K14, 2K15, 2K16 & 2K18** at **Velammal Institute of Technology, Chennai-601204**.

Key note speaker / Resource Person

2026

1. Acted as **Session Chair** at **Second International Conference on Innovations in Materials Science, Technology, Engineering, and Management for Sustainable Development (IMSTEM 2026)** *Jointly Organized by the Department of Science, St. Joseph's College of Engineering, OMR, Chennai, Tamilnadu, India & RSP Research Hub, Coimbatore, Tamil Nadu, India* **Conference Dates: 20/03/2026 & 21/03/2026.**
2. Delivered **lecture** on **Advanced Concepts in Thermal Radiation and Heat Transfer** at **Loyola Institute of Technology, Department of Mechanical Engineering, and the Association of Radiant Mechanical Students (ARMS)** on 02-03-2026.

2025

1. Acted as a Judge for **National Science Expo** hosted by **Rishs International School**, Chennai on S**aturday, December 13, 2025**
2. Acted as a judge for **Facturerz'25 (Paper Presentation)** at CIPET-IPT, Guindy, Chennai from 18-09-2025 to 19-09-2025.
3. Acted as **Session Chair** at First **International Conference on Research Communications in Engineering, Science and Management (ICRCESM)- 2025** Organized by: **M2E2C2 (Mechanical, Management, Electrical, Electronics, Civil and Computer Science Engineering Departments), Ramachandra College of Engineering (A), Eluru, Andhra Pradesh, India Event Partner: RSP Research Hub, Coimbatore, Tamil Nadu, India Conference Dates: 30/05/2025 & 31/05/2025.**
4. Acted as **Session Chair** at **International Conference on Advancement in Science, Engineering & Management (ICSEM)- 2025** Organized by **the Department of Computer Science, Vidya Vihar Institute of Technology, Purnea, Bihar, India. Event Partner: Global Conference Hub, Coimbatore, Tamil Nadu, India Conference Dates: 10/05/2025 & 11/05/2025.**
5. Acted as Session **Chair at International Conference on Advanced Data Analytics and Computing (ICADAC 2025)** Jointly Organized by ***CRC Press – Taylor & Francis Group | IFERP | JIS Group Educational Initiatives*** held from **28th February to 1st March 2025**
6. Acted as Session Chair at **International Conference on Innovations in Engineering, Management and Science ICIEMS - 2025** *Jointly Organized by* ***Research & Development Cell & Department of CSE Harcourt Butler Technical University, Kanpur, Uttar Pradesh, India & RSP Conference Hub, Coimbatore, Tamil Nadu, India*** *on* **Conference Date: 31/01/2025 & 01/02/2025.**

2024

1. Acted as Keynote Speaker and Session Chair in **International Conference on Advancements in Engineering, Science & Management (ICAESM) 2024** Jointly Organized by Department of Computer Science and

Engineering, Radhakrishna Institute of Technology and Engineering, Bhubaneswar, Odisha, India & Global Conference Hub, Coimbatore, Tamil Nadu, India on **30/08/2024 & 31/08/2024.**

2. Acted as a resource person in **GREATER KOLKATA COLLEGE OF ENGINEERING AND MANAGEMENT, BARUIPUR** , Five Days Online Faculty Development Program on **Innovation in Emerging Field** organized by IQAC Cell and IIC GKCEM in association with Department of EE & CSE, GKCEM & Wegrow on 17th July, 2024 in the topic of **Emerging Technology – Computational Fluid Dynamics.**

2023

1. Acted as Keynote Speaker and Session Chair at **AICTE-Sponsored International Conference on "RECENT ADVANCES & INNOVATIONS IN SCIENCE, TECHNOLOGY, ENGINEERING & MANAGEMENT " ,** in Loyola Institute of technology, Palanchur , Chennai -600123, on **05.10.2023 .**
2. Acted as Keynote Speaker at **2nd International Conference on recent trends in Management, Engineering and Technology (ICMET) Organized by** Vidya Vihar Institute of Technology, Bihar India & Global Conference Hub, Coimbatore, Tamil Nadu, India on the topic of **"Recent Trends in Mechanical Engineering"** on 22.12.2023 & 23.12.2023 Coimbatore.

