

Name:	Photo			
				
Designation:	Assistant Professor			
Qualification:	M.Sc.,B.Ed.,Ph.D			
Area of specialization:	Polymers, Material Science, Nano materials and Composites			
Experience:	Industrial Experience		Teaching Experience	
	Nil		8.0	
Number of workshops / FDP attended:	Number of Workshops/Seminars		Number of FDPs	
	06		16	
Publications:	Conference		Journal	
	National	International	National	International
	6	3	2	14
Books / Book Chapters	01			
Patents:	National		International	
	2			
Professional Body Membership	I-EEE			
Staff Achievements	<ol style="list-style-type: none"> 1. Got an Premium Award for Research Publications in the year of 2022 in Dr. MGR Educational and Research Institute, Chennai. 2. Reviewing international journals 3. Anna University Recognised Supervisor 			

Educational Qualifications:

Academic Experience:

Category	Name of the College	Degree	Specialization	Designation	Year of Passing	Joining Date	Name of the College	Relieving Date	Name of the University	Years	% of Marks obtained		Experience Class
											Months	Days	
	Sri Sairam College, Chennai	B.Sc	Chemistry	Asst. Professor	2008	09.09.2004	Sri Vasavi College, Erode	Till date	Bharathiar University	1	6	70	0
	Excel Engineering College, Komarapalayam	B.Sc	Chemistry	Asst. Professor	2012	1.08.2022	Vivekanandha college of arts and science	31.08.2024	Periyar University	2	1		0
	Dr.MGR Educational and Research Institute, Chennai	M.Sc	Chemistry	Asst. Professor	2012	16.08.2017	college of arts and science	31.01.2022	Periyar University	4	71	5	15
Total									Tamilnadu	8	0		15
		B.Ed	Chemistry		2009		KRP College of Education		Teachers Education University		78		1
		Ph.D	Chemistry		2017		MIT Campus		Anna University		Thesis highly Commended		

Workshops/Seminars attended: 6

- Dr. R. Lavanya** 2020, *Webinar on Positive Living (During Lock-Down and After)*, held on 16 May 2020, organized by **Department of Chemistry, Faculty of Humanities and Science**, Dr. MGR Educational and Research Institute, Adayalampattu Phase-II Campus.
- Dr. R. Lavanya** 2020, *International Webinar on Chemistry*, held on 29 May 2020, organized by **Department of Chemistry, The American College**, Madurai, Tamil Nadu, India.
- Dr. R. Lavanya** 2020, *Webinar on Hybrid Nanocomposites for Energy Storage*, held on 4 June 2020, organized by **Department of Science and Humanities**, RVS Technical Campus, Coimbatore, Tamil Nadu, India.
- Dr. R. Lavanya** 2020, *Participation in American College Central Instrumentation Centre (ACCIC) Programme*, organized by **The American College**, Madurai (Autonomous Institution affiliated to Madurai Kamaraj University).
- Dr. R. Lavanya** 2020, *Webinar/Faculty Development Programme (Feedback Form and Assignment based – Certificate No: KQXTFI-CE000094)*, dated 16 May 2020, organized by **Department of Chemistry**, Dr. MGR Educational and Research Institute.
- Dr. R. Lavanya** 2020, *Webinar/Online Academic Programme*, organized by Department of Science and Humanities (Chemistry), Institution affiliated to Anna University, Tamil Nadu (ISO 14001:2015 Certified Institution, NAAC Accredited).

FDP/STTP Attended:

- Lavanya, R**, 2025, "Applied Environmental Microbiology" NPTEL-AICTE Faculty Development Programme (Funded by MoE, Govt. of India), organized by Indian Institute of Technology Madras, Chennai, India.
- Lavanya, R**, 2025, "Air Pollution and Control" NPTEL-AICTE Faculty Development Programme (Funded by MoE, Govt. of India), organized by Indian Institute of Technology Madras, Chennai, India.
- Lavanya, R**, 2025, "Panchayat Raj and Rural Development Schemes" Certificate Course on 25.09.2025, organized by State Institute of Rural Development and Panchayat Raj, Rural Development & Panchayat Raj Department, Government of Tamil Nadu, Maraimalainagar, Tamil Nadu, India.

