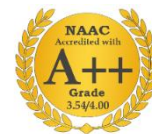





SETHU INSTITUTE OF TECHNOLOGY

(An Autonomous Institution| Accredited with 'A++' Grade by NAAC)

Pulloor, Kariapatti –Taluk. Virudhunagar Dist-626115.



Department of Mechanical Engineering					
Name	Dr. B. MUTHU CHOZHA RAJAN				
Date of Birth	08.01.1985				
Unique ID	1-421846626				
Educational Qualifications	M.E., PhD.,				
Designation	Professor				
Email ID	muthuchozharajan@sethu.ac.in				
Alternate Email ID	muthuchozharajanb@gmail.com				
Experience	Industry	Teaching	Others	Total	
	Nil	17 Years	-	17 Years	
Date of Joining the Institution	19.05.2014				
Area of Specialization	Composite Materials				
Courses taught	20				
Research Focus	Composite Materials, 3D Printing, Drone Technology				
Subject Competency					
No. of papers published	National Journals	International Journals	Book Chapter	Conferences	
	-	18	5	12	
PG Specialization	ME-CAD/CAM				
Ph.D. Specialization	Mechanical Engineering (Composite Materials)				
Patents (Filed & Granted)	7				
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	2				

Academic Credentials

Level	Degree	Specialization	University	Year of Completion
UG	B.E	Mechanical Engineering	Anna University	2008
PG	M.E	CAD/CAM	Anna University	2013
Ph.D.	Ph.D	Mechanical Engineering – Composite Materials	Anna University	2020

Details of Journal Publication:

1. B. Muthu Chozha Rajan, and A. Senthil Kumar. "The influence of the thickness and areal density on the mechanical properties of carbon fibre reinforced aluminium laminates (CARAL)." *Transactions of the Indian Institute of Metals* 71 (2018): 2165-2171.
<https://link.springer.com/article/10.1007/s12666-018-1348-2>
2. Muthu Chozha Rajan, B., A. Senthil Kumar, T. Sornakumar, P. Senthamarai kanna n, and M. R. Sanjay. "multi response optimization of fabrication parameters of carbon fiber-reinforced aluminium laminates (CARAL): by taguchi method and gray relational analysis." *Polymer Composites* 40, no. S2 (2019): E1041-E1048.
<https://4spepublications.onlinelibrary.wiley.com/doi/abs/10.1002/pc.24815>
3. B. Muthu Chozha Rajan, A. Kumar, T. Sornakumar, and A. Saravana Kumaar. "Impact response and damage characteristics of carbon fibre reinforced aluminium laminates (CARAL) under low velocity impact tests." *Materials Today: Proceedings* 5, no. 9 (2018): 20070-20077.
<https://www.sciencedirect.com/science/article/abs/pii/S2214785318315001>
4. Muthu Chozha Rajan, B., S. Indran, D. Divya, P. Narayanasamy, Anish Khan, Abdullah M. Asiri, and S. Nagarajan. "Mechanical and thermal properties of Chloris barbata flower fiber/epoxy composites: effect of alkali treatment and fiber weight fraction." *Journal of Natural Fibers* 19, no. 9 (2022): 3453-3466.
<https://www.tandfonline.com/doi/abs/10.1080/15440478.2020.1848703>
5. Kumaar, A. Saravana, A. Senthilkumar, S. S. Saravanakumar, P. Senthamarai kanna n, L. Loganathan, and B. Muthu Chozha Rajan. "Mechanical properties of alkali-treated carica

papaya fiber-reinforced epoxy composites." *Journal of Natural Fibers* 19, no. 1 (2022): 269-279.

<https://www.tandfonline.com/doi/abs/10.1080/15440478.2020.1739590>

6. Saravanakumaar, Annamalai, Arunachalam Senthilkumar, and Balasundaram Muthu Chozha Rajan. "Effect of fillers on natural fiber–Polymer composite: An overview of physical and mechanical properties." *Mechanical and dynamic properties of biocomposites* (2021): 207-233.

