

SARAVANAN.S

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To work in a reputed institution as an Assistant Professor/Research Associate, that provide good platform and to expose my teaching, research & administration skills and to develop my career.

SYNOPSIS

- Received the A P J Abdul Kalam Award for Outstanding Research in 2024 and the Best Research Award from Science Father in 2022.
- Proficiency in Outcome Based Question Paper Setting for Mechanical Engineering and its allied Subjects.
- Did **M.E** (*Manufacturing Engineering* formerly known as *Production Technology*) in Thiagarajar College of Engineering (A Govt. Aided Autonomous Institution), Madurai. Tamil Nadu.
- Believe in continuous learning and an innovative approach.
- An effective communicator with excellent relationship management skills and strong analytical, problem solving & organizational abilities.
- Adaptable and quick learner; possess skills to work under pressure.

ACADEMIC CREDENTIALS

Class/ Course	Branch	Name of the Institution	University/Board	Year of Passing	CGPA/%
Ph.D	Mechanical Engineering	Bannari Amman Institute of Technology, Sathyamangalam.	Anna University	PURSUIING	THESIS SUBMITTED
M.E	Manufacturing Engineering	Thiagarajar College of Engineering, Madurai.	Anna University	2016	7.66
B.E	Mechanical Engineering	Syed Ammal Engineering College, Ramanathapuram.	Anna University	2013	7.89
D.T.Ed	Teacher Education	Jeevan Teacher Training Institute, Manapparai.	DTERT, Chennai	2008	88.2%
HSC	Bio-Maths	Sambaviga Higher Secondary School, Sivagangai.	State Board	2006	66.58%
SSLC	-	St.Joseph's High School, Sivagangai.	State Board	2004	85%

TEACHING EXPERIENCE (10.5 Years)

S.No.	Name of the Institution	Designation	Period	Years
1.	KCG College of Technology (Autonomous), Chennai	Asst. Professor (Sel.Grade)	01 st July 2025 to Till Date	0.5
2.	Bannari Amman Institute of Technology (Autonomous), Sathyamangalam.	Asst. Professor – Level II	15 th May 2019 to 30 th April 2025	6.0
3.	VEL TECH Engineering College, Chennai.	Assistant Professor	25 th June 2016 to 14 th May 2019	3.0
4.	M.Kumarasamy College of Engineering (Autonomous), Karur.	Lecturer	22 nd May 2013 to 21 st April 2014	1.0

AWARDS

S.No.	Scheme	Name of the Award	Level	Agency
1.	Dr. A P J Abdul Kalam Award 2024: ARAI	OUTSTANDING RESEARCHER AWARD	International	ARAI
2.	National Edge Computing Summit: Revolutionizing Connectivity and Computing (NECSRCC 2023)	BEST PAPER AWARD	National	BIT
3.	International Research Awards on New Science Inventions (NESIN 2020)	BEST RESEARCH AWARD	International	Science Father

PROPOSALS TO THE FUNDING AGENCY

S.No.	Scheme	Funding Agency	Responsibility
1.	Applied Research and Technology Development Proposals on Materials for Energy Storage (MES)	DST	Co-PI
2.	Advanced Materials for Energy Storage Devices under the Scheme of Research Promotion Scheme (RPS)	AICTE	Co-PI
3.	Recent Innovations in Science & Technology, Engineering and Agriculture	CSIR	Co-PI
4.	Recent Developments and Innovations in New Materials and System	DRDO	Co-PI

BOOK PUBLICATIONS

S.No.	Book Title/Chapter	Role	Book Type	Publisher Name	Status
1.	Thin Film Deposition – Fundamentals, Processes and Applications	Author	Book Chapter	IntechOpen	Initiated
2.	AI-Empowered Smart Electricity System with Predictive Maintenance Integration	Author	Book Chapter	IGI Global	PUBLISHED
3.	Fog Computing based Framework and Solutions for Intelligent Systems: Enabling Autonomy in Vehicles	Author	Book Chapter	IGI Global	PUBLISHED

