



Dr. A. Madhan Kumar, M.E., Ph.D.

Assistant Professor | Mechanical & Manufacturing Engineering | IIEECP Certified Educator/ Researcher in Composite Materials, Machining Studies, Microstructural Analysis, & Mechanical Characterization.

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🌐 LinkedIn: [Dr. A. Madhan Kumar Anbazhagan | LinkedIn](#)

Google Scholar – [Dr. A. Madhan Kumar - Google Scholar](#)

Scopus - [Madhan Kumar, A. - Author details - Scopus Preview](#)

ORCID - [Dr. A. Madhan Kumar \(0000-0002-0615-3548\) - My ORCID](#)

Web of Science - [Dr. A. Madhan Kumar Anbazhagan - Web of Science Researcher Profile](#)

Professional Summary

Dynamic academic and engineering professional with 17+ years of combined experience in teaching, research, and industry. Expertise in advanced manufacturing, CAD/CAM, composite materials, and mechanical systems. Recognized researcher with multiple international publications and patents. Skilled in outcome-based education, project guidance, and curriculum development.

Core Skills

- NX-CAD, AutoCAD, Unigraphics
- GD&T, NDT (ASNT Level I & II: UT, PT, MPT, RT)
- Advanced Manufacturing & Composite Materials
- Research Writing & Proposal Preparation
- Project-based Learning & Lab Instruction
- Curriculum Design & Accreditation (NBA/NAAC)

Education

- Ph.D., Mechanical Engineering, SSN College of Engineering (Anna University), 2022
- M.E., Manufacturing Engineering, E.G.S. Pillay Engineering College, 2013 – 76% (First Class)
- B.E., Mechanical Engineering, E.G.S. Pillay Engineering College, 2006 – 67% (First Class)
- DME, Mechanical Engineering, Valivalam Desikar Polytechnic College, 2003 – 80% (First Class)

Professional Experience

- Assistant Professor, Saveetha Engineering College – Mar 2023 to Present
- Teaching Fellow, Anna University (MIT Campus) – Nov 2020 to Nov 2022
- Assistant Professor, New Prince Shri Bhavani College of Engg. & Tech. – Jun 2014 to Oct 2020
- Assistant Professor, Chennai Institute of Technology – Jun 2013 to May 2014
- Senior Lecturer (Part-Time), Haji Sheik Ismail Polytechnic – 2011 to 2013
- Senior Project Engineer, Larsen & Toubro Ltd., Pune Region – Jul 2006 to May 2011

Certifications

- AutoCAD (Advanced Level)
- NX – CAD, Unigraphics (Advanced Level)
- ASNT LEVEL I & II – UT, PT, MPT, RT
- Certified IIEECP International Educator

Selected Publications & Patents

- Published 12+ papers in journals indexed in Scopus, Web of Science, and Springer.
- 2 Patents: AI-Based Predictive Maintenance & Wastewater Treatment via Electrochemical Membrane Bioreactor.

1. A. Madhan Kumar a, K. Senthil Nathan b, Selvaraj Manickam c, Deepak Gupta d e, M. Vikneswaran f, Gopinath Dhamodaran i j, Sathyanarayanan Seetharaman g i, S. Thiagarajan g, Mysoon M. Al-Ansari h “Effect of TiO₂ nanoparticles and hydrogen on the combustion, performance, and emissions of madhuca biodiesel in a diesel engine”, International Journal of Hydrogen Energy Volume 143, 1 July 2025, Pages 635-649.

2. Madhan Kumar Anbazhagan¹ and Shalini Mahalingam² “Advancements in nanofibers and nanocomposites: Cutting edge innovations for tissue engineering and drug delivery—A review”, Science Progress, 2025, Vol. 108(2) 1–25

3. C. Kotteeswarana*, S. Sheeba Ranib, Raenu Kolandaisamyc, Arun Anthonisamyd, A. Madhan Kumare, Asan Mohideen Khansaduraif “Enhanced Urban Environmental Monitoring Networks: Ai-Driven Predictive Analytics for Pollution Hotspot Identification”, Journal of Environmental Protection and Ecology 25, No 8, 2606–2617 (2024)