<https://onlinelibrary.wiley.com/doi/abs/10.1002/9783527822331.ch11>

7. Saravanakumaar, A., A. Senthilkumar, B. Muthu Chozha Rajan, Nagarajan Rajini, Sikiru O. Ismail, Faruq Mohammad, and Hamad A. Al-Lohedan. "Effects of moisture absorption and thickness swelling behaviors on mechanical performances of carica papaya fiber reinforced polymeric composites." *Journal of Natural Fibers* 19, no. 15 (2022): 12080-12099.

<https://www.tandfonline.com/doi/abs/10.1080/15440478.2022.2051668>

8. Balaji, T. P., A. Senthilkumar, A. Saravanakumaar, B. Muthu Chozha Rajan, Rajini Nagarajan, Sikiru O. Ismail, Faruq Mohammad, Selvakumar Vairamuthu, and MP Indira Devi. "Extraction and characterization of natural cellulosic *Erythrina variegata* fiber for biocomposites." *Journal of Natural Fibers* 19, no. 16 (2022): 12676-12687.

<https://www.tandfonline.com/doi/abs/10.1080/15440478.2022.2073502>

9. Rajan, B. Muthu Chozha, A. Senthil Kumar, V. Madhan, P. Paul Pandian, and A. Saravanakumaar. "Experimental investigation and analysis of mechanical properties of palm fibre reinforced epoxy composites and sisal fibre reinforced polyester composites." *Carbon–Science and Technology* 4 (2015): 1-15.

<https://www.applied-science-innovations.com/cst-web-site/CST-HTML-PAGES/CST-155.html>

10. Rajan, B. Muthu Chozha, A. Senthilkumar, A. Saravanakumaar, and A. Perumal. "Properties of biopolymers and their recent developments." In *Sustainable Fillers/Plasticizers for Polymer Composites*, pp. 289-313. Elsevier Science Ltd, 2025.

Properties of biopolymers and their recent developments - ScienceDirect

11. PARTHASARATHI, BALAJI T., SENTHILKUMAR ARUNACHALAM, NAGARAJAN K. JAWAHARLAL, and MUTHU CHOZHA RAJAN BALASUNDARAM. "EFFECT OF VARIOUS CHEMICAL TREATMENTS ON PHYSICOCHEMICAL AND THERMAL PROPERTIES OF ERYTHRINA VARIEGATA FIBERS: APPLICATION IN EPOXY COMPOSITES." *Cellulose Chemistry & Technology* 58 (2024).

<https://doi.org/10.35812/CelluloseChemTechnol.2024.58.34>

12. Pradeep, M., Ajithram Arivendan, Ranjan Das, and Muthuchozha Rajan. "Effect of stacking sequences on the mechanical properties of high-performance glass fibre epoxy composites for lightweight manufacture applications." *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering* (2025): 09544089251324755. <https://journals.sagepub.com/doi/abs/10.1177/09544089251324755>
13. Muthuchozharajan B, Mothilal S, Vinayagar K, Senthil Kumar A, Saravanakumar A, "Processing And Characterization of Banana Fiber Reinforced Polyester Composites And Pineapple Leaf Fiber Reinforced Polyester Composites" *International Journal of Applied Engineering Research* ISSN 0973-4562 Volume 10, Number 15 (2015) 12077-12081
14. Muthuchozharajan B et al, "Design and Analysis of KFRP LPG Cylinder using ANSYS Software' *International Journal of Applied Engineering Research*, ISSN 0973-4562 Vol. 10 No.28 (2015) 21855-21860
15. Muthuchozharajan B et al, "Metrics and strategies for triumph of Indian Third Party Logistics Service provider" *International Journal of Applied Engineering Research*, ISSN 0973-4562 Vol. 9 No.24 (2014) pp. 8471-8476
16. Muthuchozharajan B et al, "Reduce the defects in gate valve and thereby improving the quality of gate valve' *International Journal of Applied Engineering Research*, ISSN 0973-4562 Vol. 10 No.28 (2015) 21855-21860
17. Venkatesan G, MuthuChozhaRajan B, Rameson S, "Design and FEA analysis of Braking system", *International Research Journal in Global Engineering and Sciences. (IRJGES)*, ISSN: 2456-172X | Vol. 8 Issue 1 - March 2023 to May 2023| Pages 83-100
18. Uppalapati S, Stanly kochappa Premila J, Balasundaram Muthu Chozha Rajan , et al. Optimization and thermo-mechanical characterization of hybrid natural–synthetic fiber polymer composites with organic fillers. *Journal of Engineered Fibers and Fabrics*. 2026;21. doi:10.1177/15589250261441591 <https://journals.sagepub.com/doi/10.1177/15589250261441591>