PATENTS FILED/PUBLISHED/GRANTED

S.No.	Title	Date	Reg. No.	Level	Status
1.	Integrated Tea Maker and Bread Roaster Device	10.09.2024	429908-001	National	FILED
2.	Three Jaw Gripper	21.05.2024	417577-001	National	FILED
3	Computerized Robotic Systems Use Electronic Libraries and Transformed Instructions to Replicate Movements with Mini Manipulations	20.10.2023	202321063049	National	PUBLISHED
4.	Delivery Drones	06.10.2023	396785-001	National	FILED
5.	Design and Fabrication of Confined Space working Bot	27.09.2022	202241043499	National	PUBLISHED
6.	Solider Helmet Battle Field Management System	04.06.2022	202241028286	National	FILED
7.	Self-Balancing of Electric Two Wheeler using Gyroscope	19.11.2021	202141051121	National	PUBLISHED
8.	Tower Bolt	30.09.2021	202141044364	National	PUBLISHED
9.	Planetary Gear Train for a Transmission Assembly of Bicycle	26.09.2022	202141007721	National	PUBLISHED
10.	Environment Friendly Automatic Drainage Block Removal System	27.05.2022	202041051670	National	PUBLISHED
11.	Sustainable and Autonomous System for Aquaculture	03.09.2019	201941035433	National	FILED
12.	Bio-Degradable Films from Cassava Starch and Poly Vinyl Alcohol (PVA)	03.09.2019	201941035438	National	FILED

JOURNALS (INTERNATIONAL: 15 & NATIONAL: 0)