4. **Lavanya, R, 2024**, "Sustainability and Research in Modern Mechanical Engineering" 2nd International 5-Day Faculty Development Program on 23-27.09.2024, organized by Department of Mechanical Engineering, Madanapalle Institute of Technology & Science, Andhra Pradesh, India.
5. **Lavanya, R, 2025**, "Apple Teacher Certificate of Recognition" awarded on 01.12.2025, Sri Sairam Engineering College, Chennai, Tamil Nadu, India.
6. **Lavanya, R, 2025**, "Emerging trends and technologies in Renewable energy for Sustainable Development" AICTE Training And Learning (ATAL) Academy Faculty Development Program from 10.02.2025 to 15.02.2025, organized by Prince Shri Venkateshwara Padmavathy Engineering College.
7. **Lavanya, R, 2024**, "Digital Manufacturing & Design Technology" AICTE Training And Learning (ATAL) Academy Faculty Development Program from 09.12.2024 to 14.12.2024, organized by Panimalar Engineering College.
8. **Lavanya, R, 2025**, "AI-Driven Innovations for Chemistry Education & Research" Five-Day International Online Faculty Development Program from 04.08.2025 to 08.08.2025, organized by PG and Research Department of Chemistry, School of Physical Sciences, Holy Cross College (Autonomous), Tiruchirappalli.
9. **Lavanya, R, 2024**, "METAL ADDITIVE MANUFACTURING: FROM ADVANCES TO ADAPTABILITY" Five Days Online FDP from 04.11.2024 to 08.11.2024, organized by Department of Mechanical Engineering, St. Joseph's Institute of Technology, Chennai.
10. **Lavanya, R, 2025**, "World Rescue: Decision Making towards Sustainability" Certificate Course on 06.11.2025, organized by UNESCO Mahatma Gandhi Institute of Education for Peace and Sustainable Development (UNESCO MGIEP), New Delhi, India.
11. **Lavanya, R, 2024**, "Recent Trends in Multidisciplinary Materials and their Advancements in Energy and Environmental Protection" Six-Day Faculty Development Programme from 25.11.2024 to 30.11.2024, organized by Department of Applied Physics, Sri Venkateswara College of Engineering, Sriperumbudur, Tamil Nadu, India.
12. **Lavanya, R, 2025**, "Emerging Trends in Material Science and Technology" Five-Day Online Faculty Development Program from 23.09.2025 to 27.09.2025, organized by Department of Science and Humanities, Nandha College of Technology, Erode, Tamil Nadu, India.
13. **Lavanya, R, 2025**, "Integrated Waste Management for a Smart City" NPTEL-AICTE Faculty Development Programme (Funded by MoE, Govt. of India), organized by Indian Institute of Technology Madras, Chennai, India.
14. **Lavanya, R, 2025**, "World Rescue: Decision Making towards Sustainability" Certificate Course on 06.11.2025, organized by UNESCO Mahatma Gandhi Institute of Education for Peace and Sustainable Development (UNESCO MGIEP), New Delhi, India.
15. **Lavanya, R, 2025**, "Universal Human Values-II (UHV-II)" 8-Day Face-to-Face Faculty Development Program from 23.06.2025 to 30.06.2025, organized by All India Council for Technical Education (AICTE) at Kumaraguru College of Technology, Coimbatore, Tamil Nadu, India.

Symposium Attended: 0

Conference Attended: 09

Completed / Ongoing Projects: Nil

Patent: 02

List of patents

1. Targeted Delivery of Lipid Nanoparticles and Liposomes for Treatment of Bone Diseases.
2. Bio-Based Polyurethane Composites.

Journal Publications: 13

Books / Book Chapters: 01

01. Biogenic Methods of synthesis and their engineering field applications

Awards: Got a Premium Award for Research Publications in the year of 2022 in Dr. MGR Educational and Research Institute, Chennai.

Startup: Nil

Webinar: Conducted

Resource Person: Symposium at Paavai arts and science college, Rasipuram as Resource person in the title of Bio-degradable polymers.