➢ FACULTY OUTSIDE PARTICIPATION:

1. Delivered **lecture** in **Engineering Thermodynamics** in **Faculty Development Training Programme** at Velammal Institute of Technology on 18-06-2014.
2. Delivered **lecture** in **Gas Dynamics and Jet Propulsion System** in **Faculty Development Training Programme** at Velammal Institute of Technology on 05-12-2014.
3. Delivered **lecture** in **Heat and Mass Transfer** in **Faculty Development Training Programme** at Velammal Institute of Technology on 20-05-2017.
4. Delivered **lecture** in **Power Plant Engineering** in **Faculty Development Training Programme** at Velammal Institute of Technology on 25-05-2018.
5. Delivered **Guest lecture** in **Heat and Mass transfer** at **J.N.N Institute of Engineering** on 18-08-2018.
6. Attended CADDAspire event organized by CADD CENTER on 24th August 2018.
7. Delivered **lecture** in **Engineering Mechanics** in **Faculty Development Training Programme** at Velammal Institute of Technology on 10-12-2019.
8. **Delivered lecture on Emerging Technology Computational Fluid Dynamics on the occasion of Five Days Online Faculty Development Program organized by UC Cell and IIC-GKCEM in association with Department of EE & CSE, GKCEM WeGrow on 15th July to 19th July 2024.**
9. Delivered **lecture** on **Advanced Concepts in Thermal Radiation and Heat Transfer** at **Loyola Institute of Technology, Department of Mechanical Engineering, and the Association of Radiant Mechanical Students (ARMS)** on 02-03-2026.
10. Delivered **lecture** on **Advanced Concepts in Steam and Gas Turbine** at **Loyola Institute of Technology, Department of Mechanical Engineering, and the Association of Radiant Mechanical Students (ARMS)** on 23-03-2026.

11. Served as an **External Evaluator** for valuation of paper and practical Examinations at various Universities like **Anna , Dr.M.G.R University, Bharath University, Sathyabama University , St.Peter's University & AMET University** etc.,
12. Served as a **Resource Person for Question Paper Setting** for the **Dr.M.G.R University, Bharath University & AMET University & Saveetha University .**
13. Acted as a **Chief Superintendent (CS), SQUAD** and **Anna University Representative (AUR)** for **University Theory Examination** conducted by **Anna University**, academic year 2014-15**.**
14. Served as a **Resource Person** for **Interview panel member** for selection of faculty at **AMET University.**
15. Acted as a **Judge** for **Paper presentation** of **Third National Level Technical Symposium** held at **GOJAN School of Business & Technology**, Chennai-52.
16. Acted as a **Judge** for **Paper presentation** of **National level technical symposium** held at **T.J.S. Engineering College**, Puthuvayal, Chennai.

- **PROFESSIONAL MEMBERSHIP:**

1. Life member in **Indian Society for Technical Education** (LM 42717).
2. Life member in **International Association of Engineers** (IAENG) (216948).
3. A fellow member in **Universal Association of Mechanical and Aeronautical Engineers (UAMAE)** of **INSTITUTE OF RESEARCH ENGINEERS AND DOCTORS (theIRED**) (SM10100060657) from 30/01/2019 to 30/01/2022.
4. Member in **Society of Automotive Engineers INDIA (SAEINDIA)** Membership No 7230410311.
5. Member in **IEEE** in Madras Section Id-99755610.

- **AWARD :**

1. He got **Research Excellence Award** for the year 2025 from Alpha International Publications.

2. He got **Best Academician Award** for the year 2023 from Scientific International Publishing House.

3. In **InSc awards-2021**, I was selected for "**Young Researcher Award"** for my research journal of title "**Numerical Investigation of Sinusoidal and Trapezoidal Piston Profiles for an IC Engine" ,** Which is published in the **Journal of Applied Fluid Mechanics.**

- **PERSONAL DETAILS:**

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https://publons.com/researcher/3347884/dr-s-kaliappan/

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