- ❑ **S.Saravanan**, N.Natarajan et al, "*Vehicle Battery Thermal Management with Exergy considerations using a Hybrid SHO-DRCNN Approach for Liquid Cooling*" – International Journal of Exergy, Vol.47, Issue 1, May 2025. Impact Factor **1.1. (Web of Science (WoS))**
- ❑ R.Rajiev, **S.Saravanan** et al, "*Assessing Surface Quality with SEM Analysis and Evaluating the Parameters and Mechanical Properties of PLA Parts produced by 3D Printing*" – Journal of Interactions, Vol.246, Issue 19, Jan 2025. **(SCOPUS Indexed)**
- ❑ S.Rajesh Kannan, **S.Saravanan** et al, "*Effect of Silane Grafted Polyethylene Terephthalate foam, Areca fruit fiber and Microcrystalline Cellulose Toughened Vinyl Ester Composite on Thermal and Water Accelerated Aging*" – Surface Review and Letters, Dec 2024. Impact Factor **1.2. (Web of Science (WoS))**
- ❑ **S.Saravanan**, K.Ganesan et al, "*Developing bio-carbon matrices for the encapsulation of silicon nano particles for high performance anode material for Li-ion Batteries*" – A Chemistry European Journal, Vol.29, Issue 63, Nov 2023. Impact Factor **2.91. (Web of Science (WoS))**
- ❑ **S.Saravanan**, R.Rajiev et al, "*An Experimental Investigation of Car Lifting Mechanism using Universal Object Interaction*" – Gradiva Review Journal, Vol.8, Issue 10, Dec 2022, ISSN 0363-8057. **(SCOPUS Indexed)**
- ❑ **S.Saravanan**, R.Rajiev et al, "*A study of Heat Transfer Improvement of Single Piped Heat Exchanger using various Inserts*" – Gradiva Review Journal, Vol.8, Issue 10, Oct 2022, ISSN 0363-8057. **(SCOPUS Indexed)**
- ❑ **S.Saravanan**, R.Rajiev et al, "*An Investigation of Advanced Drag Reduction Method using Vertex Generator on Automobile Vehicle*" – Journal of GIS SCIENCE, Vol.9, Issue 3, March 2022, ISSN 1869-9391. **(SCOPUS Indexed)**
- ❑ R.Rajiev, **S.Saravanan** et al, "*Design and Analysis of Upright Assembly*" – GIS Science Journal, February 2022. ISSN 1896-9391. **(SCOPUS Indexed)**
- ❑ **S.Saravanan**, R.Rajiev, "*An Investigation of Issues in Li-ion Battery Management System*" – GIS Science Journal, August 2021. ISSN 1871-9894. Impact Factor **0.63(SCOPUS Indexed)**
- ❑ R.Rajiev, **S.Saravanan** et al, "*Optimization of Multi-Criteria Decision Making Analysis for Selection of Suppliers in Supply Chains Using Fuzzy Logic*" – IOP Conference Series, Material Science and Engineering, March 2021. **(SCOPUS Indexed)**
- ❑ Tamilarasan V D, **S.Saravanan** et al, "*A Review on Existing Single Cylinder 4 Stroke Petrol Engine Design Analysis*" – Journal of **ELSEVIER**, Materials Today Proceedings, Feb 2021. **(SCOPUS Indexed)**
- ❑ **S.Saravanan**, R.Rajiev et al, "*Frequency Response Analysis of Zn-Ni-Co Alloy Anode for Thin Film Micro Batteries*" – Journal of **ELSEVIER**, Materials Today Proceedings, May 2020, ISSN 2214-7853. Impact Factor **0.694. (SCOPUS Indexed)**
- ❑ **S.Saravanan**, R.Rajiev et al, "*An Investigation of Zn-Ni-Co Alloy Anode for Thin Film Micro Batteries*" – Journal of **ELSEVIER**, Materials Today Proceedings, May 2020, ISSN 2214-7853. Impact Factor **0.694. (SCOPUS Indexed)**
- ❑ **S.Saravanan**, A.Sunil Kumar et al, "*Theoretical investigations of TiNbC MXenes as Anode Materials for Li-ion Batteries*" – International Journal of Alloys and Compounds, **ELSEVIER**, Volume 778, Sep 2018, pp.53-60. **(SCOPUS Indexed)**
- ❑ **S.Saravanan**, N.K Karthikeyan et al "*Multiple Performance Optimization of Electric Discharge Drilling of Inconel X750 using Taguchi based Grey Relational Analysis*" – International Journal of Mechanical Engineering and Technology Vol. 8, Issue 4, April 2017. ISSN 0976-6359. **(SCOPUS Indexed)**
- ❑ **S.Saravanan**, R.Mahendran et al, "*An Experimental Investigation of Structural and Electrochemical Performance of Al5-Mo Thin Film Alloy Anodes for Li-ion Micro Batteries*" – International Journal of Science and Engineering Development Research (IJSER), Volume 4, Issue 4, April 2019. ISSN 2455-2631.
- ❑ **S.Saravanan**, S.Rajesh et al, "*Electrodeposited Three Dimensional Pb Nano Wire Anode for Thin Film Li-ion Micro Batteries*" – International Journal of Innovative Research in Technology (IJIRT) March 2018, Volume 4, Issue 10, ISSN 2349-6002.
- ❑ A.Peramanan, **S.Saravanan** et al, "*Design and Analysis of Helical Compression Spring for Shock Absorber*" – International Journal for Scientific Research & Development (IJSRD), Volume 7, Issue 2, April 2019. ISSN 2321-0613.
- ❑ P.Raj Kumar, **S.Saravanan** et al, "*Heat Transfer Enhancement of Parallel Flow and Counter Flow Heat Exchanger Using Different Insert*" – International Research Journal of Engineering and Technology (IRJET) Volume 6, Issue 4, April 2019. ISSN 2395-0056.

- ❑ M.Loganathan, **S.Saravanan** et al, “*Quality Improvement in Fluid Reservoir Manufacturing Process of Braking System of Cars*” – International Journal of Advance Research and Innovative Ideas in Education (IJARIIE) Volume 3, Issue 3, Sep 2017. ISSN 2395-4396.