Online Courses: 4 Completed

1. Air pollution and Control-Elite
2. Applied Environmental Microbiology- Elite
3. Wastewater Treatment and Recycling- Elite
4. Integrated Waste Management for a Smart City- Elite

Journals

1. D Krithikaa, M Rohanbruce, S Indhumathi, G Suresh, P Chandramohan, R Vezhavendhan, G Rathinasabapathi, **R Lavanya**, Environmental Influence on Moisture Absorption of the Physical Properties of Hemp Fiber Strengthened Unsaturated Polyester Composites. International Conference on Smart and Sustainable Developments in Materials, Manufacturing and Energy Engineering (2025/2/6),153-163.
2. H. Mohamed Kasim Sheit, K. S. Mohan, N. Geetha, **R. Lavanya**, Karthik Kannan, S. Esakki Muthu, Manikandan Ayyar, Prabhu Paramasivam, Saravanan Rajendran, M. Santhamoorthy, S. Santhoshkumar & Ankush Mehta Nanoengineered t-ZrO₂ coatings for superior corrosion resistance on steel surfaces, Scientific Reports volume 16, Article number: 439 (2026).
3. Silambarasan Tamil Selvan, Arularasu. MV, Vimal. S, Dhandapani. R, Selvakumar. C, **Lavanya. R.** Biosynthesis and Pharmaceutical Properties of TiO₂/ZnO Nanocomposite: Exploring Density Functional Theory (DFT), In Silico and In Vitro Studies. Journal of Molecular Structure, 2026, 145823.
4. Sivakumar, P., S. Priyatharshni, S. Mohankumar, K. B. Nagashanmugam, R. Rajan, **R. Lavanya**, N. Prabhu, S. Ponnusamy, and G. Pradeesh. "Crown ether functionalized silver nanoparticles for colorimetric detection of alkali earth metals in real boiler feed water samples." Chemical Papers (2023): 1-9.
5. Nagashanmugam, K. B., P. Sivakumar, S. Priyatharshni, R. Rajan, S. Maragathamani, **R. Lavanya**, N. Prabhu, and S. Ponnusamy. "Iron making in an induction furnace for casting steel billets." Materials Today: Proceedings (2023).

6. Sivakumar, P., K. B. Nagashanmugam, S. Priyatharshni, R. Rajan, **R. Lavanya**, S. Maragathamani, N. Prabhu, S. Ponnusamy, and G. Pradeesh. "LC-MS detection of amino acids and neurotransmitters by using α -active 2, 4, 5-triphenylpyrylium salt as an efficient derivatizing material." *Materials Today: Proceedings* (2023).
7. Sivakumar, P., K. B. Nagashanmugam, S. Priyatharshni, **R. Lavanya**, N. Prabhu, and S. Ponnusamy. "Review on the interactions between dopamine metabolites and α -Synuclein in causing Parkinson's disease." *Neurochemistry International* (2022): 105461.
8. **Lavanya R** & Natchimuthu N, 'Effect of N, N'-dimethylacetamide/lithium chloride modified microcrystalline cellulose on the processing behaviour and properties of cellulose-rubber composites' *Journal of Polymer Materials* 2021, 38,1, 99-110.
9. S.Bharani kumar, S.D.Sekar, T.Mothilal, G.Sivakumar, **R.Lavanya**, C.M.Meenakshi, S.Manivannan, Experimental investigation on physical properties of banana/E-Glass fiber reinforced hybrid interpenetrating polymer network composites, *Materials Today: Proceedings*, 2021, 45, 5029-5033.
10. CM Meenakshi, Rajesh Ravi, J Stephen Leon, M Selvaraj, K Manikandan, G Suresh, **R Lavanya**, Evaluation of improvement in performance of FRP composite by using Al (OH₃) as secondary reinforcement, *Journal of Physics: Conference Series*, 2021, 1921 (1), 012092.
11. K Senthilnathan, Rajesh Ravi, J Stephen Leon, G Suresh, K Manikandan, **R Lavanya**, Analyzing the effect of mechanical properties of various proportions of filler material on jute fiber/epoxy reinforced composites. *Journal of Physics: Conference Series*, 2021, 1921 (1), 012089.
12. BV Dharmendra, S Vivek, P Ramu, T Srinivasan, G Suresh, CM Meenakshi, **R Lavanya**, Static investigation of roselle waste powder reinforced bio polymer composite, *Journal of Physics: Conference Series*, 2021, 2054, 012058.
13. S.Bharani Kumar, S D Sekar, G Sivakumar, Srinivas, **R Lavanya**, G Suresh, Modern concepts and application of soft robotics in 4D printing, *Journal of Physics: Conference Series*, 2021, 2054, 012056.
14. **Lavanya R** & Natchimuthu N, 'Effect of elastomer assisted shear induced deformation on the morphological and swelling characteristics of N, N'-dimethyl acetamide/lithium chloride treated microcrystalline cellulose'. *Bulletin of materials science*, 2019, 42 (4), 168.
15. **Lavanya R**, Clara I & Natchimuthu N 2017, 'Shear-induced morphology changes in N,N'-dimethylacetamide/lithium chloride pretreated cellulose', *Journal of Applied Polymer Science*, 2017, 134, 19, 44809.
16. Clara I, **Lavanya R** & Natchimuthu N, pH and temperature responsive hydrogels of poly (2-acrylamido-2-methyl-1-propanesulfonic acid-co- methacrylic acid): synthesis and swelling characteristics. *Journal of Macromolecular Science, Part A*, 2016, 53 (8), 492499.