4. Madhan Kumar A, An Analysis of Machine Learning Tools and Algorithms, Published in Springer Nature, Advances in Artificial Intelligence and Machine Learning in Big Data Processing (AAIMB 2023)

5. Mallapuram Bala Chennaiah¹ S. A. Muhammed Abraar² · M. Arun³ · T. Vishnu Vardhan⁴ · K. Velusamy⁵ · A. Madhan Kumar⁶ · S. Gurumoothy⁷ · Ammar H. Elsheikh^{8,9} · B. Ramesh⁷ “Development of Biocomposite Food Packaging Coating Material with Silane- treated Nanosilica and Grape Seed Oil Blended Vinyl Ester”, June 2024, Silicon, Springer Nature Link, SAGE publications

6. Narain Kumar Sivakumar ¹, Sabarinathan Palaniyappan², Kumar Vishal ³, Khuloud A. Alibrahim⁴, Abdullah Alodhayb⁵, Madhan Kumar A⁶ “Crushing behavior optimization of octagonal lattice structured thin-walled 3D printed carbon fiber reinforced PETG (CF/PETG) composite tubes under axial loading”, October 2023, Journal of Polymer Composites, WILEY.

7. Sabarinathan Palaniyappan¹, Narain Kumar Sivakumar², Mahdi Bodaghi³, Madhan Kumar⁴, and Mostafizur Rahaman⁵ “A feasibility study of various joining techniques for three- dimensional printed polylactic acid and wood-reinforced polylactic acid biocomposite”, July 2023, Journal of Materials: Design and Applications, Proc IMechE Part L.

8. Madhan Kumar, A, Dr. Jayakumar, “Enhancing the performance of Polylactic acid (PLA) reinforcing with Sawdust, Rice husk, and Bagasse particles”, Feb 2023, Journal of Polymer Materials-An International Journal, Vol.39, No.3-4, p.269-281.

9. Madhan Kumar, A, Jayakumar, K, “Mechanical and drilling characterization of biodegradable PLA particulate green composites”, 2022, Journal of Chinese Institute of Engineers (JCIE-Annexure –I), Published April 2022,

10. Madhan Kumar, A., Jayakumar, K “Drilling Studies on Particle Board Composite Using HSS Twist Drill and Spade Drill”, June 2018, Materials Today: Proceedings.

11. Madhan Kumar, A., K.Balajee, B.Dhiwakar, S.Gokulakannan, V.Navin, “Experimental Investigation of Machining Time And Surface Roughness Of Aa6082 By Using Different Drill Bits With Various Cutting Environments” International Journal of Innovative Research in Science, Engineering and Technology Published, March 2017.

12. Madhan kumar, A, N.Dinesh Kumar, L.Raj Kumar, “Investigation of Drilling Time In Ss304 (Austenitic Stainless Steel) With Different Cutting Environments, April 2016, International Journal of Emerging Technology in Computer Science & Electronics (IJETCSE).

Anna University Supervisor Recognition (Guideship)

Dr. A. Madhan Kumar – Faculty of Mechanical Engineering - Ref.no – 4220055

Nme of the Scholar & Register Number - Aswin A (25142991117)

Research Interests

- Composite Material Machining & Mechanical Properties
- Drilling of PLA & Biodegradable Composites
- Microstructural Analysis of Green Composites
- Power Plant and Thermal Projects
- Welded Structural Fabrication and Inspection

Achievements & Roles

- Produced 98% Results in Gas Dynamics & Jet Propulsion
- NAAC Coordinator – 2017
- NBA Criteria 3 In-Charge
- Entrepreneurship Cell – Funded Initiatives Lead
- Organized National Level Symposiums & Workshops

Personal Information

Father Name – Mr. A. Anbazhagan

Date of Birth – 13-07-1985

Gender – Male

Nationality – Indian

Languages Known – English, Tamil, Hindi

Marital Status - Married

Communication Address – Plot No-81, SF-2, Janani Skypark,

Rangarajapuram First Main Road, Santhoshapuram,

Chennai – 600073.

Declaration

I assure you that the information furnished above is true and correct to the best of my knowledge and belief.

Date –

Place - Chennai

Signature

Dr. A. Madhan Kumar