CONFERENCES (INTERNATIONAL: 11 & NATIONAL: 05)

- ❑ **S.Saravanan**, S.Madheswaran, “*Enabling Fast-charging via Layered Ternary Transition Metal Oxide as Anode Materials for Li-ion Batteries*” – International Conference on Mobile Computing and Sustainable Informatics (ICMCSI 2025), Purbanchal University, Nepal, India. (2025). 07.01.2025-08.01.2025.
- ❑ **S.Saravanan**, R.Rajiev, “*Nickel Stabilized Si-Ni Layer Thin-Film Anode for Long Cycling Life Li-ion Battery*” – International Conference on Engineering and Advancement in Technology (ICEAT 2024), Malla Reddy College of Engineering, India. (2024). 27.10.2024-28.10.2024.
- ❑ **S.Saravanan**, S.Raja Raja Solan, “*Design and Development of Post-Processing of Turmeric Steam Boiler*” – National Conference on Technology for Society (NCTS 2023), SRM Institute of Science and Technology, Chennai, India. (2023). 18.10.2023-19.10.2023.
- ❑ **S.Saravanan**, R.Rajiev, “*Finite Element Analysis of Crank Shaft with its Design*” – National Conference on Recent Advances in Communicative Electronics (NCRACE 2023), SRM TRP Engineering College, Tiruchirappalli, India. (2023). 09.03.2023-10.03.2023.
- ❑ **S.Saravanan**, C.Sathish Kumar, “*An Electrochemical Performance of Zi-Ni Nano Composites as Anode Materials for Li-ion Batteries*” - National Conference on Recent Innovations in Mechanical Engineering (RIME 2K22), Banari Group of Companies and JSREC, Coimbatore, India. (2022). 18.11.2022.
- ❑ **S.Saravanan**, K.Ramachandra Raju, “*An Investigation on Corrosion Behavior of Al 7075 Material Alloyed with Phosphorised Copper*” - International Web Conference on Advancements in Mechanical and Automotive Technology (ICAMAT 2022), BIT, Sathyamangalam, India. (2022). 20.05.2022-21.05.2022.
- ❑ **S.Saravanan**, R.Rajiev, “*An Experimental Analysis of Temperature Deposition of Zn-Ni-Co Alloy Anode for Thin Film Micro Batteries*” – National Level Web Conference on Advanced Science, Engineering and Technology (NCASET-2K21), JSREC, Tirupur, India. (2021). 26.03.2021.
- ❑ **S.Saravanan**, R.Rajiev, K.Muthu Kumar, “*Frequency Response Analysis of Zn-Co-Ni Alloy Anode for Thin Film Micro Batteries*” CSIR Sponsored International Conference on Advances in Materials Research (ICAMR 2019), BIT, Sathyamangalam, India. (2019). 06.12.2019-07.12.2019.
- ❑ **S.Saravanan**, R.Rajiev, K.Muthu Kumar, “*An Investigation of Zn-Co-Ni Alloy Anode for Thin Film Micro Batteries*” CSIR Sponsored International Conference on Advances in Materials Research (ICAMR 2019), BIT, Sathyamangalam, India. (2019). 06.12.2019-07.12.2019.
- ❑ **S.Saravanan**, B.Siddharthan, “*Product Design and Development of Goggles and Hand Stick for Blind People*” International Conference on Advances in Materials Processing and Characterization (ICAMPC 2019), BIT, Sathyamangalam, India. (2019). 10.09.2019-11.09.2019.
- ❑ **S.Saravanan**, M.Ananda Kumar, S.Y.Abdul Rahman, “*Preparation and Characterization of Sm-Mo Thin film anode for Li ion Micro Batteries*” National Conference on Advanced Materials For Energy and Environmental Applications, Bharathiar University, Coimbatore, India. (2019) 47. 12.02.2019-16.02.2019.
- ❑ **S.Saravanan**, A.Sunil Kumar, “*Experimental Investigation of Zn-Ni-Cr Alloy Anode for Thin Film Micro Batteries*” International Conference on Advances in Science, Engineering and Management, Jay Shri Ram Group of Institutions, Tirupur, India. (2018) 06.04.2018-07.04.2018.
- ❑ B.Siddharthan, R.Rajiev, **S.Saravanan**, “*Fabrication and Characterization of Alumina and Boron Carbide Reinforced Hybrid Metal Matrix Composites*” CSIR Sponsored International Conference on Advances in Materials Research (ICAMR 2019), BIT, Sathyamangalam, India. (2019). 06.12.2019-07.12.2019.
- ❑ R.Rajiev, P.Sadagopan, **S.Saravanan**, “*Investigation of Surface Roughness in Hot Forging Component for Aluminium 6061 Material Using Bio-Lubricants*” 2nd International Conference on Materials, Manufacturing and Machining for Industry 4.0 (ICMMM 2.0), BIT, Sathy, India. (2020). 09.10.2020-10.10.2020.
- ❑ V.D.Tamilarasan, T.Ramesh Kumar, **S.Saravanan**, “*Experimental Analysis of Forced Turbulent Convective Heat Transfer in a Circular Tube with Al₂O₃ Water Nano fluid*” CSIR Sponsored International Conference on Advances in Materials Research (ICAMR 2019), BIT, Sathy, India. (2019). 06.12.19-07.12.19.
- ❑ B.Siddharthan, **S.Saravanan**, “*Effect of Silicon Carbide in the Mechanical Properties of Aluminium Alloy Based Metal Matrix Composites*” International Conference on Advances in Materials Processing and Characterization (ICAMPC 2019), BIT, Sathyamangalam, India. (2019). 10.09.2019-11.09.2019.