Details of Conference attended:

1. **B. Muthu Chozha Rajan** et al 2024, "Design study and engineering analysis towards various frequencies of noise, vibration and harshness performance on a hydraulic actuated drum brake assembly for automotive applications" 11th National Conference on "Research Advances in Mechanical Engineering" RAME'24 on April 5 & 6 , 2024.
2. **B. Muthu Chozha Rajan** and A. Senthil Kumar, 2023 "Mechanical Properties And Optimization Studies of Carbon Fibre Reinforced Aluminium Laminates" AICTE sponsored 8th National Conference on Global Technologies in Manufacturing and Thermal Sciences (GTMTS 2023).

3. **B. Muthu Chozha Rajan** and A. Senthil Kumar, 2023 “Machinability and optimization of process parameters on electrical discharge machining of composites materials by the mcdm method” AICTE sponsored 8th National Conference on Global Technologies in Manufacturing and Thermal Sciences (GTMTS 2023).
4. **Muthu Chozha Rajan, B**, et al 2018, ‘Impact Response and Damage Characteristics of Carbon Fibre Reinforced Aluminium Laminates (CARAL) under Low Velocity Impact Tests’, International conference on material processing and characterization (ICMPC-2018)
5. **Muthu Chozha Rajan, B**, et al 2018, ‘Processing and characterization of sisal fibre reinforced composites’, International conference on emerging trends in engineering and technology (ICETET-2018).
6. **Muthu Chozha Rajan, B**, et al 2015, ‘Processing and Characterization of Banana Fiber Reinforced Polyester Composites and Pineapple Leaf Fiber Reinforced Polyester Composites’, National conference on innovations in mechanical engineering. (NCIAME-15).
7. **Muthu Chozha Rajan, B**, et al. “Experimental Investigation and Analysis of Mechanical Properties of Palm fibre reinforced Epoxy composites and Sisal fibre reinforced Polyester composites. International Conference on advanced design and manufacturing (ICADM-2015).
8. **Muthu Chozha Rajan, B**, et al. “Design and Analysis of KFRP LPG Cylinder using ANSYS Software. International Conference on advanced design and manufacturing (ICADM-2015).
9. **Muthu chozha rajan B** et al, 2013“Processing of aluminium based Fiber metal laminates and study of tensile and flexural properties” International Conference on Advanced Manufacturing and Automation (INCAMA-2013).
10. **Muthuchozharajan B** et al, 2013 “Evaluation of Tensile Properties of CSM Glass Fiber –Reinforced- Aluminium (GLARE) Laminates and Aluminium sheets” International Conference on Advanced Materials and manufacturing (ICAMM-2013)
11. **Muthu chozha rajan B** et al, 2013 “Comparison of Flexural Properties of Glass Fiber –Epoxy- Aluminium Laminates and Aluminium sheets” in the National Conference on Advances in Mechanical Sciences- 2013 (AIMS2013)
12. **Muthu chozha rajan B** et al, 2013 “Evaluation of Flexural Properties of CSM Glass Fiber – Reinforced- Aluminium (GLARE) Laminates and Aluminium sheets” in the National Conference on Emerging Trends in Materials, Manufacturing and Design (ETMMD’13).

Details of Book Chapter and Books Published:

S.No	Title	Author’s Name	Publisher	Year of Publication
1	Machinability and Optimization of Process Parameters on Electrical Discharge Machining of	Karthik Pandiyan G., T. Prabakaran, James D. Jafrey Daniel, B. Muthu Chozha Rajan	CRC Press	2025