Conferences

1. Janani DKD, **Lavanya, R** & Natchimuthu, N 2014, 'Mixing behaviour of elastomer composites containing reinforcing silica in presence of cellulose', National Conference on Emerging trends in elastomeric materials, process and tyre technology for sustainable growth on 21-22 Nov 2014, organized by Indian Rubber Manufacturers Research Association (IRMRA), New Delhi, India

2. **Lavanya, R & Natchimuthu, N**, 2016, "Polyurethane bio-composites based on cellulose and castor oil" National Conference on "Recent Advances in Chemical Engineering" (RACE - 2016) on 07.10.2016, organized by Department of Chemical Engineering, Annamalai University, Chennai, India
3. **Lavanya, R & Natchimuthu, N** 2017, Effect of Mechanical and Mechanochemical Shear Treatments on Cellulose in Solid State' International Conference on Frontier Areas in Chemical Technologies-2017 (FACTs-2017) on 06-08 July 2017, organized by Department of Industrial Chemistry Alagappa University, Karaikudi, India
4. **Lavanya, R & Natchimuthu, N** 2017 'Cellulose dissolution in DMAc/LiCl solvent system' Two days National conference on "Ionic Liquids in Green Chemical Processes & Sustainable Technologies' on 3rd & 4th August-2017 organized by Department of Chemical Engineering, SSN College of Engineering, Chennai, India
5. **Lavanya R, Vinodh madan & Santhosh Kumar**, 'Cellulose based composites', National conference on EMERGE-2018 on 13th april-2018 organized by Humanities and Sciences, Dr. MGR educational and research institute, Chennai, India
6. **Lavanya R** and Natchimuthu N, 'Cellulose under the influence of elastomer assisted shear in solid state' National conference on recent innovations in advanced material sciences-RIAMS'19 on March 13 & 14 March 2019 organized by the Department of Mechanical engineering, Rajalakshmi Institute of Technology, Chennai
7. **Lavanya R** and Natchimuthu N, 'Properties and processing behavior of cellulose-rubber composites' National conference on recent trends in chemistry of materials (NCRTCM'2019) on 11-12 October 2019, Organized by Department of Chemistry Bannari Amman Institute of Technology, Sathyamangalam 638 401 Erode Tamilnadu India.
8. **Lavanya R** and Natchimuthu, Shear-assisted approach for amorphization and enhanced dissolution of micro crystalline cellulose THE PROCEEDINGS OF INTERNATIONAL CONFERENCE ON ADVANCED MATERIALS (ICAM 2025)" organized by the Department of Chemistry, Women's Christian College, Chennai, in association with the Royal Society of Chemistry, Student Chapter, WCC, Chennai, on 15th and 16th December 2025.
9. **Lavanya, R, 2025**, "Cutting-Edge Bioengineering Technologies: A Glimpse into Tomorrow" Oral Presentation at 2nd International Conference on Sustainable Technologies, Energies and Materials (STEM'25) from 19.02.2025 to 21.02.2025, organized by The German-Thai Industrial Graduate School (TGGS), King Mongkut's University of Technology North Bangkok, Thailand.