SIGNIFICANT RESPONSIBILITIES HELD IN ACADEMICS

- ❑ Specialized Expert for Preparing Outcome based Question Paper and Act as Skill Cluster Head for Mechanical and Mechatronics Departments at BIT.
- ❑ Executive Member of Board of Studies (BoS) (2024-2025) for the Department of Mechanical Engineering, Syed Ammal Engineering College, Ramanathapuram.
- ❑ Faculty Coordinator of IET – Accreditation (UK) Process for Mechanical Engineering (2021-2022) at BIT.
- ❑ Faculty Coordinator of NBA & NAAC - Accreditation Process for Mechanical Engineering (2020-2023) at BIT.
- ❑ Lab Incharge for 3D Printing Lab and Fluid Mechanics and Machinery, Department Mechanical Engineering (2021-2022) and (2023-2025) at BIT.

ACADEMIC PROJECTS

- DOCTORATE : **A Hybrid SHO-DRCNN and MFDNN-STO Framework for Intelligent Liquid Cooling and Thermal Management in Electric Vehicle Battery Systems.**
- POST GRADUATE : **Design and Development of Zn-Co-Ni Alloy Anode for Thin Film Micro Batteries.**
- UNDER GRADUATE : **An Investigation of Wire Electrical Discharge Machining (WEDM) Characteristics of Inconel X-750 Alloy.**