	Composite Materials by the MCDM Method			
2	Experimental Investigations of Drilling Characteristics of Derlin Using Hard Carbide and HSS Drill Bits—Taguchi and Decision Tree Algorithm.	Kumar, G. Jeeva, R. Arun, Masi R. Periyasaame, R. Balasundaram, James D. Jafrey Daniel, Karthik Pandiyan G., B. Muthu Chozha Rajan	CRC Press	2025
3	Analysis on Hard Turning of Oil-Hardened Non-Shrinking Die Steel Using the Taguchi Method with Decision Tree Algorithms	James D. Jafrey Daniel, R. Balasundaram Karthik Pandiyan G B. Muthu Chozha Rajan	CRC Press	2025
4	Properties of biopolymers and their recent developments	B. Muthu Chozha Rajan, A. Senthilkumar, A. Saravanakumaar and A. Perumal	Woodhead Series in Composites Science and Engineering	2024
5	Effect of Fillers on Natural Fiber–Polymer Composite: An Overview of Physical and Mechanical Properties - Mechanical and Dynamic Properties of Biocomposites	Saravanakumaar, Annamalai, Arunachalam Senthilkumar, and Balasundaram Muthu Chozha Rajan	Wiley Online Library	2021
6	Engineering Metrology and Measurement	B. Muthu Chozha Rajan	Sri Meenakshi Publications (ISBN978-81-933140-4-3)	2017
7	Mechanical and Machinability Characteristics of Fiber Metal Laminates	B. Muthu Chozha Rajan, A. Senthil Kumar,	Lap Lambert Academic Publishing, Germany (ISBN 978-3-659-82593-4)	2016

Details of Patents Filed and Granted:

S.No	Patent Title	Patent No.	Status
1	An Improved Sliding Pin Structure of the Caliper Brake System	Patent Application No: 202341069282 (Filed Date : 14.10.2023)	Published (24.11.2023)

2	Trailer/Tow Hitch Remote access & Control	Patent Application No: 202441014309 (Filed Date : 27.02.2024)	Published (08.03.2024)
3	Design And Fabrication Of 3d Food Printer With Artificial Intelligence And Machine Learning For Customized Nutritional Food Products	Patent Application No: 202441099341 (Filed Date : 16.12.2024)	Published 27-12-2024
4	Solar Powered Weeder Cum Sprayer For Efficient Agricultural Operations	Patent Application No: 202441099367 (Filed Date : 16.12.2024)	Published 27-12-2024
5	Grass Cutting Machine With Integrated Snake Repellent System	Patent Application No: 202441099371 (Filed Date : 16.12.2024)	Published 27-12-2024
6	IoT-Enabled Cloud-Controlled Sprinkler Irrigation System For Home Gardens	Patent Application No: 202441101144 (Filed Date : 20.12.2024)	Published 03-01-2025
7	Low Cost Twin Screw Extruder	Patent Application No: 202441101146 (Filed Date : 20.12.2024)	Published 03-01-2025

Expert Lecture Delivered:

S.No	Name of the Program	Institute	Role	Year
1	National conference - RAME2024	PSR Engineering College, Sivakasi	Conference Session Chairperson	2024
2	Entrepreneurship Training Programme for Women Entrepreneurs	EDII TN - Ramnad	Resource Person	2024
3	Entrepreneurship Training Programme for Women Entrepreneurs	EDII TN - Ramnad	Resource Person	2025
4	Two days workshop on Drone Technology - Fundamentals, Design & Application	Nadar Saraswathi College of Engineering and Technology, Theni	Resource Person	2025

5	Guest Lecture on Drone Technology – Fundamentals and Applications	Srividya College of Engineering and Technology, Virudhunagar	Resource Person	2026
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Professional Recognition/ Award/ Prize/ Certificate, Fellowship.

S.No	Name of the Award	Awarding Agency	Year
1	Young Scientist Award	Bose Scientific Society	2019
2	Best paper award	Global Technologies in Manufacturing and Thermal Sciences	2023
3	Best researcher award	TIPAI – 2024	2024
4	Best paper award	National conference on Research advances in Mechanical Engineering	2024
5	Young Scientist Fellowship	Tamilnadu State Council for Science and technology TNSCST	2025

Details of Projects / Programmes completed

S. No	Title	Cost in Lakh	Duration	Role as PI/Co-PI	Agency
1	Two days Seminar on Additive Manufacturing for Automotive and Aerospace Applications	0.9	27.06.2024 – 28.06.2024	Convener	SERB
2	One week FDP on 3D Printing and Design Process for Aerospace Materials	3.5	02.12.2024 – 07.12.2024	Coordinator	AICTE-ATL