AREA OF INTEREST

- ▷ **NON-DESTRUCTIVE INSPECTION (NDI)** ▷ **MANUFACTURING ENGINEERING** ▷ **MATERIALS FOR ENERGY STORAGE**

FDP/SEMINARS/WORKSHOPS/WEBINARS ATTENDED AND ORGANIZED

- ❑ Attended and Certified with 5 Days Online Training Program titled "Waste Water Treatment Processes" Organized by CSIR-NEERI, Nagpur held between 06th January 2025 to 10th January 2025.
- ❑ Attended and Certified with 5 Days Online FDP titled "Inculcating Universal Human Values in Technical Education (Level II)" Organized by AICTE held between 05th August 2024 to 09th August 2024.
- ❑ Organized Hands-on Training titled "NI Lab View Software" at Bannari Amman Institute of Technology, Sathyamangalam during 29.01.2024 to 31.01.2024.
- ❑ Attended One Day Virtual Workshop titled "Automotive Industry Standards" Organized by Skyy Rider Institution, Hyderabad held on 30th Oct 2023.
- ❑ Attended One Day Virtual Workshop titled "Drone Technology and its Applications" Organized by Skyy Rider Institution, Hyderabad held on 09th June 2023.
- ❑ Attended and Certified with 5 Days Online FDP titled "Advances in Materials, Nano-Composites and its Applications" Organized by Vel Tech Multi Tech Engineering College Collaborated with IIC between 12th Sep 2022 to 17th Sep 2022.
- ❑ Attended and Certified with 5 Days Online FDP titled "Inculcating Universal Human Values in Technical Education" Organized by AICTE held between 31st January 2022 to 04th February 2022.
- ❑ Attended and Certified with 5 Days Online FDP titled "Stress Management for Engineering Educators" Organized by Government College of Technology, Coimbatore held between 04th April 2022 to 08th April 2022.
- ❑ Organized Webinar titled "Role of Additive Manufacturing in Factory of the Future" at Bannari Amman Institute of Technology, Sathyamangalam on 23rd Oct 2021.
- ❑ Organized Webinar titled "How TPM influencing the Industries" at Bannari Amman Institute of Technology, Sathyamangalam on 17th May 2021.
- ❑ Attended National Level Webinar titled "Programming in MATLAB" Organized by Nehru Institute of Engineering and Technology, Coimbatore held on 17th July 2021.
- ❑ Attended Webinar titled "Recent Developments in Manufacturing" Organized by Dept. of Mechanical, ANURAG University, Hyderabad held on 16th & 17th Aug 2020.
- ❑ Attended Webinar titled, "The Art of Publishing High Impact Journals" Organized by BIT, Sathyamangalam held on 10.06.2020.
- ❑ Attended workshop titled "Application of Non-Destructive Testing in Industries" at BIT, Sathyamangalam held on 19-07-2019.
- ❑ Attended Anna University Sponsored workshop on "ME6502 - Heat and Mass Transfer" at Vel Tech, Chennai 15-05-2017 to 21-05-2017.
- ❑ AICTE Short Term Course "Recent Advances in Composite Materials and Machining", IIT Madras, 02-02-2015 to 06-02-2015.
- ❑ Attended TEQIP workshop on "Computational Fluid Dynamics and Applications" at TCE jointly with IIT Bombay, 20-09-2014 to 26-09-2014.
- ❑ Attended Workshop on "Creo Parametric 2.0", Thiagarajar College of Engineering, Madurai, 28-12-2015 to 30-12-2015.

TECHNICAL SKILLS

Operating Systems	:	Windows 10 and Higher.
Application Software	:	MS-Office 2023, Tally 9, C Programming.
Mechanical Software	:	CATIA, Solid Works, Creo, AUTO CAD 2024, ANSYS 2024 R1, Master CAM, Pro Model 6.0, Fluid/Hydro Sim.
Certificate Courses Studied	:	ASNT Level-II NDT (RT, UT, PT, MT Techniques) & Hands-off Training, Introduction to Machine Learning (COURSERA), Laser Based Manufacturing Techniques (European Open University)

INDUSTRIAL VISITS/TRAINING

- ❑ Completed industrial training at Barani Group of Companies, Coimbatore, in May 2023 (1 week). Observed processes included sheet metal deep drawing, friction material pressing, and rubberized forming for aerospace applications.
- ❑ Completed one-month training at Supreme Excel NDT Services, Tiruchirappalli, in November 2011. Gained hands-on experience in inspecting raw materials such as aluminum, foam, and steel rods using Radiographic Testing (RT), Ultrasonic Testing (UT), Penetrant Testing (PT), and Magnetic Particle Testing (MT) techniques.
- ❑ Visited TVS Srichakra Tyres Limited, Madurai, in December 2014. Observed various tyre manufacturing processes and inspection techniques.

REFERENCES

Dr. T.Sorna Kumar M.E (IIT – Madras), **Ph.D** (IIT – Madras),
Professor of Mechanical Engineering (Rtd),
Thiagarajar College of Engineering,
(A Govt. Aided Autonomous Institution)
Madurai – 625 015. Tamil Nadu. INDIA.

Dr. K.Muthu Kumar M.E., M.B.A., Ph.D.,
Professor,
Department of Mechanical Engineering,
Bannari Amman Institute of Technology,
Sathyamangalam – 638 401. Tamil Nadu.

DECLARATION

I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

Signature

(S.SARAVANAN)